IBA

Institute of
Business Administration
Karachi

Leadership and Ideas for Tomorrow

Since 1955

SAQS
ACCREDITED

Program Announcement
2014-2015

Milestones in the Journey of Excellence

1955

Established as a USAID financed Business School on the US MBA Model. Programs commenced in YMCA building at Karachi with technical support from the Wharton School of Finance & Commerce, University of Pennsylvania, USA

1956

Faculty setup in collaboration with the University of Southern California

1957

Evening Programs launched in graduate studies (MBA)

1961

Shifted to Kandawalla Building, M.A. Jinnah Road. Construction planned for a campus each at Karachi University (Main) & Garden Road (City) Campus

1967

Construction completed; morning and evening classes commenced at Main (1965) & City (1967) Campuses respectively

1982

3 Year BBA (Hons) Program launched

1983

- MBA (MIS) Program launched
- Center of Computer Studies established in collaboration with IBM, Pakistan

1987

IBA declared as Center of Excellence by US Government through USAID

1990

MBA (Banking) Program introduced in collaboration with ANZ – Grindlays Bank.

1993

BBA and MBA Executive Programs (*self-financed*) started at City campus

1994

Received Charter and Degree Awarding Status

1998

BBA (MIS) Program introduced

1999

BS (Computer Science) Program launched

2002

- 4 Year Undergraduate Program launched (in Business Administration) & (in Computer Science)
- Center for Executive Education established

2004

NTHP (*National Talent Hunt*) Program launched

2005

PhD (Computer Science) Program launched

2008

MS (Computer Science) Program launched

2009

- Center for Entrepreneurship Development established
- Twenty Nine Student Societies for extracurricular activities established
- Executive MBA Program launched
- STHP (*Sindh Talent Hunt*) Program launched

2010

- Dean's list and best final year project awards introduced
- MS (Economics) Program introduced
- IBA Corporate Leaders Advisory Board formed

2011

- South Asia Quality Assurance Systems (SAQS) accreditation received
- First student acquires PhD degree from IBA
- Student exchange & study Programs with foreign universities commenced
- IBA received membership of European foundation for Management Development
- PhD (Economics) Program launched
- Center for Business and Economics Research established
- MBA curriculum revamped including requirement for 2 years work experience

2011

- Structured Mentoring and Student Development Programs started
- BBA curriculum revamped after audit and focus group feedback
- BBA Entrepreneurship Program initiated
- Responsible Citizen Initiative Program introduced

2012

- BS (Economics & Mathematics) Program launched
- Personal Effectiveness course introduced
- New streams (18 & 24 months) introduced in the MBA Program
- MS (leading to PhD Program in Economics & Math) launched
- Alumni crossed 10,000 graduates mark
- Overseas Chapters of IBA Alumni launched in UAE, UK, & Canada
- IBA Registered as Education provider of Project Management Institute

2013

- 4 year-Undergraduate Program launched in (Social Science & Liberal Arts)
- 4 year-Undergraduate Program launched in (Accounting & Finance)
- Tier III Compliant Data Center inaugurated at City Campus

Contents

Vision

"To become a world-class business school for leadership and innovation in management"

Profile

As an institute, IBA is dedicated to a holistic approach to education. Year after year, it strives to provide its students with an education and experience they will never forget. Last year also witnessed the achievement of a number of milestones that continue to make IBA stronger and better. That is why IBA remains the number one choice for students.

IBA has taken huge strides in the academic programs and support it offers. In 2013-14 IBA launched the Bachelors of Science Programs in Accounting and Finance and the Social Sciences. It also institutionalized the IBA Summer School, providing students more credit and training options. This year also saw the establishment of the Cowasjee Writing Center, committed to assisting students in all programs to improve their skills and performance. The initiation of the facilities in the newly built Tabba Academic Block has given students access to one of the largest computer labs on campus to facilitate research and innovation.

While it offers a challenging and rigorous academic program, IBA is also dedicated to other aspects of its students' lives. IBA students now use the facilities at the recently inaugurated Student Center giving them access to a fully equipped gymnasium, Amphitheater, cafeterias, student lounges and indoor games. Not forgetting outdoor sports, IBA students now also enjoy a tennis court, football field and cricket pitch facilities.

As IBA transforms, its community becomes stronger and more cohesive. The set up of the Alumni Center is building a deeper connection with previous IBA students, providing current students support and mentor-ship. With the revamping of student housing, more students are creating lasting memories and connections at IBA. Students are now able to interact with respected faculty members from all over the world with the launch of several lecture series and the opening of a state-of-the-art faculty residence facility. Through constant innovation, perseverance and relentless pursuit of excellence, IBA truly has developed ideas for a better tomorrow.

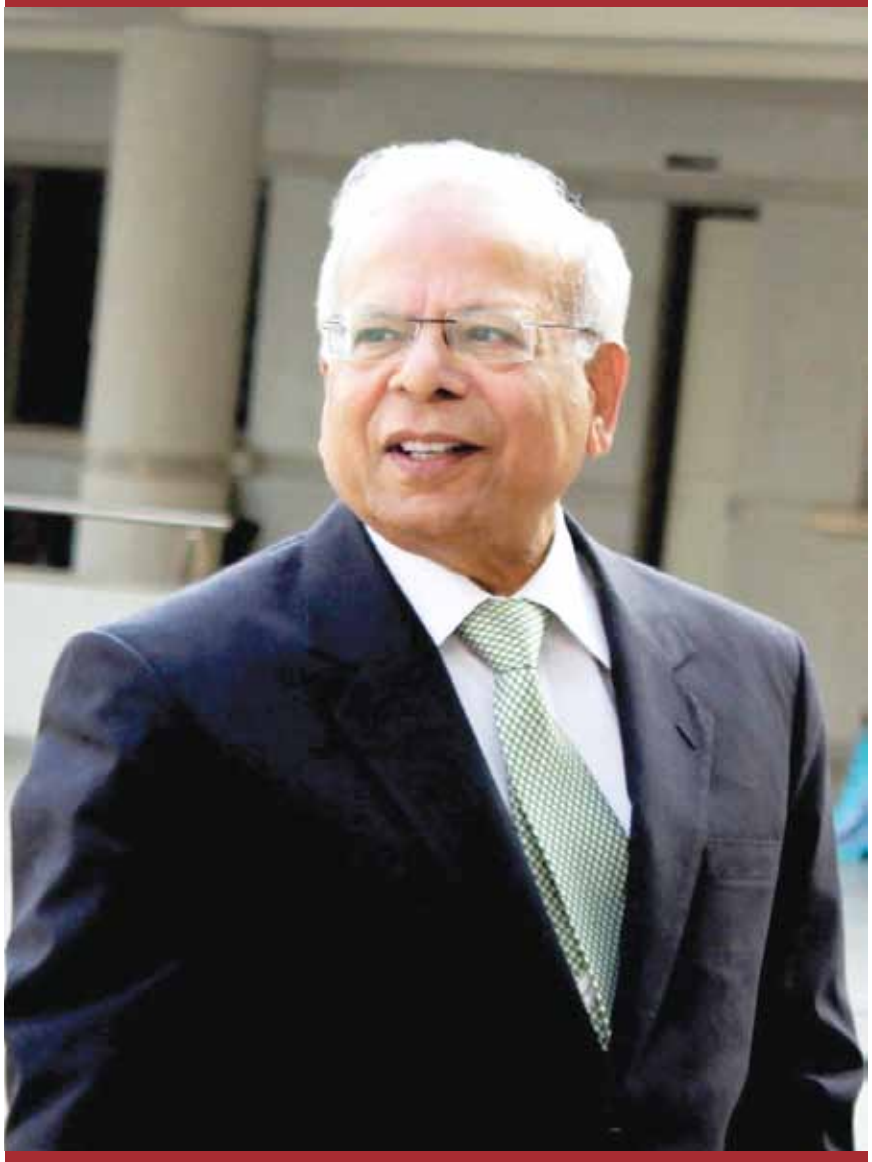
Message of the Dean & Director

2014-15 marks the culmination of the five year Strategic Plan for IBA launched in 2009. To reiterate, the four main pillars of the strategy were:

(i) Improved Governance and Internal Management
(ii) Expansion of Physical Infrastructure and up-gradation of Technology
(iii) Faculty Development and Quality Assurance
(iv) Community Outreach

With the blessings of Allah S.W.T., and the hard work of all members of the IBA community and its supporters, we have been able to accomplish most of the goals and sub-goals we had set for ourselves. In Pakistan, it is quite common to make plans and strategies for the future, but it has always been difficult to execute and reach the outcomes promised by those plans. IBA, one of the country's leading schools of business, has demonstrated that it is possible both to design ambitious strategy and to deliver results on time. The deteriorating conditions in Karachi have not been entirely conducive: target killings, hartals, strikes, transport wheel jam, and other disturbances have all hampered the implementation of the five-year plan. We could have taken the easy way out and blamed these extenuating circumstances, using them as an excuse for not achieving our goals. But we wanted to show the rest of Pakistan that when there is a will, there is a way to get things done. You always have to create and find the space to move forward. It was by no means easy, but regular monitoring, timely actions to correct our course, and consistent oversight helped us accomplish this difficult task. I wish to thank the donors, parents, teachers, students, staff, the Board of Governors, the Higher Education Commission, and the Government of Sindh, without whose support the results of the strategic plan could not have been achieved. We have spent this past year developing a strategic plan (strategy 2020) that will take us through the next five years. It will not be easy, but I have faith that with perseverance, hard work, and the will to move forward, we will realize the objectives we set for ourselves today.

Husain, Ishrat (Hilal-e-Imtiaz)
HEC Distinguished National Professor (Economics & Public Policy)
PhD, Boston University
MA, (Dev. Economics), Williams College,
Massachusetts Former CSP Officer
Former Chief Economist for Africa,
East Asia & Pacific Region with World Bank
Former Governor State Bank of Pakistan
Ex-Chairman, National Commission for Govt. Reforms, Govt. of Pakistan
Chairman, Global Advisory Council on Pakistan, World Economic Forum
Chairman, Board of Directors, National Academy for Performing Arts
President Association of Management Development
Institutions of Pakistan Member, Advisory Council, Woodrow Wilson Center



The Policy Makers

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Governor of Sindh

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Chairman

Dr. Ishrat Husain
Dean & Director
Institute of Business Administration, Karachi

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Judge High Court of Sindh
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for Petroleum & Natural
Resources, Karachi

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The Premier Insurance Co.
Pakistan Ltd

Ms. Musharaf Hai
Chief Executive
L'Oreal, Karachi

Mr. Shahid Shafiq
Director
Shahid Shafiq (Pvt) Ltd Karachi

Nominated Member of Provincial Assembly of Sindh

Audit & Finance Committee

Chairman

Mr. Zahid Bashir
Chairman
The Premier Insurance Co. Pakistan

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Dean & Director IBA, Karachi

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Ex-Caretaker Federal Minister for
Petroleum & Natural Resources,
Karachi

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Chief Executive
L'Oreal, Karachi

Mr. Shahid Shafiq
Director
Shahid Shafiq (Pvt) Ltd. Karachi

Selection Board

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Dean & Director IBA, Karachi

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Chairman, Sindh Public Service
Commission, Karachi

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Chief Executive
IGI Insurance

Mr. Asad Umar
MNA & Ex - President &
CEO Engro Chemicals Pakistan

Mr. Tariq Kirmani
Member, Board of Directors NBP &
Former Chairman & MD PIA & PSO

Mr. Shahid Shafiq
Director
Shahid Shafiq (Pvt) Ltd. Karachi

Mr. Najmus Saquib Hameed
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Layton Rehmatullah Benevolent Trust

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Dean & Director, IBA

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Professor, (IBA)

Dr. Sajjad Haider
Associate Professor, (IBA)

Dr. Nasir Afghan
Assistant Professor, (IBA)

Mr. Adnan Siddiqui
Country General Manager
IBM Pakistan & Afghanistan.

Mr. Mohammad Shoaib
Chief Executive
Al Meezan Investments
Management Ltd, Karachi

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Chairman

Mr. Tariq Kirmani
Member, Board of Directors
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Mr. Shahid Shafiq

Mr. Tahir Khaliq

Mr. Zafar A. Siddiqui

Mr. Zahid Bashir

Mr. Haris Tohid Siddiqui

Academic Calendar 2014-2015

Summer Semester 2014

June 23, 2014
to
August 10, 2014

Fall Semester 2014

August 25, 2014
to
December 23, 2014

Convocation 2014

December 6, 2014

Spring Semester 2015

January 29, 2015
to
May 26, 2015

Summer Semester 2015

June 24, 2015
to
August 11, 2015

Pre-Summer Semester 2014

June 13 to 22, 2014

Short-Winter Semester 2015

January 8 to 28, 2015

Pre-Summer Semester 2015

June 7 to 23, 2015

(MBA Program only)

Orientation Days

August 23, 2014 (Fall 2014)
&
January 24, 2015 (Spring 2015)

Fall Semester 2015

August 24, 2015

Eid ul Fitr*

July 29 to 31, 2014

Eid ul Adha*

October 6 to 7, 2014

Ashura*

November 3 to 4, 2014

(*Subject to sighting of moon)

Programs on offer

S.No.	Information	Bachelors of Business Administration (BBA)		Bachelor of Science (BS)				Master of Business Administration (MBA)		
				Economics & Maths	Computer Science	Social Sciences and Liberal Arts	Accounting and Finance	Morning	Evening	
1	Admission Requirement	Higher Secondary School Certificate with a Minimum of 65% marks **OR** 'A' Level (Minimum of 2 'B's and 1 'C') in 3 principal subjects **OR** American High School Diploma Minimum of 80% **OR** An International Baccalaureate (Minimum 25 / 45)		Higher Secondary School Certificate (Pre-engineering **OR** General Group with Mathematics) with Minimum 60% marks **OR** 'A' Level (Minimum 1 'B' and 2 'C's) in 3 principal subjects including Mathematics **OR** American High School Diploma Minimum of 80% **OR** An International Baccalaureate (Minimum 24 / 45)		Higher Secondary School Certificate (Any Group with 60% marks) **OR** 'A' Level (Minimum 1 'B' and 2 'C's) in 3 principal subjects **OR** American High School Diploma (Minimum of 80%) **OR** An International Baccalaureate (Minimum 24 / 45)		A Minimum 16 years of education out of which 4 years should have been spent in an HEC recognized university / degree awarding institute with: A Minimum of 60% aggregate marks **OR** A Minimum of 2.50 CGPA on a scale of 4.00 (as applicable) **&** A Minimum of 2 years' relevant work experience gained after graduation / completion of 16 years of education with 2.5 CGPA or 60% whichever is applicable**	
2	Aptitude Test Component	• English Composition (MCQs) • English Comprehension (Essay Writing Skills) • Mathematics (MCQs)		• English Composition (MCQs) • Mathematics (MCQs)		• English Composition (MCQs) • English Comprehension (Essay Writing Skills) • Mathematics (MCQs)		• English Composition (MCQs) • English Comprehension (Essay Writing Skills) • Mathematics (MCQs)		
3	Aptitude Test - Difficulty Level	SAT-1		SAT-I & SAT-II (Mathematics)		SAT-I		GMAT		
4	Aptitude Test Exemption*	Minimum 1900 score in SAT-I OR ACT score of 29		Minimum 1840 score in SAT-I & Min 650 score in SAT-II (Mathematics) **OR** ACT score of 28		Minimum 1840 score in SAT-I OR ACT score of 28		BBA Degree from IBA, Min 2.5 CGPA & 2 years' work experience after BBA **OR** Minimum 600 score in GMAT		
5	Student Profile	Avg Age: 19		Avg Age: 19				Avg Age: mid 20's		
6	Graduation Requirement	49 courses, 147 credit hours BBA	43 courses, 147 credit hours, + 3 Research Projects for BBA (Entrepreneurship)	48 courses, Research Project 150 credit hours	42 courses, 137 credit hours	45 courses, 144 credit hours 1 Culminating Experience / Thesis Responsible Citizen Initiative 8-10 week internship	42 courses, 138 credit hours	**BBA Background:** 66 credit hours, Min. duration 18 months **Non-BBA Background**: 72 credit hours, Min. duration 24 months Comprehensive exam	**BBA Background:** 66 credit hours, Min. duration 42 months **Non-BBA Background:** 72 credit hours, Min. duration 48 months Comprehensive exam	
7	Fees Fall 2014****	Rs 148,000 / Semester		Rs 90,000 / Semester			Rs 148,000 / Semester	Rs 148,000 / Semester	Tuition fee of Rs 29,500 / - per course for all part-time students	
8	Classes Start	Last week of August		Last week of January & August			Last week of August	Last week of January & August		
9	Duration	4 years full time		4 years full time				2 year for Non-BBA Graduate 18 months for BBA Graduate	4 years to 7 years	
10	Campus	Main / City		Main / City		Main		Main	Main / City	

The above are extracts of the IBA Admission Policy-2014-15

* Participation in Group Discussion & Interview is mandatory

** For details, see Work Experience requirement

*** All equivalency claims shall be evaluated by the HEC (www.hec.gov.pk).

**** The IBA reserves the right to revise the fee without prior notice / Refer to Fee Structure

***** Full-Time MS Students shall be paid stipend of Rs: 25,000 / - per month

	Master of Science (MS)			Executive MBA	Doctor of Philosophy (PhD)		
	Computer Science (Morning / Evening)	Masters of Science (Economics)	Masters of Science (Mathematics)	Various Specializations	Economics	Computer Science	Mathematics
	A Minimum 16 year's of education out of which 4 year's should have spent in an HEC recognized university / degree awarding institute with: A Minimum of 60% aggregate marks **OR** A Minimum of 2.50 CGPA on a scale of 4.00 (as applicable)		A Minimum 16 year's of education (BS / MSc - Mathematics) out of which 4 year's should have spent in an HEC recognized university / degree awarding institute with: A Minimum of 60% aggregate marks **OR** A Minimum of 2.50 CGPA on a scale of 4.00 (as applicable)	16 year's education with 3 year's post qualification work experience **OR** 14 year's education with 6 year's post qualification work experience	MS / M.Phil / Equivalent in relevant subject from HEC recognized local / foreign university with: Minimum 60% aggregate marks in the last degree **OR** A Minimum 3.0 CGPA in the last degree where applicable*** Also have to ful fill specific requirements by the respective departments		
	• English Composition (MCQs) • Mathematics (MCQs) • Subject Specialization		• English Composition (MCQs) • Mathematics (MCQs)	• English Composition (MCQs) • English Comprehension \ (Essay Writing Skills) • Mathematics (MCQs)	• English Composition (MCQs) • Mathematics (MCQs) • Subject Specialization		• Mathematics
	GRE General + Specialization			GMAT	GRE General + Specialization		GRE Math Subject Test
	Minimum 650 score in quantitative GRE (Int'l) **OR** 160 score in quantitative revised GRE (Int'l)			BBA Degree from IBA, Minimum 2.5 CGPA & 3 years Work Experience **OR** Minimum 600 score in GMAT	Minimum 650 score in quantitative GRE (Int'l) **OR** 160 score in quantitative revised GRE (Int'l)		Minimum 650 score in GRE subjective Math
	Avg Age: mid 20's			Avg Age: mid 30's Avg work experience: 10 year's	Avg age: 26		
	11 Core Courses 4 electives courses + Thesis	54 credit hours 15 courses & Thesis (9 credit Hours) [45 credit through courses 9 credit Hours through Thesis]	8 courses, 2 electives 36 credit hours + Thesis 6 credit hours	20 courses 72 credit hours 2 Projects Comprehensive exam	55 credit hours 28 credit hours through courses 27 credit hours through thesis	8 courses 24 credit hours + Comprehensive Exam + Dissertation	8 courses 24 credit hours + Comprehensive Exam + Dissertation
	Tuition fee of Rs 29,500 / - per course for all part-time students		All MS full-time students are required to pay Rs 60,000 / - per semester as tuition fee*****	Rs 30,000 / - per course Rs 20,000 / - per course (for Govt. Employees, armed forces and non-profit organizations)	Monthly stipend and full tuition fee waiver		
	Last week of January & August		Last week of August	March, August and December	Last week of January & August		Last week of January
	2-2.5 years			2 years - 5 years	4-5 years		
	City	Main		Main	Main	City	Main

ALL ADMISSIONS ARE SUBJECT TO CANDIDATES MEETING, MINIMUM ELIGIBILITY REQUIREMENT AND QUALIFYING APTITUDE TEST, GROUP DISCUSSION, INTERVIEW AS APPLICABLE.

To apply for any of the above Programs
Please visit our website at **www.iba.edu.pk** or **email: info@iba.edu.pk**

Programs of Study - An Overview

The IBA offers full-time programs in Business Administration & Computer Science both at the Main and City Campus. It also offers a variety of part-time programs at the City Campus in the evening; it is not uncommon to find Entrepreneurs, Practicing Managers, Government Employees and Technocrats attending these programs. The diversity in their work backgrounds makes the interaction a rich educational experience. Specialized executive education programs are conducted by the Center for Executive Education (IBA-CEE) for professionals from the corporate world. The Masters Program offers specialization in the fields of Management, Human Resource Management, Finance, Banking and Marketing. Specializations of MS(CS) such as Net-Centric Computing, Human Computer Interaction, Software Engineering, Intelligent Systems, Information Management, and Theoretical Computer Science are offered in Masters of Computer Science Program. An overview of the programs of study is as follows:

Bachelor of Business Administration (BBA)

The BBA Program is a full-time 4-year bachelor program often referred to as the core IBA program. It consists of 49 courses of 147 credit hours cumulative. The students go through an academic program that stresses not just on the essentials of business subjects - it also acquaints them with the essential concepts of Social Sciences and Liberal Arts. In their freshman and sophomore years, students study subjects such as History, Anthropology, Psychology, Philosophy and Logic, Media Study along with a host of electives to major in Marketing, Finance, Human Resource, Entrepreneurship.

Bachelor of Business Administration (Entrepreneurship)

A 4-year degree program developed in partnership with Babson College of Entrepreneurship in Boston, (USA). The programs develops students' abilities to formulate, explore and create ideas. It trains them to analyze disciplinary and inter disciplinary subjects, including providing hands -on experience in industry, for applying the knowledge and training to generate and sell their ideas in the real world, thus increasing their confidence and creativity. The curriculum integrates Core Business Courses, Social Science Courses and Entrepreneurship Electives which will enable students to develop the necessary skills to become entrepreneurial in thinking and practice. The program consists of 147 credit hours.

Bachelor of Science (Accounting & Finance)

Developed jointly by the Institute of Chartered Accountants of Pakistan ICAP and Institute of Business Administration, Karachi IBA, this 4-year program provides an exclusive opportunity to the students to receive an academic degree that leads to a professional qualification. An exemption of 12 Exams of Module A to D will be granted to the prospective CA students who complete their BS (Accounting & Finance) degree from IBA. After graduating from IBA Karachi, these students would avail the following benefits:

- Exemption from Module A to D
- Complete training for 3 years
- Pass Module E & F (8 courses during training)
- Become a Chartered Accountant

Bachelor of Science (Economics & Mathematics)

A 4-year degree program with double majors in Economics and Mathematics; it is designed to give students a solid foundation in both Economics and Mathematics. It provides a well coordinated curriculum for students interested in pursuing masters or PhD in Economics and Mathematics. The program consists of 150 credit hours. Major disciplines are of Economics and Mathematics, the remaining courses are from other disciplines like Social Sciences, Management and Accounting.

Bachelor of Science (Social Sciences and Liberal Arts)

A 4-year degree program with majors being offered in Political Science, Psychology, and Media & Communication Studies. The program is designed to develop in students the theoretical,

historical, and experiential knowledge necessary to understand how we interact with our social world through local and global contexts. The program focuses on how students can use strategies and frames of social analysis to understand and critique our increasingly interrelated economic and politically mediated lives. Courses that comprise the Liberal Arts core introduce students to a selected range of traditional academic disciplines that comprise the liberal arts and sciences. Through these courses, students will acquire comprehensive skills in both qualitative and quantitative thinking and analysis before they engage their major field of specialization.

Bachelor of Science (Computer Science)

The BS(CS) program is a four-year broad-based program, preparing students with a sound theoretical knowledge of the field while equipping them with a thorough practical grasp of the current tools and techniques being used in the industry. This program consists of a total of 147 credit hours, comprising of a combination of University, Computer Science and Non-Specialization core courses, along with a broad array of electives from both Computer Science and Non-Specialization Fields. The program culminates in a one-year industry-based group project whose objective is to develop and implement an innovative, real-life project with an industry partner under the supervision of a department faculty. The program is offered at both campus of the IBA.

Master of Business Administration (MBA) *(Morning Program)*

The MBA Morning Program is offered at Main Campus. Specializations include Marketing, Finance, Human Resource Management and Supply Chain Management. The various streams in the program are as follow:

a. For Candidates with BBA background

Minimum Duration: 18 months / 66 Credit Hours

Pre-Requisites: 16 years education plus 2 years post qualification work experience with min 2.5 CGPA in BBA. Candidates having IBA BBA degree, two years post BBA work experience and CGPA equal or above 2.5 are not required to appear for aptitude test and will directly be qualified for Interview round & Group discussion and essay submission.

Program Structure: 24 Courses including MBA Project, and Non Credit Core Courses. No Internship.

b. For Candidates with Non-BBAs background

Minimum Duration: 24 months / 72 Credit Hours

Pre-Requisites: 16 years education plus 2 years post qualification work experience plus min 60% aggregate marks or 2.5 CGPA (whichever is applicable) in last degree.

Program Structure: 26 Courses including MBA Project and Non Credit Courses. Summer Internship is mandatory.

Masters of Business Administration (MBA) *(Evening)*

The MBA Evening Program is offered at City and Main Campuses. Specialization include Marketing, Finance, Human Resource Management and Supply Chain Management. The duration of this program may vary depending on the capacity of the student to complete the course load during each semester. The various streams in the program are as under:

a. For Candidates with BBAs background

Minimum Duration: 42 months / 66 Credit Hours

Pre-Requisites: 16 years education plus 2 years post qualification work experience plus min 60% aggregate marks or 2.5 CGPA (whichever is applicable) in last degree.

Program Structure: 23 Courses including MBA Project and Non Credit Core Course.

b. For Candidates with Non-BBAs background

Minimum Duration: 48 months / 72 Credit Hours

Pre-Requisites: 16 years education plus 2 years post qualification work experience plus min 60% aggregate marks or 2.5 CGPA (whichever is applicable) in last degree.

MBA Program (Morning) *(18 months)*

Those who have obtained BBA degree from HEC recognized institute will finish their Full time MBA in just 18 months instead of 24 months thus

resulting in the saving of the tuition fees for one full semester and start the job 6 months earlier. The candidates with IBA BBA degree and CGPA of 2.5 along with two years' work experience are not required to appear at the IBA entry written test, they will directly be qualified for the next round i.e. Interview, Group discussion and Essay submission.

MS (Computer Science)

The MS in Computer Science program is meant for either recent graduates of Computer Science programs or for professionals in the IT industry who would like to further enhance their career. The program aims at preparing students for either a research based career or for enhancing their technical knowledge and competence in specialized subjects. The program is being converted to a full-time day-program from Fall 2014, while continuing students from earlier semesters will continue in the evening. The program requires completion of a total of 30 credit hours with an optional thesis. For those students opting for MS thesis, 24 credit hours of course work, 3 credits for research survey and 3 credit hours of thesis work is required. For students opting for course work only, 27 credit hours of course work along with 3 credit hours of research survey is required. The program is offered at the City Campus.

MS (Computer Science) *(Evening Program)*

The MS(CS) Evening Program is offered at the City Campus. This is a part time program, preparing students in computer science. This program consists of a minimum of 30 credit hours for those students opting for MS thesis, 24 credit hours of course work and 6 credit hours of research work are required. For students opting for course work only, 27 credit hours of course work along with 3 credit hours of research survey is required. Courses comprise a combination of compulsory and elective courses in core and supporting areas.

MS (Economics)

The MS (Economics) program is designed to provide a solid background in theory, quantitative methods, and applications appropriate to the needs of economists involved in policy planning, analysis, and forecasting of public and private sectors. This program emphasizes on Applied Economics, and caters to the growing market for Economic Analysts. Option will be available to students either to join the morning session or the evening session. However, if sufficient number of students is available only then morning session may also be started. Work experience is not mandatory for admission to the MS Economics program.

MS (Mathematics)

This program is geared towards cutting edge research in modern as well as contemporary areas of pure and Applied Mathematics. It aims is to streamline, and (academically) help raise individuals having successful careers of mathematics. The program targets students who have had graduate level training in Mathematics, Physics, Engineering, and Allied Sciences. Their existing knowledge base of Mathematics is complemented with the MS program, the successful culmination of which naturally leads to a tenure of Doctoral Research.

Executive MBA

This program has been designed for the mid-career Professionals, Executives, Managers serving at Corporate Houses, Banks and Financial Services, Public Sector and are eager to upscale their knowledge and skills and move forward towards the leader ship role. It offers Master Degree in Business Administration on a schedule that minimizes disruption of work and personal pursuits. This program is a combination of class room learning through interactive and group discussion and experience sharing by participants and faculty. An all encompassing curriculum is developing the analytical and decision making skills of knowledge seekers. Relevant for all those who are ready to do the hard work in seeking C- suite (CEO, CFO, COO Etc.) or entrepreneurial roles.

PhD (Economics)

The PhD program in Economics provides graduate students an opportunity to make a contribution in the development and application

of knowledge in Economics. It enables students to conduct quality research in their specialized fields. Students after successfully completing their doctoral degree from the IBA are prepared for careers in Universities, Business Enterprises, National and Foreign Banks, Companies and Government Organizations. This is a full time morning program. IBA will offer Teaching / Research Fellowship to all students enrolled in the PhD program for which they are paid a monthly stipend and tuition waiver.

PhD (Computer Science)

The Faculty of Computer Science of the IBA is offering a full-time PhD program in Computer Science, with specialization in a variety of areas including Artificial Intelligence and Cognitive Robotics, Wireless and Mobile Communications, Social Computing, Information Security, Numerical Analysis and Computing, Multimedia and Web as well as Human Computer Interaction. Students may avail a full teaching assistantship which comprises of an attractive monthly stipend and full tuition fee waiver. The program is composed of 24 credit hours of course work along with a doctoral dissertation. The program is offered primarily at the City Campus.

Certificate Courses *(Evening Program)*

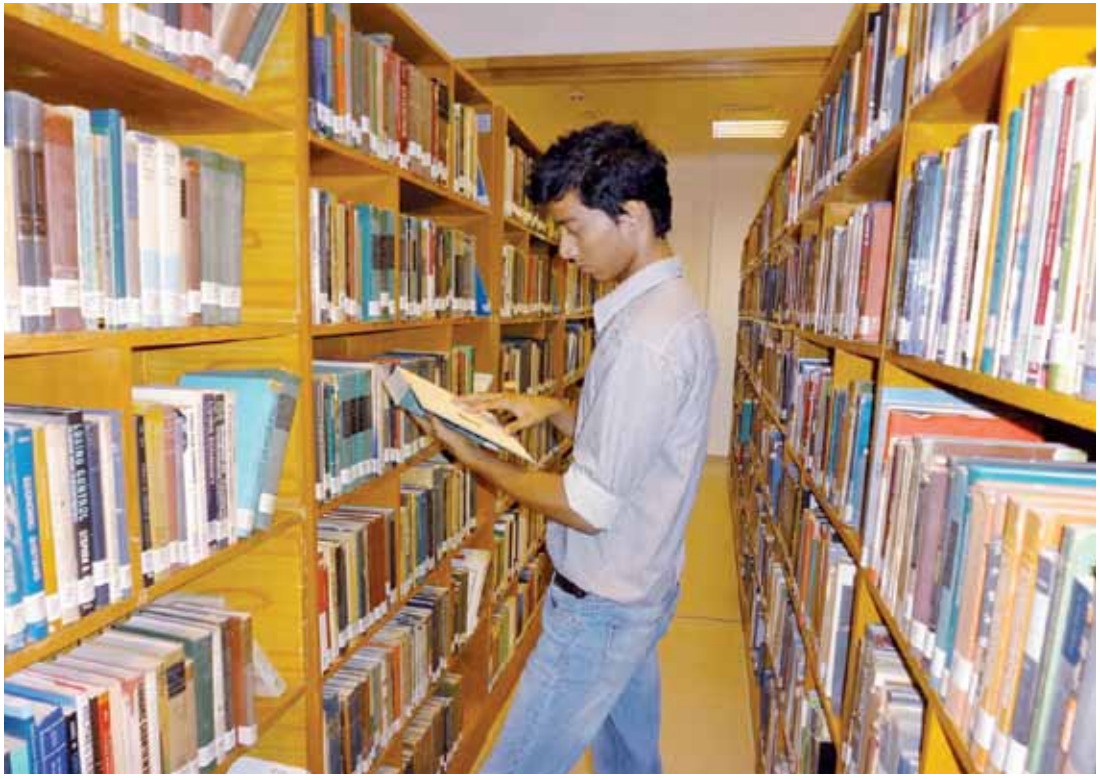
Candidates interested in attending single courses of PGD and MBA, offered in the evening are awarded Certificates upon successful completion of the course. These certificate courses are available for people with a Bachelors' degree or equivalent from a recognized University. Relaxation in this requirement may be allowed for candidates sponsored by their employers. These courses are useful for those who cannot join the full-length degree or diploma programs. Students can have their status converted to that of visiting students, upon request, before the first hourly examination of the course.

Postgraduate Diploma in Business Administration (PGD) *(Evening Program)*

PGD is offered at the City Campus in the evenings. The duration of this program may vary from 1½ to 3½years, depending on the capacity of the students to complete the course load each semester. The students must complete the course work in 7 consecutive semesters. The course load for PGD students is three in the regular semester and two in the summer semester. This program consists of 12 courses of 36 credit hours cumulative, all of which are compulsory. This program leads to MBA degree pursued in the evening program.

Visiting Students Program *(Evening Program)*

The Institute also admits, without any prerequisite, visiting students in single PGD and MBA courses in the evening program, provided seats are available. These students are not allowed to take regular examinations. The visiting participants are awarded a certificate without any grade for attending the course if they maintain the attendance requirement. A visiting student is not allowed to have his / her status changed to that of a regular student during the semester.



Associate Deans

Faculty of Business Administration

PhD, University of Auckland, New Zealand
MASc, (Management Sciences) &
MA, (Economics), University of Waterloo, Canada
MAS, (AERC), University of Karachi
Areas of interest: Portfolio Management
Financial Econometrics, Financial Economics & Microeconomics

Dr. Mohammad Nishat

Faculty of Computer Science

Chairperson, Department of Computer Science
PhD & MS,
Columbia University, USA
BS, Massachusetts Institute of Technology
Area of Interest: Simulation and Performance Analysis of Wireless Networks,
Routing issues in Mobile Adhoc Network & Security
Risk Assessment of System

Dr. Sayeed Ghani

Chairpersons

Accounting & Law

Asad Ilyas

Economics & Finance

Dr. Khadija Malik Bari

Management

Dr. Shahid Mir

Social Sciences & Liberal Arts

Dr. Framji Minwala

Marketing

Dr. Huma Amir

Mathematical Sciences

Dr. Muhammad Shahid Qureshi

Full Time Faculty at Glance

Full Time Faculty (Spring-2014)	Pursuing PhDs & M. Phil & MS	Total Strength
PhD's from Foreign Universities		32
PhD's from Local Universities		9
Pursuing PhD's abroad	12	
Pursuing PhD's locally	5	
Pursuing M. Phil & MS Locally	2	
Masters' from Foreign Universities		29
Masters' from Local Universities		22
Total	19	92

Dr. Matin A. Khan served as Dean & Director of IBA from 1972 to 1977 and contributed greatly to the development of academic standards of IBA. He received his M.A from the Wharton School of Finance and Commerce, University of Pennsylvania and DBA from the University of Southern California, USA.

He was associated as Project Director for almost a decade with JRP-IV, a research project on improvement of slums while he was a visiting Professor at Ahmad Bello University, Nigeria. Dr. Matin is the author of a large number of books and articles on marketing and research methodology. Dr. Matin has served as a Life Research Professor at Hamdard University, Karachi. He was also the Dean of Faculty of Management Sciences at the Hamdard University. Presently he is the member of the Academic Board at IBA Karachi.

Dr. Matin A. Khan

Professor Emeritus

Department of Accounting and Law (7)

Chairperson Department of Accounting & Law CPA, Delaware, USA
BBA (Accounting), Pace University, NY, USA
Areas of interest:
Small Business Management, Operations, Energy Management and Environmental Protection

Ilyas, Mohammad Asad

Assistant Professor

Senior Research Fellow (CBER)
Juris Doctor (Doctor of Law), Columbia Law School New York, USA
Bachelor of Science in Economics, Wharton School of Business - Philadelphia, USA
Bachelor of Applied Science, University of Pennsylvania - Philadelphia, USA

Ali, Mohammad Azam

Assistant Professor

MS, (Computer Science)
Fellow Cost & Management Accountant (FCMA)
Chartered Certified Accountant (ACCA)
Certified SAP Consultant,
MA (Economics)
Areas of interest: Business Analytics, IT & Computational Intelligence Applications in Accounting, ERPs

Asif Jaffer, Muhammad

Assistant Professor

Program Coordinator,
BS Accounting & Finance
M.Sc, Anglia Rusking University, London College of Accountancy, United Kingdom, ACMA, Chartered Institute of Management Accountants, United Kingdom, PIPFA, Pakistan Institute of Public Finance Accountants,
B.Com Punjab University

Hasnie, Syed Sharjeel Ahmad

Lecturer

Superintendent Girls' Hostel
LLM, International Law Temple University, USA
LLB, (Hons), Thames Valley University, London, UK
Areas of interest: International Trade Laws, Corporate Laws and Practice in Pakistan, Industrial Relations, Labour & Service Laws

Nazar, Mahreen

Assistant Professor

Program Director BBA Program
MBA, Georgia State University, Atlanta, USA CPA Texas, USA C.A finalist, Chartered Institute of Management Accountants, UK
Areas of interest: Designing and Implementation of MIS in Large Organizations. Strategic Planning and Activity Based Costing,
Author of Book: Managerial Accounting for Financial Services

Saiyed, Aman U.

Assistant Professor

BSE (Applied Accounting)
Oxford Bhookes University
ACCA
MBA, Institute of Business Administration, Karachi.

Siddiqui, Umamah Emad

Teaching Fellow

Department of Computer Science (15)

Program Director
Computer Science Program
IBA Best Researcher Award-2013
Postdoc (Appl. Math),
University of Antwerp, Belgium
PhD (Appl. Math),
Delft University of Technology,
The Netherlands
MCS, M.Sc. B.Sc. (Hons.)
(Applied Maths),
University of Karachi

bin Zubair, Hisham

Assistant Professor

PhD candidate at Institute of Business Administration, Karachi
MS, (Information Technology),
Hamdard University, Karachi
Areas of interest: Performance analysis of wireless networks, MAC and routing layer issues in MANET, WSN, modeling and simulation, information systems

Arain, M. Waseem

Assistant Professor

Program Director Summer School
MBA, Institute of Business Administration, Karachi
BCS, FAST Institute of Computer Science
Fellow of Entrepreneurship at Babson College, USA
Areas of interest: Social Media, Web Marketing, Entrepreneurship, MIS and Ergonomics

Ghauri, Maheen

Assistant Professor

IBA Best Researcher Award-2013
PhD, George Mason University, USA
MS, George Mason University, USA
Areas of interest: Artificial Intelligence, Probabilistic Reasoning, Data Mining, Machine Learning and System Engineering

Haider, Sajjad

Associate Professor

PhD, Institute of Business Administration, Karachi
MS, (Computer Science), SZABIST, Karachi
MCS (Computer Science), K.U
Areas of interest:
High-Speed Next Generation Networks, Modeling and Simulation, Artificial Intelligence & Statistical Inference

Iradat, S. M. Faisal

Assistant Professor

Coordinator MBA Evening Program
PhD candidate at Institute of Business Administration, Karachi.
MS (CS), National University (FAST), Karachi, MAS, AERC, University of Karachi
MCS, University of Karachi
Areas of interest:
Programming Languages, Information Retrieval, Graphics

Khan, Abdul Wajed

Assistant Professor

PhD candidate at Institute of Business Administration, Karachi
MS (Computer Science), SZABIST, Karachi
MCS, University of Karachi
OCA, USA,
Areas of interest: Relational Databases, Data Warehouses, Data Mining, Systems Engineering, Ontology Coloured Petri nets (CPN) and ERP

Khan, Imran

Assistant Professor

Post Doc Fellowship
University of Southampton, UK
PhD, University of Southampton, UK
Bachelors of Engineering, UET, Mehran, Pak. Awarded Best Teacher Award 2003 and 2011 by Higher Education Commission (HEC)
Research interest Area: Web Science, Learning Technologies and HCI

Khoja, Shakeel Ahmed

Professor

PhD, IBA Karachi
MS, George Washington University, USA
PGD, Technical Education,
Islamic University of Technology, (OIC) Dhaka
B.Sc (Engg), NWFP University of Engg & Tech, Peshawar PMP
Areas of interest:
Information Security Management, Information Technology Policy and Planning Project Management

Nabi, Syed Irfan

Assistant Professor

Department of Computer Science *(continued...)*

PhD Institute of Business Administration, Karachi
MS, SZABIST, Karachi
Areas of interest:
Information Extraction,
Knowledge Extraction,
Semantic Web & Ontology

Rajput, Quratulain Nizamuddin

Assistant Professor

Director (QEC)
IBA Best Teacher Award-2013
PhD, Salford University, M.Sc, UMIST
BA (Hons.), Business Studies,
University of Sheffield International
Baccalaureate (IB)
United World College of the Atlantic
Areas of Interest: Active involvement
in the Center for Entrepreneurship
Development (CED)
Female Entrepreneurship

Rashid, Amber Gul

Assistant Professor

MBA in General Management,
University of the East, Manila, Philippines
Areas of interest:
Supply Chain Management and CRM.
Experience at Companies like Oracle,
KPMG and Arthur Consulting

Rizvi, Ameer H.

Lecturer

Coordinator Testing Services
Member Admission Committee &
Chairman CPC,
PhD, University of Leeds, England,UK
MA in Mathematics, MS in Operations
Research, University of California,
Los Angeles
Areas of interest: Parallel Processing,
Operations Research, Numerical Analysis,
Data Warehousing and Data Mining

Touheed, Nasir

Professor

PhD Temple University, Philadelphia,USA
MBA, Institute of Business dministration,
Karachi
PGD, Institute of Business Administration,
Karachi
Areas of interest: Philosophy of
Computer Mediated
Communication, Deliberative
Communication, Open Source, Social
Software, and Online Communities
of Practice

Zaheeruddin Asif

Assistant Professor

Chairperson, Department of
Computer Science
PhD & MS,
Columbia University, USA
BS, Massachusetts Institute of
Technology
Area of Interest: Simulation and
Performance Analysis of Wireless
Networks, Routing issues in Mobile
Adhoc Network & Security
Risk Assessment of System

Ghani, Sayeed

Associate Professor

Department of Economics and Finance (22)

Chairperson Department of
Economics & Finance
DBA, University of Strathclyde,
Glasgow, UK
M.Sc, University of Strathclyde, Glasgow
MA, University of Punjab, Lahore
Areas of interest:
Strategic Management and Economics

Bari, Khadija Malik

Assistant Professor

MSc (Economics) from University of
Edinburgh
BSc (Honors Economics and
Mathematics) LUMS

Abbas, Ali Gillani

Lecturer

Director Center for Business &
Economics Research, Chief Economist,
Govt. of Sindh
PhD (Economics), University of Bath, UK
MAS (Economics), University of Karachi
MA (Economics), University of Karachi
20 years of experience in Consultancy,
research in the areas of Public Finance,
Regional Economics & Macro Economics

Ahmed, Qazi Masood

Professor

Department of Economics and Finance *(continued...)*

PhD candidate at the University of Auckland
MS, University of Manchester, UK
M.Com, University of Karachi
Areas of interest:
Capital Structure and Asset Pricing Models

Ahmed, Shama

Lecturer (on Study Leave)

PhD, Northeastern University, Boston, USA
M.Phil, Quaid-e-Azam University
M.Sc (Economics), University of Karachi
Areas of interest:
Convergence Theory and Corruption

Ahmad, Naved

Professor

M.Sc Economics,
Lahore University of Management Sciences
BBA Finance, Institute of Business Administration, Karachi

Ali, Mehwish Ghulam

Teaching Fellow

MBA, LUMS
B.Sc (Hons), Economics, LUMS
4 years of Industry Experience
Served as AVP Team Leader in Mezan Bank

Awan, Amer Iqbal

Assistant Professor (on Study Leave)

MA (Eco), York University, Toronto, Canada
MA (Eco), University of Karachi
Obtained Distinction in MA, York University
Areas of interest:
Public Choice Theory,
Law and Economics, Development and Macroeconomics

Ejaz, Lalarukh

Assistant Professor

Research Fellow, Center for Business and Economic Research (CBER), Institute of Business Administration, Karachi
PhD in Banking
Tilburg University, The Netherlands
MBA Finance (Gold Medalist),
IoBM, Karachi
MSc Economics (Gold Medalist),
University of Karachi

Elahi, Muhammad Ather

Assistant Professor

M.Sc Finance (Financial Engineering), London Business School
BA in Mathematics (Actuarial Mathematics), University of Pennsylvania

Ghani, Omer J

Assistant Professor

PhD (Economics), PIDE, Islamabad
MS (Applied Economics), AERC, Karachi University of Karachi,
M.Sc (Computer Science and Mathematics),
University of the Punjab, Lahore, Pakistan

Haider, Adnan

Assistant Professor

MBA, Institute of Business dministration, Karachi
Areas of interest:
Pakistan's Economic and Financial Markets, Involved in an analysis project with Business Daily

Jaffery, Tahira Marium

Lecturer

Department of Economics and Finance *(continued...)*

Masters (Public Administration in International Development),
Harvard University, Harvard Kennedy School (HKS),
Bachelor of Science (Hons), LUMS

Jahangir, Asim

Lecturer

PhD University of Warwick (in process)
M.Sc (Economics),
Warwick University U.K
MA (Local Economic Development),
University of Waterloo, Canada
MAS University of Karachi
Areas of interest:
Applied Microeconometrics,
Labour / Education Economics and
Local Economic Development

Khan, Amir Jahan

Assistant Professor (On Study Leave)

Sr. Fellow / Advisor Center for Entrepreneurship Development
PhD, Management Sciences, France
MS Finance & Management Control, France
MBA Finance & Investment,
NUST, Pakistan
Fellow Academy of Entrepreneurship
Fellow Eastern Finance Association

Khan, Haroon

Assistant Professor (On Leave)

PhD, University of Minnesota
M.Sc, University of Minnesota
M.Sc (Agricultural Economics),
Sindh Agriculture University
Areas of interest:
Stochastic Dynamic Programming,
Market Integration, Environmental Economics

Lohano, Heman Das

Associate Professor (On Long Leave)

Research Fellow (CBER)
PhD, University of Birmingham
M.Sc in Management, London School of Economics & Political Science, UK
MPA, The Punjab University, Lahore
Areas of Interest:
Financial Economics, Econometrics,
Monetary Policy

Muhammad, Zahid

Assistant Professor (On Long Leave)

Head of Policy & Strategy Advisory Unit
PhD & M.Phil, **(Public Policy Analysis)**,
Pardee RAND Graduate School, USA
MBA & BBA (Hons.), (Finance),
Institute of Business Administration, Karachi
Areas of Interest: Public policy analysis; institutional economics.

Malik, Mohammed Rehan

Assistant Professor

M.Sc Investments (Finance)
Birmingham Business School,
University of Birmingham, UK
MBA, Finance / Marketing
Institute of Business Administration, Karachi
BE Mechanical, NED University Karachi

Nauman, J Amin

Assistant Professor (on Study Leave)

Associate Dean Faculty of Business Administration
PhD, University of Auckland, New Zealand
MASc, (Management Sciences) & MA, (Economics), University of Waterloo, Canada
MAS, (AERC), University of Karachi
Areas of interest: Portfolio Management
Financial Econometrics, Financial Economics & Microeconomics

Nishat, Mohammad

Professor

Program Coordinator, BS Economics and Mathematics
DBA, Grenoble Ecole De Management, France (in progress)
MS (Economics), Institute of Business Administration, Karachi (in progress)
CFA ® Charter, CFA Institute
MBA (Finance), Institute of Business Administration, Karachi
Areas of interest: Business Finance, Financial Management and Financial Derivatives

Tauseef, Sana

Lecturer

Department of Economics and Finance *(continued...)*

Program Director EMBA Program
MBA, Institute of Business Administration, Karachi
DAIBP
Areas of interest:
Banking, Accounting & Finance

Umer, Muhammad Saleem

Professor of Practice

Department of Management (13)

Chairperson Department of Management
Fulbright Post Doc. Research Scholar, Monterey Institute of International Studies, Monterey, USA
PhD, Adamson University, Philippines,
BE, NED University
Areas of interest:
Entrepreneurship, Research Methodology, Materials & Marketing Management

Mir, Shahid R.

Assistant Professor

Program Director MBA Programs
PhD, University of Twente,
The Netherlands
MBA, Maastricht School of Management,
The Netherlands
M.Sc, University of Karachi

Afghan, Nasir A.

Assistant Professor

Personal Counselor to students
Diploma in Integrative counseling, level-4 (CPC AB) UK
M.Sc Organizational Psychology, Birkbeck College, University of London, UK
MS Management Sciences, SZABIST, Karachi
MPA, University of Karachi
Areas of Interest: Postmodernism and Career Development

Ansari, Nyla Aleem

Assistant Professor

PhD, USA, MBA, IBA Karachi,
BE (Mech), NED University,
26 years teaching experience at the IBA, Karachi and at Northern Illinois University (NIU), USA Ex-Member IBA-BoG, Ex Deputy Director Academics, Member Academic Board, Recipient of: MBA Gold Medal for best overall allround performance from IBA, 1983, Gerald Maryanov Fellow Award, 1991 from (NIU), USA, Best Teacher Awards: UGC 2001, IBA 2002, HEC 2009. Author of: 3 books, over 40 research papers and 400 articles in publications of international / national repute, Areas of interest: Corporate Strategy, Managerial Policy, Strategic Management, Development Economics, Quality Management, Public Policy and Social Policy.

Fatima, Mahnaz

Professor

Doctoral Course work in Business Administration at Institute of Business Administration, Karachi
M.E.M, Yale University, USA
MBA, Institute of Business Administration, Karachi
BE, NED University
Areas of interest:
Small Business Management, Production and Operations Management, Energy Management and Environmental Protection

Hussain, Mirza Sardar

Assistant Professor

PhD (Project Management) France
MSc (Industrial Engineering France
BE (Mechanical) NED University
PMP, CQSSBB, OCP, Assessor in QMS and OHSAS
HEC Approved PhD Supervisor

Khalid, Rameez

Assistant Professor

Department of Management *(continued...)*

Head of Policy & Strategy Advisory Unit
PhD & M.Phil, **(Public Policy Analysis)**,
Pardee RAND Graduate School, USA
MBA & BBA (Hons.), (Finance),
Institute of Business Administration,
Karachi
Areas of Interest: Public sector reform;
corporate strategy and restructuring.

Malik, Mohammed Rehan

Assistant Professor

Program Director
Career Development Center
MBA, University of Hull, UK
33 years of Professional Experience
Served as the Executive Director
at Shell Pakistan

Menezes, Leon

Professor of Practice

ME Texas A&M University
BS GIKI
Areas of interest:
Operations Management,
Small Business Management,
Entrepreneurship

Mumtaz, Mohammad Kamran

Assistant Professor

MBA, City University, Hong Kong
B.Sc (Hons), Computer Science,
City University, Hong Kong
Worked at several multinationals,
Last served at JPMorgan
Chase Bank Singapore,
Taught at various Institutions in
Asia Pacific

Nazir, Usman

Assistant Professor

Program Director Center for Entrepreneurial Development (CED)
PhD, Technical University, Berlin
MBA, LUMS, M.Sc (Engineering),
Asian Institute of Technology,
Bangkok, Thailand
Areas of interest:
Entrepreneurship, Strategic
Management, Entrepreneurial Marketing
and Marketing Research

Qureshi, Shahid

Assistant Professor

MA (Human Resource Management),
George Washington University, USA
MBA, Institute of Business
Administration, Karachi
BBA, Institute of Business Administration,
Karachi
Areas of interest:
Human Resource Management,
Organizational Behavior and
Comparative Management

Saqib, Syed Imran

Assistant Professor

Program Director Alumni Affairs
MS (Marketing Communication),
Roosevelt University, USA
MBA, Institute of Business
Administration, Karachi,
BBA, Institute of Business Administration,
Karachi

Siddiqui, Zafar A.

Professor of Practice

Department of Social Sciences & Liberal Arts (16)

Chairperson Department of Social Sciences & Liberal Arts
Doctor of Fine Arts, Yale School of Drama, Yale University, New Haven, Connecticut (USA)
Master of Fine Arts, Yale School of Drama, Yale University, New Haven, Connecticut (USA)
Bachelor of Arts, Arts & Ideas, Drama, University of Michigan-Ann Arbor, Ann Arbor, Michigan (USA)

Minwalla, Framji

Assistant Professor

PhD (Arab and Islamic Studies), University of Exeter, United Kingdom
Master of Arts (Philosophy) University of Texas at Austin Texas & Bachelor of Arts (Economics and Mathematics) Brandeis University Waltham, Massachusetts

Ahmed, Babar

Assistant Professor

PhD, Columbia University
MIA, Columbia University
BA, City University New York
Post-Doctoral Fellow, Harvard University
Areas of Interest: Urban Politics, Land Tenure and Grassroots processes of Settlement, Globalization / Governance and the city, Democracy and Citizenship

Anwar, Nausheen H

Assistant Professor (On Leave)

MA (Social Sciences), The University of Chicago, IL
B.Sc. (Hons.) in Politics & Anthropology, Lahore University of Management Sciences, LUMS

Asif, Ghazal

Teaching Fellow (on Study Leave)

Program Director
Communication & Public Affairs
PhD International Relations, University of Karachi
Certified Trainer in Liberal Political Values from Germany
Area of interest:
Conflict in South Asia

Baqai, Huma

Associate Professor

M.Phil International Relations
University of Cambridge
MA International Relations, University of Karachi
Areas of interest:
U.S. Foreign Policy, Just War Theory, Discourse Analysis

Butool, Syeda Beena

Assistant Professor (On Study Leave)

Director Ardeshir Cowasjee Center for Writing
MA, (Applied Linguistics), London Metropolitan University, UK
MA (English Linguistics), University of Karachi
MA (English Literature), University of Karachi
Areas of interest:
Socio Linguistics & Pragmatics

Hasan, Maria

Assistant Professor

Coordinator NTHP / STHP & FSP Programs
Coordinator Foreign Languages
PhD, Institute of Clinical Psychology, University of Karachi
Areas of interest:
Human, Organizational and Consumer Behaviour, Business Communication Research Method and Social Psychology

Ismail, Zeenat

Professor

PhD (Political Science)
University of Bristol
MA (International Affairs), George Washington University
Bachelor of Arts (Political Science), Boston University

Munshi, Muhammad Bilal

Assistant Professor

Department of Social Sciences & Liberal Arts *(continued...)*

PhD (English Literature)
McGill University, Canada
MA (English Literature)
McGill University, Canada
MA (Teaching English) Smith College,
Northampton, Massachusetts

Mujahid, Nadya Qamar Chishti

Assistant Professor

PhD, University College London,
Master of Science,
University College London,
Bachelor of Science (Engineering),
Hull University, England

Nomanul Haq, Syed

Professor

PhD (History) University of Cambridge,
United Kingdom
MSc. (International History) London
School of Economics, United Kingdom
BSC (Mathematics & Economics) LUMS

Osman, Newal

Assistant Professor

MA Linguistics, University of Karachi
BA (Hons.), University of Karachi
Certificate in English Language Teaching
to Adults (CELTA) awarded by University
of Cambridge ESOL
Areas of interest:
Teacher Development and
English for Academic Purposes (EAP)

Qayyum, Rabail

Lecturer

MA Linguistics,
University of Karachi
BA (Hons),
University of Karachi
Areas of interest:
Creative Writing and Translation

Rebaz, Javeria

Lecturer

PhD, University of Karachi
MA, University of South Carolina,
MA, University of Karachi
Areas of interest:
Conflict Resolution, Crisis Management,
West, South Asia and Impact of
Technology on Interstate Relations

Wizarat, Talat

Professor

Project Manager Center for Excellence in Journalism
Master's (Broadcast Journalism),
Emerson College, Boston
Bachelor's (International Relations &
Films Studies),
Mount Holyoke College,
South Hadley, MA

Zaffar, Nadia

Assistant Professor

Department of Marketing (15)

Chairperson Department of Marketing
Senior Research Fellow, CEBR
PhD (Marketing), Warwick Business School, University of Warwick, UK
MBA, Institute of Business Administration, Karachi
Areas of interest:
International Marketing, Consumer Behavior and Social Research Methods

Amir, Huma

Assistant Professor

PhD (Enterprise Risk Management) - In Progress
M. Phil. (Supply Chain Management), USA, Fellow Member and Vice President, National Council of Institute of Cost and Management Accountants, Pakistan
Fellow Member of CMA (Certified Management Accountant), Sri Lanka

Ajari, M. Hanif

Professor of Practice

M.Sc (Marketing),
Queen Mary University of London
BBA (Marketing),
Institute of Business Administration, Karachi
Areas of Interest: Marketing

Akhund, Fatima

Teaching Fellow

MS, SZABIST, Karachi
MBA, (Marketing)
Institute of Business Administration, Karachi
BBA, Institute of Business Administration, Karachi
Areas of interest:
FMCG Branding & Retailing

Baig, Farah Naz

Lecturer

Master of Science
(Marketing & Strategy),
Warwick Business School, UK
BBA (Marketing),
Institute of Business Administration, Karachi

Gill, Obaid Pervaiz

Lecturer (on Study Leave)

MBA (Marketing)
Institute of Business Administration, Karachi
BBA Institute of Business Administration, Karachi

Hussain, Adnan

Lecturer

MBA, Institute of Business Administration, Karachi
BBA, Institute of Business Administration, Karachi
Areas of interest:
Marketing Issues in Pakistan, Principles of Marketing, Consumer Behavior and Media Management

Husain, Saima

Lecturer

PhD, Manchester, Business School, UK
MBA, Institute of Business Administration, Karachi
BE, NED University, Karachi
Area of Interest:
Innovation, Consumer Behaviour and Quality

Khan, Ambarin Asad

Lecturer (on Study Leave)

DBA, Grenoble Ecole De Management, France (in progress)
MBA, Institute of Business Administration, Karachi
BBA, Institute of Business Administration, Karachi
Areas of interest:
Marketing issues in Pakistan, Consumer Behaviour, Culture and Country-of-Origin effects

Khan, Nida Aslam

Lecturer

Department of Marketing *(continued...)*

PhD, University of USM, Malaysia
MBA, University of Toronto, Canada
MA, University of Karachi
BE, NED University
Areas of interest:
Marketing Management,
Export Marketing, Advertising &
Business Marketing in SMEs

Mian, Ejaz A.

Assistant Professor

Superintendent Boy's Hostel
MBA, Schiller International University,
London HND, Cambridge
Fellow, Babson College,
Massachusetts,USA
Areas of interest:
Entrepreneurial Marketing,
Strategy, Advertising and Management

Moiz, Jami

Assistant Professor

Director (QEC)
PhD, Salford University
M.Sc, UMIST
BA (Hons.), Business Studies,
University of Sheffield International
Baccalaureate (IB)
United World College of the Atlantic
Areas of Interest:
Active involvement in the Center
for Entrepreneurship Development (CED)
Female Entrepreneurship

Rashid, Amber Gul

Assistant Professor

Student Counselor
MBA, Institute of Business
Administration, Karachi
Trainer in various Executive
Education & FBR
Capacity Building Programs
Areas of interest:
Management, Marketing and HRM

Saeed, S.M.

Lecturer

Marketing & Research Fellow (CBER)
PhD (Marketing) IAE Aix Graduate School
of Management, France
MS (General Management) IAE Aix
Graduate School of Management, France
MBA (Change & Innovation) IAE Aix
Graduate School of Management, France
BBA (Marketing) Institute of Business
Administration, Karachi

Qader, Muhammad Zeeshan

Assistant Professor

MBA, University of San Francisco,
California
MBA, Institute of Business Administration
Karachi
Areas of interest: Consumer Behavior,
International Marketing,
Export Marketing,
Services Marketing, Brand and
Product Marketing

Zafar, Yasmin

Assistant Professor

Department of Mathematical Sciences (9)

Chairperson Department of
Mathematical Sciences
PhD, Institute of Space & Planetary
Astrophysics, University of Karachi
M.Phil Mathematics,
University of Karachi
M.Sc, Applied Mathematics,
University of Karachi

Qureshi, Muhammad Shahid

Professor

M.Phil (Statistics),
Government College University,
Lahore
M.Sc. (Statistics),
Baha-Ud-Din Zakariya University,
Multan

Bashir, Amir

Assistant Professor

Program Director
Computer Science Program
IBA Best Researcher Award 2013
Postdoc (Appl. Math),
University of Antwerp, Belgium
PhD (Appl. Math), Delft University of
Technology, The Netherlands
MCS, M.Sc. B.Sc. (Hons.)
(Applied Maths),
University of Karachi

bin Zubair, Hisham

Assistant Professor

Department of Mathematical Sciences *(continued...)*

PhD, Abdus Salam School of Mathematical Sciences, Government College University, Lahore
M.Sc (Pure Mathematics), University of Karachi
Areas of interest: Commutative Algebra, Computational Algebra, Algebraic Geometry

Khan, Junaid Alam

Assistant Professor

PhD (Applied Mathematics), LUMS
M.Sc (Pure Mathematics) with Distinction
Areas of interest: Applied and Computational Mathematics, Sobolev Gradient Approach to Partial Differential Equations

Majid, Abdul

Assistant Professor

M.Sc, University of Karachi, (Silver Medalist)
Recipient of Best Teacher Award from HEC
Recipient of Best Paper Award, Informatics & Cybernetics Conference at Orlando, USA
Areas of interest: Statistics, Numerical Computing, Mathematics and Statistical Inference

Meenai, Yaseen Ahmed

Lecturer

MA, Mathematics
Kings College, Cambridge University
Cambridge Mathematical Tripos
Area of interest: Mathematics

Raza, Ahmad

Assistant Professor

Chairperson (Library Committee)
PhD, University of Kent, Canterbury, England
Areas of interest: Numerical Analysis, Mathematical Modeling, Logic & Discrete Structures, Operational Research, Statistical Inference, Business Mathematics, Design of Algorithms and their Applications

Shah, Ahmed Ali

Associate Professor

Coordinator Testing Services
Member Admission Committee & Chairman CPC
PhD, University of Leeds, England,UK
MA in Mathematics,
MS in Operations Research,
University of California, Los Angeles
Areas of interest: Parallel Processing, Operations Research, Numerical Analysis, Data Warehousing and Data Mining

Touheed, Nasir

Professor

The very corner-stone of an education intended to form great minds, must be the recognition of the principle, that the object is to call forth the greatest possible quantity of intellectual power, and to inspire the intense love of truth: and this without a particle of regard to the results to which the exercise of that power may lead, even though it should conduct the pupil to opinions diametrically opposite to those of his teachers. We say this, not because we think opinions unimportant, but because of the immense importance which we attach to them; for in proportion to the degree of intellectual power and love of truth which we succeed in creating, is the certainty that (whatever may happen in any one particular instance) in the aggregate of instances true opinions will be the result; and intellectual power and practical love of truth are alike impossible where the reasoner is shown his conclusions, and informed beforehand that he is expected to arrive at them.

John Stuart

Department of Accounting and Law (9)

Executive Director,
The Institute of Chartered Accountants of Pakistan
Deputy Chief Executive,
The Citizens Foundation
Director Finance, IUCN- The World Conservation Union
FCA, CA, Institute of Chartered Accountants of Pakistan
MAS (Finance, COBOL Programming), Punjab University Lahore

Ahmad, Moiz

Deputy Collector
LLM (Petroleum Law, CEPMLP), University of Dundee, UK
LLB, Hamdard School of Law, Karachi
MBA (Banking & Finance), Preston University, USA (Karachi Campus)
MA (Economics), University of Karachi
BA (Hons) – Economics, University of Karachi

Ahmed, M. Kaukab Sabahuddin

Chief Financial Officer (CFO) & Company Secretary, DHL Pakistan (Pvt) Ltd.
FCA, Institute of Chartered Accountants of Pakistan (ICAP)
FCMA, Institute of Cost and Management Accountants of Pakistan (ICMAP)
Certified Director, Corporate Governance, Pakistan Institute of Corporate Governance (PICG)
Courses taught: Corporate Law, Taxation, Financial, Management & Accounting at ICMAP, ICAP

Idress, Muhammad Hanif

Former Managing Director / Chief Executive
Officer Sind Engineering (Pvt) Ltd.
MBA (Finance & Accounting), Institute of Business Administration, Karachi
B.Sc (Maths, Physics & Chemistry), Adamjee Science College, Karachi

Kidwai, Midhat Azim

Diploma, Institute of Banking Professionals; LLB
Completed mandatory training for Chartered Accountancy
Global Development Program with Asia Pacific Region (Hong Kong)

Madarsawala, Mushtaq Ahmed

Chief Consultant,
Aslam Murad Associates
FCA, CA, Institute of Chartered Accountants of Pakistan
CMA, ICMAP
Bachelor of Commerce, University of Karachi

Murad, Aslam

Deputy Collector,
Customs, Sales Tax & Fed. Excise, CBR
MBA (Tax Management), Institute of Business Administration, Karachi
MA (Economics), SALU, Khairpur
LLB, SALU, Khairpur

Shahani, Mushtaq Ali

Partner,
A.R. Suriya & Co., Chartered Accountants
FCA, Institute of Chartered Accountants of Pakistan FCMA, ICMAP

Suriya, Abdul Rahim

Senior Budget & Planning Analyst,
ENI Pakistan Ltd.
ACA, Institute of Chartered Accountants of Pakistan
ACCA, Association of Chartered Certified Accountants
Specialization with A.F Ferguson & Co. (Member firm of PricewaterhouseCoopers, Pwc)

Ravda, Abdul Qadir

Department of Computer Science (14)

Assistant Professor,
Bahria University, Karachi
MS (Computer Science), SZABIST, Karachi
MBA (MIS), CBM, Karachi

Abbasi, Erum

Chief Executive Officer (CEO)
The Kaizen Forum
MS (Computer Science), West Chester University of Pennsylvania, USA
BE, NED University Karachi

Akhtar, Nadeem

LAssistant Professor,
Department of Computer Science & Main Communication Network,
University of Karachi
M.Phil / PhD in MIS,
University of Karachi (In process)
Masters in Mass Communication (Mgmt& Org. Communication),
University of Karachi
B.S (Computer Science), University of Karachi

Ali, Syed Asim

Chief Information Officer, Silkbank Limited
BE (Electrical) – NED University of Engineering & Technology, Karachi
MBA - PIM, Karachi

Edhi, Javed Yousaf

Chief Executive Officer (CEO),
Biztek Professionals
MBA, Carnegie Mellon University, USA
MS, George Washington University, USA
BS, University of Maryland, College Park
Certified PMP and CISA

Hashmi, Ali Asghar

Association with Informa Telecoms & Media, UK
M.Sc (Information Technology)
London University
BE (Hons) (Chemical Engineering)
South Bank University, UK

Malik, Yasmin

Joint Director, State Bank of Pakistan
B.S (Engg.)
(Sir Syed University of Engineering & Technology)
MS (Specialization in Software Project Management) NUCES (FAST)
MS (Economics and Finance)
IoBM (CBM) Karachi

Mehmood, Waqas

Director Technical and Delivery,
Logic Information Systems,
MS, (Computer Science),SZABIST, Karachi
BCSc, Dalhousie University, Canada

Mukhi, Shabbir

AVP & Project Manager,
United Bank Limited (UBL)
MBA, Institute of Business Administration, Karachi
B.Tech (Electrical),
NED Engineering University
Professional Courses:
ICND, MCSE, SAP BASIS, TAF140 (FI)
Specialization Network Infrastructure, SAP BASIS

Qamar, Shahid,

Department of Computer Science *(continued...)*

M.A English
(Applied Linguistics),
University of Karachi

Raja, Farhan Uddin

Assistant Professor,
University of Karachi
MS (Computer Science), LUMS
PhD (in progress)
University of Karachi

Saeed, Muhammad

PhD (Computer Vision and
Machine Learning),
University of Surrey, UK
M.Sc (Physics),
University of Karachi
B.Sc (Physics),
University of Karachi

Sarim, Muhammad

Assistant Professor,
Dept. of Computer Science,
University of Karachi
PhD, University of Karachi (in progress)
MBA (Finance), University of Karachi
MS (Computer Networks &
Communication), Hamdard University
BS Computer Engineering,
Sir Syed University of Engineering &
Technology, Karachi

Siddiqui, Farhan Ahmed

IT Manager,
Hinopak Motors Limited
MS - CS, SZABIST (in Process)
MBA (MIS), Institute of Business
Administration, Karachi
BE (Mechanical Engineering) UET,
Lahore

Zia, Shams Naveed

Department of Economics and Finance (14)

Chairman & Associate Professor,
Department of Economics,
Faculty of Arts, University of Karachi,
PhD (International Development),
Graduate School of International
Development, Nagoya University, Japan.
(MAS) in Applied Economics from
University of Karachi

Abdul, Waheed

Senior Business Planning Officer, Engro
Polymer and Chemicals Limited (EPCL)
M Phil Economics - University of
Cambridge
BSc (Hons) - Lahore University of
Management Sciences (LUMS)

Ahmed, Muhammad Bilal

Associate Director-LC Business, Standard
Chartered Bank (Pak) Ltd. -Global
Markets
M.Sc (Accounting & Finance),
London School of Economics
MBA, Hamdard University
BBA, Hamdard University

Ahmed, Syed Waqar

Department of Economics and Finance *(continued...)*

Group Head - Corporate and Investment Banking
MBA,
Institute of Business Administration, Karachi
Candidate for CFA Level II

Ejaz, Muhammad

Assistant Professor
MBA, Institute of Business Administration, Karachi
M.Sc University of Karachi

Haque, Ziaul

Assistant Professor, Department of Economics, University of Karachi
PhD (Economics)
University of Karachi (in progress)
M.Phil (Economics) QAU, Islamabad

Hassan, Rubina

Assistant Professor,
MS (Finance), Institute of Business Administration, Karachi
MBA, Institute of Business Administration, Karachi
BE, Dawood Engineering College

Haider, Shabih

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Banking Division,
Industrial Development Bank, Pakistan (IDBP)
Masters in Economics,
St. Louis University, USA
M.Sc (Statistics),
University of Punjab, Lahore
MBA, Institute of Business Administration, Karachi
DAIBP, IBP, Karachi

Huda, Sadiqul

CEO, Irfanullah Financial Training
Graduate School of Business,
University of Chicago,IL
MBA Dartmouth College,
Hanover NH
Master of Engineering,
Engineering Management

Irfanullah, Arif

Business Analyst,Engro Corp
Qualified Chartered Financial Analyst; exceptional financial modeling and valuation skills
FRM Level - 1
CFA, CFA Institute
MBA, SZABIST, Karachi
BBA Honors, SZABIST, Karachi

Khan, Mohammad Faizan

Economist,
Research Department,
State Bank of Pakistan (SBP)
PhD (Economics), Boston College, USA
MA (Economics), Boston College, USA

Pasha, Farooq

Deputy Director, State Bank of Pakistan
PhD (Finance), Massey University, New Zealand
MS – Finance, Massey University, New Zealand Postgraduate Diploma – Finance, Massey University, New Zealand
MBA, IBA Karachi

Sharif, Saqib

Department of Economics and Finance *(continued...)*

Executive Vice President, Meezan Bank Limited
MBA (MIS),
Institute of Business Administration, Karachi
BBA Hons (MIS),
Institute of Business Administration, Karachi

Siddiqui, Ahmed Ali

Assistant Professor,
Karachi University Business School
PhD (Economics), University of Karachi
MBA, Institute of Business Administration, Karachi
MA (Economics), University of Karachi
CFA-Level 1, CFA Institute, USA

Siddiqui, Danish Ahmed

Department of Management (13)

Director Research,
Pakistan Business Council
MBA, Institute of Business Administration, Karachi
BE, NED University, Karachi

Amir, Samir S.

MBA Business Administration,
Simmons College
MA English Literature,
Georgetown University,
MA Literature and Linguistics,
Lucknow University
Teaching Diploma from Harvard University, Cambridge, M.A & Courses from Boston University, Boston

Davis, Talat Hameed

Chief Executive Officer (CEO) / Partner, Gold Mohur Corporation
PhD in Management Sciences, SZABIST (In Progress)
M.Phil / MS in Management Sciences, SZABIST
MBA Finance & Marketing,
Institute of Business Administration, Karachi
BAC, Institute of Chartered Accountants Pakistan

Hassan, Imran Javed

Ph.D, Management (Education),
University of Lancaster, UK
MA, Human Resource Development and Management Learning,
University of Lancaster, UK
MBA IBA, Karachi

Khan, Sara

Practicing Member of ICMAP in Taxation, Project Finance, Secretarial Practices
MBA, Institute of Business Administration, Karachi
FCMA, Institute of Cost & Management Accountant of Pakistan

Khan, Jalal Ahmad

Process Reengineering Lead,
Citibank N.A., Pakistan
MS in System Design & Management,
Sloan School of Management, MIT, USA
MS Manufacturing Systems Engineering,
University of Wisconsin-Madison, USA

Khusrow, Uzair M.

Department of Management *(continued...)*

MBA,
Quaid-e-Azam University,
Islamabad

Mapara, Shakeel

MBA, Institute of Business Administration Karachi
Recipient of Silver medal

Mazhar, Sarah

Owner,
International Trading Corporation
MBA (Finance), Institute of Business Administration, Karachi
MS (Chemical Engineering),
The Pennsylvania State University, USA
BS in Chemical Engineering &
Computer Science,
The Pennsylvania State University, USA

Mahesri, Sajjad H.

Postgraduate Diploma, NILAT;
B.Sc (Hons), (Agri), Sindh LLB, Karachi
MBA, Institute of Business Administration, Karachi
PhD, Institute of Business Administration, Karachi (in progress)

Raza, Syed Sultan

CEO & Lead Consultant, Think-HR Management Consultants
Senior Executive Vice President,
Summit Bank Ltd.
(Formerly Atlas Bank Ltd.) Karachi
Principal Compensation and Benefits Specialist, Asian Development Bank, Manila, Philippines
LLM Indiana University Law School
Bloomington, Indiana, USA
LLB Punjab University Law College, Lahore

Salman, Munir

MBA, IBA Karachi
B.E (Electrical),
NED University of Karachi

Shahbazker, Mohammad Kamil

Consultant
Former CEO of Philips Pakistan
MBA, University of Karachi
MSEE, University of Southern California (USC), USA
BE, NED University

Zaki, Shahid

Department of Social Sciences & Liberal Arts (18)

Professor,
Director, Pakistan Study Center,
University of Karachi
PhD (Social and Political Sciences),
Cambridge University, UK
M.Phil (Pakistan Studies),
University of Karachi
MA (Political Science),
University of Karachi

Ahmed, Syed Jaffer

MA (Arabic),
University of Karachi
MA (IR),
University of Karachi *(in progress)*
BA (Hons),
University of Karachi

Alam, Sameen

Visiting Faculty,
River Oaks Academy
MA English Literature,
University of Karachi
MA Mass Communication,
University of Karachi

Anjary, Fatima

MA in English
Linguistics Karachi University
MA in English
Literature Karachi University

D'souza, Carol

Master of Education (Research)
University of Sydney
MA (English Literature)
University of Karachi

Erum, Tazeen

Freelance Writer
Institute of Business Administration,
Karachi
PhD (Mass Communications),
University of Karachi, Pakistan
MA (Mass Comm.) University of Karachi

Hafeez, Erum

Lecturer, Department of General History,
University of Karachi
LLB University of Karachi
MA (History), Islamia Arts and Commerce
Degree College

Khan, Moiz

PhD, Psychology,
University of Karachi
MA, Psychology with specialization in
Clinical Psychology,
University of Karachi

Malik, Anila Amber

PhD Education (ED.D),
Columbia University, New York City
Masters of Education,
Columbia University, New York City
MA, English Literature,
University of Chittagong,
Bangladesh

Moonis, Shahinda

Department of Social Sciences & Liberal Arts *(continued...)*

Ph.D, South Asian Studies
University of Pennsylvania,
Philadelphia,
MA, Ethnomusicology
Wesleyan University,
Middletown, CT

Mulvany, Aaron

MA, Humanities and Social Thought,
New York University
Specialization:
Philosophy and Anthropology of the
Middle East
BA Political Science,
University of California, Los Angeles

Qassim, Summer

M.Ed, University of Nottingham,
United Kingdom
BSc Honors, Lahore University of
Management Sciences (LUMS)

Shaikh, Rabeel

Ph.D., London University
(University College London)
M.Sc. (Econs),London University
(London School of Economics)
B.Sc. (Hons), London University
(University College London)
B.Sc., Punjab University,
Pakistan

Sheikh, Shaheen

MBA, Institute of Business
Administration, Karachi
Specialization in Soft Skills
Training and Development,
Business Communication and
Career Counseling

Sayeed, Nadia

Assistant Professor,
Department of Philosophy,
University of Karachi
PhD in Political Philosophy,
University of Karachi
MA in Philosophy, University of Karachi
BA (Hons) Philosophy, Psychology,
Economics,
University of Karachi

Suri, Abdul Wahab

Masters in History,
University of Karachi
BA University of Karachi

Siddiqui, Kiran Shahid

BA in History
(Université d'Angers, France)
Master in Cultural Management
(Université d'Angers, France)
University degree in FFL
(Université du Maine, France)

Touze, Eric

M.A.International Relationsm,
University of Karachi
PhD (in Process)

Wasi, Nausheen

Department of Marketing (11)

Ex. Director Marketing,
Marsavco SARL
(Former Unilever DRC)
MBA, Hamdard University, Karachi

Ashraf, Noaman

Group Head,
Marketing & Product Management,
United Bank Ltd., Karachi, Pakistan
MSc in Marketing, UMIST, Manchester
MBA, Institute of Business
Administration, Karachi

Agrawalla, Najeeb

Head of Marketing,
National Industrial Parks
MBA, Institute of Business
Administration, Karachi
BE, (Mechanical Engineering),
NED University, Karachi

Ansari, Danish

MBA Institute of Business Administration,
Karachi
BBA Institute of Business Administration,
Karachi

Ahmed, Arshy

Head of Debit Cards & New Ventures,
United Bank Ltd (UBL)
MBA (Marketing), Institute of Business
Administration, Karachi
MBA (Marketing),
Oregon State University–Corvallis,
USA

Chaudhry, A. Jawad

General Manager, Corporate Affairs
Pak-Arab Refinery Ltd (PARCO)
MBA, Institute of Business
Administration, Karachi
MS, Materials & Metallurgical Engg,
University of Michigan, USA

Husain, Shah M. Saad

Head of Retail & Consumer Banking,
Bank Islami Pakistani Limited (BIPL)
MBA, Institute of Business
Administration, Karachi
BE, NED University of Engineering &
Technology, Karachi

Imran, Muhammad

Assistant Professor,
Textile Institute of Pakistan
MBA, Institute of Business
Administration, Karachi

Mahmood, Javed

Chief Executive Officer (CEO),
Brand Image
(A marketing consultancy providing
services in Branding, Advertising,
Public Relations and Consumer Insight)
MBA, Institute of Business
Administration, Karachi
in Association with Wharton School of
Business Management, Pennsylvania,
USA

Mahmud, Syed Akhtar

Department of Marketing *(continued...)*

MBA, Institute of Business Administration, Karachi
BBA, Institute of Business Administration, Karachi

Shehzad, Tabish

MBA,Institute of Business Administration, Karachi
BS (Mech. Engg.),
N.E.D. University of Engineering and Technology

Sheikh, Ishaque

Department of Mathematical Sciences (13)

M.Sc Statistics,
University of Karachi
B.Sc Statistics & Mathematics,
University of Karachi

Alam, S. Khursheed

Assistant Professor
PhD (Computer Science),
University of Karachi
M.Sc (Statistics),
University of Karachi

Akhter Raza, Syed

Lecturer in Department of Mathematical Sciences,
University of Karachi.
M.Sc. Mathematics,
University of Karachi.

Ather, Hafsa

Lecturer,
Department of Mathematics,
University of Karachi
M.Phil University of Karachi
M.Sc (Applied Mathematics),
University of Karachi
B.Sc (Hons.),
University of Karachi

Imtiaz, Muhammad

Lecturer,
Department of Mathematics,
University of Karachi
M.Phil in Operations Research,
University of Karachi
M.Sc in Applied Mathematics,
University of Karachi

Inayatullah, Syed

Post Doc. (Stony Brook University)
PhD (Geo-Space Science), ISPA,
University of Karachi
M.Phil (Applied Mathematics),
University of Karachi
M.Sc (Applied Mathematics),
University of Karachi

Iqbal, Muhammad Jawed

Department of Mathematical Sciences *(continued...)*

Assistant Professor,
Department of Computer Science,
University of Karachi
PhD (Computer Sciences),
University of Karachi
MA (Economics),
University of Karachi
M.Sc (Statistics),
University of Karachi

Jilani, Tahseen Ahmed

PhD (Applied Mathematics),
The University of
Melbourne, Australia
M.Phil (Applied Mathematics),
University of Karachi
M.Sc (Applied Mathematics),
University of Karachi

Kamran, Khurram

PhD, University of Karachi
M. Sc (App. Maths.)
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Khan, Najeeb Alam

Assistant Professor,
Department of Mathematical Sciences
PhD (Algebra), University of Durham, UK
M.Sc (Math), University of Karachi
BE, NED University of Engg &
Technology, Karachi

Siddiqui, Raziuddin

Deputy Director, State Bank of Pakistan
EMBA (Public Sector) Institute of Business
Administration (IBA), Karachi
MAS Economics / Econometrics Applied
Economic Research Center University
of Karachi M.Phil Statistics Government
College University (GCU), Lahore

Salam, Abdus

PhD (Applied Physics),
Chalmers University of Technology,
Göteborg, Sweden
MS (Physics of Matter, Materials and
Biological
Systems), Göteborg University, Göteborg,
Sweden
M.Sc. (Physics), University of Karachi

Ulfat, Intikhab

M.Phil (Astrophysics),
University of Karachi
M.Sc, Applied Mathematics,
University of Karachi

Zeeshan, Mohammad

Adjunct Faculty (7)

Economics & Law

Executive Vice Chairman and Founding Partner,
BMA Capital Management Limited
24 years of experience in capital markets and financial sectors
Ex-Director Treasury American Express Bank and Bachelors from University of Manchester, CA, Institute of Chartered Accountants in England & Wales
Trains: Capital Markets, Business and Financial Sector Strategy

Khan, Farrukh H

Former Governor,
State Bank of Pakistan
Ex-CEO, Pakistan Business Council
36 years experience of global banking including Head of City Bank Operations in Middle East, Africa, UK, Central & Eastern Europe.
Masters from Oxford University
Teaches: Global Economics and Political Environments Course at the MBA program besides delivering lectures and seminars for IBA Executive MBA Program

Raza, Syed Salim

Chairman,
Metage Capital Ltd. UK
Former CEO Nomura International
Advisor JS Investment Ltd and Director, Silk Bank
Worked with Nomura Europe, Credit Suisse First Boston and World Bank
Adjunct Professor at Imperial College Business School, London
Masters (Finance), Sloan School, MIT

Sayeed, Sadeq

Management

Former President & CEO,
Engro Chemicals
Ex-Chairman, PIA, PTCL & KSE,
Mechanical Engineer by Profession
President of Overseas Chamber of Commerce; also serving on the Boards of a number of Multinational Corporations, SBP & listed Pakistani Companies and Philanthropic Organizations

Khan, Zaffar A.

Social Sciences & Liberal Arts

Former Senator,
Ex-Federal Minister for Information and Broadcasting
Highly respected author, commentator on media, political and international relations.
Ex-Regional Counselor and Vice President IUCN
Teaches: Media, International Relations and Political Science Courses to MBA Students

Jabbar, Javed

Marketing

Director,
Excellence Exchange and Coaching Connection Programs, Center for Teaching Excellence,
Haas School of Business
Contribution: Capacity building of faculty at IBA including conducting lectures as a Visiting Faculty
PhD, Systems Engineering;
University of Pennsylvania

Azhar, Wasim

Economics & Finance

Visiting Professor,
Columbia University, New York
Over 29 years of teaching and research experience in the well known international universities including Columbia University, John Hopkins University and University of Oxford.
PhD, History, University of Cambridge
M.Phil, Economics, University of Cambridge
M.Sc, Social Planning in Developing Countries, London School of Economics & Political Sciences

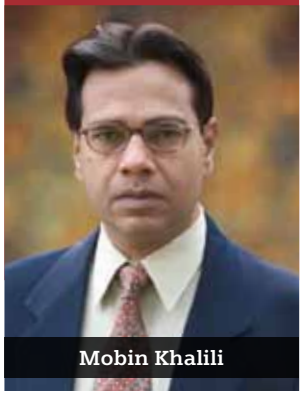
Zaidi, S. Akber

Departmental Heads

Registrar

Ahmed Zaheer

Controller of Examinations

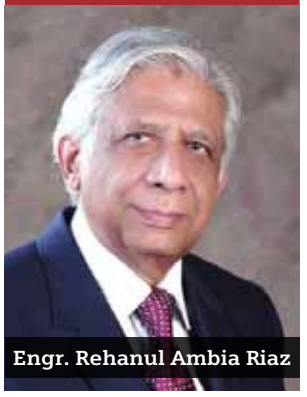


Mobin Khalili

Director Finance

Moeid Sultan

Director Projects



Engr. Rehanul Ambia Riaz

Director CEE

Izhar Hussain

Head of ICT

Imran Batada

Head of Human Resource

Adnan Hameed

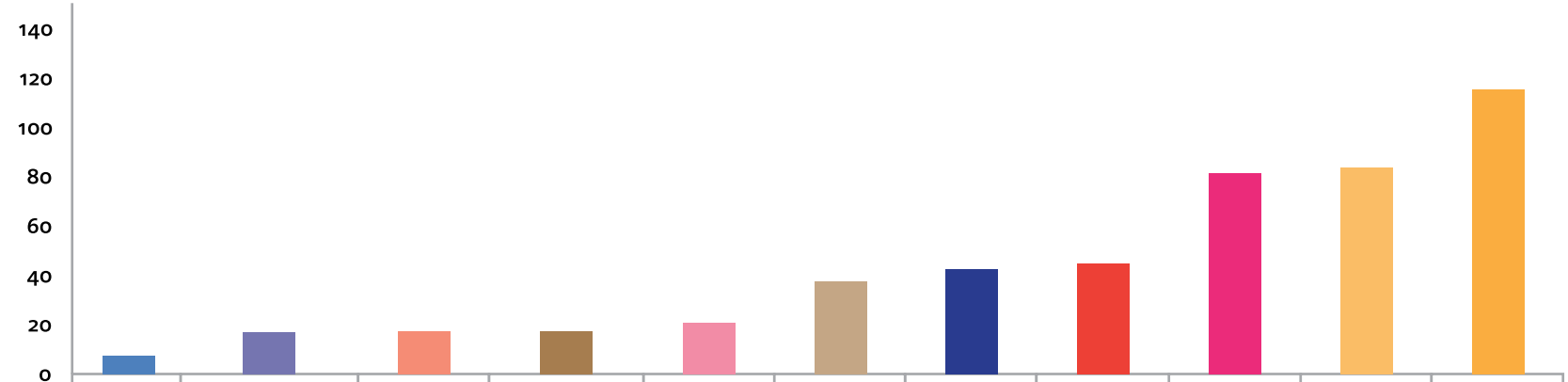
Head of Internal Audit

Fahad Rehman

Head Librarian & Incharge Research Data Center

Muhammad Anwar

Overview of Courses on Offer



	Law	Entrepreneurship	Human Resource	Management	Accounting	Marketing	Economics	Finance	Computer Sciences	Mathematics	Social Sciences & Liberal Arts
Courses	8	16	19	19	21	32	41	44	79	82	117

Department of Accounting and Law

ACCOUNTING COURSES

S. No.	Course Code	Course Title
1	ACC111	Principles of Accounting
2	ACC201	Financial Accounting
3	ACC210	Principles of Accounting
4	ACC215	Financial Accounting
5	ACC220	Management Accounting
6	ACC222	Computer Applications
7	ACC301	Independent Study- Accounting
8	ACC310	Advanced Managerial Accounting
9	ACC312	Business Analysis and Decision making
10	ACC315	Financial Reporting
11	ACC320	Auditing
12	ACC381	Management Accounting
13	ACC401	Advanced Financial Reporting
14	ACC415	Actuarial Courses
15	ACC505	Accounting for Decision Making
16	ACC506	Financial Accounting and Information Systems
17	ACC557	Accounting Information Systems - For Small and Medium Enterprises
18	ACC559	Auditing Theory & Practice
19	ACC561	IFRS & Financial Reporting in Pakistan
20	ACC589	Analysis of Financial Statements
21	ACC589	Project Evaluation & Financing

LAW COURSES

S. No.	Course Code	Course Title
1	LAW105	Politics and Law
2	LAW205	Business Law
3	LAW301	Laws of Taxation
4	LAW303	Taxation
5	LAW305	Corporate Law
6	LAW401	Tax Management and Optimization
7	LAW501	Legal and Regulatory Environment of Business
8	LAW553	Corporate Governance & Practices in Pakistan

Department of Economics & Finance

ECONOMICS COURSES

S. No.	Course Code	Course Title
1	ECO102	Business Economics
2	ECO103	Principles of Microeconomics-I
3	ECO104	Principles of Macroeconomics-I
4	ECO105	Introduction to Eonomics
5	ECO113	Principles of Microeconomics-II
6	ECO114	Principles of Macroeconomics-II
7	ECO201	Intermediate Microeconomics
8	ECO202	Intermediate Macroeconomics
9	ECO301	Development Economics
10	ECO312	Microeconomics
11	ECO313	Macroeconomics
12	ECO341	Introduction to Econometrics
13	ECO342	Applied Econometrics
14	ECO403	Major Issues in Pakistan Economy
15	ECO411	Research Methods in Economics
16	ECO451	Public Finance
17	ECO452	Islamic Economic System
18	ECO454	Population Economics
19	ECO455	Comparative Economic System
20	ECO456	Economics and Strategy
21	ECO461	Natural Resource and Environmental Economics
22	ECO464	Game Theory

ECONOMICS COURSES *(Contd...)*

S. No.	Course Code	Course Title
23	ECO465	International Political Economy
24	ECO467	History of Economic Thought
25	ECO468	Agriculture Economics
26	ECO469	Regional Economics
27	ECO471	Health Economics
28	ECO472	Urban Economics
29	ECO473	Welfare Economics
30	ECO474	Resource Economics
31	ECO501	Managerial Economics
32	ECO502	Macroeconomics
33	ECO511	International Trade
34	ECO517	Global Economic and Political Environment
35	ECO560	Public Policy Analysis: Theory and Practice
36	ECO561	Environmental and Resource Economics
37	ECO562	Financial Economics
38	ECO566	Monetary Economics
39	ECO574	Water Economics and Policy
40	ECO575	The Microeconomics of Policy Analysis
41	ECO654	Labor Economics

FINANCE COURSES

S. No.	Course Code	Course Title
1	FIN201	Introduction to Business Finance
2	FIN301	Financial Institutions and Markets
3	FIN305	Alternate Investments
4	FIN308	Real Estate Investments: Analysis and Financing
5	FIN310	International Banking
6	FIN312	Behavioral Finance
7	FIN315	Corporate Restructuring
8	FIN320	Empirical Research in Finance
9	FIN401	Financial Management
10	FIN405	Venture Capital and the Finance of Innovation
11	FIN410	Buyouts and Acquisitions
12	FIN425	Branch Banking

FINANCE COURSES *(Contd...)*

S. No.	Course Code	Course Title
13	FIN426	Lending- Products, Operations & Risk Management
14	FIN427	Finance of International Trade and Related Treasury Operations
15	FIN428	Introduction to Marketing of Financial Services
16	FIN429	Information Technology in Financial Services
17	FIN451	Investment Banking
18	FIN452	International Finance
19	FIN453	Security Analysis
20	FIN454	Corporate Finance
21	FIN455	Portfolio Management
22	FIN456	Financial Risk Management
23	FIN457	Derivatives
24	FIN458	Fundamentals of Treasury and Fund Management
25	FIN506	Business Finance I
26	FIN507	Business Finance II
27	FIN531	Financial Intermediation
28	FIN532	Advance Credit Management
29	FIN533	Financial system – process, players, status and prognosis
30	FIN541	The Strategic Management of Banks
31	FIN552	International Financial Management
32	FIN554	Investment Banking & Financial Services
33	FIN556	Security Analysis & Capital Markets
34	FIN558	Regulation & Financial Markets
35	FIN559	Islamic Finance
36	FIN560	Advanced Corporate Finance
37	FIN563	Advanced Portfolio Management
38	FIN565	Treasury and Fund Management
39	FIN567	Risk Management
40	FIN568	Derivatives & Risk Hedging
41	FIN569	Financial Econometrics
42	FIN574	Financial Modeling
43	FIN577	Seminar in Finance
44	FIN594	Fixed Income Securities

Department of Management

MANAGEMENT COURSES

S. No.	Course Code	Course Title
1	MGT201	Principles of Management
2	MGT211	Business Communication
3	MGT221	Organizational Behavior
4	MGT301	Ethics in a Corporate Society
5	MGT311	Production and Operations Management
6	MGT400	Management Theory and Practice
7	MGT401	Small Business Management
8	MGT411	Comparative Management
9	MGT421	Entrepreneurship
10	MGT430	Managerial Policy
11	MGT455	Executive Leadership
12	MGT506	Corporate Strategy
13	MGT510	Operations and Production Management
14	MGT512	Strategic Human Resource Management
15	MGT513	Business Strategy
16	MGT519	Personal Effectiveness and Communication (Non-Credit)
17	MGT552	Strategic Management
18	MGT555	Project Management
19	MGT557	Organizational Behavior and Leadership

ENTREPRENEURSHIP COURSES

S. No.	Course Code	Course Title
1	MGT102 / 103	Foundation for Management & Entrepreneurship (FME)
2	ENT451	Marketing for Entrepreneurs
3	ENT452	Entrepreneurial Finance
4	ENT453	Business Law for Entrepreneurs
5	ENT454	Entrepreneurial Management
6	ENT455	Family Business Management
7	ENT456	Developing Entrepreneurial Opportunities
8	ENT457	Women's Entrepreneurship & Leadership
9	ENT458	Social Entrepreneurship

ENTREPRENEURSHIP COURSES *(Contd...)*

10	ENT459	Financing Entrepreneurial Ventures
11	ENT460	New Technology Ventures
12	ENT461	Sustainable Entrepreneurship Strategies
13	ENT462	Corporate Entrepreneurship
14	ENT463	Creativity and Innovation
15	ENT464	Entrepreneurial Sales Strategy
16	ENT465	Co-Curricular Activities•

HUMAN RESOURCE MANAGEMENT (HRM) COURSES

S. No.	Course Code	Course Title
1	HRM401	Human Resource Management
2	HRM430	Recruitment and Selection Techniques
3	HRM445	Occupational Health and Safety
4	HRM450	The Legal Environment of HRM
5	HRM451	Industrial Relations Management
6	HRM452	Organizational Analysis and Research
7	HRM453	Life Career Development
8	HRM456	Training and Development
9	HRM457	HR and Information System.
10	HRM458	Leading the Change Process
11	HRM462	Performance and Compensation Management
12	HRM530	Recruitment and Selection Techniques
13	HRM551	Industrial Relations Management
14	HRM552	Organizational Development
15	HRM557	Team Management
16	HRM558	Leading the Change Process
17	HRM562	Performance and Compensation Management
18	HRM570	Strategic Human Resource Management
19	HRM571	Training and Development

Department of Social Sciences & Liberal Arts

SOCIAL SCIENCES & LIBERAL ARTS COURSES

S. No.	Course Code	Course Title
1	SSC101	English Grammar & Composition
2	SSC104	Foundations of Human Behavior
3	SSC106	Intermediate English Grammar & Composition
4	SSC111	International Relations
5	SSC121	Major Themes in World History
6	SSC151	Pakistan History
7	SSC154	Research Methods in Social Sciences
8	SSC201	Arabic I
9	SSC202	Arabic II
10	SSC203	Arabic III
11	SSC204	Arabic IV
12	SSC205	French I
13	SSC206	French II
14	SSC207	French III
15	SSC208	French IV
16	SSC209	Mandarin I
17	SSC210	Mandarin II
18	SSC211	Mandarin III
19	SSC212	Mandarin IV
20	SSC213	Advanced English Composition
21	SSC216	Culture, Media, Society
22	SSC217	Introduction to Political Science
23	SSC218	Introduction to Psychology
24	SSC221	South Asian History
25	SSC231	Fundamentals of Sociology
26	SSC232	Introduction to Historical Methods
27	SSC233	Introduction to Social and Cultural Anthropology
28	SSC234	Introduction to Urban Studies
29	SSC235	Introduction to Linguistics
30	SSC239	History of Ideas I
31	SSC238	History of Ideas II
32	SSC240	Personal Effectiveness
33	SSC301	Socioeconomic Philosophy of Islam

NATURAL SCIENCES COURSES

S. No.	Course Code	Course Title
1	NSC351	History of Science
2	NSC352	Ideas of Physics
3	NSC353	Space, Time, and Space-Time
4	NSC354	Introduction to Environmental Sciences
5	NSC355	Principles of Ecology and Conservation
6	NSC356	History of Evolution
7	NSC357	Introduction to Geology

VISUAL STUDIES & HUMANITIES COURSES

1	HUM201	Speech Communication
2	HUM351	Great Books
3	HUM352	Reading Poetry
4	HUM353	Introduction to Drama
5	HUM354	Introduction to Urdu Literature
6	HUM355	Anglo-Indian Narratives and the Postcolonial Subject
7	HUM356	Foundations of Philosophical Thought
8	HUM357	Philosophy, Logic, and Ethics
9	HUM358	Comparative Classical Philosophy
10	HUM359	Introduction to Comparative Religions
11	HUM360	Creative Writing
12	HUM361	Theater Project: The Living Newspaper
13	HUM363	Introduction to Visual Culture
14	HUM364	History of Art I: Classical Antiquity to the Middle Ages
15	HUM365	History of Art II: Renaissance to the Present
16	HUM366	Art of the Islamic World
17	HUM367	Theories of Design
18	HUM368	Colonial and Postcolonial Visual Cultures
19	HUM369	The Rhetoric of Architecture

MEDIA AND COMMUNICATION COURSES

S. No.	Course Code	Course Title
1	MCS301	Research Methods in Media and Communications
2	MCS302	Gutenberg to Google: A Social History of Media
3	MCS303	Theories of Media and Communications
4	MCS351	Media and Post-colonialism

MEDIA AND COMMUNICATION COURSES *(Contd...)*

S. No.	Course Code	Course Title
5	MCS352	Media, Law, and Ethics
6	MCS353	Race, Class, and Gender in Film and Television
7	MCS354	The International Newsroom
8	MCS355	Analyzing the News
9	MCS356	Introduction to Visual Communication
10	MCS357	History of Commercial Art
11	MCS358	Communication in Advertising
12	MCS359	Watching Films
13	MCS360	History of Film
14	MCS361	The Non-Fiction Film
15	MCS362	Introduction to Television Studies
16	MCS363	Television Newsmagazines and Documentaries
17	MCS364	Theories of Film and Television
18	MCS365	Narratives Across Media
19	MCS366	Digital Activism and Democracy
20	MCS367	Media Convergence and the Virtual Public Sphere
21	MCS401	Communication for Social Change
22	MCS 491 / 492	Culminating Experience

POLITICAL SCIENCE COURSES

S. No.	Course Code	Course Title
1	POL301	Research Methods in Political Science
2	POL302	History of Political Thought
3	POL303	Introduction to Comparative Politics
4	POL351	Political Psychology
5	POL352	Foreign Policy in China
6	POL353	State and Society
7	POL354	War: Conceptual Underpinnings
8	POL355	Human Rights
9	POL356	Environment and Politics
10	POL357	Diplomacy in a Globalized World
11	POL358	Islam and International Relations
12	POL359	The Modern Middle East
13	POL360	Theories of Democratic Transition
14	POL361	Democracy and Difference
15	POL362	Pakistan's Foreign Policy
16	POL363	Filthy Lucre: A Political History of Money
17	POL401	International Politics
18	POL491 / 492	Culminating Experience

PSYCHOLOGY COURSES

S. No.	Course Code	Course Title
1	PSY301	Research Methods in Psychology
2	PSY302	Human Development
3	PSY303	Personality, Identity, and the Self
4	PSY351	Introduction to Social Psychology
5	PSY352	Organizational Behavior and Industrial Psychology
6	PSY353	Psychology and the Media
7	PSY354	Psychology of Conflict
8	PSY355	Introduction to Developmental Psychology
9	PSY356	Attachment and Loss
10	PSY357	Child and Adolescent Development
11	PSY358	Psychology of Aging
12	PSY359	Introduction to Cognitive Psychology

PSYCHOLOGY COURSES *(Contd...)*

13	PSY360	Sensation and Perception
14	PSY361	Human Memory
15	PSY362	Abnormal Psychology
16	PSY363	Psychology of Human Emotion
17	PSY401	Language, Memory, and the Human Mind
18	PSY491 / 492	Culminating Experience

Department of Marketing

MARKETING COURSES

S. No.	Course Code	Course Title
1	MKT201	Principles of Marketing
2	MKT301	Methods of Business Research
3	MKT401	Marketing Issues in Pakistan
4	MKT451	Advertising
5	MKT452	Consumer Behavior
6	MKT453	Sales Management
7	MKT454	Personal Selling
8	MKT455	Retail Management
9	MKT456	Export Marketing
10	MKT457	Dynamics of Distribution and Logistics
11	MKT458	Public Relations
12	MKT460	Direct Marketing
13	MKT461	Brand Management
14	MKT462	Essentials of Demand & Supply
15	MKT501	Marketing Management
16	MKT505	Advanced and Applied Business Research
17	MKT551	Advertising
18	MKT552	Consumer Behavior
19	MKT553	Entrepreneurial Management
20	MKT556	Social Marketing
21	MKT558	Customer Ascendancy
22	MKT559	Supply Chain Management
23	MKT561	Brand Management
24	MKT566	Media Management
25	MKT586	Retailing
26	MKT651	Personal Selling
27	MKT653	Sales Management
28	MKT656	Services Marketing
29	MKT657	Strategic Marketing
30	MKT658	Business to Business Marketing
31	MKT659	Global Marketing Management
32	MKT752	Seminar in Marketing

Department of Computer Science

MIS COURSES

S. No.	Course Code	Course Title
1	MIS 103	Introduction to Computer Applications (2,1,3)
2	MIS 343	Data Warehousing (3,1,4)
3	MIS 405	Excel & Access for Business Managers (2,1,3)
4	MIS 406	Social Computing (3,0,3)
5	MIS 450	Technopreneurship (3,0,3)
6	MIS 454	Audit, Ethics & IS Issues (3,0,3)
7	MIS 456	E-Commerce (3,0,3)
8	MIS 458	Enterprise Resource Planning (3,0,3)
9	MIS 459	Customer Relationship Management (3,0,3)
10	MIS 463	Mobile Marketing - A Technological Perspective (3,0,3)
11	MIS 464	Financial Services Technologies (3,0,3)
12	MIS 503	Enterprise Integration (3,0,3)
13	MIS 550	Logistics and Supply Chain Management (3,0,3)
14	MIS 552	Advanced Data Warehousing (2,1,3)
15	MIS 553	Mobile Marketing Strategies (3,0,3)
16	MIS 555	Auditing IT Infrastructures (3,0,3)
17	MIS 565	Advance E-Commerce (3,0,3)
18	MIS 566	Fundamentals of SAP-ABAP Programming I (2,1,3)
19	MIS 567	Simulated Approach to SCM (1,.5,1.5)
20	MIS 651	Theoretical Foundations of IS (3,0,3)
21	MIS 653	Advanced Theoretical Concepts in IS (3,0,3)

COMPUTER SCIENCE & ALLIED COURSES

S. No.	Course Code	Course Title
1	CSE 141	Introduction to Programming (3,1,4)
2	CSE 142	Object Oriented Programming Techniques (3,1,4)
3	CSE 145	Introduction to Computing (3,1,4)
4	CSE 241	Digital Logic Design (3,1,4)
5	CSE 247	Data Structures (3,1,4)
6	CSE 248	Computer Communications and Networks
7	CSE 307	Introduction to AI (3,0,3)
8	CSE 308	Web Based Application Development (3,0,3)
9	CSE 309	Theory of Automata (3,0,3)

COMPUTER SCIENCE & ALLIED COURSES *(CONTD...)*

S. No.	Course Code	Course Title
10	CSE 312	Software Engineering (3,0,3)
11	CSE 317	Design and Analysis of Algorithms (3,0,3)
12	CSE 318	Design Patterns (3,0,3)
13	CSE 331	Operating Systems (3,0,3)
14	CSE 341	Database Systems (3,1,4)
15	CSE 344	Compiler Design (3,1,4)
16	CSE 345	Computer Architecture and Assembly Language (3,1,4)
17	CSE 403	System Modeling and Simulation (3,0,3)
18	CSE 407	Human Computer Interaction (3,0,3)
19	CSE 441	Systems Programming (3,1,4)
20	CSE 448	Microprocessor Interfacing (3,1,4)
21	CSE 450	Application Development for Mobile Devices (3,0,3)
22	CSE 455	Network Security (2,1,3)
23	CSE 459	Business Intelligence (3,0,3)
24	CSE 460	Introduction to Game Programming and Robotics (3,0,3)
25	CSE 461	Mathematics for Games (3,0,3)
26	CSE 491	Computer Science Project - I (0,3,3)
27	CSE 492	Computer Science Project - II (0,3,3)
28	CSE 503	Software Project Management (3,0,3)
29	CSE 556	Image Processing for Recognition (3,0,3)
30	CSE 558	Mobile Computing (3,0,3)
31	CSE 559	Image Processing (3,0,3)
32	CSE 564	Software Systems Engineering (3,0,3)
33	CSE 566	Software Quality Assurance (3,0,3)
34	CSE 567	Requirements Engineering (3,0,3)
35	CSE 575	Advanced Human Computer Interaction (3,0,3)
36	CSE 652	Knowledge Discovery and Data Mining (3,0,3)
37	CSE 654	Combinatorial Optimization (3,0,3)
38	CSE 655	Probabilistic Reasoning (3,0,3)
39	CSE 657	Essentials of Theoretical Computer Science (3,0,3)
40	CSE 658	Knowledge Management and E-Learning Systems (3,0,3)
41	CSE 659	Computational Intelligence (3,0,3)

COMPUTER SCIENCE & ALLIED COURSES *(CONTD...)*

S. No.	Course Code	Course Title
42	CSE 660	Computer Vision (3,0,3)
43	CSE 661	Semantic Web (3,0,3)
44	CSE 662	Parallel Processing (3,0,3)
45	CSE 665	Information Retrieval and Web Search - I (3,0,3)
46	CSE 666	Information Retrieval and Web Search - II (3,0,3)
47	CSE 668	Big Data Analytics (3,0,3)
48	CSE 690	MS Research Survey (0,3,3)

ICT & ALLIED COURSES

S. No.	Course Code	Course Title
1	ICT 512	Advanced Web Technologies (3,0,3)
2	ICT 515	Distributed Systems (3,0,3)
3	ICT 554	Information Security (3,0,3)
4	ICT 556	RFID Technologies (3,0,3)
5	ICT 651	Computer Communication Networks & Simulation - I (2,1,3)
6	ICT 654	Computer Communication Networks & Simulation - II (2,1,3)
7	ICT 659	Wireless Sensor Networks (1,2,3)
8	ICT 660	Advanced Topics in Wireless Sensor Networks (1,2,3)
9	ICT 661	Applications of Mathematical and Computational Techniques to Networking (3,0,3)
10	ICT 662	WSN Protocols and Applications (3,0,3)

Department of Mathematical Sciences

MATHEMATICS COURSES

S. No.	Course Code	Course Title
1	MTS101	Calculus -1 & Plane Geometry
2	MTS102	Introduction to Statistics
3	MTS104	Calculus with Application-I
4	MTS106	Calculus with Applications-II
5	MTS110	Mathematical Methods
6	MTS111	Essential Software
7	MTS112	Applied Probability Theory

MATHEMATICS COURSES *(Contd...)*

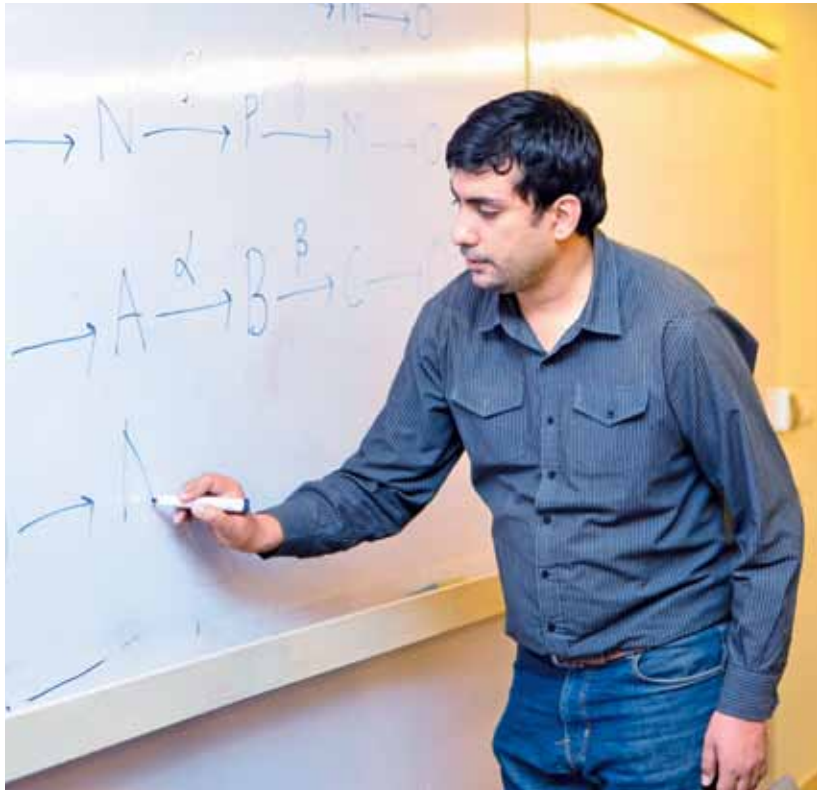
S. No.	Course Code	Course Title
8	MTS201	Logic & Discrete Structures
9	MTS202	Statistical Inference (with econometrics lab)
10	MTS203	Linear Algebra
11	MTS204	Calculus-III
12	MTS210	Regression Analysis and Experimental Design
13	MTS211	Discrete mathematics
14	MTS232	Calculus-2 & Solid Geometry
15	MTS212	Business Mathematics & Linear Algebra
16	MTS241	Introduction to Differential Equations
17	MTS301	Real Analysis
18	MTS302	Complex Analysis
19	MTS303	Advanced Differential Equations
20	MTS304	Stochastic Processes-I
21	MTS305	Abstract Algebra-I
22	MTS413	Numerical Analysis
23	MTS411	Functional Analysis-I
24	MTS412	Functional Analysis-II
25	MTS306	Abstract Algebra-II
26	MTS414	Scientific Computing for Linear PDEs.
27	MTS431	Numerical Solutions of PDEs
28	MTS432	Integral Equations-I
29	MTS433	Advanced Numerical Analysis-I
30	MTS434	Advanced Numerical Analysis-II
31	MTS435	Differential Geometry
32	MTS437	Fluid Dynamics-I
33	MTS438	Fluid Dynamics-II
34	MTS441	Financial Mathematics with a Computational approach
35	MTS442	Computational Finance-I
36	MTS443	Modern Algebra-I (Galios Theory & Applications)
37	MTS444	Modern Algebra-II (Commutative Rings & Fields)
38	MTS445	Measure Theory-I
39	MTS446	Measure Theory-II

MATHEMATICS COURSES *(Contd...)*

S. No.	Course Code	Course Title
40	MTS447	Operations Research-I
41	MTS448	Operations Research-II
42	MTS451	Topology-I
43	MTS452	Topology II (Differential Topology)
44	MTS506	Quantitative Methods for Decision-Making
45	MTS511	Advanced Real Analysis
46	MTS512	Measure Theory & Integration
47	MTS513	Topics in Algebra
48	MTS514	Topics in Commutative Algebra
49	MTS515	Advanced Numerical Analysis
50	MTS516	Topology
51	MTS521	Scientific Computing
52	MTS525	Stochastic Processes II
53	MTS529	Stochastic Differential Equations
54	MTS533	Integral Equations-I
55	MTS537	Mathematical Astronomy
56	MTS539	Homological Algebra
57	MTS541	Computational Algebraic Geometry
58	MTS545	Applicable Modern Geometry I
59	MTS549	Algebraic Geometry I
60	MTS551	Scientific Computing & Software Calculus-III
61	MTS553	Algebraic Cycles I
62	MTS557	Arithmetic Algebraic Geometry
63	MTS561	Exploratory Data Analysis
64	MTS565	Mathematical Physics I
65	MTS569	Statistical Data Mining & Knowledge Discovery
66	MTS573	Statistical Machine Learning
67	MTS577	Galois Theory
68	MTS621	Numerical Treatment of P.D.E
69	MTS625	Financial Mathematics I
70	MTS629	Financial Mathematics II
71	MTS637	Computational Astronomy

MATHEMATICS COURSES *(Contd...)*

S. No.	Course Code	Course Title
72	MTS645	Applicable Modern Geometry II
73	MTS649	Algebraic Geometry II
74	MTS653	Algebraic Cycles II
75	MTS657	Polylogarithms
76	MTS661	Multivariate Statistical Analysis
77	MTS665	Mathematical Physics II
78	MTS671	Monomial Algebra
79	MTS691	Topics of Special Interest I
80	MTS692	Topics of Special Interest II
81	SCI105	Physics I (Mechanics)
82	SCI205	Physics II (Electromagnetism)



SUMMER SEMESTER 2014

Summer Semester 2014 begins: June 23, 2014 (Monday)

Months	Total Days	Sundays	Holidays	Exams. Days	Teaching Days
June 23, 2014	8	1	-	--	7
July, 2014	31	4	3	2	22
August 12, 2014	12	2	1	2	7
Total Days	**51**	**7**	**4**	**4**	**36**

Activity	Action by	Commencement Date	Completion Date
Online Course Registration	Students	Completed	
Mid Term Exams	Controller of Exams	July 14, 2014	July 15, 2014
Preparatory Holiday	Students	August 9, 2014	August 10, 2014
Final Examination	Students	August 11, 2014	August 12, 2014
Promulgation of Results	Faculty	August 17, 2014	August 17, 2014
Comprehensive Exams		**August 23, 2014**	

Pre - SUMMER SEMESTER 2014 (MBA Program Only)
June 13 to June 22, 2014

FALL SEMESTER 2014

Fall Semester Begins: August 25, 2014 (Monday)

Months	Total Days	Sundays	Holidays	Exams. Days	Teaching Days
August 25, 2014	07	1	-	-	06
September, 2014	30	4	-	3	23
October, 2014	31	4	3	3	21
November, 2014	30	5	2	6	17
December, 2014	31	4	4	5	18
January, 2015	7	1	1	5	-
Total Days	**136**	**19**	**10**	**22**	**85**

Activity	Action by	Commencement Date	Completion Date
Online Course Registration	Students	Completed	
1st Term Exams	Controller of Exams	September 27, 2014	October 3, 2014
2nd Term Exams	Controller of Exams	November 17, 2014	November 22, 2014
Teacher Evaluation	Students	December 8, 2014	December 13, 2014
Preparatory Holiday	Students	December 23, 2014	December 23, 2014
Graduate Program Preparatory Week*	Students	December 16, 2014	December 23, 2014
Final Examination	Students	December 24, 2014	January 7, 2015
Promulgation of Results	Faculty	January 22, 2015	January 22, 2015
Comprehensive Exams		**January 28, 2015**	

*For students taking one-mid term exams only

Fall Semester Orientation Day	**August 23, 2014**

NOTES

Graduate Program Faculty members who opt to conduct one Mid-Term Exam only:
May conduct this from October 13 to October 18, 2014. There will be no graduate classes during this week.

Graduate Program Faculty members who opt to conduct two Term Exams:
May conduct both term exams with the Undergraduate Program exams during class timings. Graduate classes will be conducted as per schedule during these two weeks.

SPRING SEMESTER 2015

Spring Semester Begins: January 29, 2015 (Thursday)

Months	Total Days	Sundays	Holidays	Exams. Days	Teaching Days
January 29, 2015	03	-	-	-	03
February,2015	28	4	1	-	23
March, 2015	31	5	1	6	19
April, 2015	30	4	-	6	20
May, 2015	31	5	2	4	20
June ,2015	06	-	-	6	-
Total Days	**129**	**18**	**4**	**22**	**85**

Activity	Action by	Commencement Date	Completion Date
Online Course Registration	Students	January 23, 2015	January 27, 2015
1st Term Exams	Controller of Exams	March 9, 2015	March 14, 2015
2nd Term Exams	Controller of Exams	April 20, 2015	April 25, 2015
Teacher Evaluation	Students	May 11, 2015	May 16, 2015
Preparatory Holiday	Students	--	--
Graduate Program Preparatory Week*	Students	May 19, 2015	May 26, 2015
Final Examination	Students	May 27, 2015	June 6, 2015
Promulgation of Results	Faculty	June 21, 2015	June 21, 2015
Comprehensive Exams		**August 22, 2015**	

Spring Semester Orientation Day	**January 24, 2015**

NOTES

Graduate Program Faculty members who opt to conduct one Mid-Term Exam only:
May conduct this from March 26 to April 1, 2015. There will be no graduate classes during this week.

Graduate Program Faculty members who opt to conduct two Term Exams:
May conduct both term exams with the Undergraduate Program exams during class timings. Graduate classes will be conducted as per schedule during these two weeks.

Short - WINTER SEMESTER 2015 (MBA Program Only)
January 08 to January 28, 2015

*For students taking one-mid term exams only

SUMMER SEMESTER 2015

Summer Semester 2015 begins: June 24, 2015 (Wednesday)

Months	Total Days	Sundays	Holidays	Exams. Days	Teaching Days
June 24, 2015	07	1	-	-	06
July, 2015	31	4	3	2	22
August 13, 2015	13	2	1	2	08
Total Days	**51**	**7**	**4**	**4**	**36**

Activity	Action by	Commencement Date	Completion Date
Online Course Registration	Students	June 22, 2015	June 23, 2015
Mid Term Exams	Controller of Exams	July 27, 2015	July 28, 2015
Preparatory Holiday	Students	August 11, 2015	August 11, 2015
Final Examination	Students	August 12, 2015	Aug 13, 2015
Promulgation of Results	Faculty	August 17, 2015	Aug 17, 2015

FALL SEMESTER 2015

Fall Semester Begins: August 24, 2015 (Monday)

2014

07 July 2014

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
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Gazette / Public Holidays

2014

Eid-ul-Fitr*	29, 30 & 31 July - 14
Independence Day	14 August - 14
Eid-ul-Azha*	6 & 7 October - 14
Ashura*	3 & 4 November - 14
Allama Iqbal Day	9 November - 14
Birth Anniversary of Quaid e Azam	25 December - 14

Local / Optional Holidays - 2014**

Urs of Shah Abdul Latif Bhittai (14 Safar)	7 November – 14
Death Anniversary of late Benazir Bhutto	27 December - 14

Gazette / Public Holidays

2015

Eid Milad un Nabi*	3 January - 15
Kashmir Day	5 February - 15
Pakistan Day	23 March - 15
Labor Day	1 May - 15
Eid ul Fitr*	16, 17 &18 July - 15
Eid ul Azha*	22, 23 & 24 Sep - 15
Independence Day	14 August - 15
Ashura*	22 & 23 October - 15
Allama Iqbal Day	9 November - 15
Birth Anniversary of Quaid e Azam	25 December - 15

Local / Optional Holidays-2015**

11th Rabiul Awal **	2 January - 15
Death Anniversary of late Zulfiqar Ali Bhutto**	4 April - 15
Urs of Shah Abdul Latif Bhittai (14 Safar)	26 November - 15
Death Anniversary of late Benazir Bhutto	27 December - 15

* Subject to sighting of moon
** Subject to receiving notification from Govt. of Sindh

Our International Linkages and Strategic Alliances

USAID FROM THE AMERICAN PEOPLE — 2006	SAP — 2008	MARKETING ASSOCIATION OF PAKISTAN — 2008	map Management Associates of Pakistan — 2008	INTERNATIONAL ASSOCIATION OF UNIVERSITIES — 2008	CFA INSTITUTE — 2009	EFMD — 2009
TEMASEK Foundation — 2009	The Association of Commonwealth Universities — 2009	BABSON — 2009	BIA — 2009	ORACLE — 2009	GEM Global Entrepreneurship Monitor — 2009	SOLBRIDGE INTERNATIONAL SCHOOL OF BUSINESS — 2009
AAPBS — 2010	AMDISA — 2010	CASE COUNCIL FOR ADVANCEMENT AND SUPPORT OF EDUCATION — 2010	gbsn — 2010	Sabancı Üniversitesi — 2010	清华经管学院 Tsinghua SEM — 2010	CEEMAN — 2011
SAQS ACCREDITED — 2011	MMU MULTIMEDIA UNIVERSITY — 2011	The Washington Center — 2011	— 2011	ISB — 2012	KOÇ UNIVERSITY — 2012	UNIVERSITY OF MALAYA — 2012
The Institute of Chartered Accountants of Pakistan — 2013	IMT Institute of Management Technology — 2013	— 2013	UNIVERSITY OF Southampton — 2013	IBP Institute of Bankers Pakistan — 2013	PMI Project Management Institute REGISTERED EDUCATION PROVIDER — 2013	GRENOBLE ECOLE DE MANAGEMENT — 2013

Enhancing our Outreach

A public sector institution of higher education has to play an important role in contributing directly or indirectly to the socio-economic development of the country. While teaching and research will generate the direct linkages by providing high caliber human resources to the economy in the medium to long term an institution such as IBA has an obligation to strengthen its community, corporate sector, public sector and nonprofit sector linkages in the short run. These linkages can be fostered by providing advisory and consultancy service, nurturing entrepreneurship and innovation and training of mid career executives. The vehicles through which this is taking place at IBA include the Responsible Citizen Initiative, Career Development Center , the Center for Entrepreneurship Development, the Center of Business and Economics Research and the Center for Access to Finance. Appended below is a brief description of each of these centers:

Responsible Citizen Initiative (RCI Program)

To strengthen our outreach to the community has been an essential ingredient of our current strategy. To enable this we have introduced 'IBA Student Community Service' as a project. It comprises of 6-8 week mandatory internship aimed at raising the level of awareness in 'IBA students, the future business leaders' on problems and challenges by the Social Sector in Pakistan. These internships are offered to our BBA students specifically in the nonprofit and NGO sector. The focus of the project is to take the students outside of their comfort zone and connect them with those parts of the society with whom they may not have ever interacted. Through this initiative we hope to bring our students in direct contact with that segment of society that is not as blessed materially as them, they will be in a better position to become part of the solution rather than the problem. This involvement with those less privileged will also help them develop awareness about the larger, diverse environment which impacts our economy and businesses, thus enabling them to become more effective leaders with greater empathy for the less well to do segments of the society. Our student body comprises among the best brains in Pakistan and we feel that the resource hungry Social Sector would be able to benefit enormously through their contributions during the summer months. This makes the Responsible Citizen Initiative Program a win-win proposition.

Career Development Center (CDC)

The goal of the Career Development Center is to help the students find the right job in their preferred field, with their "employer of choice". The CDC achieves this through developing strong and tangible linkages between employers and IBA graduates, and aligning the needs of employers with the competencies of our graduates. Professional lectures, seminars, panel discussions and workshops on career development and related skills are also organized. Other activities include arranging mock interviews of graduating students with Alumni, organizing and facilitating job fairs, coordinating internships, 5-months projects, and job placements in an efficient and smooth manner. The CDC also sponsors visits of head hunting teams to facilitate on-campus recruitment activities, as well as ensuring the timely compilation, publication, and circulation of the IBA Graduate Directory for BBA and MBA classes. At CDC, we tend to channel our energy and efforts for the career development of our students so that their strengths and competencies are showcased in a manner that is appealing and facilitative for the employers.

Center for Entrepreneurship Development (CED)

Established in 2012 with funding received from the AMAN Foundation, the programs of the CED has been developed in partnership with Babson College of Entrepreneurship in Boston, USA. The bulk of the facilities at the CED are focused at developing students' abilities to formulate ideas, explore and create. It trains them to carry out in-depth analysis of disciplinary and inter disciplinary subjects, and enables them to get hands on experience in industry, by applying the knowledge and training to generate and sell their ideas in the real world, thus unleashing their potential and increasing their confidence, independence and creativity which in time to come will nurture in them the necessary skills to become entrepreneurial in thinking and practice. Furthermore, the entrepreneurial spirit developed at the center may appeal and boost the capabilities of those who are exploring avenues to run businesses in a manner different to the market.

Center of Business and Economics Research (CBER)

The CBER is a think tank that can be of assistance to business community, public policy makers, and the civil society. It is managed by a Research Committee (RC) consisting of the eminent researchers within the IBA and an Advisory Committee drawn mainly from the users of research. The CBER invites proposals for award of research grants, organizes research seminars workshops / conferences, solicits research ideas and funding from the industry and corporate sectors for core and contract research and establishes collaborative research projects with international and national institutions of repute.

Center for Access to Finance (CAF)

Poverty reduction and better income distribution to the low and middle income groups in Pakistan is one of the major factors inhibiting rapid progress in Pakistan. The CAF carries out

analytical studies, action research, monitoring and evaluation of the existing infrastructure, institutions and networks supplying finances. It also assesses the demand and demand side constraints through surveys, focus groups and structured interviews. The Center will link with the Center for Entrepreneurship Development (CED) in future and help transformation of business ideas into reality.

Center for Excellence in Writing

The ability to write effectively is one of the key markers of academic and professional success. Effective writing indicates clear thinking, the ability to assimilate and synthesize complex material, and an appreciation for nuance and differing points-of-view. Given that reading and writing are interdependent activities, good writing also indicates an ability to read complexly a necessary skill for students entering the increasingly competitive 21st century workplace. To this end a center for excellence in writing was inaugurated at IBA in November 2013. The writing center will go a long way towards helping achieve this goal. In addition to helping students improve their writing skills, the center will also serve all faculty members by helping them design and sequence writing and research assignments, devise strategies for evaluating and responding to student writing, and develop effective techniques for working with multilingual students. The center has been dedicated to the memory of one of Pakistan's most-renowned columnists, social activists, and philanthropists late Mr. Ardeshir Cowasjee.

Center for Executive Education (CEE)

The IBA's Center for Executive Education (CEE) focuses on developing managers and providing opportunities for refining the skills needed to succeed in today's business environment. It is a nucleus for activities designed to enhance organisational effectiveness through training and developing working professionals in various disciplines and equipping them with the tools and knowledge to improve their managerial skills. The programs offered are designed to strengthen the participants' leadership skills with a focus on personal development, productivity improvement and strategic thinking.

Additionally, the CEE works in partnership with the clients to understand their needs and to develop the best possible solution for them. During 2013, CEE conducted 40 open enrolment programs, 15 Customized Client-Specific programs and more than 10 seminars, lectures, forums and video conferences on the emerging topics. Particulars of some of the programs conducted by CEE in 2013 are appended as under:

A. Open Enrolment Programs

Leadership

- Transformational Leadership Program (TLP)

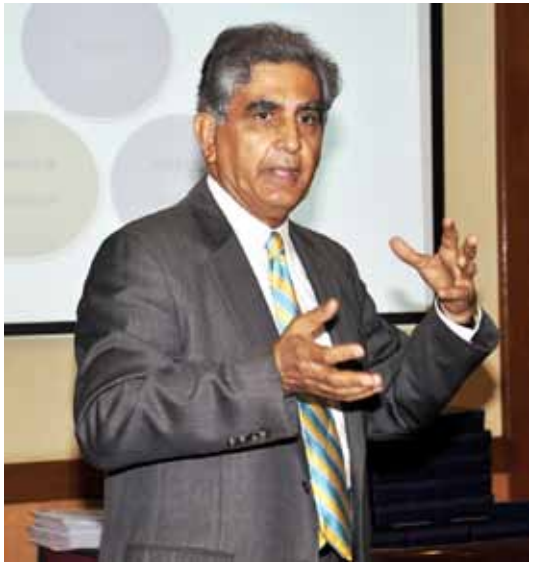
Strategy & Management

- Strategic Thinking & Execution for Top Management in joint collaboration with the Indian School of Business (ISB)
- Project Management
- Negotiation and Conflict Resolution
- Leading Innovative Teams

Managing Family Businesses

(in joint collaboration with SPJIMR, Mumbai)

- What is the job of top management? Balancing between 'today' and 'tomorrow'.
- How to decide on cut the priorities? Differentiating between opportunities and problems
- Where to focus on business? Identifying areas that 'matter' and the areas to be 'abandoned'.
- How to strengthen our business model? Understanding who will contribute to our success and why will they do so.
- How to manage people? Different people need different treatment.
- How to manage operations differently? Different kinds of task and different measures of time.
- What value we are creating & for whom? Identify the value, communicate and get rewarded for that.



- How to manage money? Understanding finance and costs.
- What goes in making a 'better' business? The role of strategy and the options we have.
- How to get ready for 'tomorrow'? The role and process of business plan, and innovation.

Sales & Marketing

- Building Strong Pharma Brand
- Brand & Competitive Strategy
- Sales Force Management

Law, Finance & Accounting

- Islamic Capital Market and Instruments
- Finance for Non-Finance Executives
- Contract Management
- Financial Modeling – Module 1
- Financial Modeling – Module 2
- Corporate Reporting

Supply Chain Management

- Supply Chain Management in Pharmaceutical Industry

Human Resource Management

- HR as a Strategic Business Partner
- Balanced Scorecard

Information Technology

- SAP-ERP
- SAP ERP ECC 6.0
- Data Mining
- Materials Management & MRP in SAP ERP

Communications

- Effective Business Communication Skills
- Written Communication Skills
- Effective Presentation Skills
- Powerful Presentations: Speaking to Inspire
- Writing Techniques: Speaking to Inspire
- Managerial Communication Strategies for Success

B. Client Specific / Customized Programs

- Diploma in Business Administration Batch 3 Atlas Group of Companies
- Supply Chain Management Simulation Agha Khan University Hospital (AKU Group), Young's Food (Pvt.) Ltd.
- Problem Solving & Decision Making (2 workshops) Engro Polymer & Chemicals Limited, Merck (Pvt.) Ltd
- Written & Verbal Communication Hilal Confectionary (Pvt.) Limited, National Institute of Banking &Finance (NIBAF)
- IBA-SANOFI Business Certification Program Sanofi Pakistan
- Managing Family Businesses Series (2 workshops) SMEDA
- "Branchless Banking" for Journalists Zong Pakistan

C. Forums, Seminars & Lectures

- Training & Development Forum
- Lecture on Financial Crisis with Mr. Sadeq Sayeed
- Lecture on "Supply Chain management And Processes" by Mr. Lutz Fissenwert & Mr. Shahid Zaki
- Cold Chain – Opportunities & Challenges in Pakistan – A Discussion by ASF-USAID and CEE
- Lecture - Business Excellence - importance and benefit for National Telecommunication Corporation (Islamabad)
- Video Conference on Hospital Management with Singapore Management University (SMU)
- Video Conference Seminar on Managing Family Businesses with Prof. Parimal Merchant
- Seminar on "Managing Family Businesses" by Prof. Parimal Merchant (Director Family Management Businesses Program at S.P. Jain Institute of Management and Research) with the following in Karachi, Lahore, Gujranwala and Islamabad:
- Bohri Community
- Delhi Saudagran Youth Forum
- Gujranwala Business Council
- JIBA, Karachi Chapter
- Lahore Chamber of Commerce & Industry
- Pakistan Gems & Jewellery Development Company (PGJDC)
- Small and Medium Enterprise Development Authority (SMEDA)

TALENT HUNT PROGRAMS

National Talent Hunt Program (NTHP)

The (NTHP) was launched in 2004 jointly financed by IBA & corporate and public sector organizations with the objective to prepare talented students from the deprived areas of the country for the preparation of aptitude test for BBA / BS degree courses. This program primarily targets students from the backward areas of Baluchistan, Punjab, Sindh, FATA, Khyber Pakhtunkhawa and Gilgit Baltistan who are unable to apply for admission in IBA due to financial constraints. In 2013, we invited the following students:

- Students who have secured **80% or above** in the **Matric examination** conducted by the Board of Secondary Education of Pakistan in the year **2013** and will be appearing for the **HSSC Level-I** examination in the year 2014.
- Students who have secured **75% or above** in the **HSSC Level–I** examination conducted by the Board of Secondary Education of Pakistan in the year **2013** and will be appearing for the **HSSC Level-II** examination in the year 2014.

Trainees receive lodging / boarding and tuition free of cost, plus a small stipend is provided to cover other personal expenses. The statistics of students under the program are as under:

Years	No. of Students trained at the Orientation Program	Successfully Qualify the Aptitude Test	BBA	BS (Economics & Mathematics)	BS(SSLA)	BS (Accounting & Finance)	BS (Computer Science)	Total Students admitted
2004 to 2013	240	70	28	6	0	7	29	70

Sindh Talent Hunt Program (STHP)

The (STHP) program was launched in 2009 jointly financed by the IBA Karachi & Community Development Program (CDP), Planning & Development Department –Government of Sindh with the objective to prepare talented but financially lesser privileged students from the deprived areas of Sindh region for the preparation of aptitude test for BBA / BS degree courses. Students who are among the top-20 in the merit list in their respective Intermediate boards of Sindh are selected for this program. Lodging and boarding and tuition for trainees are provided free of cost, plus a small stipend is provided to cover other personal expenses. The Sindh Talent Hunt Program (STHP) is now revamped as the IBA Foundation Program. The overall state of program is as under:

Years	No. of Students trained at the Orientation Program	Successfully Qualify the Aptitude Test	BBA	BS (Economics & Mathematics)	BS(SSLA)	BS (Accounting & Finance)	BS (Computer Science)	Total Students admitted
2009 to 2011	69	14	5	0	0	0	9	14

Sindh Foundation Program (SFP)

In 2011 IBA entered in to collaboration with the Community Development Program, Planning & Development Department, Government of Sindh, to launch the IBA – Foundation Program for Sindh region. All expenses for the Foundation Program are mutually borne by IBA & CDP-Government of Sindh. The first batch of the Foundation Program commenced its training at the IBA Main campus in December 2012. A summary of the program entrants is as under:

Years	No. of Students trained at the Orientation Program	Successfully Qualify the Aptitude Test	BBA	BS (Economics & Mathematics)	BS(SSLA)	BS (Accounting & Finance)	BS (Computer Science)	Total Students admitted
2013	36	10	-	5	-	-	5	10

Success Stories from amongst Talent Hunt Program Students

1. **Syed Shahraiz Shahid Gul** of BBA–V semester has been selected for **The Washington Center (TWC) Program** for Spring Semester 2014. He is National Talent Hunt Program Scholar of Batch 2011. It is a great honour for the IHSAN TRUST and IBA that he has made it to TWC and would be spending his 6th semester at Washington DC.

2. **Four students** of the National Talent Hunt Program & Sindh Talent Hunt Program have been selected for the **Global Undergraduate Exchange Program for Pakistan 2014:.**

S. No.	Name of Student	Enrolled for the Session	Program	Enrolment Program & Equivalent Semester at IBA During Spring 2014	University to be Attended
1.	MUHAMMAD ZIA MUNEER	SPRING 2014	STHP	BBA- V	CONCORDIA COLLEGE, MOORHEAD, MN USA
2.	LUBNA SHAMSHER KHAN	SPRING 2014	NTHP	BS(CS)-VIII	UNIVERSITY OF TROY ALABAMA, USA
3.	SARCHINA KUMARI	SPRING 2014	STHP	BS(CS)-VIII	GRAND VALLEY STATE UNIVERSITY, ALLENDALE, MICHIGAN
4.	SABA CHANNA	SPRING 2014	STHP	BS(CS)-VIII	SAGINAW VALLEY STATE UNIVERSITY MICHIGAN

Impressions of some NTHP / STHP Students

"It is a completely new world for me. IBA has groomed me and positively impacted my personality different ways. Studying in IBA is a feeling of satisfaction and a great achievement for me. With IBA's help and a Fulbright Scholarship it was possible for me to bear the expenses at this wonderful institution" ***Parkash Menghwar, SFP Program-Batch (2013)***

"I needed a miracle and it just happened in a form of National Talent Hunt Program (NTHP) of IBA. Clearing the test and the interview of NTHP was my life's turning point as I became a part of this program. With my hard work and dedication, and proper teaching and guidance of our NTHP instructors and mentors, I was able to clear both the test and the interview and become a part of the most prestigious Business school of Pakistan."
M. Zohaib Anwaar, NTHP Program Batch (2013)

"My experience as an IBA's National Talent Hunt Program Student has been phenomenal. I'm really Gratified to Almighty and thank IBA Dean and Director, Dr. Ishrat Husain and the Coordinator for not only giving me the opportunity to prove myself but also making me believe in myself , telling me that nothing is impossible in this world if only we crave to accomplish it . The journey was never easy for any of us but the result was fruitful and now it is because of all the mentors and teachers ,who were always ready to help us in every possible way, that I'm enrolled in IBA for the BS(CS) program successfully .This scholarship program beyond any doubt lead me to my dream" ***Asra Saeed, BS(CS), Fall 2013***

Admission Policy

IBA takes pride that it has never compromised quality in its standards of student intake, classroom instruction and discipline, assessment and testing during the fifty nine years of its existence. The challenge has been to continue the emphasis on quality while promoting a culture of inquiry, inquisitiveness and innovative thinking. In our drive to reach ever higher, we consider it imperative to periodically review the admissions policy and align it with international best practices.

The policy for admission in various programs / courses of study at the Institute of Business Administration may be stated as follows:

Salient Points

- Admission will be offered to all those who qualify following a strict merit-based admission criteria irrespective of their race, religion, gender, ethnicity or socio-economic background.
- There are no reserved / quota seats for any category at IBA.
- No effort will be made to fill all available seats or lower the criteria if an insufficient number of candidates apply or an individual candidate fails to satisfy the above criteria.
- The cut-off for individual programs in the Aptitude Test will be decided by the Admissions Committee using rigorous methods based on statistical analysis.
- The Aptitude Test scores obtained by the test takers will remain valid for a period of 16 months and may be availed for admission only once; however, the minimum academic eligibility requirements will be those applicable at the time of actual admission.
- There will be one Aptitude Test for admission to both campuses of IBA. Candidates may choose their specializations after a minimum of 2 years of study at IBA for undergraduate and 1 year for graduate programs.
- There is no distinction in the fee structure between the Main and City Campuses.
- No qualified candidate will be refused admission on the basis of his / her inability to pay IBA fees; such candidates are required to apply for financial assistance and meet the criteria for the same.
- A merit scholarship is available at IBA, according to which candidates falling in the top 10% of the list of candidates (published at the culmination of the admission process) admitted to the full time BBA,BS (Accounting and Finance)& MBA Programs will be offered a 50%reduction in their tuition fees, in lieu of participation in a work study program.

Conditions

The admission is based on candidate's ability to meet the following conditions:

- Apply online and register for the Aptitude Test.
- Pay the required fee for processing of his / her admission application, related activity and obtain admit card.

- Qualify the Aptitude Test OR provide proof for exemption from the aptitude test by providing SAT I / SAT II / GMAT / GRE score transcript,whichever is applicable.
- Participate in a group discussion (where applicable) and appear for an interview and clear both.

- Meet the minimum academic eligibility requirement for the concerned program and provide mark sheet / transcript of the same.

- Provide equivalence certificate in case of holders of degrees issued by non-Pakistani universities / boards.

- Students who clear the undergraduate aptitude test and subsequent interviews and group discussions, but do not meet the minimum eligibility criteria for the relevant program, would be given admission in the same or the following year;provided they improve their grades and meet the current eligibility criteria and submit the new grades before the start of the classes for that session.

Aptitude Test, Group Discussion & Interviews

- The aim of the Aptitude Test is to evaluate candidates for their quantitative and analytical capabilities, logical reasoning, communication skills, reading comprehension, lexical resource, grammatical range, and aptitude for the program.

- The aim of the group discussion is to evaluate candidates on their background, academic and other achievements, leadership potential, extra curricular interests, verbal communication, mannerism, integrity, appearance and enthusiasm.

- The interviews are designed to bring out the qualities needed not only to succeed in the chosen program of study but also the potential of the students to contribute positively to the society when they graduate.

The following are exempted from appearing in the IBA Aptitude Test:

- Candidates applying for admission to BBA Program and having a minimum score of 1900 in SAT-I or ACT score of 29.

- Candidates applying for admission to BS Programs (Accounting & Finance, Social Sciences & Liberal Arts) and having a minimum score of 1840 in SAT-I or ACT score of 28.

- Candidates applying for admission to BS Programs (Eco & Maths, CS) and having a minimum score of 1840 in SAT-I & 650 in SAT-II (Mathematics) or ACT score of 28.

- Candidates applying for admission to MBA / EMBA Program and having a minimum score of 600 in GMAT.

- Candidates applying for admission to MS / PhD (Computer Science / Mathematics / Economics) Programs and having a minimum score of 650 in quantitative section of GRE / GMAT (International) or 160 in quantitative section of Revised GRE (International).

- IBA BBA graduates applying for admission to MBA program, with a CGPA of 2.5 or above and having two years post BBA work experience (three years' work experience in case of EMBA) are exempted from the IBA test.

- Candidates seeking exemption from Aptitude Test are however required to appear in the interview and group

discussion activity as per the schedule issued for other candidates. They are also required to pay the admission processing fee in any bank branch designated by IBA.

Program wise requirements for Admission

More specific information about the requirements for admission to the individual programs is appended as under:

Undergraduate Programs

Applicants to the BBA Program must have completed their:

Higher Secondary School Certificate with a minimum of 65% marks;

A' Levels with a minimum of 2 'B's and 1 'C' in three principal subjects such that there should be no grade less than a 'C' across the three principal subjects. No credit is applicable for any subsidiary, general, or advanced supplementary paper;

OR

American / Canadian High School Diploma with a minimum of 80% or an International Baccalaureate with at least 25 points out of 45. All other degree holders must provide an equivalency certificate from IBCC.

Applicants to the BS Programs (CS, Economics & Mathematics) must have completed their:

Higher Secondary School Certificate (Pre-Engineering) with a minimum of 60% marks

OR

Higher Secondary School Certificate (General Group with Mathematics) with a minimum of 60% marks

OR

A' Levels with a minimum of 1 'B' and 2 'C's in three principal subjects (including Mathematics) such that there should be no grade less than a 'C' across the three principal subjects. No credit is applicable for any subsidiary, general, or advanced supplementary paper

OR

American / Canadian High School Diploma with a minimum of 80% or an International Baccalaureate with at least 24 points out of 45. All other degree holders must provide an equivalency certificate from IBCC.

Applicants to the BS Programs (Accounting & Finance, Social Sciences & Liberal Arts) must have completed their:

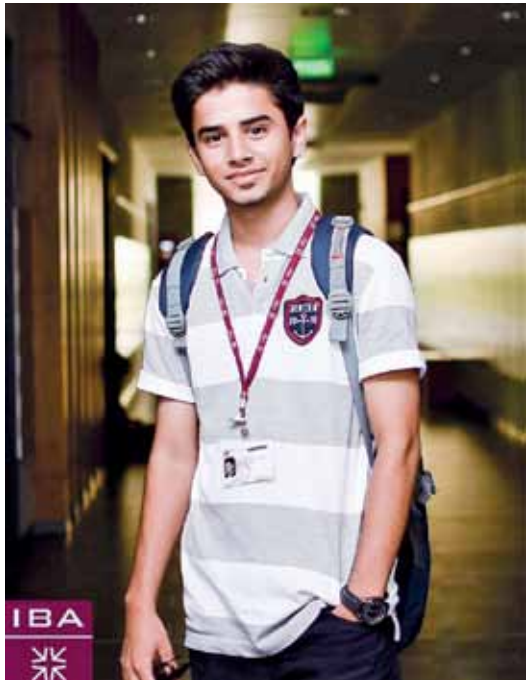
Higher Secondary School Certificate with a minimum of 60% marks

OR

A' Levels with a minimum of 1 'B' and 2 'C's in three principal subjects such that there should be no grade less than a 'C' across the three principal subjects. No credit is applicable for any subsidiary, general, or advanced supplementary paper

OR

American / Canadian High School Diploma with a minimum of 80% or an International Baccalaureate with at least 24 points out of 45. All other degree holders must provide an equivalency certificate from IBCC.



Graduate Programs

Applicants to the MBA, MBA (Evening) and MS Programs must have:

IBA BBA graduates applying for admission to MBA program, with a CGPA of 2.5 or above and having two years post BBA work experience (Three years' work experience in case of EMBA) are exempted from the IBA test.

A minimum of 16 years of education (culminating in a master degree or equivalent) out of which 4 years should have been spent in an HEC recognized university / degree awarding institute* with 2.5 CGPA or 60% in last degree (whichever is applicable).

A minimum of 2 years of relevant work experience gained after graduation / completion of 16 years of education(culminating in a master degree or equivalent) with 2.5 CGPA or 60% (whichever is applicable) satisfying minimum requirement for MBA admission. Work experience is not required for MS Program. For details, see work experience requirement given below.

A minimum of 60% aggregate marks in the last degree where applicable; provided numerical scores of each subject are mentioned in the mark sheet.

OR

A minimum of 2.50 CGPA on a scale of 4.00 in the last degree where applicable; provided letter grades of each subject are mentioned in the mark sheet.(IBA, BBA graduates must also meet this requirement)

Applicants to the PhD Program must have:

MS / M.Phil. / Equivalent in relevant subject from HEC recognized local / foreign university.

A minimum 60% aggregate marks in the last degree; provided numerical scores of each subject are mentioned in the mark sheet.

OR

A minimum of 3.0 CGPA on a scale of 4.00 in the last degree where applicable*; provided letter grades of each subject are mentioned in the mark sheet.

PhD candidates will also have to ful fill more specific requirements laid out by the respective departments.

**All other degree holders must provide an equivalency certificate from HEC (www.hec.gov.pk).*

Applicants to the EMBA (Executive MBA Programs) must have:

16 years' education (culminating in BS / BBA / BE / MA / M.Com / LLB / ACCA / CA / MBBS etc.) and 3 years' experience gained after completing education.

OR

14 years' education (culminating in B.Com / BSc / BA etc.) and 6 years' experience gained after completing education.

For details, see Work Experience Requirement given follow.

Holders of professional degrees / certificates (BE, MBBS, LLB, CPA, CA, ACCA, etc.) are encouraged to apply for MBA / Masters Programs. The Institute also admits, without any prerequisite, visiting students in single courses depending upon the availability of seats.

**All equivalency claims shall be evaluated by the HEC (www.hec.gov.pk).*

Credit Transfer Policy

A transfer candidate is defined as follows:

- A candidate who has attended any of the top 100 universities derived from the international ranking compiled by Shanghai Jiao Tong University's Institute of Higher Education or by The Times Higher Education Supplement (THES) or Quacquarelli Symonds (QS). Course credits are also acceptable from Lahore University of Management Sciences,and Karachi School for Business & Leadership and the universities with which IBA will signing (or has signed) MOU's
- The candidate must have been enrolled in degree programs at these universities.
- The candidate's CGPA must be 3.0 or above on a scale of 4.0 or equivalent.
- . The candidate should have passed all the stages of admission process and has been offered admission at IBA.

Eligible candidates may apply for transfer to any of the IBA degree programs with the following stipulations:

- IBA reserves the right to accept or reject all or any such candidates.
- Subject Interviews may also be conducted prior to admission if so desired by IBA.
- A transfer committee appointed by IBA shall determine the courses to be accepted for transfer of credits of such candidates.
- Transfer of credits will be applicable to those courses with 'B' or above grades.
- A minimum of 50% of total degree credits must be completed at IBA.
- Courses transferred shall be indicated in the final transcript as being 'transfer credits'.

The grades of transferred credits will be included in the calculation of the CGPA and such students will be entitled to compete for positions / medals.

The dropped out students of any program who get admission again by clearing the IBA Admission Test and other requirements will get the credit of the courses in which they had obtained 'B' grades provided they rejoin the program within 16 months from the date they had dropped out.

For transferring credits from one IBA program to another, if the course code is exactly the same the course will automatically be accepted in the new program.

Work Experience Requirement

For applicants of MBA Program:

Work requirement for admission to IBA's MBA program will comprise of 2 years post qualification work experience in multinationals, large domestic corporations, and large family business. For self employed and smaller family businesses the 'Work Evaluation Committee' will decide if the experience is acceptable for admission to IBA. The work evaluation committee will comprise of a member of the Admission Committee, Director MBA Program and an IBA alumnus with at least 10 years work experience. This work requirement will only be considered provided it has been achieved after applicants have obtained 16 years of education with 2.5 CGPA or 60% (whichever is applicable) and satisfies the minimum eligibility requirement for admission in the MBA Program. The education requirement should meet the criteria established by HEC. Work experience gained during CA, ACCA(Affiliate), D.Pharma and MBBS will not be considered as a relevant work experience for admission to the MBA Program.

For applicants of Executive MBA Program:

Experience requirement for admission to IBA's Executive MBA programs will comprise of 3 years work experience (for those having 16 years of education) and 6 years of work experience (for those having 14 years of education). For self employed and smaller family businesses the 'Work Evaluation Committee' will decide if the experience is acceptable for admission to IBA. This committee will comprise of a member of the Admission Committee, Director EMBA Program and an IBA alumnus with at least 10 years of work experience. This work requirement will only be considered after applicants have obtained 16 / 14 years of education as stipulated in the foregoing paragraphs. The education requirement should meet the criteria established by HEC.

For applicants of 18 Months MBA Program (Morning):

Holders of BBA degree from HEC recognized institutions will complete their Full time MBA in 18 months instead of 24 months (as in the case of Non BBAs). IBA BBA graduates with the CGPA of 2.5 and having two years work experience after their BBA degree are not required to appear in Aptitude Test but will have to participate in Interview and Group discussion.

Applicants with a Criminal Record

The IBA acknowledges the key role of education in the rehabilitative process and a criminal record will not preclude an applicant from being offered a place at the institute. However, as part of its duty of care to its staff and students, the IBA will ask for information about any relevant items on a criminal record.

Similarly, IBA will ask any student rusticated or expelled on disciplinary ground from any other institution for additional information about any relevant items.

Admission Procedure

Online Application
Applications are accepted through IBA Online Admissions System. The link to IBA Online Admissions System is available on IBA's website (www.iba.edu.pk).

To apply online, applicants need to fill out an online Admission Application Form, print a bank challan and take it to the designated bank branches to deposit the admission processing fee. The bank challan duly stamped by the bank officer is then to be taken to the Admissions Office for collection of the Admit Card on the prescribed dates as per the procedure.

Issuance of Admit Cards

Applicants residing in Karachi can obtain their Admit Cards by visiting the Admissions Office of any campus of IBA with a copy of the bank Challan. Applicants residing outside Karachi can request for their Admit Cards to be delivered to them by means of emails. The details of getting the Admit Card by means of emails will be posted on the IBA website around the time of admission process. List of authorized branches is given on the IBA web site.

Aptitude Test

The Aptitude Test is conducted on simultaneously in Karachi and other cities on specified date announced in media / on our website. Candidate may choose the test location during applying online. The Admit Cards issued to the applicants indicate the test center, date, and reporting time. Please make sure to read all instructions given on the back of the Admit Card carefully. The applicants should bring their Admit Cards along with a photo ID to be able to appear for the Aptitude Test. Candidates who pass the Aptitude Test qualify for the group discussion followed by an interview.

Interview List

The names of candidates who qualify the Aptitude Test and are eligible to participate in group discussion, interview activities will be displayed on our website. These candidates are to report to the venue at the designated date and time for the said activity.

Documents Required

Candidates are required to bring the following documents in original on the day of Group Discussion and Interview:

- Matriculation / 'O' Levels certificate with transcript / marks sheet
- Higher Secondary School Certificate (Part I) / 'A' Levels (First year) certificate with transcript / marks sheet
- Bachelors degree with transcript / marks sheet*
- Masters degree with transcript / marks sheet*
- Work experience certificate*
  * where applicable

Group Discussion

The selected candidates are divided into groups. These groups are given a topic to debate and discuss amongst themselves. During this process, communication skills, interpersonal skills, confidence and leadership potential are assessed.

Interview

Interviews are conducted for evaluating the level of maturity, academic aptitude, motivation, interpersonal skills and career focus of the applicants.

List of Successful Candidates

The names of candidates who qualify the admission requirements will be notified through a list on our website (www.iba.edu.pk). These candidates will get their Admission Letter, Fee Challan and other documents through an email sent by the admission office. As a prerequisite for issue of Admission Letter and other documentation, all successful candidates are required to deposit the transcripts bearing proof of their having met the minimum academic eligibility requirements for the respective programs.

Enrolment

Only those Candidates should deposit their fee in the prescribed banks who have met the academic eligibility criteria for the program concerned (other candidates should not deposit any fee as they will face a lengthy process of getting the refund).These candidates must, however, submit the following documents in original, along with copies attested by a gazette officer to complete the enrolment process:

- Matriculation / 'O' Levels certificate
- HSC / 'A' Levels certificate with transcript / marks sheet
- Bachelors degree with transcript / marks sheet
- Masters degree with transcript / marks sheet
- Work experience certificate*
- Migration certificate of the university / board concerned, except in the case of Karachi University / Karachi Board
- Equivalence certificate in case of holders of degrees / certificates issued by non-Pakistani universities / boards
- Original copy of Fee Challan deposit slip
  **where applicable*

Disclaimer: Any candidate who provides false or incorrect information about work experience, grades, financial status of the family, (or any other required material), or submits any fake supporting documents will be permanently debarred from applying to IBA.

Rules & Regulations

Rules and regulations are an important component in the execution of the mandate of education at all institutions. Their primary goal is to ensure the quality and standard of education and to encourage professionalism by governing the admission, teaching learning processes and the evaluation mechanisms. They promote transparency in academic administration through the appropriate definition, communication and implementation of rules and regulations. Their appreciation and adherence by all concerned parties is vital for the proper functioning of the programs. Some of the Core Elements of the Rules & Regulations pertaining to the academic conduct are appended below:

Core Elements

Discipline:

Regularity, Punctuality and Conformity to schedules and deadlines are basic requirements at IBA and are expected equally from faculty members and students. This ensures a strong commitment towards professional excellence in all those who come to teach and to learn at IBA.

Good Standing:

Students are required to maintain discipline, good conduct and behavior during their studies at the IBA.

A student shall be deemed to have lost good standing if his / her conduct and behaviour is found objectionable from a disciplinary point of view. Consequently his / her name shall be dropped from the rolls of the Institute.

Attendance:

A distinguishing feature of the IBA is its adherence to the academic calendar. A detailed program is provided on the first day of every semester.

Students are required to attend lectures, laboratory sessions, seminars and fieldwork as may be specified for a course each semester.

The teacher takes attendance in each class daily. Latecomers are marked absent even if late by one minute. No excuse is accepted. If a student accumulates more than the permissible absences, he / she is awarded an 'F' in that particular course. Full-time students are allowed 6 absences in a 1 hour course, 4 in a 75-minute's course and 3 during a summer course.

Part-time / evening students are allowed 7 absences in a regular semester course and 5 in a summer semester course. Students are not allowed to remain absent on the first and last day of the semester. Serious action is taken against those who violate this rule.

Cheating & Plagiarism

The IBA maintains a strict policy on academic impropriety. Based on its zero-tolerance for such activity, any student found cheating or using unfair means in examinations is immediately expelled from IBA and is declared ineligible for re-admission. A booklet highlighting IBA's Policy on plagiarism is available on the portal for all students to read and comply.

Transfer of Credits

I. Students of Postgraduate Diploma in Business Administration and MBA Evening Programs may seek advance credit for not more than two required courses, which they may have successfully completed while being students in the Certificate Program. They are subject to the following conditions:

   a. The student must have held a Master's degree with 60% marks at the time of admission to the Certificate Program

b. The semester final grade in the course was at least 'B'
c. The course for which the credit is sought was completed within two years from the date of admission in the PGD.

II. Students of PGD in Business Administration (Evening Program), who have not completed diploma course work, can take MBA courses only as certificate students and may get credits for these courses in their degree course work later, subject to the following conditions:

a. The student must have completed a minimum of 5 PGD courses
b. The remaining PGD courses are not available to the students in the evening
c. The student is unable to remove his course deficiency in the Morning Program due to his / her occupation.
d. The student removes his PGD course deficiency as soon as the remaining courses are available to him / her.

Course Load

I. MBA Evening / PGD students are allowed to enroll in maximum two courses in a semester (including Summer Semester). If a student has an average CGPA of 3.0 in the previous semester he/she should be allowed to take three courses (excluding summer). If he / she is enrolled in Corporate Strategy course then one additional course will be allowed.

II. The course load for full-time degree program students is 6 in the regular semester. A student cannot take additional course(s) in any semester except in the final semester (BBA-VIII and MBA-IV).If a student needs to remove his / her deficiencies,he / she can do so by dropping a course. In the final semester (BBA- VIII and MBA- IV), a student may however take two additional courses to complete course work.

Withdrawal from a Course

I. Full-time students are allowed to withdraw from two courses in a semester if such withdrawal helps the student in improving his / her performance in the remaining courses. The withdrawal must be sought on prescribed form within one week of the second term examination result.

Withdrawal from a course is not treated as failure. However, once a student has accumulated more than the permissible absences in any course, he / she is not allowed to withdraw from that course and is awarded an 'F'.

II. Part-time students are allowed to withdraw from some or all of the courses for which they have registered in a semester. Permission to with draw from a course must be made on the prescribed form available from the Evening Program office within one week of the second term examination result or within one week after the announcement of midterm examination results in the summer semester.

Make-up Examinations

I. Morning Program Students of Both Campuses:
Under normal circumstances, no make-up examination shall be allowed for missing Term or Semester Final Examination.

II. Evening MBA / EMBA Program Students:
Evening program students, who are sent out of Karachi during term and final exams on official assignments by their respective organizations, may be allowed to take make-up examinations under the following conditions:

a. This facility will be allowed to the Evening Program students for only one of the two term examinations for the courses taken by them.
b. This facility shall also be allowed for the semester final exams if the student has not already availed this facility for the term examinations.
c. The concerned student shall be required to provide the following documents at least one week before the scheduled exam:

i. A certificate from his / her organization giving details of his / her official assignment.

ii. Evidence of official travel comprising tickets or boarding cards for air travel as applicable.

iii. The concerned student shall be required to appear in the make-up of a term exam within three weeks of the original exam date and within six weeks for the semester final exam on payment of make- up exam fee of Rs. 6000 / -

Make-up Exams under Extraordinary Circumstances

In extremely serious cases, authenticated by recognized hospitals, the Executive Committee may consider to allow make-up exam in term exams only. The committee's decision in this regard shall be final. This facility shall, however, be allowed for only one of the two term examinations in a semester. The policy on make-up exams under extraordinary circumstances will include the cases (i) in which student's spouse is hospitalized in extremely serious condition, or (ii) in case of the death of mother / father of a student. All applicants will have to produce documentary evidence to substantiate their request. Other conditions of make-up exam will remain unchanged.

No make-up of semester final exam shall be allowed on medical grounds of any kind. In case a student misses his / her final exam on personal / medical grounds, or other extraordinary unavoidable circumstances he / she may apply for 'I' (Incomplete) with all supporting documents including medical certificates through his / her respective program coordinator to the Executive Committee. If the Executive Committee is satisfied with the genuineness of the claim then it may award an 'I' instead of an 'F' in that course. In that case the concerned student will have to appear at the examination of that course in the following semester without attending classes provided the attendance of that student was complete in the semester in the concerned paper. However, if the Executive Committee is not satisfied with the genuineness of the case, then 'F' will be awarded. This policy will be applicable for all IBA programs.

If a student's final exam has been cancelled for carrying cell phone inside the examination room, in such cases 'I' (Incomplete) would be awarded in the relevant course. The concerned student, whose final examination has been cancelled for mentioned violation of examination rule, will have to appear in the examination of that course in the following semester without attending classes provided the attendance of that student was complete in the semester in which the paper of the student was cancelled.

The fee for re-take examination under above mentioned circumstances is Rs. 6000 / - per course.

- **Options for Faculty:**
  In cases where make-up exams have been allowed the concerned course Instructors have the following options:

- **Re-conducting exams:**
  The teacher may develop a makeup exam for the student if possible. The teacher needs to ensure that the student does not get an unfair advantage if the missed exam was difficult. The makeup exams can be for one missed exam and not more.

- **Assigning an Average Grade:**
  The teacher can offer an average to the student. However the teacher must consider whether to award the class average or average of a students' overall performance as he / she may be a class topper or a weak student. The aspect of unfair advantage needs to be taken into account as a particular student may study more for some courses and less for others to balance out their overall performance.

- **Assigning a Project or Assignment:**
  The teacher can assign additional course work which may help the student cover the

missed work and can be evaluated on that basis.

- **Make-up of Final Exam:**
  If a student has missed the final exam, an average grade or assignment is not recommended as the student has not been tested on a large portion of the syllabus.

Rechecking of Final Paper

Rechecking of final papers is allowed subject to a deposit of Rs. 8000 / - per course, which is refundable if any significant improvement in grades / marks is found after rechecking.

Dean's List

The Dean's List is an Honorary Academic list carrying names of students who are exceptional performers at the Institution. The list is published at the end of each semester and carried in the program announcement, portal and website. There will be separate lists for BBA / BS and MBA; all credit courses will be counted. These lists are also displayed at prominent locations in the corridor of the Main Campus of the Institute and are updated every semester. A position on the Dean's List entitles the concerned student for wearing of an IBA logo in a star on his / her ID card as a symbol of distinct identification which also allows him / her to avail benefits such as book discounts. Additionally, the said special mark will be displayed on the Dean's List achiever's transcript and against his / her entry in the graduate directory.

Honors & Medals

The following will be the criteria for including a student's name in the Dean's List:

a. The student should fall within the top 5% of his / her class and subject to having a minimum CGPA of 3.5

b. The student must not have C- or lower grades in any of the courses during the semester.

c. He / she must not have been subjected to any disciplinary action within the Institute during the semester. (Disciplinary actions will include all those actions for which student can be suspended).

d. The student must be deemed by the Dean & Director's Committee (Associate Deans and Director) to be worthy of being on the Dean's List.

e. The student must have completed the normal course load for his / her particular semester. As per IBA program announcement the course load for degree program students is typically 6 in the regular semester.

f. The grades earned from any top 100 universities of the world as well as LUMS and the universities with which IBA will be signing MOUs will be included in the CGPA and such students will be entitled to compete for the positions / medals. However, the credits for grades earned from universities other than those mentioned above will be decided on case to case basis but will not be included in the CGPA. Their positions / ranking will be determined on the courses they would be doing at IBA. This will be applicable for all degree programs at IBA.

g. The semester average will be calculated on a weighted basis and shall include all courses studied at IBA.

h. Students who obtain an academic semester average of 90% or more will earn the honor of the Dean's List with Distinction.

The following absolute grading scheme is used to evaluate a student's academic performance:

A	A	93 - 100	4.00
	A -	87 - 92	3.67
B	B +	82 - 86	3.33
	B	77 - 81	3.00
	B -	72 - 76	2.67
C	C+	68 - 71	2.33
	C	64 - 67	2.00
	C-	60 - 63	1.67
F	F	0 - 59	0.00
I	I	Incomplete	
W	W	Course Withdrawn	

MBA / BBA / BS Overall Medals

The top three students qualifying following criteria will be awarded Gold, Silver and Bronze medals respectively. The criteria for award of medals will be as under:

a. The student, who has the highest CGPA (Cumulative Grade Points Average), without any failure, shall be eligible, provided the CGPA is not less than 3.5.

b. In case of a tie where the CGPA is the same, the student with the higher average percentage shall be eligible for the award of Medal.

c. A student with 'C' or lower grades in any subject shall not be eligible.

d. No award will be made unless there is a candidate of sufficient merit. For example, if only one student qualifies according to the above mentioned criteria,he / she will be awarded a gold medal and there will be no silver or bronze medal.

MBA Marketing, Finance (Specialization) Gold Medal

The specialization Gold medal shall be awarded to the student who ful fills the following criteria:

- The student must have taken a minimum of 2 electives in the area of specialization.
- He / she must have an "A" in both the subjects.
- If the student has more than 2 electives in the field of specialization, the best 2 shall be counted, provided that the student has no "C+" in the field of specialization, and has no failure in MBA 3rd and 4th semesters.
- If more than one student has the same grades, then the student with the higher cumulative percentage in the 2 electives shall be eligible.
- Each student shall declare his / her field of specialization in writing at the beginning of MBA 4th semester.
- No non-credit course taken by a student in the 3rd and / or 4th semester shall be convertible to a credit course for the purpose of determining merit.

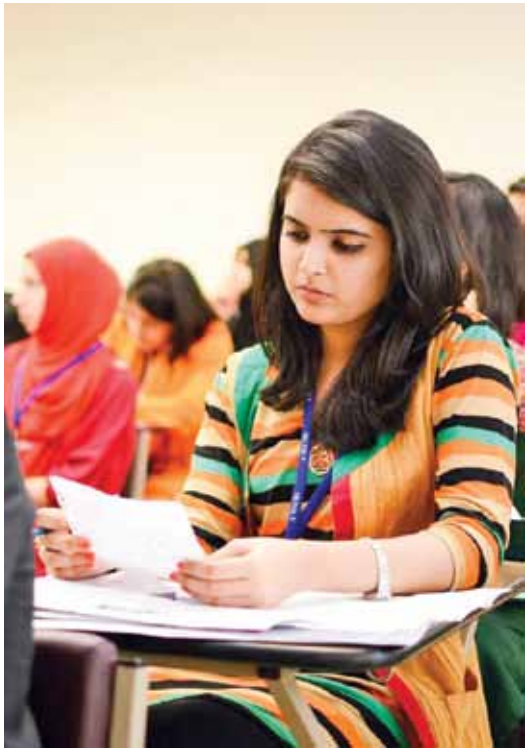
Grading & Evaluation

In addition to the above absolute scale, Relative Grading is also being encouraged. Faculties have the option of choosing either the Absolute or Relative Grading Scheme and also have the liberty to decide the percentage that will get A's, B's, and C's. A guideline of the same in the relative grading scheme will be available to help faculty in implementing the Relative Grading Scheme.

Student performance is evaluated through a system of testing spread over the entire period of their studies. In addition to the final examination at the end of each semester, students are tested through term exams, a series of short quizzes, class discussions, written assignments, research reports, presentations on different topics, etc. all of which contribute to the final grade.

A student sits for 2 term examinations for each course every semester (scores of both term examinations are counted towards the final grade). A number of surprise quizzes are also taken during the semester to monitor the performance of the students. In determining the course grade, 60% of the final grade is based on the semester work and 40% on the semester final examination. However, the Institute reserves the right to modify these weights.

A Cumulative Grade Point Average (CGPA) is computed at the end of the semester. Final



grades in each course are converted to grade points on the following basis:

Sum of (credit hours X grade points) / Sum of credit hours

The initial CGPA of the PGD / MBA / MS students of the Evening Program is calculated on the basis of the first 6 courses taken by them. Withdrawals and failures, if any, are also counted.

'F' Grades are shown on the Provisional / Final Transcripts but are not counted in CGPA once the deficiency (F) is removed by the student.

Minimum GPA Requirements

A student must maintain a minimum CGPA of 2.2 on a cumulative basis during his stay at the IBA. Any student with a CGPA of less than 2.0 is dropped from the rolls of the Institute forthwith. A student securing a CGPA between 2.0 and 2.2 is put on probation for one semester.

At the end of the semester, any student on probation is required to improve his / her CGPA and bring it up to the required minimum 2.2.

If a probationer shows an improvement, but his CGPA is still below 2.2, his / her probation may be extended for another semester. If he / she still fails to bring his CGPA to 2.2 by the end of the next semester, he / she is dropped from the rolls of the Institute.

If a student fails to pass certain courses and yet manages to maintain his / her CGPA equal to or above 2.2, he / she is allowed to repeat and clear the course(s)or substitute(s) (wherever permissible) before the degree is awarded to him / her.

If in any semester a full-time student's CGPA falls between 2.00-2.19, he should be put on probation in the chronologically next semester during which he would be required to bring his CGPA up to the desired point, i.e., 2.2. In a similar CGPA situation the part-time (evening program) students would be on probation in the next semester in which they register, which may be different from the chronologically next semester at IBA. During probation they too would be required to bring their CGPA upto 2.2.

The CGPA is computed at the end of each semester including a summer semester that a student might have enrolled in.

GPA Requirement for Award of BBA / MBA Degrees

I. If a BBA program student's CGPA in the final semester is less than 2.2 but not below 2.0, the student shall be required to repeat one semester of the lowest academic standing or certain courses in order to bring his / her CGPA up to 2.2 with the following conditions:

   a. The student who succeeds in improving the CGPA (minimum 2.2), will be eligible for award of the BBA degree.

   b. The student, who fails to improve the CGPA, will not be eligible for award of BBA degree. Such a student shall be issued transcript of credits earned.

II. An MBA Program student whose CGPA in the final semester is less than 2.2 but not below 2.0 shall also be required to repeat one semester of the lowest academic standing or certain courses in order to be eligible for the award of MBA degree. If the student improves the CGPA (minimum 2.2),degree shall be awarded (other conditions applicable), otherwise only a transcript of credits shall be issued. The time period to remove the deficiency and to bring CGPA to a minimum 2.2 is one year.

Improvement of Grades

Students are allowed to repeat course(s) for improvement of grades with the following conditions:

   a. The better of the two attempts would be treated as the final result towards CGPA calculation and there would be no averaging.

   b. A student who repeats course(s) would not be eligible for Gold Medal and Dean's list.

   c. This option will not be available to those students who have passed out or have been dropped out.

Summer Semester

Students doing an internship during the summer semester are not allowed to register for an advanced credit or additional course. However, such students are allowed to remove deficiency in one course during the summer semester. Students not doing an internship, can clear up to two deficiencies, or enrol for two advanced courses in the summer semester. Students may withdraw from one course during the summer semester. Withdrawal should be sought within a week after the announcement of the mid-term examination result.

Internship Evaluation

The summer internships for full-time students are closely monitored and evaluated. During the internship period, follow- up meetings are arranged between the intern and faculty members to discuss the intern's progress and concerns, if any. Feedback about the performance of the internee is obtained from his / her supervisor. At the end of the internship, the student submits an internship report and is also interviewed for feedback regarding his / her experience.

Comprehensive Examination

Every graduating (MBA) student is required to pass a comprehensive examination on completion of course work. This 4 to 6 hour examination is held after every regular semester. After completion of course work, the maximum period allowed to clear the comprehensive examination is 10 years for the students admitted prior to 2004, in maximum 3 attempts. However, the students admitted in 2004 and onwards are allowed maximum 5 years to pass the comprehensive examination from the date of completion of course work with no restriction on number of attempts. As of Fall 2010, MBA students are allowed a maximum of three attempts only to pass the comprehensive examination in 5 years from completion of course work. Students, who fail to pass the comprehensive examination, are eligible only for the individual course certificates. A student is eligible for a transcript / degree only after passing the comprehensive examination. However, he / she may obtain a provisional certificate on completion of the course requirement.

Time-Bar Rule

The students admitted prior to 2004 have 10 years to complete their course work and pass the comprehensive examination to be eligible for the award of MBA degree. Maximum three attempts are allowed to such students to pass the comprehensive examination. The students admitted in 2004 and onwards have a total of 5 years in case of MBA and 7 years in case of BBA to complete their course work. There will be no restriction on the number of attempts for such students to pass the comprehensive examination within 5 years from completion of course-work. As of Fall 2010, MBA students are allowed a maximum of three attempts only to pass the comprehensive examination in 5 years from completion of course work.

a. For course work, the period shall be counted from the date of admission.

b. For comprehensive examination the period shall be counted from the date of completion of course work.

For Evening Program Students:

Maximum time allowed for PGD :3.5 years*
Maximum time allowed for MBA :5 years
from date of PGD completion

Maximum time allowed for Comprehensive Exam : As above

*In case a student opts to do PGD only, then 3.5 years' time limit will apply otherwise there would be no time bound for PGD and Masters and the student could continue and complete his / her MBA (Evening) in total seven years' time period.

Transcript of Record / Degree

Students can get a transcript of their grades from the Institute within 2 weeks on payment of Rs. 1,000 / -. Urgently required transcripts can be obtained within three working days on payment of an additional Rs. 1,000 / -.

Degree

Degree is issued within one month from the date of application on payment of Rs. 3500 / -. Fee for Duplicate / Urgent Degree fee is Rs. 4000 / - in addition to the ordinary fee. Degree shall be issued only to the student in person or to a person duly authorized by the student if the student is out of city.

Duplicate Degree

In case a degree has been lost, duplicate degree can be applied for on prescribed application form along with.

1. An attested copy of the lost degree
2. An affidavit on a stamp paper of Rs. 100 / - duly attested by a First Class Magistrate
3. Original cutting from any newspaper announcing the loss of the degree.
4. FIR for lost degree.
5. Transcript copy
6. NIC copy.

General

The Institute of Business Administration, Karachi has two campuses spread about 72 acres, constructed in the early sixties. The bulk of these facilities had become old and dilapidated. The years 2008 to 2014 have witnessed a major revamp of the facilities – including reconstruction / refurbishment of almost all buildings constructed in the 1960 time frame and the maturing of 14 new green field building projects initiated in 2009 time frame. The result is that today IBA can boast of brick and mortar state comparable in size and splendour to any campus of a world-class institution of higher learning. These new facilities are immaculately maintained in line with the IBA tradition of excellence in all facets of its activities.

The turnaround in 2008 is the result of a multi-pronged strategy to develop its programs, faculty and facilities to make IBA eligible to be graded among "Top 100 Business Schools of the World" by 2019. The development plan for facilities and infrastructure at both campuses has thus far enabled the addition of three new state of the art academic premises and two new student residential facilities along with a sprawling student center to host the students extra and co-curricular activities. All instructional spaces are now centrally air-conditioned and fully equipped with the latest Audio-Visual, video conferencing facilities to boost the overall learning endeavour. The addition of the two new multi- story academic premises at the Main Campus has more than doubled its capacity and made it capable of accommodating around three thousand students in a single shift. A brand new one hundred rooms boys' hostel and a ninety six beds Girls' Hostel have also been commissioned at the Main Campus, enabling IBA to expand its capacity for hosting students from outside Karachi.

The IBA Main campus is a large complex of buildings spread around lush green sprawling lawns, which serve as an ideal backdrop to an extremely conducive environment for academic pursuit. It houses the Administration and Faculty Offices, Academic Block, Library and Auditorium Building. Located in the environs of the Karachi University's Complex on Main University Road & Abul Hasan Isphani Road, the Main Campus infrastructure includes the Administration and Instructional areas, plus two residential areas, namely the Boys' Hostel and the IBA Staff Town, which also houses the Girls" Hostel and the Visiting Faculty Residence. These together field an administration block, around forty classrooms, eight seminar rooms,five computer labs, fourteen break out rooms located in the three academic buildings namely (Adamjee Academic Center, Abdul Razzak Tabba Building and Aman Center for Entrepreneurial Development) the Gani & Tayub Auditorium with a capacity of three hundred persons, a Library with more than forty thousand books, a Video Conferencing Lab and a Faculty Lounge. Additionally, the main campus is the venue of a sprawling Alumni Student Center that houses an Amphitheater, an Event Hall, a Dining Hall for 150 students, Indoor Sports Facilities, a gym each for male and female students and outdoor sports fields for Cricket, Football, Tennis Courts, Volley Ball Court, Basket Ball Court and a Jogging Track.

The City Campus is in the heart of the business district of the city. It houses the Chinoy Administration Block, the Faysal Bank Academic Block, the Habib Bank Technology Block and the Center for Executive Education which together field excellent premises for various regular and executive education programs. The City Campus is also home to the Evening Program, which is attended mainly by Professional Managers. Existing facilities include eighteen class-rooms,four IT and Computer Laboratories. The campus is also the venue of two major construction projects namely, building of fourteen-storey instructional-cum-residential premises namely the IBA - Aman Tower being built with funding made available by the Aman Foundation, and construction of a modern auditorium of 350 students capacity being funded by the Jahangir Siddiqi Foundation. Expected to be completed by end of 2014, these

facilities will add a new dimension to IBA's ability to support the business studies related programs for regular students as well as part time and executive students.

Projects

A summary of projects completed & inaugurated at both campuses during the last two years is appended as under:

1. Students Center at Main Campus – December 2013.
2. Abdul Razzak Tabba Academic Block at Main Campus-May 2013.
3. Renovation and up gradation of Academic Block and Administration Block at City Campus- May 2012.
4. Renovation and up gradation of FCS Building at City Campus- December 2013.
5. Construction of Visiting Faculty Hostel at Main Campus - December 2013.
6. Construction of Sports Arena comprising a cricket ground, football ground, two tennis courts and basket court - December 2013.
7. Construction of Prayer Hall at Main Campus - December 2013.

Following are the under construction projects at both campuses:

1. Renovation and up gradation of Library at Main Campus - work is in full swing, expected to be completed by September 2014
2. Renovation and up gradation of Administration Block at Main Campus - work is scheduled for completion in June 2014.
3. Construction of Aman Tower at City Campus (Multi- storied building)– ground + 12 storied building completed, expected to be ready for commissioning by December 2014.
4. External development works including Electric Infrastructure and Sewage Treatment Plant of Main Campus - expected to be completed in December 2014.
5. Mahwish Jahangir Auditorium at City Campus – expected to be completed by September 2014.

Hostel Facilities

IBA provides residential facilities for full-time IBA students from outside Karachi. The Boys' Hostel comprises two blocks spread over an

area of about two acres a short walk from the Main Campus. The two blocks, together provide single and shared accommodation for about 240 students accommodated in single rooms, dormitories and double rooms. The facilities include dining facilities, indoor and outdoor game facilities, TV lounges equipped with a large LCD screen television, satellite decoder, and high speed internet service available via LAN and radio link connectivity. The City Campus students are provided transport to commute between the City Campus and the Hostel. A car park is also available for students who wish to bring their own vehicles. Accommodation is usually in high demand and therefore available on a first- come-first-serve basis. The construction of new hostel buildings for both male and female students has greatly improved the living conditions for the hostel residents and enabled IBA to increase enrolments from abroad, especially wards of overseas Pakistanis.

The completion in December 2013 of a brand new 96 beds Hostel in the IBA Staff town area for female students is a very significant development and meets a long time requirement of Pakistani expatriates. It has been constructed with funding provided by the Government of Sindh.

ICT Infrastructure and Services

The Information and Communication Technology department provides ICT services to IBA Main and City campuses, Hostels and Staff Town, serving a total of around 3000 three thousand users on and off campus and a sizeable number of Alumni. The principal aim of the ICT department is to bring state of the Art Technology in to IBA, provide essential services and promote automation. Striving hard to provide essential services the department works day and night to meet the end users requirements of Internet, Email, Distance Learning (Video Conferencing), Unified Communications (VoIP) etc.

- Data Center on Tier III standards has been built at City Campus and all the ICT services are served from this Data Center. The Data Center house Servers and associated components, including Telecommunications, Storage Systems, Data Communications Connections. This fully integrated infrastructure utilizes Data center technology with state of the art precision cooling & humidity control system.
- Centralized UPS backed power supplies are provided for all IT Equipment in the entire Institute. It's a versatile and cost efficient solution for protecting critical IT Equipment from going down by providing an incessant power supply in case of a power outage.
- A Gigabit speed network infrastructure supported by Cat 6 cabling and network devices of latest technology provides backbone connectivity between different segments of the network; this network has been upgraded from copper to fiber.
- Wireless Connectivity is fully available at all the locations, especially available for mobile users so that they can utilize IBA ICT services as per their convenience while being off the campus.
- Video Conferencing is fully implemented at both campuses. Video conferencing meetings, video lectures sessions, and other video training session are being done using the video conferencing facility at both campuses.
- LAN and WAN security has been implemented and all traffic goes through the security checks and controls.
- At City Campus an Internet Bandwidth of 22 Mbps, provided by HEC, is fully operational. At Main Campus an Internet bandwidth of 162 Mbps, provided by HEC, is operational which is shared among Boys Hostel, Girls' Hostel, Visiting Faculty Hostel and Main Campus. Both campuses are connected through services provider link of 34 Mbps bandwidth backup by radio link.
- Enterprise Resource Planning (ERP) is an integrated Computer-Based system used to manage internal and external resources including tangible assets, financial resources, materials, and human resources. Built on a centralized database and normally utilizing a common computing platform. Some tasks performed by the ERP System implemented at IBA include Online Course Registrations, Grades & Results Entries, Faculty Evaluations, Reports Generation and many more. The ERP System is now used at IBA for effective decision making for the middle and higher management.
- The ICT Department initiated Web Radio and Web TV which are run through IBA website.
- Academic Alliances with major technology vendors, e.g. Cisco, EMC, IBM etc, will provide a broad spectrum of opportunities to IBA community for enhancing their ICT skills and at the same time get certified on cutting-edge technologies either separately or by studying it as a part of their academic curriculum.
- A list of some of our websites is as under:

1) IBA Libraries Library (library.iba.edu.pk/)
2) Department of Economics (economics.iba.edu.pk/)
3) Faculty of Computer Science (cs.iba.edu.pk/)
4) Faculty of Business Administration (fba.iba.edu.pk/)
5) Department of Accounting and Law (accounting.iba.edu.pk/)
6) Summer School (summerschool.iba.edu.pk/)
7) Department of Mathematics (mathematics.iba.edu.pk/)
8) Executive MBA (emba.iba.edu.pk/)
9) QEC (qec.iba.edu.pk/)
10) NTHP (National Talent Hunt Program) (nthp.iba.edu.pk/)
11) SFP (Sindh Foundation Program) (sfp.iba.edu.pk/)

The Libraries

The IBA Libraries aspire to support teaching, learning and research at IBA by developing and promoting systems and resources essential in providing access to relevant information. We, at IBA Libraries, strongly believe in offering innovative and customized information services and in acquiring resources to encourage synthesization of thoughts and transfer of knowledge. The Libraries house around 65000 volumes on subjects related to the academic and research programs being offered at the institute. To keep its learning communities abreast with cutting-edge concepts and research, libraries subscribe to over 60 international and local journals and magazines.

The Libraries at both of the campuses are regularly updated with latest learning materials like books, case-studies, online resources (e-books and e-journals) and 4000 volumes at average are added every year. Specialized information sources e.g. research published by the educational institutions; National and International Research Organizations; and government agencies are also collected to facilitate indigenous research.

Campus-wide and remote access to very rich collection of multidisciplinary digital databases, in full-text consisting of e-books; e-journals; case studies; and industry related research / analysis reports, are the core of our offerings. Currently, libraries subscribe to more than 22 electronic databases, which provide access to around 10000 e-journals and 40000 e-books; some of the leading databases are being listed here:

1. EBSCOhost: Business Source Complete, Academic Search Premier, and EconLit with full-textthree essential databases through this single interface: *http://search.ebscohost.com*
2. Emerald: *http://www.emeraldinsight.com / index.htm*
3. Wiley-Blackwell Journals: *http://onlinelibrary.wiley.com*
4. Taylor & Francis Journals: *http://www.tandfonline.com*
5. Springer Link: *http://www.springerlink.com*
6. JSTOR: *http://www.jastor.org*
7. Cambridge Journals: *http://journals.cambridge.org*
8. Project Muse: *http://muse.jhu.edu*
9. Edinburgh University Press: *http://www.euppublishing.com*
10. Institute for Operations Research and the Management Sciences: *http://journals.informs.org*
11. Duke University Press Journals: *http://www.dukejournals.org*
12. Ebrary: *http://site.ebrary.com / lib / ibakarachi /*
13. World Bank e-Library: *http://elibrary.worldbank.org*
14. IMF eLibrary: *http://elibrary.imf.org*
15. McGraw Hill Access Engineering: *http://www.accessengineeringlibrary.com*
16. McGraw-Hills Access Science: *http://www.accessscience.com*
17. IET Digital Libraray: *http://digital-library.theiet.org*
18. Passport GMID by Euromonitor: *http://portal.euromonitor.com / portal / default.aspx*

Both, Main and City Campuses, Libraries are currently being reconstructed and remodeled. The Main Campus Library is scheduled to be operational in Fall 2014, once completed, it will be one of its kind infrastructure in the city with state-of-the-art facilities, fundamental in promoting learning environment proficient to cater the needs of 21st century learners. For further details or / information or updates, keep visiting library website *http://library.iba.edu.pk*.

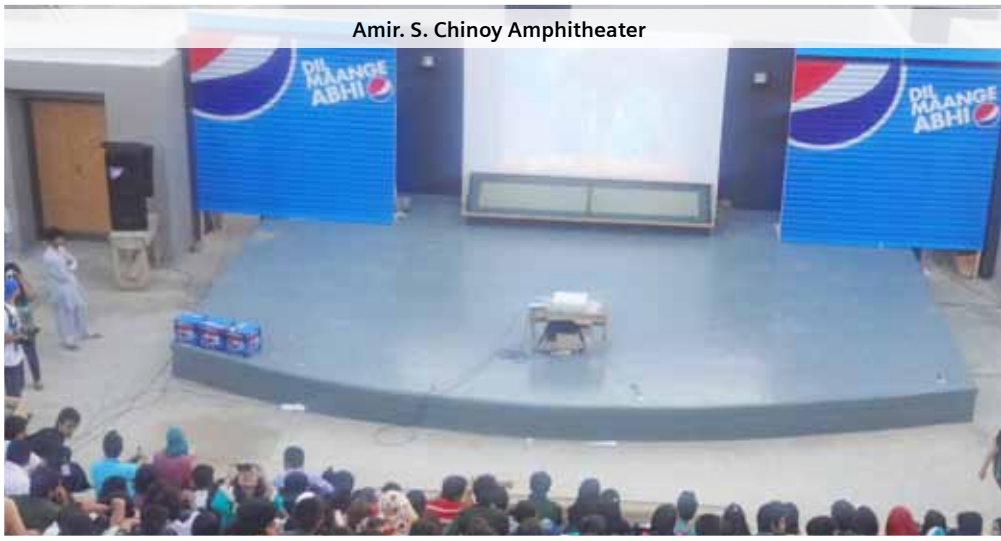
Under Construction New Library Building at Main Campus

Glimpses of Facilities Inaugurated in 2013-2014

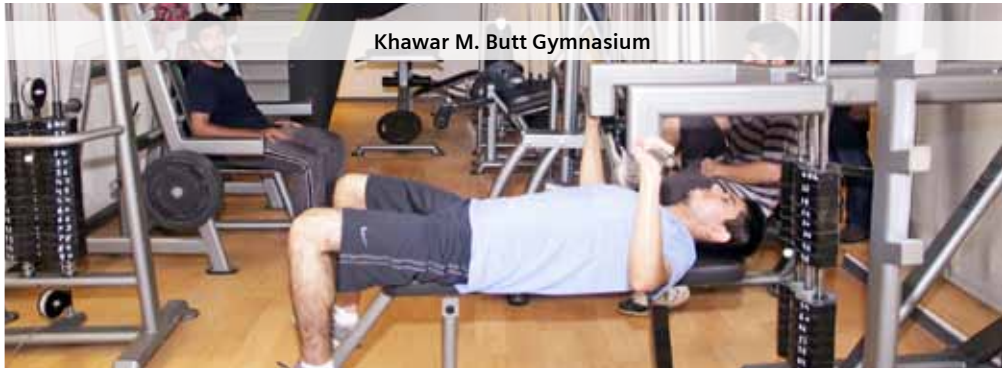
Ardeshir Cowasjee Center for Writing

Amir. S. Chinoy Amphitheater

Fatima Indoor Sports Area



Fatima Badminton Court



Khawar M. Butt Gymnasium

Tier III Compliant Data Center - (City Campus)

Outdoor Sports Facilities

M. Habibullah Visiting Faculty Residences

New Girls' Hostel

Projects Under Completion

Aman Tower (City Campus)

JS Auditorium (City Campus)

Administration Building (Main Campus)

Library (Main Campus)

Collaborations

- The Institute of Bankers Pakistan (IBP) signed an MOU with IBA that will allow IBA students to acquire a proficient banking qualification while simultaneously undertaking an academic degree.
- The International Commission on Workforce Development signed an MOU selecting IBA as an exam center for (ICWFD) educational project.

Resource Mobilization

- The Aman Foundation announced an increase of its grant for the Aman Tower Project at the City Campus from Rs. 1 billion to Rs. 1.2 billion.
- The Office of Alumni Affairs & Resource Mobilization introduced the facility of accepting 'Online Donation Instalments' to pay educational cost charges of needy students.

Honors and Awards

- IBA Alumnus Mr. Mamnoon Hussain sworn in as the President of the Islamic Republic of Pakistan.
- IBA Karachi's Center for Entrepreneurial Development (CED) qualified as a finalist in the USASBE (United States Association for Small Business and Entrepreneurship) Excellence in Entrepreneurship Education Awards for the category of Outstanding Emerging Entrepreneurship Program Abroad.
- IBA Alumnus Taha Siddiqui wins Albert Londres Prize as the 'France's Pulitzer' at Paris for producing best audiovisual documentary on the polio war.

Inaugurations

- The President of Pakistan, His Excellency Mr. Mamnoon Hussain, an alumnus of IBA, inaugurated the bi annual ICICT Conference 2014.

Dedication Ceremonies

- The following newly built buildings were commissioned and dedicated in the names of their respective donor on dates mentioned against each:
- Abdul Razzak Tabba Academic Building at the main campus (May, 2013)
- Capt. Haleem Ahmad Siddiqui, Boys Hostel. (August 2013)
- Ardeshir Cowasjee Center for Writing at the Main Campus. (November 2013)
- Khawar M. Butt Gymnasium at Alumni Student Center (November 2013)
- Parvez Abbasi Prayer Hall at Main Campus (December 2013)

(December 2013)

- HBL Academic Center at City Campus (December 2013)
- Sir Anwar Pervez Boys' Hostel (December 2013)
- UBL Sports Arena (December 2013)
- Amir S. Chinoy Amphitheater (December 2013)
- Shirazi Networking Lab (December 2013)

Visitors

- Mr. Aijaz Ahmed Mahesar, Additional Secretary, Community Development Program (CDP), Government of Sindh.
- Mr. Christian Ramage, French Consul
- Mr. Tilo Klinner, German Consul General
- Mr. Kiels Dielmann, Professor and expert on foreign affairs.
- Mr. Luke Haggarty , Manager of IFC Services in MENA (Middle East and North Africa) regions
- Ms. Elvira Van Daele, Mr. Javed Iqbal and Mr. Asim A F Chisti , members of the World Bank
- Mr. Richard G.Olsen , US Ambassador to Pakistan
- Mr. Mushtaque Jindani, Chief Executive IBP
- Mr. Asad Shah, Chairman ICWFD (International Commission on Workforce Development)
- Ms. Sharmila Farooqi, Ex-Advisor to Minister in Sindh Government
- Mr. Muhammad Asif Arif, Commissioner SECP (Securities and Exchange Commission of Pakistan)

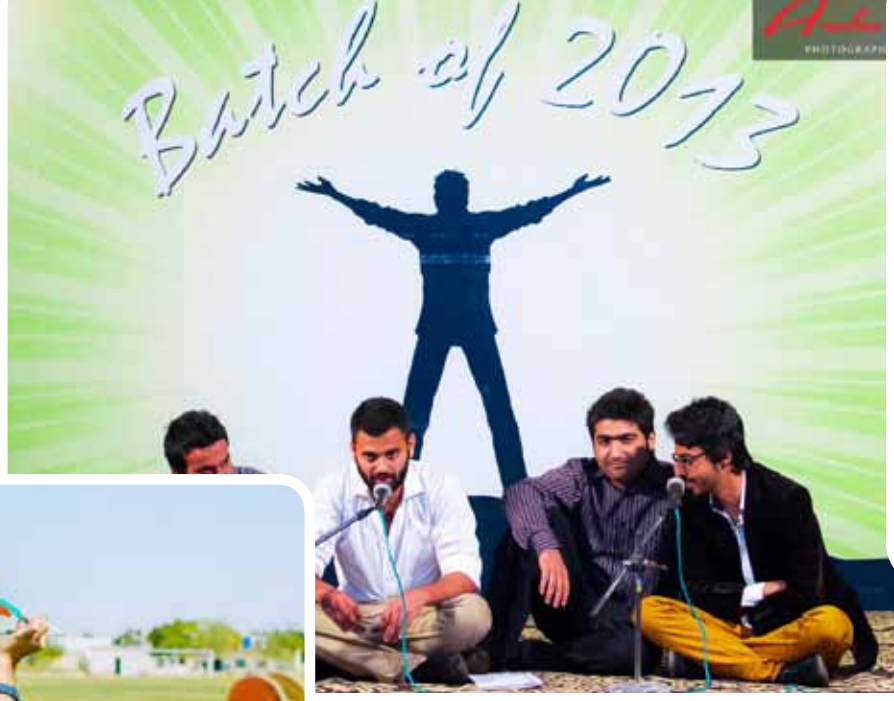
Society / Club Events - Review

S.No	Society / Club	Patron	Events Conducted in 2013-14
1	Adventure Club	Mr. Ameer Rizvi	- Snorkeling - Paragliding - Kashmir trip - Water frenzy activity
2	Alumni Society	Mr. Mirza Sardar Hussain	- Dinner with President, Mr. Mamnoon Hussain at the International - Conference on Marketing - Alumni Reunion Dinner
3	Arts Society	Ms. Sana Fatima	- ENIGMA III - Arts Exhibition - Mural
4	Boys Hostel Society	Mr. Jami Moiz	- Welcome Party - Sports Activity (Football & Cricket) - New Year Night Basant Celebration
5	Community Welfare Society	Ms.Saima Hussain	- Bake Sale - Carnival 2014
6	Dramatics Society	Ms. Maria Hasan	The Frindge National IBA DRAMA fest -Theatron
7	Economics Club	Dr. Khadija Bari	- INFER 2014
8	Entrepreneurship Society	Dr. Shahid Qureshi	- Avant Garde (Vision, Time Management & strategic) - Invent (Nationwide Startup Competition) - IYEC (IBA Youth Entrepreneurial Convention)
9	Finance Club	Dr. M Ather Elahi	- INFER 2014
10	Girls" Sports Society	Ms. Farah Naz	- IBA Sports League
11	Go Green Society	Mr. Mirza Sardar Hussain	- Karachi Beaches cleaning weak
12	HR Club	Ms. Nyla Aleem Ansari	- INSPIRE - HR Today Discussion Session - HR magazine - HR Colloquim
13	Iqra Society	Mr. Muhammad Asif Jaffer	- Lecture on "Battle of Qadisiya" by Dr. Adnan Rashid
14	Boys' Sports Society	Mr. Asad Ilyas	- Sports week (IBA Sports League)
15	Leadership Club	Dr. Nasir Afghan	- IBLC Aatish e Duroon
16	Literary Society	Mr. Imran Saqib	- Annual Play Pride and Prejudice - Annual Play Tajdeed-e-Ehd Wafa - Annual Play Youth Arts & Literary Festival
17	Marketing Club	Mr. Jami Moiz	- Battle of the Brains - IMC student Loyalty Cards Seminar by Mr. Kashif Effendi
18	Media & Communications Society	Dr. Framji Minwalla / Ms.Nadia Zaffar	- Media Flash - IMARC 2014
19	Music Society	Ms. Yasmin Zafar	- Voice Hunt
20	Photography Society	Mr. Ameer Rizvi	- Workshops Trip to Thatta Exhibition Photography
21	Placement Society	Mr. Mirza Sardar Hussain	- Career Fair
22	Public Speaking Society	Ms. Nadia Sayeed	- MUNIK V - Intra-MUN - Debate Training Camps
23	Social Sciences Club	Dr. Syed Noman Ul Haq	- Elysee Treaty of friendship Poetic - Reconstructions - Jalsa - The Politik IBA - Distinguish Lecture Series
24	Girls" Hostel Society	Ms. Mehreen Nazar	- Welcome Party - New Year Party - Cultural Festival - Alumni Dinner & farewell for Batch of 2014
25	Computer Science Society	Dr. Sajjad Haider	- Drupal Camp Karachi - Ethical Hacking Session - IBA Probattle Session 2014
26	IBA Student Council	Mr. S M Saeed	- Welcome - Screening of T20 World Cup - Beach Picnic & Farewell


IBA
LEADERSHOP
CONFERENCE 6
POWERED BY


IBA
LeadershOp
Conference
5.0

Students Galore



Students Galore

Students Galore

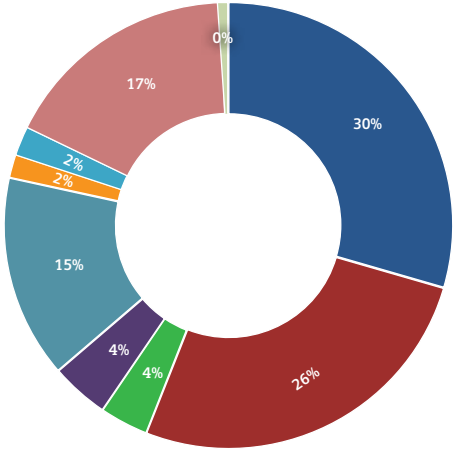
Students Galore

Convocation 2013

The Annual Convocation 2013 was held on Saturday, December 7, 2013. Mr. Nisar Ahmed Khuro, Speaker of Sindh Assembly was the Chief Guest. Eminent Citizen, Philanthropist and founder of the Lahore University of Management Syed Babar Ali was awarded the honorary degree of Doctorate in Management for his outstanding services in the field of Education Management. A total of 429 students were conferred degrees this year of which 66% were male and 34% were female. The undergraduates who obtained their degrees in BBA and BS - formed 60% of total while graduates- MBA, EMBA and MS-were 49%. Two faculty members received their doctorate in Computer Science. The 2013 convocation also witnessed the first ever handing out of performance awards for faculty members; one faculty member received the best teacher award and three faculty members shared the best researcher award. Also as per practice of the last two convocations, services of the staff members were acknowledged this year too and as many as nineteen staff members became proud recipients of 'Performance Awards.

Some 1500 guests comprising parents, guests of graduating students, invitees from the public and private sector including a large number of heads from business and corporate sector institutions witnessed the convocation and visited / showed keen interest in visiting various newly inaugurated buildings at the main campus after refreshments

Anatomy of the Graduating Batches (2013)

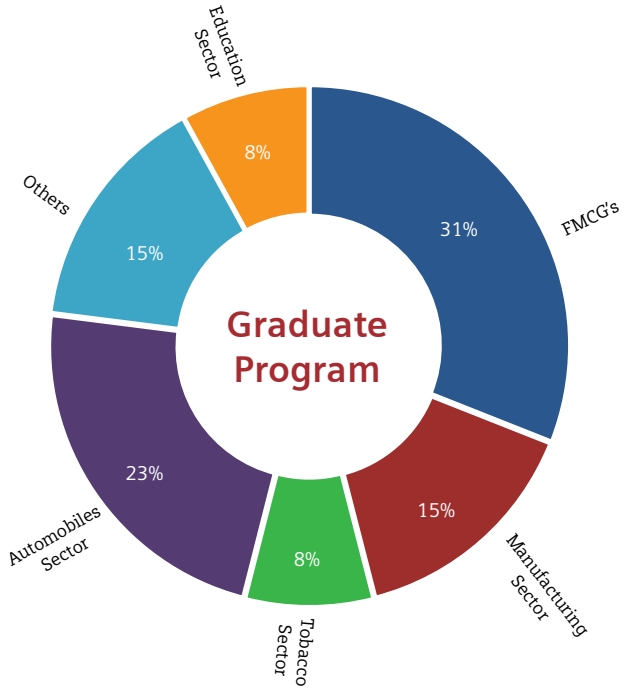


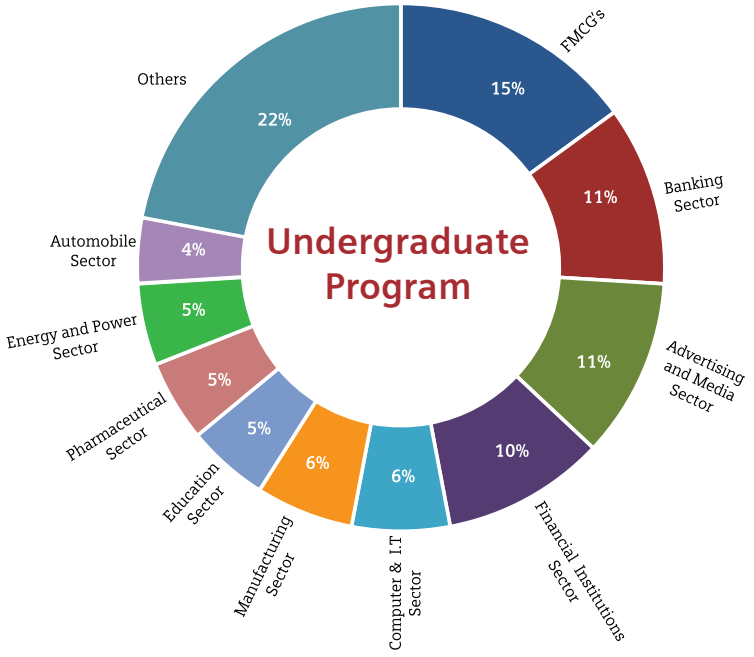
Batch	No. of Students
BBA - Fall 2009 (Main Campus)	126
BBA - Fall 2009 (City Campus)	113
BS (CS) - Fall 2009	15
MBA (Direct) - Fall 2011	18
MBA - Evening (Graduated in 2012)	63
MBA - MIS- Evening (Graduated in 2012)	7
MS (CS) -Evening (Graduated in 2012)	9
Executive MBA (Class of 2013)	74
PhD	2

Year	Cumulative Total of Graduates
1957 - 2003	6178
2004	6473
2005	6805
2006	7067
2007	7417
2008	7875
2009	8373
2010	8857
2011	9467
2012	9914
2013	10341

Extracts of Employment Survey-2013

(Courtesy - IBA Career Development Center)





Graduate Program	
FMCG	Automobiles
Manufacturing	Others
Tobacco	Education

Undergraduate Program	
FMCG	Education
Banking	Pharmaceutical
Advertising and Media	Energy and Power
Financial Institutes	Automobile
Computer & I.T	Others
Manufacturing	

Financial Assistance

Being a public sector institution, the IBA caters to a large number of the students coming from middle class and lower income groups – its fee increase is mostly modest and covers only a fraction of the costs. Therefore, reliance has to be placed on other sources of funding / financing such as Scholarships, endowments, etc. Financial Aid is available at IBA for all deserving and needy students in the form of scholarships, financial assistance and loans. No applicant who qualifies the admission test and ful fills other requirements is refused admission because of inability to afford the cost of the program at the Institute. A Financial Aid Committee scrutinizes the applications of students seeking financial aid and sanctions assistance for those who meet the 'need criteria'. In the academic session 2013-14, as many as 440 students received financial assistance amounting to Rs. 85,123,124 / - million.

Scholarships

IBA gratefully acknowledges the continuous support and generous contributions made by the following organizations, companies and individuals as donors of scholarships for needy students:

Donors of General Scholarships

- Abdul Fatah Memon Scholarship
- Abdul Waheed Khan & Asghari Khanum Memorial Fund Scholarship
- Amir Saleem Scholarship
- Akhtar Textile Industries (Pvt) Ltd
- Azim Sultan Scholarship
- Anonymous Scholarship
- Bhaimia Foundation Scholarship
- BURJ Bank Scholarship
- Chevron Pakistan Limited Scholarship
- Fauzia Rashid Scholarship
- G.M. Qureshi Scholarship
- Government of Sindh Endowment Fund Scholarship
- Habib Metropolitan Bank Ltd. Scholarship
- Helium (Pvt) Limited Scholarship
- Higher Education Commission–USAID Funded Merit & Need Based Scholarship
- IBA Faculty Scholarship

- Infaq Foundation Scholarship
- ICS Group Company Scholarship
- Indigo Textile (Pvt) Ltd
- Lucky Cement / Abdul Razzak Tabba Scholarship
- Mateen Family Scholarship
- Mr. Raza Ali Khan
- Ms. Umaima Sohaib
- Ms. Farheen Umar -1994
- Mr. Pervez Haroon Scholarship
- IBA Alumni-4K Chapter
- Mr. Khalid Saleh Mohammad Jafri
- Mubashira Hafeez Scholarship
- Oxford & Cambridge Society Scholarship
- Punjab Education Endowment Funds Scholarship
- Philip Morris (Pakistan) Limited Scholarship
- Shell Pakistan Scholarship
- SSGC Scholarship
- Sumitomo Corporation Scholarship
- Syed Sarfaraz Ali Ghori Scholarship
- Shaban Ali G Kassim Scholarship - Karam Ceramics Limited
- United Bank Limited Scholarship
- University of Karachi Alumni Association of Baltimore and Washington Scholarship Metropolitan Area, USA
- Amin Issa Tai
- Hassan Scholarship
- Jubilee General Insurance
- Late Mr. Ghulam Faruque–Cherat Cement Co. Ltd
- Pakistan Petroleum Limited (PPL)
- Mr. Nadeem Elahi
- BankIslami Pakistan Limited
- Sitara Chemical Industries Ltd
- Shaheen Ghazi Scholarship
- Eastern Automobiles (Pvt) Ltd
- Saya Weaving Mills (Pvt) Ltd.
- Eastern Automobiles (Pvt) Ltd.
- Syed Nasir uddin & Begum Nasir Scholarship

Donors of Scholarships for Talent Hunt Programs

- CDP-Government of Sindh - Foundation Program
- Government of Sindh
- Ihsan Trust – Meezan Bank

Donors of Scholarships for Student Loan (Qarz e Hasna) Schemes

- Ihsan Trust – Meezan Bank
- National Bank of Pakistan

Donors of Scholarships for Faculty / Student Exchange / Visit Programs

- Engro Foundation
- Engro Foods
- Infaq Foundation
- Mr. Sadeq Sayeed
- Mr. Munib Islam

Endowment Funds

These funds are established through donations made from time to time by various philanthropists and benevolent organizations. The income generated from these funds is utilized to supplement the faculty salaries, provide research funds to them, and contribute to the hiring of foreign faculty / eminent scholars, academic program enhancement, case study development, external accreditation and professional development of academia through participation in seminars and conferences, both locally and internationally. All endowment funds are administered by the Board of Trustees which includes those organizations / persons who have donated or pledged a minimum amount of Rs. 30 million or more in cash or kind. A list of endowment related funds currently in operation at IBA is appended as under:

Donors of Development Fund

- Abdullah Foundation (Sapphire)
- Adamjee Foundation
- Allied Bank Limited
- Arif Habib Corporation Limited
- Aziz Tabba Foundation
- Bank of Punjab
- Bestway Foundation
- Class of 1971 and 1972
- Donor Wall
- Education & Literacy Department, Govt. of Sindh
- EFU General Insurance Limited (EFU Group)
- Engro Foundation
- Fauji Fertilizer Bin Qasim Limited
- HBL Foundation
- Higher Education Commission (HEC)
- IBA Alumni
- International Industries Limited (IIL)
- Marine Group of Companies
- Mahvash and Jehangir Siddiqui Foundation
- Mega Conglomerate Private Limited (Mega Group)
- Martin Dow
- National Bank of Pakistan
- Philip Morris International (PMI)
- Pepsico
- State Bank of Pakistan
- Standard Shipping Pakistan (Pvt.) Ltd.
- The Aman Foundation
- The HUB Power Company Ltd (HUBCO)
- TPL Holdings (Pvt.) Ltd.
- United Bank Ltd.
- Unilever Pakistan
- OBS

Donors of Endowments / Endowed Chairs Funds

- Allied Bank Limited
- Askari Bank Ltd
- Bank Alfalah Limited
- Bank Al-Habib Limited
- Deutsche Bank
- Fatima Fertilizer Co. Ltd.
- Faysal Bank
- Gatron Industries Limited
- Getz Pharma (Pvt) Limited
- Govt. of Sindh
- Habib Bank Limited
- English Biscuit Manufacturers
- International Textile Limited
- IBA Alumni Dinner 2013
- Indus Motors
- Millat Group of companies
- Mr. Towfiq Chinoy
- National Investment Trust Limited (NiT)
- National Bank of Pakistan
- Pak Arab Fertilizers Ltd.
- Pakistan International Container Terminal Ltd.
- Soneri Bank
- Standard Chartered Bank
- UCH Power (Pvt.) Limited
- IBA – Advisory Council
  - Dr. Miftah Ismail, Director, Ismail Industries Ltd
  - Mr. Abrar Hasan, CEO, National Foods Ltd.
  - Mr. Anwar H. Rammal, Chairman, Asiatic Public Relations
  - Mr. Ghouse Akbar, Director, Akbar Group of Companies

- Mr. Mohsin Ali Nathani, CEO, Standard Chartered Bank
- Mr. Parvez Ghias, CEO, Indus Motor Co. Ltd.
- Mr. Saifuddin N. Zoomkawala, Chairman, EFU, GIL.
- Mr. Tahir Khaliq, Director, United Distributors (Pvt.) Ltd
- Mr. Tariq Kirmani
- Mr. Zahid Bashir, CEO,
- Mohd. Amin Mohd. Bashir Ltd.
- Mr. Muneer Kamal, President & CEO KASB Bank Limited
- Mr. Muhammad Yousuf Adil, Chairman, M. Yousuf Adil Saleem & Co.

Donors of Faculty Development Fund

- Barclays Bank PLC, Pakistan
- Cadbury Pakistan Limited
- Central Depository Company
- Chevron Pakistan Limited
- English Biscuit Manufacturers
- Higher Education Commission (HEC)
- Indus Motors
- Naseem Allawala, ESQ.
- National Foods Limited

Donors of Endowment Fund for General Scholarships

- Aftab Associates Endowment
- Atlas– IBA Scholarship Endowment Scholarship
- Atiya -e-Naseem Scholarship
- Dr. I. A. Mukhtar Endowment for Scholarship (IBA-Alumni)
- Feroz Textile Mills Limited
- HBFC Endowment Scholarship
- HBL- Endowment Scholarship
- IBA-Karachi Class of 1986
- Muhammad Umar Khan Shaheed Scholarship
- Other Scholarship Endowment Scholarship
- PSO Endowment Scholarship
- Sardar Yasin Malik Scholarship
- Syed Mumtaz Saeed Scholarship
- The Sapphire Endowment Scholarship
- Zahida Zorawer Endowment Scholarship

Donors of Endowment Fund for Talent Hunt Programs

- Abdullah Group, Hyderabad
- Abdul Waheed Khan Scholarship
- Asghari Khanum Scholarship
- KPMG Pakistan Scholarship
- Mowjee Foundation (Sultan Mowjee Endowed Scholarship)

Procedure For Obtaining Financial Assistance

Objective

Provide financial assistance to all needy students (other than evening / part time programs) admitted to the IBA and ensure that no deserving student is denied admission because of financial difficulty / constraints. All matters relating to provision of financial aid are managed by the 'Financial Aid Office' located in the Finance Department.

Eligibility

Financial Aid shall be offered to eligible applicants who have been assessed to be needy and meet the criteria for the same. This is enabled in the form of a "Financial Aid Package" which is designed based on the recognition that an education in the Institute is a partnership involving the student, his / her family and the Institute. The packages include 'Merit Scholarships' which become part of entitlement for those students who obtain merit position during their aptitude test and their names are among top 10% of the applicants in the result of the aptitude test.

How to apply for Financial Assistance

- Those students who need financial assistance will have to pay the Admission fee and one time charges before they apply for any financial assistance.

- Students may apply for financial assistance on the prescribed form posted on the website and send their applications to the 'IBA Financial Aid Office' during the stipulated application period.

Financial Aid Packages

The Financial Aid Packages include the following:

a. Instalment Plan

- In principle, tuition fee for each semester is payable in full; those students', who are unable to pay the due fee in full, may apply to Director Finance for instalment method of payment. There are two types of instalment plans:

- Plan (A) Payment of dues three equal instalments

- Plan (B) Payment of dues in five Instalments

- The student can apply for any of the above two plans. These instalments must be paid within the same semester period.

- The Director Finance shall approve the application after ensuring the need of the student.

- Whichever plan is opted for by the student, he or she is required to make payment of instalments by giving post-dated cheques for the agreed dates.

b. Deferment of Fees

- In case student does not pay his / her total fee within a particular semester then the Director Finance shall send a request letter to the student to pay the outstanding amount due.

- The Director Finance may call the student and if circumstances suggest his / her parents may also be called to evaluate the financial position of the student to reach to an amicable solution for the recovery of fees. The student shall also be directed to avail other options available in"Financial Aid Package", which are discussed below.

- If there is no other option available and the circumstances necessitate, the Director Finance may defer the payment of fee to a certain date.

- If student is still unable to pay in full, then as a first step the Finance Department shall compel the student to make payment through post dated cheques.

- The post-dated cheque should be cleared within the same semester period, so that the student's amount is cleared before the admission to the next semester.

- If any of the postdated cheques is dishonoured and student is unable to pay against those dishonoured cheques then Director Finance may call the student / parents of the student for settlement of dues before the start of the next semester, failing which the students name will be given to the program office for stopping enrolment in the new semester.

C. Need Based Financial Assistance / Scholarships

- There are numbers of scholarships available which are awarded to needy students only and are based on the assessed need level.

- No applicant who qualifies the admission test and ful fills other requirements shall be refused admission because of inability to afford the cost of the program at the Institute.

- The Scholarship Committee scrutinizes the application along with supporting documents submitted by the students seeking financial aid and scores their need level against laid down criteria; compares it to the need level of other applicants to assesses the level of assistance that can be made available on the basis of available funds

d. Merit Scholarships

- Merit scholarship are extended to candidates who have scored high enough for their names to fall in the top 10% of the list of candidates appearing in aptitude test and thereafter qualifying to be admitted to the BBA & MBA Morning Programs. The list of these candidates is published at the culmination of the admission process i.e. qualifying aptitude test, group discussion, and interview and providing proof of having met the minimum academic eligibility standards for the concerned program. These candidates will be automatically awarded a 50% reduction in their tuition fees.

- It will, however be obligatory / incumbent on such candidates to maintain a CGPA of 3.5 on completion of every two semesters each year. Inability to maintain the said

CGPA will render the concerned merit scholarship holder ineligible for continuing of the merit scholarship in the remaining semesters.

- In the event of a student losing his / her standing for merit scholarship, and regaining the required CGPA in any subsequent semester; the student will again become eligible for merit scholarship in the next semester but will not be entitled to claim the same for the preceding semester.

- The number of scholarship slots released as a result of this discontinuation (as mentioned above) will be made available to the toppers (maintaining highest CGPA) in the Dean's Honor list for that particular academic year. The new merit scholars are also required to maintain minimum CGPA of 3.5 at each completed year for continuation of Merit Scholarship, i.e. other rules for continuation / discontinuation of merit scholarship, as mentioned in above, will also apply to these new scholars.

e. Study loans

- IBA facilitates its students in securing loans to meet their tuition fee. These may be interest free loans (Qarz-e-Hasna) to facilitate students during the course of their study. Applications for such loans will be invited from amongst candidates who have already applied for 'need based scholarship' but could not meet the criteria for the same.

f. Work-study Appointment Scheme

- The scheme enables needy students to supplement their finances through part time work on-campus and helps students minimize their debts servicing burden upon graduation. The HR Department promulgates each semester along the positions available for students to take up on-campus part time jobs / internships. The remuneration of such jobs is calculated on hourly basis.

- IBA strongly believes that such on-campus jobs and internships are an important tool in recruiting, developing talent in meeting the needs of today while preparing the workforce for the future.

- The three different programs available for IBA students seeking to gain work experience on-campus include:
  - Paid Student Interns (Summer interns as well as for other times during the year)
  - Part-time student employees
  - Teaching assistants / Research assistants

- Details of these work programs are available in the SOP's listed under "Rules for Student recruitment – internship, part-time employment and teaching / research assistants" available with the Career Development Center.

Corporations Financing for Study Expenses

Students at IBA, any other top University of the world have a well-known accreditation and acceptability in the corporate market. Some of the companies are financing Students study programs by providing required financial assistance to the students; as part of their vision to invest in the future human resource capital! A bond is signed between student (one who seeks financial assistance) and company (financer), according to which student will have to serve the companies as an employee; as soon as he / she completes his degree program from IBA. Company sees it as an investment in the future human resource capital. Details of such opportunities are available with the IBA Career Development Center (CDC).

Fee Structure - Fall 2014

Undergraduate & Graduate Programs (Morning Programs)				
Particulars	**BBA & MBA**	**MS (Economics & Mathematics)**	**BS (Accounting & Finance)**	**BS (Computer Science, Eco & Math, Social Sciences & Liberal Arts)**
Tutition Fee	Rs. 138,000 / -	Rs. 66,000 / -	Rs. 138,000 / -	Rs. 80,000 / -
Student Activity Charges	Rs. 3,500 / -	Rs. 3,500 / -	Rs. 3,500 / -	Rs. 3,500 / -
Lab cum Library Charges	Rs. 3,500 / -	Rs. 3,500 / -	Rs. 3,500 / -	Rs. 3,500 / -
Examination Charges	Rs. 1,000 / -	Rs. 1,000 / -	Rs. 1,000 / -	Rs. 1,000 / -
Development Charges	Rs. 2,000 / -	Rs. 2,000 / -	Rs. 2,000 / -	Rs. 2,000 / -
Total Recurring Charges (Per Semester)	**Rs. 148,000 / -**	**Rs. 76,000 / - Per Course Fee Rs. 16,500 / -**	**Rs. 148,000 / -**	**Rs. 90,000 / -**

Evening Programs

Particulars	MS (Economic, CS, IT & Mathematics) MBA-Evening	
Tuition Fee	**Pak Rupees**	**Total Fee**
One Course	Rs. 23,000 / -	Rs. 29,500 / -
Two Courses	Rs. 46,000 / -	Rs. 52,500 / -
Three Courses	Rs. 69,000 / -	Rs. 75,500 / -
Four Courses	Rs. 92,000 / -	Rs. 98,500 / -
Lab cum Lib. Charges (Per Semester)	Rs. 3,500 / -	
Examination Charges	Rs. 1,000 / -	
Development Charges	Rs. 2,000 / -	

One-Time Charges (At the time of Admission)	
Admission Charges	Rs. 15,000 / -
Transcript Fee	Rs. 2,000 / -
Total One-Time Charges	**Rs. 17,000 / -**

For those students who wish to use the transport / hostel facilities, relevant charges are as under	
Transport Fee (per semester)	Rs. 25,000 / -
Hostel Fee (per semester)	Rs. 36,000 / -
Hostel Security Deposit (new students only)	Rs. 1,000 / - (Refundable)

MODE OF PAYMENT

- Fee can be deposited at **All Branches of Faysal Bank Limited in Karachi.**
- **Pay order** in the name of **IBA Karachi** can be delivered to Finance Department at the Main Campus.

NOTES

- **Figures are subject to revision by the IBA Board of Governors.**
- The charges mentioned above are for one semester only, except for admission charges.
- Merit scholarship holders will be required to maintain a CGPA of 3.5
- All regular (Morning) students shall be liable to pay fixed fee for the semester, maximum cut off for fixed fee is 4 courses or more.
- For any further information you may contact **Zafar Chaudhry (Finance Department) at 021-38104700-1 Ext. 2309**

Our Core Values

Truth

Being truthful involves speaking and acting consistently in accordance with the highest ethical values. When working in a team, truth requires you to be reliable.

Discipline

You should have the will to work according to rules, with precision and honesty. Discipline involves self-control and self-regulation that builds character and should be an integral core value of an IBA student.

Integrity

Possessing integrity goes hand in hand with being reliable. Integrity is crucial to the reputation of any institution. Students are required to maintain honesty in the acquisition and sharing of knowledge throughout their academic life at the IBA.

Tolerance

The capacity to acknowledge, understand and tolerate ideas and opinions different from your own, means that you should be able to treat people from different backgrounds and schools of thought equitably.

Creativity

The ability to be innovative is an asset for any individual. As a student of the IBA, you are at par with others having skills either equal to you or better than yours. Therefore, you need to enable the generation of new thoughts, ideas and means of attaining your goals.

Merit

Students are admitted to the IBA strictly on the basis of merit. Success will be yours as you surpass yourself time and again by working in accordance with this principle.

Humility

Being courteous, respectful of others and recognizing that no matter how good you are, there is always someone out there who is better than you.

Bachelor of Business Administration (BBA)

Bachelor of Business Administration (BBA) - Entrepreneurship

Bachelor of Science (BS) - Accounting & Finance

Bachelor of Science (BS) - Computer Sciences

Bachelor of Science (BS) - Economics & Maths

Bachelor of Science (BS) - Social Sciences & Liberal Arts

Undergraduate Programs

Bachelor of Business Administration (BBA) Program

The BBA program comprises of four years of rigorous education enabling the student to have a broad view of the world. The students go through an academic program that not only emphasizes the essentials of business subjects; it introduces them to the basic concepts of social sciences and liberal arts. In their freshman and sophomore years, students study subjects such as history, anthropology, psychology, philosophy and logic and media study. Students have an option to choose from a group of social science and liberal arts courses. Additionally, students are also required to choose among three foreign languages (Arabic, Chinese and French). Students go through two semesters of training in the language of their choice. IBA is now introducing a study of culture and history to go with the language of their choice. For example, if they choose French, they will be introduced to the history and culture of France and Francophone Africa. This will add to the marketability of our BBA graduates.

Subsequent to an audit of our BBA program, the course structure has been modified to introduce a group of electives as majors. In the past, students only had the choice to specialize in either Marketing or Finance. With our new BBA program, students can choose among a host of electives to major in Marketing, Finance, Human Resource, Entrepreneurship, and MIS.

As of 2010, based on the feedback from our own alumni, human resource representatives of major corporations and some of the chief executives of the companies; we have included the aspect of experiential knowledge to the curriculum of our BBA program. Students now undergo a six months on-the-job training in the real business environment. They spend their last semester (eight semester) working in a business of their choice. This not only allows them to network with their future employers, but it also introduces them to the challenges of the real business world.

All BBA students are required to enroll the Personal Effectiveness a non-credit course offered during the 6th & 7th semester.

Curriculum Structure

Duration	4 years
Semesters	8
Courses	49
Total Credit Hours	147

Required Courses

Section	Knowledge Area	Courses
A	University Core Courses	4
B	Business Core Courses	26
C	Business Electives	10
D	Non - Specialization Courses	12
	Total Courses	46

A. University Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
English Grammar & Composition	SSC101	3	-
Speech Communication	HUM201	3	-
Socioeconomic Philosophy of Islam	SSC301	3	-
Pakistan History	SSC151	3	-

B. Business Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Intermediate Microeconomics	ECO201	3	-
Principles of Accounting	ACC111	3	-
Intermediate Macroeconomics	ECO202	3	-
Principles of Management	MGT201	3	-
Financial Accounting	ACC201	3	ACC111
Organizational Behavior	MGT221	3	SSC102, MGT201
Principles of Marketing	MKT201	3	-

B. Business Core Courses *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Introduction to Business Finance	FIN201	3	-
Financial Institutions and Markets	FIN301	3	FIN201
Business Communication (2+1 CH)	MGT211	3	MGT201, SSC102
Financial Management	FIN401	3	FIN201
Analysis of Pakistani Industries	ECO211	3	ECO103 / ECO201 & ECO104 / ECO202
Management Accounting	ACC381	3	ACC111, ACC201
Business Law	LAW205	3	-
Methods in Business Research	MKT301	3	MKT201,MTS202
Human Resource Management	HRM401	3	MGT201, MKT201
Development Economics	ECO301	3	ECO103 / ECO201 & 104 / ECO202
Production and Operations Management	MGT311	3	FIN201, MGT201, MKT201
Marketing Issues in Pakistan	MKT401	3	MKT201
Small Business Management	MGT401	3	FIN201, MGT201, MKT201
Managerial Policy	MGT430	3	ECO103, ECO201, FIN201, HRM401, MGT201, MGT211, MGT221, MKT201
Experiential Knowledge	RJ490	12	Equivalent to 4 courses
Philosophy, Logic & Ethics	HUM357	3	-
Foundation of Human Behavior	SSC102	3	-
International Relations	SSC111	3	-
Language-I	SSCXXX	3	-
Language-II	SSCXXX	3	-
Personal Effectiveness	SSC240	3	SSC201

C. Business Electives

Course Title	Course Code	Credit Hours	Pre-Requisite
Accounting Information System with SAP*	ACC507*	3	-
Analysis of Financial Statements*	ACC561*	3	ACC201
Corporate Governance & Practices in Pakistan*	LAW553*	3	LAW501
Microeconomics	ECO312	3	ECO201
Introduction to Econometrics	ECO341	3	ECO103 / ECO201, ECO104 / ECO202 & MTS202
Applied Econometrics	ECO342	3	ECO341

C. Business Electives *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
International Trade	ECO511	3	ECO103 / ECO201
Major Issues in Pakistan Economy	ECO403	3	ECO103 / ECO201 & ECO104 / ECO202
Research Methods in Economics	ECO411	3	ECO103 / ECO201, ECO104 / ECO104 & MTS202
Public Finance	ECO451	3	ECO103 / ECO201, ECO104 / ECO202
Islamic Economic System	ECO452	3	ECO103 / ECO201, ECO104 / ECO202
Labor Economics	ECO654	3	ECO103 / ECO201, ECO104 / ECO202
Population Economics	ECO454	3	ECO103 / ECO201, ECO104 / ECO202
Comparative Economic System	ECO455	3	ECO103 / ECO201, ECO104 / ECO202
Economics and Strategy	ECO456	3	ECO103 / ECO201, ECO104 / ECO202
Natural Resource and Environmental Economics	ECO461	3	ECO103 / ECO201, ECO104 / ECO202
Rural Development	ECO462	3	ECO103 / ECO201, ECO104 / ECO202
Financial Economics	ECO562	3	ECO103 / ECO201, ECO104 / ECO202
Game Theory	ECO464	3	ECO103 / ECO201, & MTS101
International Political Economy	ECO465	3	ECO103 / ECO201, ECO104 / ECO202
Monetary Economics	ECO566	3	ECO103 / ECO201, ECO104 / ECO202
History of Economic Thought	ECO467	3	ECO103 / ECO201, ECO104 / ECO202
Agriculture Economics	ECO468	3	ECO103 / ECO201, ECO104 / ECO202
Regional Economics	ECO469	3	ECO103 / ECO201, ECO104 / ECO202
Health Economics	ECO471	3	ECO103 / ECO201, ECO104 / ECO202

C. Business Electives *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Urban Economics	ECO472	3	ECO103 / ECO201, ECO104 / ECO202
Welfare Economics	ECO473	3	ECO103 / ECO201
Resource Economics	ECO474	3	ECO103 / ECO201, ECO104 / ECO202
Investment Banking	FIN451	3	ECO103 / ECO201, ECO104 / ECO202 & FIN401
International Finance	FIN452	3	ECO104 / ECO202 & FIN401
Security Analysis	FIN453	3	FIN401
Corporate Finance	FIN454	3	FIN401
Portfolio Management	FIN455	3	FIN401
Financial Risk Management	FIN456	3	FIN401
Derivatives	FIN457	3	FIN401
Fundamentals of Treasury and Fund Management	FIN458	3	FIN401
Recruitment and Selection Techniques	HRM430	3	MGT201, HRM401
Occupational Health and Safety	HRM445	3	MGT201, HRM401
Industrial Relations Management	HRM451	3	MGT201, HRM401
Organizational Analysis and Research	HRM452	3	MGT201, HRM401
Life Career Development	HRM453	3	MGT201, HRM401
Executive Leadership	HRM455	3	MGT201, HRM401
Training and Development	HRM456	3	MGT201, HRM401
HR and Information System.	HRM457	3	MGT201, HRM401

C. Business Electives *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Leading the Change Process	HRM458	3	MGT201, HRM401
Performance and Compensation Management	HRM462	3	MGT201, HRM401
Ethics in a Corporate Society	MGT301	3	MGT201, ACC201, MKT201
Management Theory and Practice	MGT400	3	-
Comparative Management	MGT411	3	MGT201, MKT201, MGT221
Entrepreneurship	MGT421	3	MGT201, FIN201, MKT201
Advertising	MKT451	3	MKT201
Consumer Behavior	MKT452	3	MKT201, MKT301
Sales Management	MKT453	3	MKT201, MKT401
Personal Selling	MKT454	3	MKT201, MKT401
Retail Management	MKT455	3	MKT201
Export Marketing	MKT456	3	MKT201
Dynamics of Distribution and Logistics	MKT457	3	MKT201
Public Relations	MKT458	3	MKT201
Direct Marketing	MKT460	3	MKT201
Brand Management	MKT461	3	MKT201
Essentials of Demand & Supply	MKT462	3	MKT201
Major Themes in World History	SSC121	3	-
Culture, Media & Society	SSC216	3	-
Research Methods in Social Sciences	SSC154	3	-
History of Ideas - I	SSC239	3	-
Fundamentals of Sociology	SSC231	3	-
Introduction to Social & Cultural Anthropology	SSC233	3	-
Creative Writing	HUM360	3	-
History of Ideas - II	HUM238	3	-
Introduction to Historical Methods	-	3	-

D. Non - Specialization

Course Title	Course Code	Credit Hours	Pre-Requisite
Introduction to Computer Applications	MIS103	3	-
Calculus I with Applications	MTS104	3	-
Calculus II with Applications	MTS106	3	MTS101
Introduction to Statistics	MTS102	3	-
Statistical Inference (with econometrics lab)	MTS202	3	MTS101
Business Mathematics and Linear Algebra	MTS212	3	MTS101
Non - Specialization Elective Courses			
One Social Sciences Elective from the following:			
Major Themes in World History	SSC121	3	-
Culture, Media & Society	SSC216	3	-
Research Methods in Social Sciences	SSC154	3	-
History of Ideas - I	SSC239	3	-
Fundamentals of Sociology	SSC231	3	-
Introduction to Social & Cultural Anthropology	SSC233	3	-
Creative Writing	HUM360	3	-
History of Ideas - II	HUM238	3	-
Introduction to Historical Methods	SSC232	3	-

Semester-wise Sequence of Courses

FRESHMAN	Semester - 1	Course Code	Credit Hours	Pre-Requisite
1	Intermediate Microeconomics	ECO201	3	-
2	English Grammar & Composition	SSC101	3	-
3	Foundations of Human Behavior or International Relations	SSC102 / SSC111	3	-
4	Introduction to Computer Applications	MIS103	3	-
5	Calculus-I & Plane Geometry	MTS101	3	-
6	Philosophy, Logic & Ethics	HUM357	3	-
	Semester - 2	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Principles of Accounting	ACC111	3	-
2	Intermediate Macroeconomics	ECO202	3	-
3	Principles of Management	MGT201	3	-
4	Calculus II	MTS232	3	MTS101
5	Introduction to Statistics	MTS102	3	-
6	International Relations or Foundation of Human Behavior	SSC102 / SSC111	3	-
7	Speech Communication	HUM201	1+2	-
SOPHOMORE	**Semester - 3**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Financial Accounting	ACC201	3	ACC111
2	Organizational Behavior	MGT221	3	SSC102, MGT201
3	Statistical Inference (with econometrics lab)	MTS202	3	MTS101, MTS102
4	Principles of Marketing	MKT201	3	
5	Pakistan History	SSC151	3	ECO103, ECO201, ECO104, ECO202
6	Introduction to Business Finance	FIN201	3	
	Semester - 4	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Socioeconomic Philosophy of Islam	SSC301	3	-
2	Financial Institutions and Markets	FIN301	3	FIN201
3	Business Communication (2+1 CH)	MGT211	3	MGT201, SSC102
4	Financial Management	FIN401	3	FIN201
5	Business Mathematics and Linear Algebra	MTS211	3	MTS101
6	Analysis of Pakistani Industries	ECO211	3	ECO103, ECO201, ECO104, ECO202

Semester-wise Sequence of Courses

JUNIOR	Semester - 5	Course Code	Credit Hours	Pre-Requisite
1	Management Accounting	CC381	3	ACC111, ACC201
2	Business Law	LAW205	3	-
3	Methods in Business Research	MGT311	3	MKT201, MTS202
4	Human Resource Management	HRM401	3	MGT201, MKT201
5	Development Economics	ECO301	3	ECO 103,ECO201, ECO104,ECO202
6	Personal Effectiveness	SSC240	3	SSC201
7	Social Science Elective	SSCXXX	3	-
	Semester - 6	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Production and Operations Management	MGT311	3	FIN201, MGT201, MKT201
2	Marketing Issues in Pakistan	MKT401	3	MKT201
3	Small Business Management	MGT401	3	FIN201, MGT201, MKT201
4	Language-I	SSCXXX	3	-
5	BE*	-	3	-
6	BE*	-	3	-
SENIOR	**Semester - 7**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Managerial Policy	MGT430	3	ECO103, ECO201, FIN201, HRM401, MGT201, MGT211, MGT221, MKT201
2	Language-II	SSCXXX	3	-
3	BE*	-	3	-
4	BE*	-	3	-
5	BE*	-	3	-
6	BE*	-	3	-
	Semester - 8	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Experiential Knowledge	PRJ490	12	Equivalent to 4 courses
2	BE*	-	3	-
3	BE*	-	3	-

Bachelor of Business Administration (Entrepreneurship) Program

BBA-Entrepreneurship is an activity based learning program, which is taught at the IBA Center for Entrepreneurial Development in collaboration with Babson College of Entrepreneurship, Boston (USA). This program is spread over a span of 4 years, which includes 8 semesters and 147 credit hours. The curriculum is designed as such that it integrates core business & entrepreneurship courses along with practical activities throughout the program tenure.

In the first and second semester, each student is enrolled in the Foundation for Management and Entrepreneurship (FME) course I and II respectively in order complete their specialization in Entrepreneurship. During the two FME courses, each student is required to launch an own business, whereby IBA-CED provides students in business training / mentorship and financial assistance. Students are also entitled to take 39 core courses and 8 business electives apart from FME I and II.

Curriculum Structure

Duration	4 years
Semesters	8
Courses	49
Total Credit Hours	147

Required Courses

Section	Knowledge Area	Courses
A	University Core Courses	4
B	Entrepreneurship Core Courses	2
C	Business Core Courses	25
D	Business Electives	7
E	Non - Specialization Courses	11
	Total Courses	49

A. University Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
English Grammar & Composition	SSC201	3	-
Speech Communication	HUM201	3	SSC101
Socioeconomic Philosophy of Islam	SSC301	3	-
Pakistan History	SSC151	3	-

B. Entrepreneurship Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Foundation for Management & Entrepreneurship (FME) - I	MGT102	3	-
Foundation for Management & Entrepreneurship (FME) - II	MGT103	3	-

C. Business Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Intermediate Microeconomics	ECO201	3	-
Principles of Accounting	ACC111	3	-
Intermediate Macroeconomics	ECO202	3	-
Principles of Management	MGT201	3	-
Financial Accounting	ACC201	3	ACC111
Organizational Behavior	MGT221	3	SSC102, MGT201
Principles of Marketing	MKT201	3	-
Introduction to Business Finance	FIN201	3	-
Financial Institutions and Markets	FIN301	3	FIN201
Business Communication (2+1 CH)	MGT211	3	MGT201, SSC102
Financial Management	FIN401	3	FIN201
Analysis of Pakistani Industries	ECO211	3	ECO103 / ECO201 & ECO104 / ECO202
Management Accounting	ACC381	3	ACC111, ACC201
Business Law	LAW205	3	-
Methods in Business Research	MKT301	3	MKT201,MTS202
Human Resource Management	HRM401	3	MGT201, MKT201
Development Economics	ECO301	3	ECO103 / ECO201 & 104 / ECO202
Production and Operations Management	MGT311	3	FIN201, MGT201, MKT201
Marketing Issues in Pakistan	MKT401	3	MKT201
Small Business Management	MGT401	3	FIN201, MGT201, MKT201
Managerial Policy	MGT430	3	ECO103, ECO201, FIN201, HRM401, MGT201, MGT211, MGT221, MKT201
Experiential Knowledge*	RJ490	12	Equivalent to 4 courses
Philosophy, Logic & Ethics	HUM357	3	-
Foundation of Human Behavior	SSC102	3	-

***BBA Entrepreneurship Students have three options:**

1. **Start own Business**
2. **Shadow and Entrepreneurship**
3. **Internship with an Entrepreneurship or a Corporate**

D. Business Electives

Course Title	Course Code	Credit Hours	Pre-Requisite
Marketing for Entrepreneurs	ENT451	3	-
Entrepreneurial Finance	ENT452	3	-
Business Law for Entrepreneurs	ENT453	3	-
Entrepreneurial Management	ENT454	3	-
Family Business Management	ENT455	3	--
Developing Entrepreneurial Opportunities	ENT456	3	-
Financing Entrepreneurial Ventures	ENT459	3	-
New Technology Ventures	ENT460	3	-
Women's Entrepreneurship & Leadership	ENT457	3	-
Sustainable Entrepreneurship Strategies	ENT461	3	-
Creativity and Innovation	ENT463	3	-
Social Entrepreneurship	ENT458	3	-
Entrepreneurial Sales Strategy	ENT 464	3	-
Corporate Entrepreneurship	ENT462	3	-
Co-Curricular Activities	ENT465	3	-
Accounting Information System with SAP*	ACC507*	3	-
Analysis of Financial Statements*	ACC561*	3	ACC201
Corporate Governance & Practices in Pakistan*	LAW553*	3	LAW501
Microeconomics	ECO312	3	ECO201
Intermediate Microeconomics	ECO201	3	ECO202
Introduction to Econometrics	ECO341	3	ECO103 / ECO201, ECO104 / ECO202 & MTS202
Applied Econometrics	ECO342	3	ECO341
International Trade	ECO512	3	ECO103 / ECO201
Major Issues in Pakistan Economy	ECO403	3	ECO103 / ECO201 & ECO104 / ECO202
Research Methods in Economics	ECO411	3	ECO103 / ECO201, ECO104 / ECO104 & MTS202
Public Finance	ECO451	3	ECO103 / ECO201, ECO104 / ECO202
Islamic Economic System	ECO452	3	ECO103 / ECO201, ECO104 / ECO202
Labor Economics	ECO654	3	ECO103 / ECO201, ECO104 / ECO202
Population Economics	ECO454	3	ECO103 / ECO201, ECO104 / ECO202
Comparative Economic System	ECO455	3	ECO103 / ECO201, ECO104 / ECO202

*** Subject to availability & required good average grade point**

D. Business Electives *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Economics and Strategy	ECO456	3	ECO103 / ECO201, ECO104 / ECO202
Natural Resource and Environmental Economics	ECO461	3	ECO103 / ECO201, ECO104 / ECO202
Rural Development	ECO462	3	ECO103 / ECO201, ECO104 / ECO202
Financial Economics	ECO562	3	ECO103 / ECO201, ECO104 / ECO202
Game Theory	ECO464	3	ECO103 / ECO201, & MTS101
International Political Economy	ECO465	3	ECO103 / ECO201, ECO104 / ECO202
Monetary Economics	ECO566	3	ECO103 / ECO201, ECO104 / ECO202
History of Economic Thought	ECO467	3	ECO103 / ECO201, ECO104 / ECO202
Agriculture Economics	ECO468	3	ECO103 / ECO201, ECO104 / ECO202
Regional Economics	ECO469	3	ECO103 / ECO201, ECO104 / ECO202
Health Economics	ECO471	3	ECO103 / ECO201, ECO104 / ECO202
Urban Economics	ECO472	3	ECO103 / ECO201, ECO104 / ECO202
Welfare Economics	ECO473	3	ECO103 / ECO201
Resource Economics	ECO474	3	ECO103 / ECO201, ECO104 / ECO202
Investment Banking	FIN451	3	ECO103 / ECO201, ECO104 / ECO202 & FIN401
International Finance	FIN452	3	ECO104 / ECO202 & FIN401
Security Analysis	FIN453	3	FIN401
Corporate Finance	FIN454	3	FIN401
Portfolio Management	FIN455	3	FIN401
Financial Risk Management	FIN456	3	FIN401
Derivatives	FIN457	3	FIN401
Fundamentals of Treasury and Fund Management	FIN458	3	FIN401
Recruitment and Selection Techniques	HRM430	3	MGT201, HRM401
Occupational Health and Safety	HRM445	3	MGT201, HRM401
Industrial Relations Management	HRM451	3	MGT201, HRM401
Organizational Analysis and Research	HRM452	3	MGT201, HRM401
Life Career Development	HRM453	3	MGT201, HRM401
Executive Leadership	HRM455	3	MGT201, HRM401
Training and Development	HRM456	3	MGT201, HRM401
HR and Information System.	HRM457	3	MGT201, HRM401
Leading the Change Process	HRM458	3	MGT201, HRM401

D. Business Electives *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Performance and Compensation Management	HRM462	3	MGT201, HRM401
Ethics in a Corporate Society	MGT301	3	MGT201, ACC201, MKT201
Management Theory and Practice	MGT400	3	-
Comparative Management	MGT411	3	MGT201, MKT201, MGT221
Entrepreneurship	MGT421	3	MGT201, FIN201, MKT201
Advertising	MKT451	3	MKT201
Consumer Behavior	MKT452	3	MKT201, MKT301
Sales Management	MKT453	3	MKT201, MKT401
Personal Selling	MKT454	3	MKT201, MKT401
Retail Management	MKT455	3	MKT201
Export Marketing	MKT456	3	MKT201
Dynamics of Distribution and Logistics	MKT457	3	MKT201
Public Relations	MKT458	3	MKT201
Direct Marketing	MKT460	3	MKT201
Brand Management	MKT461	3	MKT201
Essentials of Demand & Supply	MKT462	3	MKT201
International Relations	SSC111	3	-
Major Themes in World History	SSC121	3	-
Pakistan History	SSC151	3	-
Culture, Media, Society	SSC216	3	-
Research Methods in Social Sciences	SSC154	3	-
History of Ideas - I	SSC239	3	-
Fundamental of Sociology	SSC231	3	-
Introduction to Social & Cultural Anthropology	SSC233	3	-
Creative Writing	HUM360	3	-

E. Non - Specialization

Course Title	Course Code	Credit Hours	Pre-Requisite
Introduction to Computer Applications	MIS103	3	-
Calculus I with Application	MTS104	3	-
Calculus II with Application	MTS106	3	MTS101
Introduction to Statistics	MTS102	3	-
International Relations	SSC111	3	-
Statistical Inference (with econometrics lab)	MTS202	3	MTS101
Business Mathematics and Linear Algebra	MTS212	3	MTS101
Corporate Social Responsibility	SSC253	3	-
Language-I	SSCXXX	3	-
Language-II	SSCXXX	3	-

Semester-wise Sequence of Courses

FRESHMAN	Semester - 1	Course Code	Credit Hours	Pre-Requisite
1	Intermediate Microeconomics	ECO201	3	-
2	English Grammar & Composition	SSC101	3	-
3	Foundations of Human Behavior	SSC102	3	-
4	Foundations of Management & Entrepreneurship I	MGT102	3	-
5	Calculus-I & Plane Geometry	MTS101	3	-
6	Philosophy, Logic & Ethics	HUM357	3	-
	Semester - 2	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Principles of Accounting	ACC111	3	-
2	Intermediate Macroeconomics	ECO202	3	-
3	Principles of Management	MGT201	3	-
4	Calculus II	MTS111	3	MTS101
5	Introduction to Statistics	MTS102	3	-
6	Foundations of Management & Entrepreneurship II	MGT103	3	FME I
7	Speech Communication	HUM201	1+2	SSC101
SOPHOMORE	**Semester - 3**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Principles of Accounting II	ACC201	3	ACC111
2	Organizational Behavior	MGT221	3	SSC102, MGT201
3	Statistical Inference (with econometrics lab)	MTS202	3	MTS101
4	Principles of Marketing	MKT201	3	-
5	Pakistan History	SSC151	3	-
6	Introduction to Business Finance	FIN201	3	-
	Semester - 4	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Socioeconomic Philosophy of Islam / Philosophy, Logic and Ethics	SSC301 / HUM357	3	-
2	Financial Institutions and Markets	FIN301	3	FIN201
3	Business Communication (2+1 CH)	MGT211	3	MGT201, SSC102
4	Financial Management	FIN401	3	FIN201
5	Business Mathematics and Linear Algebra	MTS211	3	MTS101
6	Analysis of Pakistani Industries	ECO211	3	ECO103 / ECO201 & ECO104 / ECO202

Semester-wise Sequence of Courses

JUNIOR	Semester - 5	Course Code	Credit Hours	Pre-Requisite
1	Managerial Accounting	CC381	3	CC201
2	Business Law	LAW205	3	-
3	Methods in Business Research	MGT311	3	MKT201, MTS202
4	Human Resource Management	HRM401	3	MGT201, MKT201
5	Development Economics	ECO301	3	ECO 103 / ECO201 & ECO104 / ECO202
6	Social Science Elective	SSCXXX	3	-
	Semester - 6	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Production and Operations Management	MKT301	3	FIN201, MGT201, MKT201
2	Marketing Issues in Pakistan	MKT401	3	MKT201
3	Small Business Management	MGT401	3	FIN201, MGT201, MKT201
4	Language-I	SSCXXX	3	
5	BE	-	3	
6	BE	-	3	
SENIOR	**Semester - 7**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Managerial Policy	MGT430	3	ECO103, ECO201, FIN201, HRM401, MGT201, MGT211, MGT221, MKT201
2	Language-II	SSCXXX	3	-
3	BE	-	3	-
4	BE	-	3	-
5	BE	-	3	-
6	BE	-	3	-
	Semester - 8	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Experiential Knowledge	PRJ490	12	Equivalent to 4 courses
2	BE	-	-	-
3	BE	-	-	-

Bachelor of Science (Accounting & Finance) Program

This is a 4 year degree program introduced in 2013. It has been developed jointly by the Institute of Chartered Accountants of Pakistan (ICAP), Association of Chartered certified Accountants (ACCA) and Institute of Bankers Pakistan (IBP) in collaboration with IBA Karachi. The program provides an exclusive opportunity to the students to receive an academic degree that leads to a professional qualification. A summary of the institution wise exemptions that applicants to the program would benefit from is as under:

Institute of Chartered Accountants of Pakistan (ICAP):

An exemption of 12 Exams of Module A to D will be granted to the prospective CA students who complete their BS (Accounting & Finance) degree from IBA. The Students of BS (Accounting & Finance) after graduating from IBA Karachi would avail the following advantages:

- Exemption from Module A to D
- Complete training for 3 years & save 6 months
- Pass Module E & F (8 courses during training)
- Become a Chartered Accountant

Association of Chartered Certified Accountants (ACCA):

A CCA has exempted FOUR examinations (F1 to F4) & review is underway for five more exemptions.

Institute of Bankers Pakistan (IBP):

IBP has waived off appearances at all three levels of examinations & replaced it with only ONE comprehensive examination.

Chartered Financial Analyst (CFA):

CFA does not grant, as a principle, any exemptions but close mapping has been done in Finance courses that facilitate qualifying CFA examinations.

Curriculum Structure

Duration	4 years
Semesters	8
Courses (Including 2 Research Courses)	42
Total Credit Hours	130 + 8*

* Internship

Required Courses

Section	Knowledge Area	Courses
A	University Core Courses	4
B	Accounting	14
C	Finance	14
D	Non-Specialization	10
	Total Courses	42

A. University Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
English Grammar and Composition	SSC101	3	-
Speech Communication	HUM201	3	-
Pakistan History	SSC151	3	-
Socioeconomic Philosophy of Islam / Philosophy, Logic & Ethics	SSC301 / HUM357	3	-

B. Accounting Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Principles of Accounting	ACC111	3	-
Management Accounting	ACC381	3	ACC111, ACC201
Financial Accounting	ACC201	3	-
Taxation (Direct & Indirect)	LAW303	3	-
Business Law	LAW205	3	-
Independent study (Accounting)	ACC301	4	-
Accounting Information System with SAP	ACC507	3	-

C. Finance Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Introduction to Business Finance	FIN201	3	-
Financial Institutions and Markets	FIN301	3	FIN201
Regulations & Financial Markets	FIN558	3	FIN401
Financial Management	FIN401	3	FIN201
Financial Modeling	FIN574	4	FIN401
Independent study (Finance)	FIN310	4	FIN401

D. Non-Specialization Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Introduction to Statistics	MTS102	3	-
Statistical Inference	MTS202	3	MTS102
Introduction to Computer Applications	MIS103	3	-
Introduction to Economics	ECO105	3	-
Management & Organizational Behavior	-	3	-
Principles of Marketing	MKT201	3	-
Calculus-I with Application	MTS104	3	-

Accounting Electives *(7 to be selected from the following list)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Advanced Managerial Accounting	ACC310	3	-
Financial Reporting	ACC315	3	-
Corporate Governance	LAW553	3	-
Business Analysis and Decision Making	ACC312	3	-
Legal and Regulatory Environment	LAW501	3	-
Strategic Management	MGT552	3	-
Auditing	ACC320	3	-
Corporate Law	LAW305	3	LAW205
Advanced Financial Reporting	ACC401	3	-
Essential Software	MIS150	3	-
Data Warehousing	MIS343	3	-
Database System	CSE341	3	-
Tax Management and Optimization	LAW401	3	-
Actuarial Courses	ACC415	3	MTS102, MTS202, MTS101, MTS101
FCS basic Programming related courses	ACC416	3	-
Accounting Tools I	MIS3XX	1.5	MIS103
Accounting Tools II	ACC3XX	1.5	MIS3XX

Finance Electives *(8 to be selected from the following list)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Investment Banking	FIN451	3	FIN401
Treasury and Funds Management	FIN565	3	FIN401
Financial Risk Management	FIN456	3	FIN401
Advance Portfolio Management and Wealth Planning	FIN563	3	FIN401
Corporate Finance	FIN454	3	FIN401
Financial Econometrics	FIN569	3	MTS202, FIN401
Public Finance	ECO451	3	ECO105
Alternative Investments	FIN305	3	FIN401
Real Estate Investments: Analysis and Financing	FIN308	3	FIN401
International Banking	FIN310	3	FIN401
Behavioral Finance (with lab- 4 credit)	FIN312	4	FIN401
Venture Capital and the Finance of Innovation	FIN405	3	FIN401
Buyouts and Acquisitions	FIN410	3	FIN401
Corporate Restructuring	FIN315	3	FIN401
Empirical Research in Finance	FIN320	3	FIN401
Advanced Corporate Finance	FIN560	3	FIN401
International Finance	FIN452	3	FIN401, ECO105
Security Analysis (4 credit-lab)	FIN453	4	FIN401
Fixed Income Investments	FIN424	3	FIN401
Derivatives	FIN457	3	FIN401
Portfolio Management (4 credit-lab)	FIN455	4	FIN401
Branch Banking	FIN425	3	FIN401
Lending- Products, Operations & Risk Management	FIN426	3	FIN401
Finance of International Trade & Related Treasury Operations	FIN427	3	FIN401
Marketing of Financial services	FIN428	3	FIN401
Information Technology in Financial services	FIN429	3	FIN401
Financial Information System	FIN430	3	FIN401

Non-Specialization Electives *(3 to be selected from the following list)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Mathematical Methods	MTS110	3	-
Foundations of Human Behavior	SSC102	3	-
Calculus-II with Application	MTS106	3	MTS101
International Relations	SSC111	3	-
Principles of Management	MGT201	3	-
Human Resource Management	HRM401	3	MKT201, MGT201
Development Economics	ECO301	3	ECO105
Executive Leadership	HRM455	3	MGT201, HRM401
Applied Probability	MTS112	3	-
Introduction to Econometrics	ECO341	3	MTS202, ECO105
International Trade	ECO512	3	ECO105
Global Economic and Political Environment	ECO517	3	-
Marketing Management	MKT501	3	-
Politics & Law	LAW105	3	-
Business Mathematics & Linear Algebra	MTS211	3	-
Research Methods in Social Sciences	SSC154	3	-

Academic Options	
On academic front, students have two ADDITIONAL options:	
Students can attain a degree of BS in Accounting by taking 3 extra papers of Accounting.	
Likewise, students also have the option of awarding a degree of BS in Finance by taking 3 extra papers of Finance.	
Potential of post undergrad degree from local or foreign university.	
Accounting Electives compulsory for CA & ACCA exemption	
Advanced Managerial Accounting	ACC310
Financial Reporting	ACC315
Auditing	ACC320
Corporate Law	LAW305
Advanced Financial Reporting	ACC401
Finance Electives courses conducive for CFA preparation	
Corporate Governance	LAW553
Treasury and Funds Management	FIN565
Advance Portfolio Management and Wealth Planning	FIN563
Corporate Finance	FIN454
Alternative Investments	FIN305
Behavioral Finance (with lab- 4 credit)	FIN312
Fixed Income Investments	FIN425
Security Analysis (4 credit-lab)	FIN453
Derivatives	FIN457
Portfolio Management (4 credit-lab)	FIN455
Finance Electives courses compulsory for IBP exemption	
Branch banking	FIN425
Lending- Products, operations & risk management	FIN426
Finance of international trade & related treasury operations	FIN427
Marketing of financial service	FIN428
Information technology in Financial services	FIN429

Semester-wise Sequence of Courses

FRESHMAN	Semester - 1	Course Code	Credit Hours	Pre-Requisite
1	Introduction to Economics	ECO105	3	-
2	English Grammar & Composition	SSC101	3	-
3	Introduction to Computer Applications	MIS103	3	-
4	Introduction to Statistics	MTS102	3	-
5	Calculus I & Plane Geometry	MTS101	3	-
6	Pakistan History or Socioecomy Philosophy of Islam	SSC151 / SSC301	3	-
	Semester - 2	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Principles of Accounting	ACC111	3	-
2	NS Elective	-	3	-
3	Speech Communication (1+2 Ch)	HUM201	3	-
4	Management & Organizational Behavior	MGT2XX	3	-
5	NS Elective	-	3	-
6	Socioeconomic Philosophy of Islam or Pakistan History	SSC 301 / SSC151	3	-
SOPHOMORE	**Semester - 3**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Principles of Marketing	MKT201	3	-
2	Statistical Inference (With Econometrics Lab)	MTS202	3	MTS102
3	Financial Accounting	ACC201	3	-
4	Introduction To Business Finance	FIN201	3	-
5	Business Law	LAW205	3	-
6	NS Elective	-	3	-
	Semester - 4	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Management Accounting	ACC381	3	ACC111, ACC201
2	Financial Institutions And Markets	FIN301	3	FIN201
3	Financial Management	FIN401	3	FIN201
4	Taxation (Direct & Indirect)	LAW303	3	-
5	Accounting Tools I	MIS3XX	1.5	MIS103
6	Accounting Tools II	ACC3XX	1.5	MIS3XX
7	Independent Study (Accounting)	ACC301	4	-

Semester-wise Sequence of Courses

JUNIOR	Semester - 5	Course Code	Credit Hours	Pre-Requisite
1	Regulations & Financial Markets	FIN558	3	FIN401
2	Financial Modeling	FIN574	4	FIN401
3	Independent Study (Finance)	FIN310	4	FIN401
4	Electives - Fin / Acc	-	3 / 4	-
5	Electives - Fin / Acc	-	3 / 4	-
6	Electives - Fin / Acc	-	3 / 4	-
	Semester - 6			
1	Electives - Fin / Acc	-	3 / 4	-
2	Electives - Fin / Acc	-	3 / 4	-
3	Electives - Fin / Acc	-	3 / 4	-
4	Electives - Fin / Acc	-	3 / 4	-
5	Electives - Fin / Acc	-	3 / 4	-
6	Electives - Fin / Acc	-	3 / 4	-
SENIOR	**Semester - 7**			
1	Electives - Fin / Acc	-	3 / 4	-
2	Electives - Fin / Acc	-	3 / 4	-
3	Electives - Fin / Acc	-	3 / 4	-
4	Electives - Fin / Acc	-	3 / 4	-
5	Electives - Fin / Acc	-	3 / 4	-
6	Electives - Fin / Acc	-	3 / 4	-
	Semester - 8			
1	Internship / Training	-	8	-

Bachelor of Science (Computer Science) Program

BS (Computer Science) is a four-year Bachelors-standard degree program that includes courses from theoretical Computer Science, technology, social sciences, and other areas. The aim is to train students for professional problem solving skills and R&D, as well as to enrich their social value and enhance their potential of contribution to society.

The program comprises a total of 147 credit hours. These are disseminated in the following five heads, University-core, CS-core, CS-elective, non-specialization-core, non-specialization elective, as 12, 60, 24, 33, and 18, respectively. The non-specialization cores and electives are from supporting disciplines of Mathematics, Physics, and Communication. The particular scheme of disseminating the credit hour requirement across a wide range of core and elective courses is engineered to provide the students with enough flexibility to choose a professional career path of their liking and interest.

At IBA, "education" has a wider radius of effect than what can merely be imparted to students through class and lab rooms. To ensure, that computer science students have a well-rounded personality, IBA has a large number of co-curricular and extra-curricular societies. Students can opt for membership of these societies, and nurture their various interests such as management, public speaking, theological studies, and various sports. Students are required to work closely with members of other professions, and it suffices to ensure that they gather enough understanding of the issues they might face in their careers. IBA CS graduates successfully get placed in top software houses, ICT companies, financial institutions, business solution providers, and multinational companies; which makes IBA's BS-CS program attractive for aspiring students.

Curriculum Structure

Duration	4 years
Semesters	8
Courses	46
Total Credit Hours	147

Required Courses

Section	Knowledge Area	Courses
A	University Core	4
B	Computer Science Core	17
C	Computer Science Electives	8
D	CS Non-Specialization Core	11
E	CS Non-Specialization Elective	6
	Total Courses	46

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

A. University Core Courses

Course Title	Course Code	Credit Hours
Speech Communication	HUM 201	3
English Grammar and Composition	SSC 103	3
Pakistan History	SSC 151	3
Socioeconomic Philosophy of Islam / Philosophy, Logic & Ethics	SSC 301 / HUM357	3

B. Computer Science Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Introduction to Programming	CSE141	4	-
Object Oriented Programming Techniques	CSE142	4	CSE141
Introduction to Computing	CSE145	4	-
Digital Logic Design	CSE241	4	CSE145, MTS211
Data Structures	CSE247	4	CSE142, MTS211
Computer Communications and Networks	CSE248	4	CSE142, CSE145

B. Computer Science Core Courses *(Contd....)*

Course Title	Course Code	Credit Hours	Pre Requisite
Theory of Automata	CSE309	3	CSE141, CSE211
Software Engineering	CSE312	3	CSE247
Design and Analysis of Algorithms	CSE317	3	CSE247
Operating Systems	CSE331	3	CSE345
Database Systems	CSE341	4	CSE247
Computer Architecture and Assembly Language	CSE345	4	-
Human Computer Interaction	CSE407	3	CSE312
Systems Programming	CSE441	4	CSE331
Computer Science Project - I	CSE491	3	CSE312, CSE341
Computer Science Project - II	CSE492	3	CSE491
Introduction to Artificial Intelligence	CSE307	3	CSE247

C. Electives

Course Title	Course Code	Credit Hours	Pre Requisite
Web Based Application Development	CSE308	3	CSE341
Design Patterns	CSE318	3	CSE247
Compiler Design	CSE344	4	CSE309,CSE345
System Modeling and Simulation	CSE403	3	
Microprocessor Interfacing	CSE448	4	CSE345
Application Development for Mobile Devices	CSE450	3	CSE142, CSE 312
Network Security	CSE455	3	CSE248
Business Intelligence	CSE459	3	CSE341, MIS 343
Introduction to Game Programming and Robotics	CSE460	3	CSE307
Mathematics for Games	CSE461	3	
Data Warehousing	MIS343	4	CSE341
Social Computing	MIS406	3	CSE341
Technopreneurship	MIS450	3	-
E-Commerce	MIS456	3	-
IS Security	MIS457	3	-
Enterprise Resource Planning	MIS458	4	ACC111
Mobile Marketing - A Technological Perspective	MIS463	3	-
Financial Services Technologies	MIS464	3	-

D. Non Specialization Core

Course Title	Course Code	Credit Hours	Pre-Requisite
Business Communications	MGT211	3	-
Audit, Ethics & IS Issues	MIS454	3	MGT211
Calculus - I	MTS101	3	-
Introduction to Statistics	MTS102	3	-
Linear Algebra	MTS203	3	-
Discrete Mathematics	MTS211	3	-
Calculus - II	MTS232	3	MTS101
Numerical Analysis	MTS306	3	-
Differential Equations	MTS401	3	-
Physics - I	SCI105	3	-
Physics - II	SCI205	3	SCI105

E. Non-Specialization Elective

Course Title	Course Code	Credit Hours	Pre-Requisite
Principles of Accounts 1	ACC111	3	-
Principles of Accounts 2	ACC201	3	ACC111
AIS with SAP	ACC507	3	ACC111
Introduction to Micro Economics	ECO103	3	-
Introduction to Macro Economics	ECO104	3	-
Introduction to Business Finance	FIN201	3	-
Human Resource Management	HRM401	3	-
Business Law	LAW205	3	-
Principles of Management	MGT201	3	-
Customer Relationship Management	MIS 459	3	-
Principles of Marketing	MKT201	3	-
Advertising	MKT451	3	MKT201
Retail Management	MKT455	3	MKT201
Brand Management	MKT461	3	MKT201
Statistical Inference	MTS202	3	MTS102
Real Analysis	MTS301	3	MTS232
Advanced Differential Equations	MTS303	3	MTS401
Arabic Language - I	SSC 201	3	-

E. Non-Specialization Elective *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Arabic Language - II	SSC202	3	SSC 201
French Language - I	SSC205	3	-
French Language - II	SSC206	3	SSC 205
Mandarin Language - I	SSC209	3	-
Mandarin Language - II	SSC210	3	SSC 209
Foundation of Human Behavior	SSC102	3	-
International Relations	SSC111	3	-
Introduction to Psychology	SSC218	3	-
Fundamentals of Sociology	SSC231	3	-
History of Ideas II	SSC238	3	-
History of Ideas I	SSC239	3	-

Semester-wise sequence of courses

FRESHMAN	Semester - 1	Course Code	Credit Hours	Pre-Requisite
1	Introduction to Programming	CSE141	4	-
2	Introduction to Computing	CSE145	4	-
3	Calculus-I & Plane Geometry	MTS101	3	-
4	Pakistan History	SSC151	3	-
5	Remedial English	SSC150	-	-
	Semester - 2			
1	Object Oriented Programming Techniques	CSE142	4	CSE141, CSE145
2	Speech Communication	HUM201	3	SSC103
3	Calculus - II	MTS232	3	MTS101
4	Introduction to Statistics	MTS102	3	-
5	Physics-I	SCI105	3	-
6	Discrete Mathematics	MTS211	3	MTS101
SOPHOMORE	**Semester - 3**			
1	Digital Logic Design	CSE241	4	CSE145, MTS211
2	Data Structures	CSE247	4	CSE142, MTS211
3	Physics-II	SCI205	3	MTS232
4	Linear Algebra	MTS203	3	MTS101
5	Numerical Analysis	MTS306	3	MTS232
6	General Elective-I	xxxxx	3	
	Semester - 4			
1	Computer Architecture and Assembly Language	CSE345	4	CSE241 , CSE247
2	Theory of Automata	CSE309	3	CSE141, CSE211
3	Computer Communication & Networking	CSE248	4	CSE142, CSE145
4	Socioeconomy Philosophy of Islam	SSC301	3	-
5	Differential Equations	MTS401	3	-
6	CS Elective-I	CSExxx	3	-

Semester-wise sequence of courses

JUNIOR	Semester - 5	Course Code	Credit Hours	Pre-Requisite
1	Database Systems	CSE341	4	CSE 247
2	Operating Systems	CSE331	3	CSE 345
3	Software Engineering	CSE312	3	CSE 247
4	Business Communication	MGT211	3	HUM201
5	CS Elective-II	CSExxx	3	-
6	CS Elective-III	CSExxx	3	-
	Semester - 6			
1	Systems Programming	CSE441	4	CSE331
2	Introduction to Artificial Intelligence	CSE307	3	CSE 247
3	Design & Analysis of Algorithm	CSE317	3	CSE 247
4	CS Elective-IV	CSExxx	3	-
5	CS Elective-V	CSExxx	3	-
6	General Elective-II	xxxxx	3	-
SENIOR	**Semester - 7**			
1	Human Computer Interaction	CSE407	3	CSE312
2	Computer Science Project - I	CSE491	3	CSE 312, CSE 341
3	CS Elective-VI	CSExxx	3	-
4	CS Elective-VII	CSExxx	3	-
5	General Elective-III	xxxxx	3	-
6	General Elective-IV	xxxxx	3	-
	Semester - 8			
1	Computer Science Project - II	CSE492	3	CSE491
2	Audit, Ethics & IS Issues	MIS454	3	MGT211
3	CS Elective-VIII	CSExxx	3	-
4	General Elective-V	xxxxx	3	-
5	General Elective-VI	xxxxx	3	-

Bachelor of Science (Economics & Mathematics) Program

BS (Economics and Mathematics) is a 4-year degree program with double majors in economics and mathematics. It is designed to give students a solid foundation in both economics and mathematics. The program provides a well-coordinated curriculum for students interested in pursuing masters or PhD in economics and mathematics. It prepares the students for entry level positions in private and public sector corporations, banks, insurance companies, investment companies, education and research organizations. The program consists of 150 credit hours. Major disciplines of economics and mathematics have 54 credit hours each.

The remaining 42 credits are for university core courses and courses from other disciplines like social sciences, management and accounting. The wide range of courses offered in this program give students ample opportunity to broaden their knowledge base. The economics research project in the fourth year enables students to apply the quantitative tools learnt in the program to real economics and financial problems in the public and private sectors.

Everybody is like a magnet. You attract to yourself reflections of that which you are. If you're friendly then everybody else seems to be friendly too.

~Dr. David Hawkins

Curriculum Structure

Duration	4 years
Semesters	8
Courses	48
Research Project	1
Total Credit Hours	150

Required Courses

Section	Knowledge Area	Courses
A	University Core Courses	4
B	Economics	16
C	Mathematics	19
D	Non-Specialization	9
	Total Courses	48

A. University Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
English Grammar and Composition	SSC101	3	-
Pakistan History	SSC151	3	-
Speech Communication	HUM201	3	-
Socioeconomic Philosophy of Islam / Philosophy, Logic and Ethics	SSC301 / HUM357	3	-

B. Economics

Course Title	Course Code	Credit Hours	Pre-Requisite
Principles of Microeconomics	ECO103	3	-
Principles of Macroeconomics	ECO104	3	-
Intermediate Microeconomics	ECO201	3	ECO103, MTS101
Intermediate Macroeconomics	ECO202	3	ECO104, MTS101
Development Economics	ECO301	3	ECO103, ECO104, MTS112
Microeconomics	ECO312	3	ECO201, MTS112, MTS201
Macroeconomics	ECO313	3	ECO202, MTS112, MTS201

B. Economics *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Introduction to Econometrics	ECO341	4	ECO103, ECO 104 & MTS202
Applied Econometrics	ECO342	4	ECO341
Major Issues in Pakistan's Economy	ECO403	3	ECO301
Research Methods in Economics	ECO411	3	ECO342
International Trade	ECO511	3	ECO201, ECO202
Economics Elective-I	ECO×××	3	-
Economics Elective-II	ECO×××	3	-
Economics Elective-III	ECO×××	3	-
Economics Elective-IV	ECO×××	3	-
Economics Research Project	ECO441	4	ECO342

C. Mathematics

Course Title	Course Code	Credit Hours	Pre-Requisite
Calculus-I & Plane Geometry	MTS101	3	-
Mathematical Methods	MTS110	3	-
Linear Algebra	MTS203	3	-
Discrete Mathematics	MTS211	3	-
Calculus-II & Solid Geometry	MTS232	3	MTS101
Calculus-III	MTS204	3	MTS232
Real Analysis	MTS301	3	MTS232
Complex Analysis	MTS302	3	MTS301
Advanced Differential Equations	MTS303	3	MTS401
Stochastic Processes	MTS304	3	MTS202 & MTS301
Abstract Algebra-I	MTS305	3	MTS203
Numerical Analysis	MTS413	3	MTS232
Differential Equations	MTS401	3	MTS232
Functional Analysis-I	MTS411	3	MTS302
Functional Analysis-II	MTS412	3	MTS411
Abstract Algebra-II	MTS306	3	MTS305
Scientific Computing for Linear PDE's.	MTS414	3	MTS232, MTS303 & MTS306
Mathematics Elective-I	MTS×××	3	-
Mathematics Elective-II	MTS×××	3	-

D. Non-Specialization

Course Title	Course Code	Credit Hours	Pre-Requisite
Introduction to Computer Applications	MIS103	3	-
Introduction to Statistics	MTS102	3	-
Statistical Inference	MTS202	3	-
Applied Probability	MTS112	3	-
Regression Analysis & Experiment Design	MTS210	3	-
Non-Specialization Elective-I	xxxxxx	3	-
Non-Specialization Elective-II	xxxxxx	3	-
Non-Specialization Elective-III	xxxxxx	3	-
Non-Specialization Elective-IV	xxxxxx	3	-

Economics Electives *(4 to be selected from the following list)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Public Finance	ECO451	3	ECO103, ECO104
Islamic Economic System	ECO452	3	ECO103, ECO104
Labor Economics	ECO654	3	ECO103, ECO104
Population Economics	ECO454	3	ECO103, ECO104
Comparative Economic System	ECO455	3	ECO103, ECO104
Economics and Strategy	ECO456	3	ECO103, ECO104
Natural Resource and Environmental Economics	ECO461	3	ECO103, ECO104
Rural Development	ECO462	3	ECO103, ECO104
Financial Economics	ECO562	3	ECO103, ECO104
Game Theory	ECO464	3	ECO103, ECO104, MTS101
International Political Economy	ECO465	3	ECO103, ECO104
Monetary Economics	ECO566	3	ECO103, ECO104
History of Economic Thought	ECO467	3	ECO103, ECO104
Agricultural Economics	ECO468	3	ECO103, ECO104
Regional Economics	ECO469	3	ECO103, ECO104
Health Economics	ECO471	3	ECO103, ECO104
Urban Economics	ECO472	3	ECO103, ECO104
Welfare Economics	ECO473	3	ECO103
Resource Economics	ECO474	3	ECO103, ECO104

Mathematics Electives *(2 to be selected from the following list)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Numerical Solutions of PDE*	MTS431	3	MTS306
Integral Equations	MTS432	3	MTS401
Advanced Numerical Analysis I	MTS433	3	MTS301, MTS306
Advanced Numerical Analysis II	MTS434	3	MTS433
Differential Geometry	MTS435	3	MTS401, MTS301
Fluid Dynamics I	MTS437	3	MTS303
Fluid Dynamics II	MTS438	3	MTS437
Financial Mathematics with a computational approach	MTS441	3	MTS232, MTS304, MTS306
Computational Finance	MTS442	3	MTS441
Modern Algebra I (Galios Theory & Applications)	MTS443	3	MTS413
Modern Algebra II (Commutative Rings & Fields)	MTS444	3	MTS443
Measure Theory I	MTS445	3	MTS301
Measure Theory II	MTS446	3	MTS445
Operations Research I	MTS447	3	MTS203, MTS232
Operations Research II	MTS448	3	MTS447
Topology I	MTS451	3	MTS301
Topology II (Differential Topology)	MTS452	3	MTS451

*PDE = Partial Differential Equation

non-Specialization Electives
Four courses are to be chosen from courses other than Mathematics and Economics. These non-specialization electives may be from different subject areas including Accounting, Finance, Marketing, Management and Social Science.

Semester-wise sequence of courses

FRESHMAN	Semester - 1	Course Code	Credit Hours	Pre-Requisite
1	Calculus-I and Plane Geometry	MTS101	3	-
2	Principles of Microeconomics-I	ECO103	3	-
3	Introduction to Statistics	MTS102	3	-
4	English Grammar and Composition	SSC101	3	-
5	Pakistan History	SSC151	3	-
6	Introduction to Computer Applications	MIS103	3	-
	Semester - 2	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Mathematical Methods	MTS110	3	-
2	Principles of Macroeconomics	ECO104	3	-
3	Statistical Inference	MTS 202	3	MTS102
4	Calculus-II and Solid Geometry	MTS232	3	MTS101
5	Speech Communication	HUM201	3	-
6	Non-specialization area Elective-I	-	3	-
SOPHOMORE	**Semester - 3**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Calculus-III	MTS204	3	MTS232
2	Discrete Mathematics	MTS211	3	-
3	Intermediate Microeconomics	ECO201	3	ECO103, MTS101
4	Socioeconomic Philosophy of Islam / Philosophy, Logic & Ethics	SSC301 / HUM357	3	-
5	Applied Probability	MTS112	3	-
6	Non-specialization area Elective-II	-	3	-
	Semester - 4	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Linear Algebra	MTS203	3	-
2	Introduction to Differential Equations	MTS241	3	MTS101, MTS232
3	Regression Analysis and Experiment Design	MTS210	3	-
4	Intermediate Macroeconomics	ECO202	3	ECO103, MTS101
5	Development Economics	ECO301	3	ECO103, ECO104
6	Non-specialization area Elective-III	-	-	-

Semester-wise sequence of courses

JUNIOR	Semester - 5	Course Code	Credit Hours	Pre-Requisite
1	Real Analysis	MTS301	3	MTS232
2	Advanced Differential Equation	MTS303	3	MTS241
3	Abstract Algebra-I	MTS305	3	MTS203
4	Microeconomics	ECO312	3	ECO201, MTS112,MTS201
5	Introduction to Econometrics	ECO341	4	ECO103, ECO104 & MTS202
6	Non-specialization Elective-IV	-	-	-
	Semester - 6	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Complex Analysis	MTS302	3	MTS301
2	Stochastic Processes	MTS304	3	MTS202, MTS301
3	Numerical Analysis	MTS306	3	MTS232
4	Macroeconomics	ECO313	3	ECO201, MTS112,MTS201
5	Applied Econometrics	ECO342	3	ECO341
6	Abstract Algebra-II	MTS306	3	MTS305
7	Economics Elective-I		3	-
SENIOR	**Semester - 7**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Functional Analysis-I	MTS411	3	MTS302
2	Abstract Algebra-II	MTS412	3	-
3	Mathematics Elective-I	MTS	3	-
4	Research Methods for Economics	ECO411	3	ECO342
5	Major Issues in Pakistan's Economy	ECO403	3	ECO301
6	Numerical Analysis	MTS413	3	MTS323
6	Economics Elective-II	-	3	-
	Semester - 8	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Scientific Computing for Linear PDEs	MTS414	3	MTS232, MTS303,MTS306
2	Functional Analysis-II	MTS412	3	MTS411
3	Mathematics Elective-II	MTS	3	-
4	International Trade	ECO512	3	ECO201, ECO202
5	Economics Elective-III	-	3	-
6	Economics Elective-IV	-	3	-

Bachelor of Science (Social Sciences & Liberal Arts) Program

The BS in Social Sciences and Liberal Arts is a 4-year undergraduate program with major offerings in Political Science, Psychology, and Media & Communication Studies. The program is designed to develop in students the theoretical, historical, and experiential knowledge they will need to interact with our social and cultural world. We recognize that studying the social sciences and the liberal arts today requires both disciplinary and interdisciplinary thinking, and that training in specific methods of research and analysis should always be grounded in a complex understanding of the world we inhabit. To accomplish these goals, we focus on how students can use strategies and frames of analysis to understand and critique our increasingly interrelated economic, political, communal, cultural, and mediated lives.

Courses that comprise the Liberal Arts component of the program, taken during all four years, introduce students to a range of academic disciplines including physics, the visual arts, philosophy, literature, history, mathematics, religion, biology, and the environmental sciences. Through these courses, students will acquire comprehensive foundational skills in both qualitative and quantitative thinking that will inform and enhance the research and analyses they engage in their chosen fields of study.

Curriculum Structure

Duration	4 years
Semesters	8
Courses	45
Research Projects	2
Total Credit Hours	144

Required Courses

Section	Knowledge Area	Courses
A	University Core Courses	4
B	Non-Specialization Courses	11
C	Supporting Courses	11
D	Major Core + Electives	19
	Total Courses	45

A. University Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
English Grammar and Composition	SSC101	3	-
Pakistan History	SSC151	3	-
Speech Communication	HUM201	3	-
Socioeconomic Philosophy of Islam / Philosophy, Logic & Ethics	SSC301 / HUM357	3	-

B. Non-Specialization Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Core			
Calculus-I & Plane Geometry	MTS101	3	-
Introduction to Statistics	MTS102	3	-
Intermediate English Composition	SSC106	3	-
Advanced English Composition	SSC213	3	-
Foreign Language I	SSC201 / 205 / 209	3	-
Foreign Language II	SSC202 / 206 / 210	3	-

B. Non-Specialization Courses *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Foreign Language III	SSC203 / 207 / 211	3	-
Foreign Language IV	SSC204 / 208 / 212	3	-
Electives (3 from the following list)			
Great Books	HUM351	3	-
Reading Poetry	HUM352	3	-
Introduction to Drama.	HUM353	3	-
Introduction to Urdu Literature	HUM354	3	-
Anglo-Indian Narrative and the Philosophical Thoughts	HUM355	3	-
Foundation of Philosophical Thoughts	HUM356	3	-
Philosophy, Logic & Ethics	HUM357	3	-
Comparative Classical Philosophy	HUM358	3	-
Introduction to Comparative Religious	HUM359	3	-
Creative Writing	HUM360	3	-
Theater Projects: The Living Newspaper	HUM361	3	-

C. Supporting Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Core			
History of Ideas I	SSC239	3	-
History of Ideas II	SSC238	3	-
Major Themes in World History	SSC121	3	-
South Asian History	SSC221	3	-
Statistical Inference	MTS202	3	-
Computational Research Methods	SSC302	3	-
Electives			
Natural Science (2 from the following list)			
History of Science	NSC351	3	-
Ideas of Physics	NSC352	3	-
Space, Time, and Space-Time	NSC353	3	-
Introduction to Environmental Sciences	NSC354	3	-

C. Supporting Courses *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Principles of Ecology and Conservation	NSC355	3	-
History of Evolution	NSC356	3	-
Introduction to Geology	NSC357	3	-
Visual Studies (2 from the following list)			
Introduction to Visual Culture	HUM363	3	-
History of Art I: Classical Antiquity to the Middle Ages	HUM364	3	-
History of Art II: Renaissance to the Present	HUM365	3	-
Art of the Islamic World	HUM366	3	-
Theories of Design	HUM367	3	-
Colonial and Postcolonial Visual Cultures	HUM368	3	-
The Rhetoric of Architecture	HUM369	3	

D. Social Science Core Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Common			
Fundamentals of Sociology	SSC131	3	-
Introduction to Historical Methods	SSC132	3	-
Introduction to Economics	ECO105	3	-
Introduction to Social and Cultural Anthropology	SSC233	3	-
Introduction to Urban Studies	SSC234	3	-
Introduction to Linguistics	SSC235	3	-
Culture, Media & Society	SSC216	3	-
Introduction to Political Science	SSC217	3	-
Introduction to Psychology	SSC218	3	-
Political Science Core Courses			
Research Methods in Political Science	POL301	3	-
History of Political Thought	POL302	3	-
Introduction to Comparative Politics	POL303	3	-
International Politics	POL401	3	-
Political Science Electives			
Political Psychology	POL351	3	-

D. Social Science Core Courses *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Foreign Policy in China	POL352	3	-
State and Society	POL353	3	-
War: Conceptual Underpinnings	POL354	3	-
Human Rights	POL355	3	-
Environment and Politics	POL356	3	-
Diplomacy in a Globalized World	POL357	3	-
Islam and International Relations	POL358	3	-
The Modern Middle East	POL359	3	-
Theories of Democratic Transition	POL360	3	-
Democracy and Difference	POL361	3	-
Pakistan's Foreign Policy	POL362	3	-
Purchasing Power: A Political History of Money	POL363	3	-
Media and Communication Studies Core Courses			
Research Methods in Media and Communications	MCS301	3	-
Gutenberg to Google: A Social History of Media	MCS302	3	-
Theories of Media and Communications	MCS303	3	-
Communication for Social Change	MCS401	3	-
Media and Communication Studies Electives			
Media and Post-colonialism	MCS351	3	-
Media, Law, and Ethics	MCS352	3	-
Race, Class, and Gender in Film and Television	MCS353	3	-
The International Newsroom	MCS354	3	-
Analyzing the News	MCS355	3	-
Introduction to Visual Communication	MCS356	3	-
History of Commercial Art	MCS357	3	-
Communication in Advertising	MCS358	3	-
Watching Films	MCS359	3	-
History of Film	MCS360	3	-
The Non-Fiction Film	MCS361	3	-
Introduction to Television Studies	MCS362	3	-
Television Newsmagazines and Documentaries	MCS363	3	-

D. Social Science Core Courses *(Contd....)*

Course Title	Course Code	Credit Hours	Pre-Requisite
Theories of Film and Television	MCS364	3	-
Narratives Across Media	MCS365	3	-
Digital Activism and Democracy	MCS366	3	-
Media Convergence and the Virtual Public Sphere	MCS367	3	-
Psychology Core Courses			
Research Methods in Psychology	PSY301	3	-
Human Development	PSY302	3	-
Personality, Identity, and the Self	PSY303	3	-
Language, Memory, and the Human Mind	PSY401	3	-
Psychology Electives			
Introduction to Social Psychology	PSY351	3	-
Industrial Psychology and Organizational Behavior	PSY352	3	-
Psychology and the Media	PSY353	3	-
Psychology of Conflict	PSY354	3	-
Introduction to Developmental Psychology	PSY355	3	-
Attachment and Loss	PSY356	3	-
Child and Adolescent Development	PSY357	3	-
Psychology of Aging	PSY358	3	-
Introduction to Cognitive Psychology	PSY359	3	-
Sensation and Perception	PSY360	3	-
Human Memory	PSY361	3	-
Abnormal Psychology	PSY362	3	-
Psychology of Human Emotion	PSY363	3	-

E. Culminating Experience

Course Title	Course Code	Credit Hours	Pre-Requisite
Culminating Experience I	POL, MCS PSY / 491	6	-
Culminating Experience II	POL, MCS, PSY / 492	3	-

Semester-wise Sequence of Courses

FRESHMAN	Semester - 1	Course Code	Credit Hours	Pre-Requisite
1	English Grammar and Composition	SSC101	3	
2	Foreign Language I	SSC201 / 205 / 209	3	
3	Calculus-I & Plane Geometry	MTS101	3	
4	History of Ideas I	SSC239	3	
5	Fundamentals of Sociology	SSC231	3	
6	Introduction to Historical Methods	SSC132	3	
	Semester - 2	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Intermediate English Grammar and Composition	SSC106	3	
2	Foreign Language II	SS202 / 203 / 210	3	
3	Introduction to Statistics	MTS102	3	
4	History of Ideas II	SSC238	3	
5	Introduction to Economics	ECO105	3	
6	Major Themes in World History	SSC121	3	
SOPHOMORE	**Semester - 3**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Advanced English Composition	SSC213	3	
2	Foreign Language III	SSC2023 / 207 / 211	3	
3	Statistical Inference	MTS202	3	
4	Introduction to Psychology	PSY351	3	
5	Introduction to Social and Cultural Anthropology	SSC233	3	
6	South Asian History	SS221	3	
	Semester - 4	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Speech Communication	HUM201	3	
2	Foreign Language IV	SSC204 / 208 / 212	3	
3	Pakistan History	SSC151 / 222	3	
4	Introduction to Political Science	SSC217	3	
5	Culture, Media, Society	SSC216	3	
6	Introduction to Urban Studies	SSC234	3	
SUMMER	6-Week Responsible Citizen Initiative	-	No Credit	

Semester-wise Sequence of Courses

JUNIOR	Semester - 5	Course Code	Credit Hours	Pre-Requisite
1	Major Core I: Research Methods	SSC235	3	-
2	Major Core II	-	3	-
3	Introduction to Linguistics	SSC235	3	-
4	Non-Specialization Elective I	-	3	-
5	Natural Science Elective I	NSCXXX	3	-
6	Computational Research Methods	SSC302	3	-
	Semester - 6	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Major Core III	-	3	-
2	Major Elective I	-	3	-
3	Major Elective II	-	3	-
4	Socioecomic Philosophy of Islam or Philosophy, Logic & Ethics	SSC301 / HUM357	3	-
5	Non-Specialization Elective II	-	3	-
6	Visual Studies Elective I	-	3	-
SUMMER	6-Week Summer Internship	-	3	-
SENIOR	**Semester - 7**	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Major Elective III	-	3	-
2	Major Elective IV	-	3	-
3	Natural Science Elective II	-	3	-
4	Visual Studies Elective II	NSCXXX	3	-
5	Non-Specialization Elective III	HUMXXX	3	-
6	Culminating Experience I	-	3	-
	Semester - 8	**Course Code**	**Credit Hours**	**Pre-Requisite**
1	Major Core IV: Senior Seminar	-	3	-
2	Major Elective V	-	3	-
3	Major Elective VI	-	3	-
4	Visual Studies Elective III	-	3	-
5	Culminating Experience II	-	6	-

Atif Saeed Khan

An institution that thrives on continuous improvements academically as well as infrastructurally to create mavericks in corporate world.

Wajiha Sheikh

I cannot in any way capture the true essence of "life at IBA" in a couple of lines; however I will say that it has been an amazing journey. From meeting deadlines to mega events, from interesting teachers to a diverse set of people, IBA gives its' student exposure to dynamic experiences and polishes one's skills resulting in a better equipped, processed and focused individual. The structure provided by the institute targets the root cause of Pakistan's problems of dearth of knowledge.

Arsalan Ahmad

"My ever increasing urge to develop holistic understanding of business management led me to IBA, Karachi. I already had basic understanding of Supply Chain and Marketing, and IBA equipped me with necessary tools to answer my already existing questions and raise new ones, challenge my assumptions and finally to connect the dots and to be able to see the complete picture which we call "Business Management".

Madeeha Zaeem Hanafi

"In my time at IBA I have learnt about finance, the global economy and its impact on the business world, supply chain and other skills which cannot be taught out of a text book. The MBA project has been the biggest learning opportunity as we study companies from every angle. From studying the external and internal environment we were able to help our clients to come up with a strategy to help them grow and excel in their field.

Master of Business Administration (MBA)

Master of Science (Computer Science)

Master of Science (Economics)

Master of Science (Mathematics)

Executive MBA (EMBA)

Graduate Programs

Mission Statement

The mission of the MBA program at IBA is to contribute to business and socioeconomic development nationally, regionally, and globally.

The program will help students develop a range of analytical, conceptual, and operational skills that address the many challenges industries face. We attract talented students through a competitive process and facilitate their transformation into responsible business leaders.

Our MBA graduates are trained to think critically and independently, and to work ethically and with integrity.

Our MBA faculty, using state-of-the-art technologies and pedagogies, foster this nurturing learning environment through the creation, acquisition, dissemination, and application of new knowledge related to business administration."

Objectives:

1. Building business acumen and technical skills.
2. Developing qualitative and quantitative analytical abilities that lead to effective decision making.
3. Developing management and leadership competencies and behaviors, including teamwork, communication, drive for success, hard work, discipline and creativity.
4. Developing strategies for global thinking while remaining anchored in local socioeconomic and cultural realities through the pedagogical use of local and international cases, experiential projects, international exchanges, and study tours.
5. Nurturing and fostering the spirit of enterprise.
6. Developing ethical and socially responsible business leaders.
7. Developing general management skills.

Outcomes:

Our graduates should have demonstrated abilities to:

1. Make well-informed decisions in various business and managerial situations that lead to ethically sound and profitable results.
2. Consider social and environmental issues and dilemmas when addressing business problems.
3. Exhibit strong interpersonal and teamwork skills.
4. Demonstrate excellent communication and computing skills to prepare and present reports for a range of purposes.
5. Use the knowledge they have gained to understand and resolve real-world business problems.
6. Understand complexities of strategic and operational level processes and organizational systems.
7. Plan and implement different business and functional proposals and agendas within the business organization.
8. Recognize and encourage social and cultural sensitivity and diversity within an organization.
9. Identify challenges and execute opportunities related to internationalization, globalization, emerging technologies and social media.
10. Consistently establish professional development and personal effectiveness goals to demonstrate creativity and innovation.

MBA Morning

The MBA Morning Program is offered at Main Campus. Specializations include Marketing, Finance, Human Resource Management and Supply Chain Management.

For candidates with BBA background (18 Months Full Time Program)

Minimum Duration / Credit Hours:
18 months / 66 Credit Hours

Pre-Requisites:
16 years education plus 2 years post qualification work experience plus min 2.5 CGPA in BBA

Program Structure: 24 Courses including MBA Project, and Non Credit Core Courses. No Internship.

For Candidates with Non-BBA background (24 Months Full Time Program)

Minimum Duration / Credit Hours:
24 months / 72 Credit Hours

Pre-Requisites:
16 years education plus 2 years post qualification work experience plus min 60% aggregate marks or 2.5 CGPA (whichever is applicable) in last degree.

Program Structure: 26 Courses including MBA Project and Non Credit Courses. Summer Internship is mandatory.

MBA Evening

The MBA Evening Program is offered at City and Main Campuses. Specialization include Marketing, Finance, Human Resource Management and Supply Chain Management.

The duration of this program may vary depending on the capacity of the student to complete the course load during each semester.

For Candidates with BBA background

Minimum Duration / Credit Hours: 42 months / 66 Credit Hours

Pre-Requisites: 16 years education plus 2 years post qualification work experience plus min 60% aggregate marks or 2.5 CGPA (whichever is applicable) in last degree.

Program Structure: 23 Courses including MBA Project and Non Credit Core Course.

For Candidates with Non-BBA background

Minimum Duration / Credit Hours: 48 months / 72 Credit Hours

Pre-Requisites: 16 years education plus 2 years post qualification work experience plus min 60% aggregate marks or 2.5 CGPA (whichever is applicable) in last degree.

Program Structure: 25 Courses including MBA Project and Non Credit Core Course.

IBA BBA Students with the CGPA of 2.5 and two years' work experience after BBA will no longer be required to appear in IBA entry written test for MBA. They will directly be qualified for the next round i.e. Group discussion, Interview and Essay submission.

		Non - BBA Stream		BBA Stream	
		Course	Credit Hours	Course	Credit Hours
A	Foundation Courses	3	9	-	-
B	Core Courses	9	27	9	27
C	Capstone Course (Corporate Strategy)	1	3	1	3
D	Experiential Learning MBA Project	2	6	2	6
E	Electives	9	27	10	30
F	No Credit Compulsory Courses	2	0	2	0
	Total Credit Hours	26	72	24	66

Process of Admission at IBA

- Enrolment
- Payment of Fees
- Structured Interviews
- Group Discussions
- Documents Check or Documents Rectification
- Aptitude Test
- Collection of Admit Card
- Submission of online Application Form

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Non BBA Stream (MBA Morning & Evening)

Semester 1	Course Code
Business Finance I (F*)	FIN506
Financial Accounting and Information Systems (F*)	ACC506
Legal and Regulatory Environment of Business	LAW501
Managerial Economics	ECO501
Marketing Management	MKT501
Operations & Production Management	MGT510
Organizational Behavior and Leadership	MGT557
Quantitative Methods for Decision Making (F*)	MTS506

Semester 2	Course Code
Accounting for Decision Making	ACC505
Advanced and Applied Business Research	MKT505
Business Finance II	FIN507
Macroeconomics &the Global Economic Environment	ECO504
Personal Effectiveness and Communication (Non-Credit)	MGT519
A minimum of two courses from Electives	

Summer	Course Code
Internship / Summer Project (See Table)	

Semester 3	Course Code
Corporate Strategy	MGT506
MBA Project (Core Course)	PRJ701
A minimum of three courses from Electives	

Semester 4	Course Code
MBA Project (Core Course)	
A minimum of four courses from Electives	

** = Corporate Strategy can only be taken after completion of all Core Courses

F* = Foundation Courses for Non-BBA Background Students

Remedial Program	Course Code
Excel and Access for Business Managers (Non-Credit)	MIS405
Business English	
Business Mathematics and Statistics	
Business Economics	
Business Accounting	
Business Management	
Business Finance	

Remedial Program and Exemptions

Remedial course can be exempted if a student has done the same course from his / her university / college with more than 60% of marks except **MIS 405 - Excel and Access for Business Managers, which is compulsory for all students.**

A Challenge test will be taken for all Remedial Courses and students who pass the challenge test with more than 60% of marks will have their respective Remedial Courses exempted (except Excel and Access for Business Managers). In case a candidate is not able to clear the test, he / she will have to take the remedial courses before the start of MBA Program. Remedial Courses are Free of Charges except MIS 405 - Excel and access for Business Managers

Note:
MBA Morning students are required to complete their core courses in morning program.

BBA Stream (MBA Morning & Evening)

Semester 1	Course Code
Legal and Regulatory Environment of Business	LAW501
Managerial Economics	ECO501
Marketing Management	MKT501
Operations & Production Management	MGT510
Organizational Behavior and Leadership	MGT557
A minimum of two courses from Electives	

Semester 2	Course Code
Accounting for Decision Making	ACC505
Advanced and Applied Business Research	MKT505
Business Finance II	FIN507
Macroeconomics & the Global Economic Environment	ECO504
Personal Effectiveness and Communication (Non-Credit)	MGT519
A minimum of three courses from Electives	

Summer	Course Code
MBA Project (Core Course)	PRJ701

Semester 3	Course Code
Corporate Strategy	MGT506
MBA Project (Core Course)	PRJ701
A minimum of five courses from Electives	
** = Corporate Strategy can only be taken after completion of all Core Courses	

Remedial Program	Course Code
Excel and Access for Business Managers (Non-Credit)	MIS405

Remedial Program

All BBA background students are exempted from the Remedial Program, except
MIS 405 - Excel and Access for Business Managers.

Note: MBA Morning students are required to complete their core courses in the morning program.

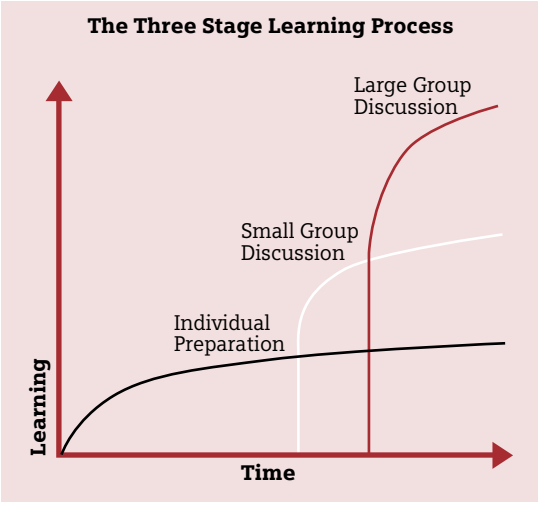
Pedagogy

MBA Project

Students in the second year are required to undertake a group project. The aim is to enable students to execute a challenging assignment within the real life business environment. The execution of the project not only helps students to develop problem-solving, interviewing and report writing skills, but also provides an opportunity for them to enhance their decision-making, leadership and team building skills. The MBA Project also helps students in developing job-related networks that are important for their future. The outcome of the MBA Project is a detailed implementation plan on some managerial and organizational problems. It also enhances the final year students' sense of contribution and achievement.

Case Method

Cases are one of the popular and effective tools used in learning all around the world, especially at graduate level. The case method allows students to experience real life situations, pressures and challenges, preparing them to become truly professional in their respective field of work. It is the best way to apply theory to practice and develop analytical, decision-making, application, writing, time management and creative skills. The illustration (Right) shows the growth in learning when cases are discussed in large groups in a short span of time. At IBA, we believe in maximizing the learning process of students using the best tools available.



Grading & Evaluation

The rules pertaining to grading and evaluation of courses in the MBA program are appended as under:

- The matrix on the right identifies in a comparative manner the particulars of the 'fixed' and 'relative' grading systems that are in use in the MBA program.

- The final percentage or final scores are not applicable in the relative grading system. A student's final score will determine his / her position and ranking in the class i.e. top 10% to 20%, middle 65% to 75%, lower middle 10% to 20%, and lower 0% to 10% of the class. In a class size of 30 or less, relative grading will not be applicable. In the relative grading system, approximately 10% to 20% top students will receive A or some time A(-) grades, 60% to 75% will receive B(+) or B grades, 10% to 20% will receive B(-), C (+), C, C(-) grades, and about 0% to 10% students will end up with F grade. However, in the fixed grading system the grades assigned will depend on actual marks obtained by the student.

- A student with GPA 2.0 to 2.2 will be put on probation for the next semester. A student having less than 2.0 GPA is dropped from the rolls of the Institute forthwith. Probation rules will apply to students on probation. Students having 50% of all their semester results in the lowest grade will require special mentoring and feedback sessions with the faculty, MBA director and faculty mentors.

- Students can withdraw from the course according to IBA's withdrawal policy and will get 'W' grade (however, it will not be counted as deficiency). It is the choice of the faculty to decide which grading system they would like to apply. Any changes from normal bands (relative grading system) will need prior approval from Dean and Director. MBA students performing extremely poor in MBA project can be assigned an "I" (incomplete grade). Such students will be assigned extra work by the MBA Program Office and the Director MBA program to overcome the incomplete grade. After completing the assigned extra work (small project or case study writing), a maximum "C-" grade can be assigned by the project or case writing supervisor. If a student fails to pass certain courses and yet manages to maintain a CGPA equal to or above 2.2, he / she will be allowed to repeat and clear the course(s) or substitute(s) wherever permissible, before the degree is awarded to him / her. The CGPA is computed at the end of each semester including a summer term that a student might have enrolled in.

Grading Matrix

Fixed Grading

Grade	Percentage	GPA
A	93-100	4.00 Grade Points
A-	87 - 92	3.67 grade points
B+	82 - 86	3.33 grade points
B	77 - 81	3.00 grade points
B-	72 - 76	2.67 grade points
C+	68 - 71	2.33 grade points
C	64 - 67	2.00 grade points
C-	60 - 63	1.67 grade points
F	0 - 59	0.00 grade points

Relative Grading

Grade	Percentage	GPA
A	4.00 grade points	Approx. 10% - 20% Students
A-	3.67 grade points	
B+	3.33 grade points	Approx. 65% - 75% Students
B	3.00 grade points	
B-	2.67 grade points	Approx. 10% - 20% Students
C+	2.33 grade points	
C	2.00 grade points	
C-	1.67 grade points	
F	0.00 grade points	Approx. 0% - 10% Students
W	Withdraw from the course	
I	Incomplete grade	

GPA Requirement for Award of MBA Degrees

An MBA Program student whose CGPA in the final semester is less than 2.2 but not below 2.0 shall also be required to repeat one semester of the lowest academic standing or certain courses in order to be eligible for the award of MBA degree. If the student improves the CGPA (minimum 2.2), degree shall be awarded (other conditions applicable), otherwise only a transcript of credits shall be issued.

Summer Semester

Students doing an internship during the summer semester are not allowed to register for an advanced credit or additional course. However, such students are allowed to remove deficiency in one course during the summer semester. Students not doing an internship can clear up to two deficiencies, or enroll for two advanced courses in the summer semester.

Students may withdraw from one course during the summer semester. Withdrawal should be sought within a week after the announcement of the mid-term examination result.

Evaluations

The summer internships for full-time students are closely monitored and evaluated. Interns are encouraged to discuss their problems with the faculty members during the follow-up meetings arranged for this purpose during the internship period. Faculty members frequently visit the organizations to keep abreast of the progress of internees. At the end of the internship, students submit an internship report and are also interviewed in detail. Feedback about the performance of the internee is also obtained from the supervisors of the internee. A final grade is awarded to the internee on the basis of the interview, the follow-up meetings and visits, the internship report and the company's evaluation.

Work Experience Requirement for Admission

Work requirement for admission to IBA's MBA program will comprise of 2 years' post qualification work experience in multinationals, large domestic corporations, and large family business. For self employed and smaller family businesses the 'Work Evaluation Committee' will decide if the experience is acceptable for admission to IBA. The work evaluation committee will comprise of a member of the Admission Committee, Director MBA Program and an IBA alumnus with at least 10 years work experience. This work requirement will only be considered provided it has been achieved after applicants have obtained 16 years of education with 2.5 CGPA or 60% (whichever is applicable) and satisfies the minimum eligibility requirement for admission in the MBA Program.

The education requirement should meet the criteria established by HEC. Work experience gained during CA, ACCA (Affiliate), Pharm-D and MBBS will not be considered as a relevant work experience for admission to the MBA Program.

Comprehensive Examination

Every student is required to pass a comprehensive examination on completion of all MBA courses. This examination tests the students' grasp of the total course offerings and provides them with an opportunity to recapitulate and integrate their knowledge prior to earning the MBA degree. The student is eligible for a transcript / degree only after passing the comprehensive examination. However, he may obtain a provisional certificate on completion of the course requirement. The MBA Director is responsible for providing the comprehensive exam, evaluation of the exam copies and the final results. The controller of examination is responsible for conducting this exam. The six-hour examination is held after every regular semester. A maximum of three attempts are allowed to clear the examination. Students who fail to pass the comprehensive examination are eligible only for the individual course certificates.

MBA Remedial Courses

MBA students will be required to take remedial courses if - their performance is to be considered unsatisfactory for the IBA MBA test. These students will be required to pass the MBA remedial semester which is essential to prepare students for the intensive and rigorous IBA MBA program. The duration of the Pre MBA remedial semester is 6 weeks.

International Exchange Students

This is a new effort of IBA to provide international exposure to its students in a foreign university. Under this program, a few students will be selected and exchanged with a well-known foreign university for one whole semester. This will help them to achieve the experience of learning in a foreign university environment, interact with people of different cultures and also learn about a different setup and system. This exercise will improve students' personal growth and will be helpful once they enter their professional lives.

General

Both campuses of the IBA have spaces dedicated to the management of its various programs. The MBA offices at both locations are located in the Admin Block. The staff of the MBA Program Office is dedicated to providing students with the best possible educational environment. To this end, we strive to ensure that our students have the assistance that is essential to the delivery of the MBA Program through timely information flows, the establishment of a strong support network, and the encouragement of student involvement in IBA life.

MBA Program Office

The MBA Program Office is committed to being the best service unit of its kind, providing the highest levels of courtesy, responsiveness, and professionalism.

Its major responsibilities include:

- Organizing Pre-Term
- Managing course registration
- Course scheduling
- Setting the academic calendar
- Maintaining student records
- Monitoring of students' program requirements, majors, and waivers
- Course audits for degrees and graduation requirements
- Directing international programs
- Publishing primary sources of information
- Nominating resource persons and information guides
- Issuing class bulletins
- Maintaining Program Office website

Advising Role

MBA Program Office is the MBA student's help center and advisor. It will counsel the students on academic issues such as selection of course and teacher. It also provides an opportunity to students to discuss their personal issues (such as managing stress related to academic and other problems). Its advising role includes:

- Academic and program reviews
- Tutor referrals
- Course selection
- Information about other resources

Some of the other roles of MBA office includes:

Role in Student Activities

Students who actively engage in IBA activities will experience a first-hand sense of community service aimed at promoting a richer overall IBA experience. The office facilitates student involvement through their work with:

- Distinguished Guest Lecture Series
- Seminars & Conferences
- IBA-wide social events
- IBA club activities

Facilitating Student and Faculty Involvement

To become directly involved with the MBA Program Office, students can join the (MBAPO) Advisory Board. Advisory Board members will include both students and faculty, who will work to improve MBAPO services and provide critical input in shaping processes and policies and managing office tasks.

Career Counseling

IBA's educational approach is designed to help the students identify a field of interest, acquire the knowledge, skills and experience to excel in that field. The officer is to help the students find the right job in the right field with the right employer through:

- Supporting the students in their career development
- Aligning the needs of employers with the competencies of our graduates
- Organizing professional lectures, seminars, panel discussions and workshops on career development and related skills.

MS (Computer Science)

Required Courses					
MS Computer Science has 6th Tracks, each with a different set of Pre-req (Foundation) Courses					
		MS with Thesis		MS without Thesis	
A	Core	0	0	0	0
B	Elective	8	24	9	27
C	Research Survey	1	3	1	3
D	Research Work	1	3	0	0
	Total	**10**	**30**	**10**	**30**

The Faculty of Computer Science (FCS) is an exciting place to learn about the latest developments in the area of Computer Science as well as to perform research with a high social impact. The MS program at the FCS enjoys the advantages of a rich set of courses available from both the MS as well as PhD level. From 2014 the MS Program is being offered as a Full Time Morning Program along with existing evening counterpart. The MS program comprises 6 tracks, each completely aimed at a particular field of specialization. The diverse backgrounds of students that come from various fields of study into this MS program, require a customized and tailored approach towards building the relevant fundamentals for each track. Moreover, the curriculum has been designed so that it is at par with IEEE / ACM guidelines. This ensures that the tracks do not lose relevance in the wake of the rapidly changing landscape of computing technologies. The potential of this program, in terms of imparting useful advanced computing skills and professional growth, is measured by the readiness of the job market and advanced learning schools, in absorbing our graduates. This measure has always been quite high; amongst other factors, the curriculum design ensures that the graduates can creatively find technology-based solutions, think critically and analyze systems and emerging problems independently. The MS program has two basic categories, MS with thesis, and MS without thesis.

The MS(Computer Science) program is of 30 credit hours with a thesis or research survey option. For those students who opt for thesis, 24 credit hours of course work, 3 credit hours of Research Survey and then 3 credit hours of thesis work are required. For students opting for course work only, 27 credit hours of course work along with 3 credit hours of Research Survey is required. The Research Survey course must be taken after students have completed 18 credits and must be supervised by an approved faculty member. The course work may be taken from multiple specialization tracks and a student would be required to take courses from at least two tracks. Specialization tracks include Net-Centric Computing, Human Computer Interaction, Software Engineering, Intelligent Systems, Information Management, and Theoretical Computer Science. Within a specialization track a minimum of 2 to a maximum of 4 courses may be taken. Each track has their own set of prerequisites which are usually BS level Computer Science courses. MS students may also take courses at the PhD (600) level for credit.

The key-objectives of the MS-CS program are:

* Offer maximum curriculum flexibility in order to enable students to engineer their graduate education towards their ambitions and goals in their computing professions.
* Facilitate job promotion for students, from mid-level IT positions to senior level positions, by adding to their skills and academic qualifications.
* Empower students with skills required to address modern computing challenges of their respective organizations.
* Expose students to qualified faculty with international recognition, and encourage them to undertake research that may potentially lead to doctoral work.

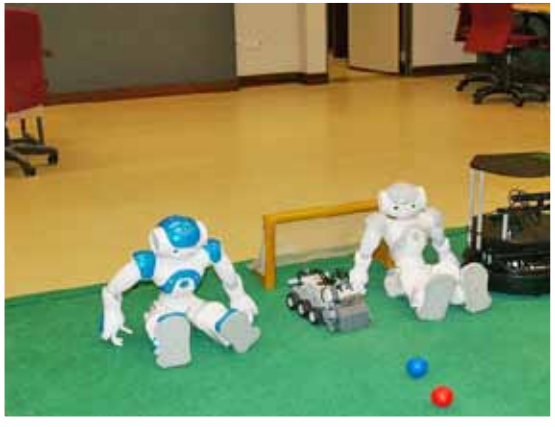
MS(CS) Specialization Tracks

List of Specialization Tracks (Courses and Prerequisites)

1	**Net-Centric Computing**	
	Advanced Computer Networks	ICT511
	Mobile Computing	ICT558
	Wireless Communication	ICT553
	Distributed Systems	ICT555
	Information Security	ICT554
2	**Human Computer Interaction**	
	Advanced Human Computer Interaction	CSE575
	Usability Engineering	CSE576
	Interaction Design	CSE577
	GUI Design	CSE578
	Multimedia and Multi-Modal Systems	CSE579
3	**Intelligent Systems**	
	Knowledge Discovery and Data Mining	CSE652
	Computational Intelligence	CSE659
	Probabilistic Reasoning	CSE655
	Computer Vision	CSE660
	Big Data Analytics	CSE668

List of Specialization Tracks (Courses and Prerequisites)

4	**Software Engineering**	
	Software Quality Assurance	CSE566
	Requirement Engineering	CSE567
	Software Project Management	CSE503
	Web Engineering	CSE569
	Advanced Web Technologies	ICT512
5	**Information Management**	
	SAP ABAP Programming I	MIS541
	SAP ABAP Programming II	MIS542
	Operations & Technology Management	MIS502
	Enterprise Integration	MIS503
	Social Computing Applications	MIS564
	Information: Industry Structure & Competitive Strategy	MIS513
	Advanced Data Warehousing	MIS552
	Knowledge Discovery and Data Mining	CSE652
6	**Theoretical Computer Science**	
	Advanced Analysis of Algorithms	CSE651
	Formal Methods	CSE572
	Scientific Computing	MTS551
	Combinatorial Optimization	CSE654



Master of Science (Economics)

MS leading to PhD (Economics) program is designed to provide a solid background in theory, quantitative methods, and applications appropriate to the needs of economists involved in policy planning, analysis, and forecasting of public and private sectors. The curriculum of this program has been designed to meet the international standards. We hope the students will find the program to be intellectually challenging and personally rewarding.

MS leading to PhD (Economics) emphasizes on applied economics, and caters to the growing market for economic analysts. Graduates from this program will be able to teach and conduct quality research in the fields of their interest, and will be prepared for careers in universities, research organizations, business enterprises, government organizations, and multinational companies.

Option of MS:

In this program, students will have the option to complete either the MS (Economics) program or may continue to PhD (Economics) program.

Eligibility:

Candidates must have a minimum 16 years of education / equivalent degree in any discipline recognized by HEC with minimum 2.5 out of 4.0 CGPA or 60% marks in the last degree. All equivalency claims shall be evaluated by HEC.

Experience is not a mandatory requirement for admission to this program.

Candidates awaiting results may apply for admission. In such cases the admission will be conditional pending submission of the required results before the date of commencement of classes.

Required Courses for MS Economics

		Track-A		Track-B	
		BS Economics Stream		Non -BS Economics Stream	
		Course	Credit Hours	Course	Credit Hours
A	Foundation Courses	-	-	5	15
B	Core Courses	6	18	6	18
C	Elective Courses	4	12	4	12
D	Thesis	1	9	1	9
	Total Credit Hours	11	39	16	54

Admission Criteria:

Admissions to all programs at the IBA are granted on merit, and there are no reserved seats of any category. The criterion for admission is the performance of the applicant in aptitude test and interview. The aptitude test is a written test from three subjects: English, Mathematics and Economics.

Candidates who have a minimum 650 score in quantitative section of GRE (International) or 160 score in quantitative section of Revised GRE (International)are exempted from the IBA admission test.

The candidates who pass the aptitude test qualify for the interview.

Duration:

MS (Economics)	2 years
Maximum time allowed	5 years
MS & PhD (Economics)	4 to 6 years
Maximum time allowed	8 years

Financial Assistance:

All full time MS students will be provided financial support (Rs. 25,000 / - per month) through teaching and research assistantship programs at IBA. Students seeking financial assistance, must register in four courses in each semester in Fall and Spring semesters. After the first semester in the program, eligibility for financial support is 3.0 CGPA in courses taken in MS (Economics) program at IBA. After transferring to PhD, students will be provided financial support (Rs. 45,000 / - per month) through teaching and research fellowship with full tuition fee waiver.

Requirements for MS (Economics)

Track A:

Course requirements if the candidates are from BS in Economics and Mathematics. Bachelors or Masters in Economics [with 16 years of education] or equivalent degree:

MS Courses:	30 Credit Hours (10 Courses)
MS Thesis:	9 Credit Hours

Note: Track A is subject to the recommendation from panel interview.

Track B:

Course requirements if the candidates are from other disciplines RBA / BS (with 16 years of education) or equivalent degree:

MS Courses:	45 Credit Hours (15 Courses)
MS Thesis:	9 Credit Hours

Transfer to PhD

After completing the course work of the MS degree program, candidates who score a CGPA of 3.5 and a minimum of 'B' in each course will be eligible to transfer to PhD program.

The rest may work on their MS thesis or requirements of course work option (9 credit hours) to get MS degree. After completing MS degree requirement, they can apply for admission to PhD program, which requires minimum 3.0 CGPA.

PhD Courses

PhD Courses	C. Code	Cr. Hours
Microeconomic Theory III EC0641	ECO641	4
Macroeconomic Theory III EC0642	ECO642	4
Econometric Analysis I	EC0647	4
Econometric Analysis II	EC0648	4
Elective V		4
Elective VI		4
Graduate Research Seminar for PhD	ECO791	4
Dissertation	EC0799	27
Total		55

MS Courses - Track A

Course Title	Course Code	Credit Hours	Pre-Requisite
Microeconomic Theory II	EC0631	3	ECO531
Macroeconomic Theory II	EC0632	3	ECO532
Econometrics II	ECO538	3	M1S536, ECO537
International Trade	ECO539	3	ECO531
Development Economics and Issues in Pakistan Economy	ECO530	3	ECO531, ECO532
Research Methodology	ECO591	3	ECO538, 631 & 632
Elective I		3	
Elective II		3	
Elective III		3	
Elective IV		3	
MS Thesis	EC0699	9	-

MS Courses - Track B

Course Title	Course Code	Credit Hours	Pre-Requisite
Microeconomic Theory I	ECO531	3	ECO533
Macroeconomic Theory I	ECO532	3	-
Mathematics for Economists	ECO533	3	-
Microeconomic Theory II	EC0631	3	ECO531
Macroeconomic Theory II	EC0632	3	ECO532
Mathematical Statistics and Linear Algebra	MTS536	3	-
Econometrics I	ECO537	3	MTS536
Econometrics II	ECO538	3	MTS536, ECO537
International Trade	ECOM	3	ECO531
Development Economics and Issues in Pakistan Economy	ECO530	3	ECO531, ECO532
Research Methodology	ECO591	3	ECO5381 631 & 632
Elective I		3	
Elective II		3	
Elective III		3	
Elective IV		3	
MS Thesis	EC0699	9	-

List of Elective Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Environmental and Resource Economics	ECO561	3	EC0631, ECO533
Financial Economics	ECO562	3	Ec0531, ECO533
Health Economics	ECO563	3	EC0631
History of Economic Thought	ECO564	3	-
Islamic Economics	ECO565	3	ECO531, ECO532
Monetary Economics	ECO566	3	EC0632
Public Economics	ECO567	3	ECO531, 532 & 533
Transport Economics	ECO568	3	ECO531, ECO533
Industrial Economics	ECO571	3	EC0631
General Equilibrium and Welfare Economics	ECO572	3	EC0631, ECO533
Game theory and Competitive Strategy	ECO573	3	EC0631
Combinatorial Optimization	CSE654	3	ECO533 & ECO531
Labor Economics	EC0654	3	EC0631, ECO538
Public Policy Analysis: Theory and Practice	ECO560	3	ECO531 / ECO501 / ECO102 / ECO104 / ECO103/113
The Microeconomics of Public Policy Analysis	ECO575	3	ECO301 / ECO312 /ECO501 / ECO531
Environmental and Resource Economics	ECO561	3	ECO301 / ECO312 /ECO501 / ECO531
Water Economics and Policy	ECO574	3	ECO301 / ECO312 /ECO501 / ECO531

Comprehensive Examinations:

Students are required to pass comprehensive examinations for Microeconomic Theory, Macroeconomic Theory and one Field Examination. A maximum of three attempts will be allowed for the comprehensive examinations. Students are however required to pass both comprehensive examinations within two years from the commencement of PhD program.

Oral defense of the PhD dissertation proposal:

At the end of the third year, students are expected to present and defend their PhD proposal before the dissertation committee. The dissertation will be examined by two external examiners from academically advanced countries.

Dissertation Defense:

Students are expected to submit and defend their dissertation [27 credit hours) within two years.

For further details Visit:economics.iba.edu.pk

Mater of Science (Mathematics)

In order to be eligible to apply for admission in MS leading to PhD in Mathematical Sciences a candidate should:

a. Possess a BS / M.Sc (16 year education) degree from a recognized university in Mathematics.

b. Have passed the last examination with at least 60% marks (or CGPA 2.5 whatever applies)

(Experience is not mandatory for admission to MS Mathematics program).

Admission Process:

(Only Applicants with Majors in Mathematics (in BS or M.Sc) allowed for 2013 admissions)

All eligible candidates would be required to:

a. Appear and qualify in an aptitude test (equivalent to GRE general / GAT general of NTS) and if successful, appear in an interview / presentation before a selection panel.

b. Candidates who have a minimum 650 score in quantitative section of GRE (International) or 160 score in quantitative section of Revised GRE (International) or 60% score in GAT General, are exempted from the IBA aptitude test, BUT not from the interview.

Duration:

MS: 2 - 4 years.

MS - PhD: 4- 6 years. (Max possible is 8 years)

Financial Assistance:

Full time MS students can opt for financial support which is provided in the form of assisting duties for teaching and research. This support is upto a maximum of Rs. 25,000 per month. This facility is only extended to those students who maintain a cumulative CPA of 3.0 and register in 4 courses each semester in the MS (Mathematics) program. In addition to this, the students availing financial support MUST not work elsewhere. In the PhD phase of the program the stipend amount would be raised to Rs. 45,000 per month, in addition to a full tuition fee waiver.

The fee-structure in the MS (Mathematics) morning program matches that of the BS-morning program.

Required Courses for MS Mathematics

		MS with Thesis		MS without Thesis	
		Course	Credit Hours	Course	Credit Hours
A	Found / Pre-req (Str. dela)	0	0	0	0
B	Core units	6	18	6	18
C	Elective units	2	6	4	12
D	Literature Survey	1	3	0	0
E	Research Work units	1	3	0	0
	Total	10	30	10	30

Minimum Time Policy for MS Mathematics

Students who undertake the MS program of study on a part-time basis (i.e. those students who are not offered (or do not willfully avail / opt-for financial assistance), may complete the program in no Less than 1.5 years

Requirements for the Award of MS (and Subsequently PhD) Degree

For award of an MS in Mathematical Science a candidate should:

a. Complete 30 credit hours that include 24 credit hours (8 courses) of course work and 6 credit hours of thesis.

b. Six courses (listed above) at 500 level are Core courses that every student must do.

c. In addition, a student has to do two electives to be chosen from the list given below at 500 level.

d. The eligibility for doing an MS thesis is student acquiring a CGPA of 3.5.

e. Students who do not qualify the eligibility criterion for doing an MS thesis, will be required to do two additional courses (6 credit hours in addition) and graduate with an MS degree only. Such MS graduates would lose the eligibility of doing a PhD in future from IBA.

f. Public defense of the MS thesis and completion of the degree will be governed as per IBA policy.

For further details Visit:mathematics.iba.edu.pk

Core Courses *

Course Title	Course Code	Credit Hours	Pre-Requisite
Semester: 1			
Advanced Real Analysis	MTS511	-	-
Topics in Algebra	MTS513	-	-
Advanced Numerical Analysis	MTS515	-	-
Topology	MTS516	-	-
Semester: 2			
Measure Theory & Integration	MTS512	-	MTS511
Topics in Commutative Algebra	MTS514	-	MTS513
Elective I	MTSXXX	-	
Elective II	MTS XXX	-	-

List of Electives*

Course Title	Course Code	Credit Hours	Pre-Requisite
Scientific Computing	MTS521	-	MTS515
Stochastic Processes II	MTS525	-	MTS304 (or equivalent)
Stochastic Differential Equations	MTS529	-	MTS304 (or equivalent)
Integral Equations	MTS533	-	
Mathematical Astronomy	MTS537	-	
Homological Algebra	MTS539	-	MTS513
Computational Algebraic Geometry	MTS541	-	MT5513
Applicable Modern Geometry I	MTS545	-	MTS511 / 513 / 516
Algebraic Geometry I	MTS549	-	MTS513 / M1S516
Algebraic Cycles I	MTS553	-	MTS513
Arithmetic Algebraic Geometry	MTS557	-	MTS513
Exploratory data Analysis	MTS561	-	
Mathematical Physics I	MTS565	-	
Statistical Data Mining & Knowledge Discovery	MTS569	-	
Statistical Machine Learning	MTS573	-	
Galois Theory	MTS577	-	MTS513

*The Departmental Research Committee is authorized to introduce any new course added to the above list as and when required.

Executive MBA drives Professionals for the "C" Suite

This flagship program offers a unique opportunity for the in-service professionals to enrich their knowledge and skills without sacrificing their job commitment and earning stream. This weekend program presents a fast track route to the Masters in Business Administration from the prestigious IBA. Executive MBA program is more suitable for the professionals aiming at acquiring leadership role and moving towards the highest levels of the corporate ladder especially under C-suite (CEO, CFO, COO etc.) or an entrepreneurial role. The program format, courses, methodology and contents are developed in consultation with leading experts and worthy faculty members.

IBA Corporate Leaders Advisory Board (ICLAB)

At IBA we believe in creating meaningful collaboration between the industry and academia so that all our programs should be reflective of their aspiration and needs. In order to ensure regular interaction with the corporate leaders a high level Advisory Board has been formed. The ICLAB members list is given below:

S. No.	Name	Designation	Organization
1	Mr. Hasan A. Bilgrami	CEO	BankIslami Ltd
2	Mr. Hasan Ali Khan	MD	Continental Biscuits
3	Mr. Jamal Mustafa Siddiqui	Former MD	Makro Habib Pakistan. Ltd.
4	Mr. Javed Ahmed	CEO	Jubilee Life Insurance
5	Mr. Khalid Rehman	Director	Engro Polymer & Chemicals Ltd.
6	Mr. Asad S. Jafar	Chairman & CEO	Philips Electronics
7	Mr. Nadeem Elahi	CEO	The Resource Group
8	Mr. Nadeem Hussain	President	Tameer Micro Finance Bank
9	Mr. Najam Ali	CEO	Next Capital
10	Mr. Salman Burney	MD	GlaxoSmithkline
11	Mr. Sohail P. Ahmed	Vice Chairman	House of Habib
12	Mr. Tariq Wajid	MD & GM	Sanofi Aventis Pak. Ltd.
13	Ms. Ayesha Aziz	MD	Pak Brunei Investment. Co.
14	Mr. Ruhail Mohammad	CEO	Engro Fertilizer Ltd.
15	Mr. Farid A. Khan	CEO	ABL Asset Management

Preparing leaders for the Corporate World

- **Intermediate & Advanced Business Theory, Skills**
  To create solid technical and theoretical background, 20 courses covering key disciplines of business administration have been offered, including leadership and business strategy courses.
- **Course Curriculum**
  The course curriculum is responsive to the needs of the industry and is endorsed by an Advisory Board drawn from among the expert practitioners of the industry and academia
- **Project Reports**
  Each participant will be required to develop 2 projects on a subject of critical importance duly approved by the Subject Advisory Committee / Director Executive MBA Program.
- **Format**
  Learning sessions are scheduled on:
  Saturdays -300 pm to 9:15 pm
  Sundays -10:00 am to 5:15 pm
- **Degree**
  Executive MBA degree from IBA Karachi shall be awarded on qualifying:
  Course work with minimum 2.2 CGPA
  Comprehensive exam
  Completion of research project [s]

Eligibility Criteria

In-service professionals having:

- 16 years education with three years' post qualification work experience; **OR**
  14 years education with six years' post qualification work experience.
- Satisfactory performance in the IBA admission test and interview.

- **Fee Structure (2014)**
  Rs. 30,000 / - per course.
  Rs. 20,000 / - per course for government employees, armed forces, and public sector / govt. Organizations.

  For further details, see the IBA Admission Policy

Required Courses

Section	Knowledge Area	Courses	Credit Hours
A	Core Courses	13	39
B	Capstone Course (Corporate Strategy)	1	3
C	Experiential Learning EMBA Project Report	2	12
D	Electives	6	18
	Total Credit Hours	22	72

A. University Core Courses

Course Title	Course Code
Semester 1	**Course Code**
Managerial Communication	MGT503
Quantitative Methods for Decision Making	MTS506
Managerial Economics	ECO501
Semester 2	**Course Code**
Marketing Management	MKT501
Financial Accounting & Information System	ACC506
Legal & Regulatory Environment of Business	LAW501
Semester 3	**Course Code**
Advanced and Applied Business Research	MKT505
Business Finance I	FIN506
Operation and Production Management	MGT510
Semester 4	**Course Code**
Business Finance II	FIN507
Organizational Behavior and Leadership	MGT557
Global Economics & Political Environment	ECO517

Course Title	Course Code
Semester 5	**Course Code**
Accounting for Decision Making	ACC505
Corporate Strategy	MGT541
Elective Course I	-
Elective Course II	-
Semester 6	**Course Code**
Elective Course III	-
Elective Course IV	-
Elective Course V	-
Elective Course VI	-

List of Electives

Course Title	Course Code
Brand Management	MKT561
Supply Chain Management	MKT559
Advance Corporate Finance	FIN501
Islamic Finance	FIN559
Risk Management	FIN567
Accounting Information System with SAP	ACC507
Entrepreneurial Management	MKT553
Corporate Governance	LAW553
Treasury and Financial Derivatives	FIN535
Corporate Investment Banking	FIN536
Issues in Pakistan Economy	ECO544
Project Evaluation & Management	MGT531
Organizational Behavior	MGT221
Strategic Management	MGT552
More courses will be added as per needs	

All Executive MBA courses are of 3 credit hours.

Executive MBA – Fall 2014
Schedule: September – December 2014

Month	Sessions	Saturday	Sunday
September	1	Sept 6	Sept 7
	2	Sept 13	Sept 14
	3	Sept 20	Sept 21
October	4	Sept 27	Sept 28
	5	Oct 11	Oct 12
	6	Oct 18	Oct 19
	Midterm Exams	Oct 25	Oct 26
November	7	Nov 1	Nov 2
	8	Nov 8	Nov 9
	9	Nov 15	Nov 16
	10	Nov 22	Nov 23
	11	Nov 29	Nov 30
December	12	Dec 6	Dec 7
	Final Exams	Dec. 13 – 28	

Executive MBA Program - Spring 2015
Schedule: January – April 2015

Month	Sessions	Saturday	Sunday
January	1	Jan 3	Jan 4
	2	Jan 10	Jan 11
	3	Jan 17	Jan 18
	4	Jan 24	Jan 25
	5	Jan 31	Feb 1
February	6	Feb 7	Feb 8
	Midterm Exams	Feb 14	Feb 15
	7	Feb 21	Feb 22
March	8	Feb 28	March 1
	9	March 7	March 8
	10	March 14	March 15
	11	March 21	March 22
	12	March 28	March 29
April	Final Exams	April 4 – 19	

Executive MBA Program – Summer 2015
Schedule: April – August 2015

Month	Sessions	Saturday	Sunday
April	1	April 25	April 26
	2	May 2	May 3
	3	May 9	May 10
May	4	May 16	May 17
	5	May 23	May 24
	6	May 30	May 31
	Midterm Exams	June 6	June 7
June	7	June 13	June 14
	8a	June 20	June 21
	8b	June 27	June 28
	9a	July 4	July 5
July	9b	July 11	July 12
	10	July 25	July 26
	11	Aug 1	Aug 2
August	12	Aug 8	Aug 9
	Final Exams	Aug. 15 – 30	

Important Dates

Semester	Test Date / Day	Trimester Beginning Date / Day
Fall 2014	August 3, 2014 Sunday	Sept. 6, 2014 Saturday
Spring 2015	November 23, 2014 Sunday	January 3, 2015 Saturday
Summer 2015	March 15, 2015 Sunday	April 25, 2015 Saturday

EMBA participants serving in following organizations

S. No	From Corporate Sector
1	Attock Petroleum Limited
2	Augere Pakistan (Pvt) Limited
3	Bayer Pakistan (Pvt) Ltd
4	BP Pakistan Exploration and Productin Inc.
5	British Oxygen Company Pakistan
6	Engro Corporation
7	Ernst & Young
8	Glaxosmithkline Pakistan
9	Gul Ahmed Textile Mills
10	IBM
11	ICI Azkonobel Pakistan Limited
12	IGI Funds
13	Johnson & Johnson Pakistan (Pvt) Limited
14	Kalsoft
15	KSB Pumps Company Limited
16	Lakson Tobacco Company Limited
17	Lotte - Pakistan PTA Limited
18	Mobilink
19	National Refinery Limited
20	Novartis Pharma Pakistan Limited
21	Orient Advertising (Pvt) Ltd
22	Pak Suzuki
23	Pakistan State oil
24	PARCO
25	Proctor & Gamble Pakistan
26	Roche Pharmaceuticals
27	Shell Pakistan Limited
28	SIEMENS Pakistan Engineering Limited
29	Telenor Pakistan Limited
30	Transasia Refinery Limited
31	Ufone
32	Unilever Pakistan Limited
33	Wi-Tribe Pakistan
34	Zong Telecom

S. No	From Banks / Financial Institutions
1	AKD Seurities
2	Alfalah Bank Limited
3	Allied Bank Limited
4	Bank Al Habib Limited
5	Bank of Khyber
6	Citi Bank
7	Dawood Islamic Bank
8	Dubai Islamic Bank
9	Faysal Bank Limited
10	First Women Bank
11	Gul Ahmed Textile Mills
12	Habib Bank Limited
13	Habib Metropolitan Bank Limited
14	Habib Modaraba
15	HSBC
16	JS Global
17	Karachi Stock Exchange
18	KASB Group
19	MCB Bank Limited
20	National Insurance Company
21	NIB
22	Pak Oman Investment Company
23	Silk Bank Limited
24	Standard Chartered Bank
25	State Bank of Pakistan
26	Tameer Microfinance
27	UBL Funds Managers
28	United Bank Limited

S. No	From Public Sector Organizations
1	Air Weapons Complex
2	C.A.A
3	Dow University of Health Sciences
4	Enar Petrotech Services
5	Federal Board of Revenue
6	Government of Sindh
7	H.B.F.C
8	Karachi Shipyard & Engineering Works
9	Marie Stopes Society
10	Ministry of Education
11	Ministry of Engineering
12	Ministry of Labor
13	N.H.A
14	NAB
15	NADRA
16	National Logistics Cell
17	NED University of Engineering & Technology
18	Other Public Sector Organization
19	P.P.L
20	P.T.A
21	Pakistan Air Force
22	Pakistan Army
23	Pakistan Atomic Energy Commission
24	Pakistan Coast Guards
25	Pakistan International Airlines
26	Pakistan Navy
27	S.E.C.P
28	SUPARCO

PhD (Computer Science)

PhD (Economics)

PhD (Mathematics)

Postgraduate Programs

PhD (Computer Science)

If your ambitions lie in carrying out cutting edge research in the field of Computer Science, gaining recognition for it and maintaining social and corporate networks in your field of study then an excellent option for you is to pursue your graduate studies at the IBA Faculty of Computer Science. The IBA Faculty of Computer Science (FCS) offers PhD programs in the following areas:

- Artificial Intelligence and Cognitive Robotics
- Wireless and Mobile Communications
- Social Computing
- Operations Research
- Management Information System
- Numerical Analysis and Computing
- Multimedia and Web
- Human Computer Interaction

The FCS PhD program aims at encouraging those graduate students who can make a significant contribution to their field through original research. The FCS hosts a number of research labs that are actively engaged in cutting edge research in a number of fields mentioned above. By being a part of this program, you will get an opportunity to establish linkages with international researchers publish scholarly articles and attend reputed conferences worldwide in your chosen discipline. Your quantitative and qualitative research capabilities will be polished and interdisciplinary research along with interaction with the local industry will always be encouraged.

The FCS PhD program motivates independence and originality of thought in the research process. The PhD program at IBA expects that not only will the graduates display excellence in their field of research but that the discipline, research and professional competencies they develop from this program will be highly regarded by national and international employers. To achieve this, students are expected to immerse themselves in research in order to develop a strong and vibrant research culture at the institute. The program requires a residency of at least two years where students are expected to complete a specially designed program comprising of advanced courses. During the residency program students are expected to attach themselves to a supervisor in their field of specialization. Students also avail a full Teaching / Research assistantship which comprises an attractive monthly stipend and full tuition fee waiver.

Research Labs at FCS

As one of Pakistan's leading research institutions, Faculty of Computer Science (FCS) at IBA offers the best possible environment in which to undertake postgraduate research. A student conducting Masters or Doctoral research will have the opportunity to be assigned to one of the following labs:

- Artificial Intelligence Lab
- Telecommunications Research Lab (TRL)
- Web Sciences Lab

Web Sciences Lab

A new lab has been established at HBL-FCS Building to help researchers to undertake world class research in the area of Web Information Systems, with a special focus on Interactive Learning applications. The lab aims to conduct cutting edge research in diverse areas of web including information retrieval, social media, knowledge management, digital libraries, electronic commerce, and Semantic Web.

WWW is now considered as a main medium for sharing of data and metadata for knowledge management. Innovative models, frameworks, and methods are required to share, link and integrate data for efficient knowledge discovery and dissemination. WSL researchers are working on exploring new and innovative methods to improve existing web models and frameworks. The lab also aims to establish strong links with local industry to develop effective solutions for problems pertinent to Pakistani context.

In the domain of digital interactive learning, WSL researchers are working closely with ICT team of IBA to introduce MOOC (Massive Open Online Course) at IBA. Research is also being carried out to develop modern lifelong learning models.

Telecommunications Research Lab

Telecommunications Research Lab (TRL) at the Faculty of Computer Science focuses on research in the areas of wireless and mobile networks. Specific topics under current research include the following: queuing modeling and analysis for energy, delay and other QoS parameters in Wireless Sensor Networks (WSN); Backhauling technologies in mobile networks; Implementation of WSN in Field for Monitoring, Irrigation; Energy Monitoring & Controlling System / Smart Asset Management using WSN and Hybrid networks; Traffic Congestion Tracking System.

The TRL is equipped with state of the art WSN equipment, including those from Memsic and Hanback, with a variety of sensors, including light, temperature, humidity, barometric pressure, seismic, GPS, acoustic, acoustic actuator, magnetometer, 3-Axis Acceleration and RFID readers. WSN Motes include IEEE 802.15.4 / ZigBee Compliant Iris and MICAz (2.4 GHz) Motes, supporting both TinyOS 1.x and 2.x.

Simulation tools include Qualnet v5.0, NS2 and LabView. A modern Cisco networking lab is also available for research on core routing issues, network security and VOIP. Faculty, PhD Scholars and students at TRL contributes frequently to publications in international conferences and journals. PhD Scholars attend international workshops and training sessions that contribute to their self-development skills in using simulation tools as well as in gaining hands-on experience with advanced networking devices.

Artificial Intelligence Lab

Artificial Intelligence Lab at IBA endeavors to provide a platform for researchers and professionals to manifest their innovative capabilities through development of sophisticated research projects. The lab also aims to foster collaboration with local industry by developing intelligent solutions for problems pertinent to Pakistani market. Being established in 2008, AI LAB at IBA is a dynamically growing research center focusing in the core areas of AI namely data analytics, machine learning, semantic web, computational intelligence, probabilistic reasoning, and cognitive robotics. The following list highlights its key activities:

- AI Lab has partnered with the Innovation and Enterprise Research Lab of the University of Technology, Sydney to form a joint RoboCup Soccer team, Karachi Koalas, under 3D simulation league. The team was established in 2010 and has since then participated in 2011, 2012 and 2013 World RoboCup held in Turkey, Mexico and the Netherlands, respectively. The team is currently ranked 5th in the World which is a remarkable achievement for a team that is only few years old. The team's performance has been covered on Geo and Samaa tv channels.

- The lab frequently organizes robotics workshop for high school students and teachers. The purpose of these workshops is not only to expose our youth to the exciting field of Robotics / Artificial Intelligence but to also train the human resource involved in teaching science and related subjects at the high school level.

- In collaboration with our industry partner, Credit-Chex, we have developed an Anti-Money Laundering System (AMLS). It serves as a decision support tool and aids financial institutions and State Bank in identifying suspicious financial transactions and in curbing anti money laundering activities. The product was developed under a research grant provided by the National ICT R&D Fund.

- In the area of data analytics, the lab is maintaining active contacts with industry leaders such as EMC2 and KNIME.

- The lab also organizes data analytics workshop for professionals. The purpose of this activity is not only to bridge the gap between industry and academia but also to train the workforce for the emerging challenge of big data analytics.

- The lab hosts 2 state-of-the-art AldebaranNao robots. The robots are amongst the most sophisticated humanoid robots available for public use. They feature 25 degrees of freedom which allows them to produce human like walks and movements. In addition, they contain eight force-sensing resistors and two touch sensors.

- The lab is also a home for TurtleBot and Lego Mindstorms robots which are a great resource for teaching the fundamentals of cognitive robotics.

- A team, Karachi Chotu, for RoboCup @ Home has been established in 2013. A team, Karachi Chotu, for RoboCup @Home has been established in 2013. The team secured 3rd position in IranOpenRoboCup 2014 that was attended by many international teams. With the help of this initiative, the lab aims to develop service and assistive robot technology with high relevance for future personal domestic applications.

- AI Lab has developed and released BNOSA (Bayesian Network and Ontology based Semantic Annotation) which is a framework for semantic annotation of unstructured, ungrammatical and incoherent data sources using ontology and Bayesian networks.

- Another tool released by the AI Lab is IBAyes which is a probabilistic reasoning tool that allows a user to model uncertain situations and to perform inference using Bayesian networks and Influence Nets. It is freely available for download from the lab website.

For a Detailed PhD Prospectus, Please Visit:
cs.iba.edu.pk / programs.html

PhD (Economics)

PhD (Economics] program is designed to provide a solid background in theory, quantitative methods, and applications appropriate to the needs of economists involved in policy planning, analysis, and forecasting of public and private sectors. The curriculum of this program has been designed to meet the international standards. We hope the students will find the program to be intellectually challenging and personally rewarding.

PhD (Economics) emphasizes on applied economics, and caters to the growing market for economic analysts. Graduates from this program will be able to teach and conduct quality research in the fields of their interest, and will be prepared for careers in universities, research organizations, business enterprises, government organizations, and multinational companies.

Credit Hours:

Credit hours of course work: 40 (11 courses)
PhD Dissertation: 27
Total credit hours in PhD program: 67

Duration

Duration of the PhD program is 4-5 years. The maximum time allowed is 8 years.

Eligibility:

MS / M.Phil / equivalent degree in Economics or related discipline from HEC recognized local and foreign universities with minimum 3 out of 4 CGPA or 60% marks in the last degree. All equivalency claims shall be evaluated by HEC.

Experience is not mandatory for admission to PhD program.

IBA allows the candidates to apply for admission whose final results have not been announced.

MS Courses - Track B

Course Title	Course Code	Credit Hours	Pre-Requisite
Microeconomic Theory II	EC0631	3	-
Macroeconomic Theory II	EC0632	3	-
Econometric Analysis I	EC0647	4	-
Microeconomic Theory III	EC0641	4	EC0631
Macroeconomic Theory III	EC0642	4	EC0632
Econometric Analysis II	EC0648	4	EC0647
Elective I	-	3	-
Elective II	-	3	-
Elective III	-	4	-
Elective IV		4	-
Graduate Research Seminar for PhD	EC0791	4	EC0648 EC0641 EC0642
PhD Dissertation	EC0799	27	-
	Total	67	

The admission may be conditional pending submission of the required results before the date of commencement of classes.

Admission Criteria:

Admissions to all programs at the IBA are granted on merit, and there are no reserved seats of any category. The criterion for admission is the performance of the applicant in admission test and interview. The admission test is a written test from three subjects: English, Mathematics and Economics. Candidates who have a minimum 650 score in quantitative section of GRE [International) or 160 score in quantitative section of Revised GRE [International] are exempted from the IBA admission test. The candidates who pass the admission test qualify for the interview. Candidates are required to submit statement of purpose and two reference letters from the institute / university last attended before the interview.

Financial Assistance:

PhD program in Economics is a full time morning program. IBA will offer teaching / research fellowship to all students enrolled in the PhD program for which they are paid a monthly stipend [Rs.45000 per month) and tuition waiver.

Comprehensive Examinations:

Students are required to pass comprehensive examinations for Microeconomic Theory, Macroeconomic Theory and one Field Examination. A maximum of three attempts will be allowed for the comprehensive examinations. Students are however required to pass both comprehensive examinations within two years from the commencement of PhD program.

Oral defense of the PhD dissertation proposal: At the end of the third year, students are expected to present and defend their PhD proposal before the dissertation committee. The dissertation will be examined by two external examiners from academically advanced countries.

Dissertation Defense:

Students are expected to submit and defend their dissertation [27 credit hours] within two years.

Major Areas of Specialization:

Macroeconomics
Development Economicst
International Trade
Public Finance
Monetary Economics
Environmental Economics
Industrial Organization
Financial Economics
Labor Economics

For further details visit: economics.iba.edu.pk

PhD (Mathematics)

This policy governs the PhD phase of the MS - PhD Program.

Eligibility:

A candidate may embark on his PhD in Mathematical Sciences program at IBA if:

- The applicant has earned an MS (in Mathematics or allied areas) from a foreign / local university of international repute, and in addition to it:
  - i. Clears IBA's entry test, or scores 650 in GRE Subjective (Mathematics), or scores 60% in GAT Subjective (Mathematics).
  - ii Goes through a successful interview at IBA.

Other rules:

(1) A PhD student would be required to teach under-graduate courses as per IBA policy.
(2) A PhD student shall be paid a stipend as per IBA policy.
(3) PhD students will be required to do six courses

Courses:

The Departmental Research Committee is authorized to introduce any new courses added to the following list as and when required:

Required Courses

Course Title	Course Code	Credit Hours	Pre-Requisite
Numerical Treatment of P.D.E	MTS621	-	MTS515
Financial Mathematics	MTS625	-	
Computational Finance	MTS629	_	MTS515
Computational Astronomy	MTS637	-	MTS537
Applicable Modern Geometry II	MTS645	-	MTS545
Algebraic Geometry II	MTS649	-	MTS549
Algebraic Cycles II	MTS653	_	MTS553
Poly logarithms	MTS657	-	MTS557
Multivariate Statistical Analysis	MTS661	-	MTS525
Mathematical Physics II	MTS665	-	MTS565
Monomial Algebra	MTS671	-	MTS514
Topics of Special Interest I	MTS691	-	-
Topics of Special Interest II	MTS692	-	-

(chosen from the mentioned table) at 600 levelas suggested by the research supervisor and / or the DRC, spread over two semester.
On successful completion of the course work with CGPA of at least 3.0, the candidate qualifies to work on PhD dissertation. Failing to achieve this qualification the candidate would be allowed to improve his / her CGPA by doing two of his courses again. In view of candidate's request and recommendation of DRC the candidate may do any other two courses to improve the CGPA to the required level.

Comprehensive Test:

The DRC will decide about a Comprehensive Examination on case to case basis.

Disqualification:

If the candidate fails to qualify for work on PhD dissertation he / she may be awarded an MS degree on the recommendation of the supervisor / DC.

Minimum Time Requirement:

Minimum time required to complete PhD thesis is two years.

Graduation Eligibility

A candidate who accomplishes all the conditions imposed for acquisition of the PhD degree, is also, in addition, required to take the GRE / GAT (subjective) before finally doctoral diploma may be obtained.

Defense of Research Synopsis / Thesis:

The research synopsis would have to be defended against the DRC. Public defense of the PhD thesis and completion of the degree will commence after examination of the thesis by two external examiners foreign to Pakistan.

For further details Visit: mathematics.iba.edu.pk

Course Coding Scheme

Course Code Naming Convention
Course codes are presently given 6 alpha-numeric codes, e.g. CSE142: (INTRODUCTION TO PROGRAMMING)

Some Examples:

CSE142 = Implies, a first year course ('1') with 4 ('4') credit hours
CSE211 = Implies, a second ('2') year course with 3 credit hours (3 credits is default)
CSE341 = Implies, a third ('3') year course with 4 ('4') credit hours etc.

Details are given below:
First three characters
First three characters e.g. 'CSE' indicate the subject (in this case: Computer Science and Engineering)
The subjects defined so far (relevant for FCS) are:

CSE	=	Computer Science and Engineering
MIS	=	Management Information Systems
MTS	=	Maths and Statistics
SCI	=	Sciences
ICT	=	Information and Communication Technology

The next three digits
The next three digits '142', indicated as 'LMN' below are defined as follows:

'L' Digit

L	=	The 'L' digit indicates the Level of the course as follows:
1	=	100 level course - First year undergraduate
2	=	200 level course - Second year undergraduate
3	=	300 level course - Third year undergraduate
4	=	400 level course - Fourth year undergraduate
5	=	500 level course - First or Second year graduate
6	=	600 level course - Advanced PhD courses
7	=	PhD Seminars

'M' Digit

M	=	The 'M' digit in:
0, 1, 2 or 3	=	Indicates core courses
4	=	Indicates 4 credit hour core or elective course
5, 6 or 7	=	Indicates 3 credit hour elective courses
8	=	Used for obsolete courses
9	=	Project Courses

'N' Digit

N	=	The 'N' digit is simply a sequence digit assigned to make each course code unique.

Procedure for Online Registration of Courses:

Students are to use ERP CMS application, for Online course registration of courses to enrol in their desired set of courses for the relevant term. To enable registration the student is to follow the following procedure:

a. Sign in using his / her login ID and Password for ERP

b. Go to the Self-Service link, then Enrolment and Add Classes.

c. Search the relevant course subject, course number or catalogue number of the required course.

d. Select the class using the option available, and then follow the two step process to finish enrolling in the required course.

All the required courses can be enrolled for one-by-one, or in one go by having them all added in the shopping cart first and then finish enrolling using the same two step procedure. If a student wants to de-enrol from any course within the given timeline, then they can easily drop course from the relevant function available in the Self-service.

Department of Accounting & Law

Department of Economics & Finance

Department of Management

Department of Social Sciences & Liberal Arts

Department of Marketing

Department of Computer Sciences

Department of Mathematical Sciences

Course Descriptions

Faculty of Business Administration

Department of Accounting & Law

ACCOUNTING COURSES

ACC111 Principles of Accounting
The objective of this course is to familiarize students with and develop in them 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 Financial Accounting
Financial accounting is the first in-depth accounting course. Theory, the conceptual framework, development & application of International Financial reporting framework (IFRS) are stressed. Topics include financial statements, Treatment of Inventory & PPE in FS, partnerships & particular emphasis is placed on ethics in accounting & business environment.

ACC222 Computer Applications
This lab based course starts from fundamental understanding of computer applications with core focus on Microsoft Office. The basic concepts of Computer hardware, operating systems and internet usage will also be discussed. Afterwards, this course will focus purely on Advance Excel skills covering;

- Excel formulas and features
- Statistical analysis, Financial calculations and modeling
- Operation research (using solver)
- Data summarization, Reports and pivotal tables
- Automation using excel macro

ACC301 Independent Study - Accounting
This course in accounting research provides students with an in-depth examination of the International Financial reporting Standards (IFRS) and acceptable alternative reporting practices. Through comprehensive case studies, students will develop the research application skills necessary to analyze and make decisions regarding accounting reporting dilemmas in the corporate world.

ACC310 Advanced Managerial Accounting
The study of management accounting for internal reporting and decision-making. The course introduces a business-management approach to the development and use of accounting information. Major topics include cost behavior, cost analysis, profit planning and control measures. Accounting for decentralized operations, capital budgeting decisions, and ethical challenges in managerial accounting are also covered.

ACC312 Business Analysis and Decision Making
Accurate interpretation of Management accounts & financial statements is the key to improve Strategic planning and decision making. The important areas of this course are Time value of money, rules for preparing Financial statements including IFRS & GAAP specially keeping in view the subjectivity of FS and its subsequent impact on rational decision making are the key focus of this course. Further, concepts and processes used to develop Budgets are also an integral part of this curriculum.

ACC315 Financial Reporting
This paper is an extension of the previous Financial accounting paper. Financial statements are again the main feature of this paper with the inclusion of consolidated financial statements & additional concepts such as impairment of assets, events after the reporting period & prior years' adjustments etc. Focused must be placed on practical application of IFRSs in the modern business environment.

ACC320 Auditing
This course will provide an understanding of Auditing and it process. The role of, standard for, auditing continue to evolve. The traditional audit changes in response to factors such as technological advancement, the changing needs of users of financial information, regulatory changes and the increasingly litigious environment in which the auditors practice. The evolution of auditing stresses the importance of professional judgment, a critical cognitive skill in the practice of auditing.

A basic premise of this course is that "concepts" and "procedures" are inseparable. It is difficult to know when the concepts finish and procedures start. A second premise of this course is that the professional must begin with concepts and end with procedures and that is the whole idea of this course.

ACC381 Management Accounting
The aim of this course is to equip students with the management 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: ACC111, ACC201

ACC401 Advanced Financial Reporting
In this paper students are expected to demonstrate application of Accounting for Leases, treatment of deferred & current taxes, Intangible assets & borrowing costs in the Financial statements as per IFRSs. The most important sections of this paper is the practical knowledge of Business combinations & preparation of Consolidated Financial statements after accounting for all acquisition adjustments.

ACC415 Actuarial Courses
This introductory course about actuarial sciences starts from firm foundation in Mathematics and then moving on to other actuarial courses which ranges from Economics, Finance, actuarial models and contingencies. Students are advised to possess good knowledge of general and applied mathematics and statistics before taking this course.

ACC505 Accounting for Decision Making
This course is designed to provide future business executives with the fundamentals and skills of analyzing and using accounting information for management decision-making, planning and control. Topics include understanding and analysis of financial statements, information management and reporting. Besides, the course focuses on cost and managerial accounting concepts and techniques including cost volume profit analysis, capital budgeting, responsibility accounting, relevant costing, balanced scorecard, transfer pricing, internal control, flexible budgeting and financial measures of performance evaluation for enhancing organizational capabilities.
Prerequisite: ACC506

ACC506 Financial Accounting and Information Systems
This course is designed to provide future business executives with knowledge on the importance of accounting in business decision-making. It also aims to develop an in-depth understanding of fundamental accounting principles and concepts including the accounting equation, the accounting cycle, financial statement preparation and analysis, inventory management and receivables / payables for budgeting in business organizations. Finally, it provides an insight into the key role of modern accounting information systems in information management for business organizations.

ACC507 Accounting Information Systems - For Small and Medium Enterprises
This course is fully SAP integrated course which covers fundamentals of SAP financial accounting FI, Managerial accounting CO, Material management MM and Sales & distribution SD. The AIS course is different from other basic accounting courses in that it focuses on the processes and the working and interaction of various organization elements rather than the accounting information itself.

As against the traditional AIS curriculum, this course is more focused on business processes in SAP with minimum discussion of the technical aspects of systems development. The course is delivered with hands on experience on SAP.

ACC557 Auditing Theory & Practice
The objective of the course is to develop a framework for determining the nature and scope of the auditing process applicable in different environments. The course focuses on international standards of auditing, techniques for investigation, verification, interpretation and appraisal of accounting information and financial statements, together with accountability and ethical issues.

ACC559 IFRS & Financial Reporting in Pakistan
This course starts with the appreciation of the Framework for Preparation and Presentation of Financial Statements as approved by the International Accounting Standards Board. The course goes on to cover major provisions of some of the important International Financial Reporting Standards as applicable in Pakistan and major SECP pronouncements affecting financial reporting of publicly listed companies.

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 overemphasized.

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 taught largely through case studies and real life business problems, thereby stimulating effective student participation in the learning process.
Prerequisite:ACC501 / ACC201

ACC589 Project Evaluation & Financing
The topics covered include developing schematic framework for feasibility studies, conventional and non-conventional measures of investment worth their limitations and problems, developing project cash flows under special decision situations, investment appraisals under conditions of uncertainty and capital rationing, foreign tax credits, pre-investment and excess capacity related issues. The course also focuses on determining cost of capital, identifying, accessing and developing the optimal financing-mix.
Prerequisite: ACC201 or ACC501

LAW COURSES

LAW105 Politics and Law
This course includes the basic theories, concepts, approaches and enduring questions of political science. It provides in-depth knowledge and analytical skills to understand modern politics in historical context. Further, it provides a glimpse of local and international laws (i.e. War crimes, crimes against humanity, terrorism, political asylums etc.) and the effectiveness of politics within the framework of applicable laws.

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 a basic introduction to these laws and an appreciation of the legal system in Pakistan.

LAW301 Laws of Taxation
This course familiarizes students with the fundamentals of income tax in Pakistan. Major emphasis is placed on the concept of taxable income, preparation of income tax returns for individuals, partnerships and joint stock companies.
Prerequisite: MGT201 / MGT400

LAW303 Taxation
Taxation is an important tool for fiscal and economic management of a country by the Government. It is imposed on economic units to finance the expenditure of a Government and it is also used by Governments to encourage or discourage a certain sector / activity in the economy. Taxes consist of Direct Taxes and Indirect Taxes. The challenge for any Government is designing and implementing a taxation system which creates an equitable taxation regime based on sound taxation principles. In wake of the above background objective of this course will enable students to;

- Understand the structure of taxation system & laws in Pakistan;
- Learn practical application of taxation laws for decision making and planning in different economic and business scenarios.

LAW305 Corporate Law
This course provides an understanding of basic rules of corporate law such as formation of a company, separate legal entity, limited liability and role of company's directors & auditors. Further, the evaluation of corporate problems, identifying appropriate legal obligations, duties, rights and remedies are an integral part of this course.

LAW401 Tax Management and Optimization
This course is an extension of initial tax paper. It emphasizes on building a tax strategy by setting tax objectives and priorities and then negotiating and allocating resources accordingly. This course is developed keeping in mind the global business context where a company's corporate and tax strategies move line by line. It demonstrates the effect of double tax treaties and how financial resources can be optimized by effective tax strategy.

LAW501 Legal and Regulatory Environment of Business
Business decisions are made within the context of a complex regulatory framework. This course familiarizes the students with the laws and regulations at both national and global level that are pertinent to business decision-making. In addition to general introduction of legal framework, the course covers nature and implications of specific regulations such as company law, prudential regulations, WTO, Basle, IOSCO etc.

LAW553 Corporate Governance & Practices in Pakistan
In view of increasing corporate frauds arising mainly due to failure of proper internal Corporate Governance causing significant harm to all the stakeholders, the need for effective Corporate Governance and its proper implementation cannot be overemphasized. The topics covered in the course include the need for good Corporate Governance, discussion of Concepts, Principles and Systems of Corporate Governance, benefits of good Corporate Governance and detailed examination and critical evaluation of the Code of Corporate Governance of Pakistan along with their implementation-related issues. Qualifications, responsibilities, powers and functions of the 'Board of Directors', 'Chief Financial Officer (CFO)' and 'Company Secretary' are thoroughly

discussed. Responsibilities of internal and external auditors for financial reporting and corporate compliance are also discussed. This course is conducted on a seminar basis ensuring greater participation of students in the classroom discussions.

Department of Economics & Finance

ECONOMICS COURSES

ECO103 / 113 Principles of Microeconomics-I & II
Principal of Microeconomics – I is designed for students without economics background and principal of Microeconomics – II is designed for students with economics background..

ECO104 / 114 Principles of Macroeconomics-I & II
Principal of Macroeconomics – I is designed for students without economics background and principal of Macroeconomics – II is designed for students with economics background..

ECO201 Intermediate Microeconomics
The objective of the course is to clarify and extend further the microeconomic concepts and to develop analytical skills of the students along with strengthening their conceptual base. The course emphasizes on three main areas. The first area focuses on consumer theory including utility functions and demand elasticity and income elasticity. The second area covers the behavior of firms and includes topics like output maximization subject to cost constraint, costs of production, economies of scale and returns to scale. The third area focuses on the market structure and includes a discussion of perfect market, monopoly, monopolistic competition and oligopoly.
Pre-Requisite: ECO103, MTS101

ECO202 Intermediate Macroeconomics
This course is intended to develop the students' capacity to understand the issues and problems of the economy in a global scenario. The major topics of discussion include Classical and Keynesian schools of thought, theories of consumption, determinants of national income and investment, demand and supply of money and the labor market. Special emphasis will be placed on discussion the saving-investment gap in developing countries and the problem of inflation and unemployment with reference to Pakistan's economy. The students will be required to read and understand the Economic Survey, Annual Reports of State Bank of Pakistan, ADBP and World Bank.
Pre-Requisite: ECO104, MTS101

ECO301 Development Economics
This course focuses on factors that spur economic growth and analyzes the equation between economic growth and human welfare. It also critically examines various measures taken for human welfare. In addition, changes in economic structures such as sectorial output and employment relations and various developmental policies / strategies regarding distribution of income and sectorial development are focused upon.
Pre-Requisite: ECO103, ECO104& MTS112

ECO312 Microeconomics
The objective of this course is to confront the students to the advanced theoretical concepts of microeconomics and expose them to the rigorous analysis with mathematical tools at hand. The topics of discussion include utility maximization and ordinary (Marshallian) demand functions, cost minimization and compensated (Hicksian) demand functions, theory of production and supply, efficiency of competitive market, the economic cost of imperfect competition, theorems of optimality / welfare, and the tradeoff between equity and efficiency.
Pre-Requisite: ECO201, MTS112 & MTS201

ECO313 Macroeconomics
The course is intended to give the students a strong theoretical foundation so as to understand the real problems of the economy with particular emphasis on inflation, unemployment, instability, deficit and debt to which the developing countries are confronted at present. The discussion topics include wage rate determination, supply side disturbances leading to stagflation, determinants of the exchange rates, devaluation and its impacts for developing countries, policy formulation and implementation in the world of uncertainty and business cycles.
Pre-Requisite: ECO202, MTS112 & MTS201

ECO341 Introduction to Econometrics
This course enables the students to apply statistical methods to data through simple mathematical models and to interpret the results by using economic theory. The course introduces the students to the ingredients of econometric modeling which include specification, estimation, evaluation and forecasting. The topics of discussion are the simple two-variable model, the multiple linear regression models, multicollinearity, heteroskedasticity, time series data, auto correlation and the simultaneous equations models.
Pre-Requisite: ECO103, ECO 104 & MTS202

ECO342 Applied Econometrics
This course enables the students to understand the data problems, to have a good grasp over advanced estimation techniques and to have the capability of inferring results accurately. The course will require the students to learn certain computer packages like SPSS, e-views and strata besides excel. The major topics included in the course are classical regression model, generalized least-squares model, the maximum likelihood estimators, time series analysis and auto regressive distributed lag models.
Pre-Requisite: ECO341

ECO403 Major Issues in Pakistan Economy
The course intends to give an overview of Pakistan's economy with a detailed discussion of various issues like unemployment, poverty, income distribution, debt burden, deficit, etc. which the economy is facing. The main topics of discussion include agricultural development policies, mobilization of domestic resources, role of foreign aid, development of large and small industries, sectorial development, employment pattern, population growth, international debt dependency, inflation, foreign trade deficit and other emerging issues.
Pre-Requisite: ECO301

ECO411 Research Methods in Economics
The course will familiarize the students with the methodology by which economists conduct research, with an emphasis on the development of an effective research question and strategies for identifying relevant scholarly literature. Students will learn how to read theoretical and empirical research papers that contain mathematical exposition. The course will also provide students with an understanding of where and how to collect data used in economic analysis, and the limitations that the use of data imposes on economic inference. Students will apply their increased understanding of economic research methodology to produce their own literature review.
Pre-Requisite: ECO342

ECO511 International Trade
The course covers the various issues and theories related to international trade. The topics of discussion include theories of absolute advantage and comparative advantage, shift in production function resulting from international trade, Ricardian trade model, international wage differentials and productivity, free trade and income distribution, factor endowment and Heckscher-Ohlin Model, transfer of resources, tariffs, quotas, trade barriers, major trade rules by WTO, contributions of International financial institutions and monetary integration.
Pre-Requisite: ECO201 & ECO202

ECO451 Public Finance
This course emphasizes on the application of economic theory to the analysis of the issues related to public expenditures and taxation. The course discusses public goods and free rider problems, theories on public expenditures, social cost benefit analysis, fiscal policy and Distributional Equity in Taxation. The course also includes the discussion of budget cycle and tax structure in Pakistan.
Pre-Requisite: ECO103 & ECO104

ECO452 Islamic Economic System
The course includes the discussion of the concept of Islamic method of economic life, rules and legal provisions that govern the economic life and financial transactions, universality of Islam and the perfection in terms of attention to matters in various economic fields, and the extent of its effectiveness in finding appropriate solutions. The course as compared to the foundations of Islamic economic system. Also discusses the Islamic economic system as a reference for each senior development in the arena of economic life and the failure and ineffectiveness of economic systems status in solving the economic problems and volatility.
Pre-Requisite: ECO103 & ECO104

ECO654 Labor Economics
This course will allow the students to extend their knowledge of economic theory and apply it to the labor market. the course addresses the topics of labor demand and supply, Wage Rigidity, role of labor unions and Unemployment, Labor Market Discrimination, labor policy, theories of labor movements and child labor. Students will have an opportunity to use both economic theory and empirical evidence to analyze in depth topics such as income distribution, wage structures and differentials and the impact of immigration and globalization on the labor market.
Pre-Requisite: ECO103 & ECO104

ECO454 Population Economics
The course aims at exposing the students with the main population dynamics, their socio-economic determinants, consequences and their measurements. The major areas of focus include history of population growth, population theories, components of population changes, economic and social determinants of population trends and their consequences and population policies and their impacts. Special emphasis will be placed on discussing the population programs in Pakistan and their impacts, regional / provincial distribution of population in Pakistan and the impact of population growth on our economic development.
Pre-Requisite: ECO103 & ECO104

ECO455 Comparative Economic System
This course seeks to develop concepts enabling students to differentiate the various economic systems from one another. It provides students

with an understanding of the organization, operation and performance of economic systems, both in theory and in practice. The course includes the discussion of general categories of feudalism, capitalism, socialism, Communism and Marxism. The course includes a detailed discussion of Islamic economic system and the economic system of Pakistan.
Pre-Requisite: ECO103 & ECO104

ECO456 Economics and Strategy
In this course, students will explore the concepts, methods and tools of managerial economics with an emphasis on business decision-making in domestic and international settings. Topics discussed include: demand theory, supply, the price system, cost analysis, market structures, factor pricing, decision criteria and international economics. The course integrates economic reasoning with statistical techniques in order to facilitate strategic decision-making under conditions of uncertainty.
Pre-Requisite: ECO103 & ECO104

ECO461 Natural Resource and Environmental Economics
The course explores the economic basis of environmental issues and policies. The topics of discussion include models of pollution control, value of health, life and safety, emergence of environment issue in Pakistan, industrial waste, agricultural issues related to pesticides use, salinity and water logging, urban environmental issues, public and private efforts to improve environment quality, Ozone depletion and the economics of global warming. Environmental policy and strategy in Pakistan will also be discussed in detail.
Pre-Requisite: ECO103 & ECO104

ECO462 Rural Development
The course introduces the structure of the rural economy encompassing socio-economic set up, developmental status and core social, economic and environmental problems to the students. The course also intends to impart knowledge to the students about the historical background, evolutionary planning process of rural development & familiarize students with the rural scene of Pakistan.
Pre-Requisite: ECO103 & ECO104

ECO562 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
Pre-Requisite: ECO103 & ECO104

ECO464 Game Theory
The course develops a rigorous presentation of key concepts in game theory, and emphasizes their applications to economic modeling. Contents include: choice under uncertainty and Von Neumann Morgenstern utility; games in normal form: mixed strategies, Nash equilibrium (existence and stability); games in extensive form: backward induction and other equilibrium refinements; games with incomplete information: Bayesian Nash equilibrium; cooperative games: core stability and the Shapely value.
Pre-Requisite: ECO103, ECO104& MTS101

ECO465 International Political Economy
The objective of this course is to train the student to think systematically about the current state of the economy and macroeconomic policy, and to be able to evaluate the international economic environment within which business and financial decisions are made. The course emphasizes the use of economic theory to understand the workings of financial markets and the operation and impact of government policies.
Pre-Requisite: ECO103 & ECO104

ECO566 Monetary Economics
This course is designed as a survey of the basic theories in monetary economics for undergraduate level students. The main objective of the course is to help students understand the core aspects of monetary economy: how monetary phenomena and policies are determined, and how they interact with the rest of the macro economy. For that purpose, several key theoretical frameworks will be constructed, and various monetary economic phenomena including monetary policy actions will be analyzed within such frameworks. Major schools of thought in monetary economics, and their differences, which give rise to different policy implications, will also be discussed within those theoretical

frameworks along with the empirical evidence. Further, the review of tools of empirical analysis will help student in organizing their thoughts and applying monetary theories on Pakistani data. Finally, with the clarity of theoretical linkages along with the empirical testing of sensitivity of such linkages, it will be easier for students to understand the mechanism and framework of monetary policy.
Pre-Requisite: ECO103 & ECO104

ECO467 History of Economic Thought
This course is designed to provide an introduction of the contributions of major economic thinkers from the late scholastics to the present. The course will enable the students to explore the historical circumstances under which different economic theories arose. Main areas of focus include contributions of classical school: Adam Smith, Malthus and Ricardo, socialism, neo-classical economics, Keynesian and post Keynesian schools and the emergence of modern economic thought.
Pre-Requisite: ECO103 & ECO104

ECO468 Agriculture Economics
This course illustrates the role the agriculture in economic development and the various issues related to agricultural development. Major topic of discussion include the theory of rent, agricultural surplus, agriculture in dualistic development models, technological change in agriculture, supply response and food supply theories. Special emphasis will be placed on discussing the agricultural issues in Pakistan like agricultural productivity, use of inputs, malnutrition, land ownership, soil degradation and green revolution.
Pre-Requisite: ECO103 & ECO104

ECO469 Regional Economics
The course includes a discussion of different types of regions; need for planning for local level development; theoretical and practical problems of regional development planning, linkage between planning and implementation at grassroots level, theories of inter-regional economic growth; shadow pricing and socio-economic development; centralized and decentralized planning and financing for development; regional policies for development and regional (Provincial) development in Pakistan.
Pre-Requisite: ECO103 & ECO104

ECO471 Health Economics
The course includes the study of determinants of health, including behavioral, economic and social factors and access to health care. Students in the health economics course will apply economic theory and empirical analysis to study how socioeconomic status, public policy actions, and individual decisions influence health outcomes. The analysis of medical care industry and economics of private insurance markets comprise another important area of study in the course.
Pre-Requisite: ECO103 & ECO104

ECO472 Urban Economics
The course deals with the nature and development of urban areas. The analytical sections of the course deal with the location of firms and households in an urban spatial context, the size distribution of urban areas, the theory of land rent, and optimal city size. Various urban problems such as poverty, pollution and environmental quality are discussed. Other policy questions deal with congestion tolls and efficient highway investment, land use regulation, central city fiscal problems, and alternative educational policies.
Pre-Requisite: ECO103 & ECO104

ECO473 Welfare Economics
This course introduces students to basic concepts in welfare economics to allow an understanding of important economic factors affecting the level of social welfare. The conditions for Pareto optimality, alternative welfare criteria, measures of consumer surplus, optimal income distribution, external effects, public goods, the theory of second best and the basic theory of social choice will be discussed.
Pre-Requisite: ECO103

ECO474 Resource Economics
This course aims to provide the students a broad introduction to the economics of natural resources and the environment. It intends to develop a systematic understanding of the economic rationale behind the optimal use of natural resources, Pricing of market and non marketresources, application of environmental policy instruments, economic valuation principles.
Pre-Requisite: ECO103 & ECO104

ECO501 Managerial Economics
The course prepares students for decision-making using various analytical tools and techniques. These tools thus developed in this course are helpful for decision-making in areas such as organization, production, marketing and evaluation of data. Students learn a variety of scientific management tools like problem-solving techniques using consumer theory, producer theory, and theories of markets, statistics, econometrics and mathematics.

ECO502 Macroeconomics
This course provides an overview of the following macroeconomic issues: the determination of output, employment, unemployment, interest rates, inflation, monetary and fiscal policies, public debt and international economic issues. This course also introduces basic models of macroeconomics and illustrates principles with reference to Pakistan.

ECO517 Global Economic and Political Environment
The course aims to develop an understanding and application of social, political and cultural

changes and economic development in society (sensitizing students in the history of Pakistan and its social, political and economic development and global economic trends, making them understand the macroeconomic factors affecting business corporations and leadership). Overall, it highlights social, cultural, political, economic, environment and development trends.

ECO560 Public Policy Analysis: Theory and Practice
This is the first course in the public policy analysis sequence. This is a course about identifying, analyzing, and solving policy problems. The course is designed to provide a thorough introduction to public policy analysis with a balance between theory and practice. We will exert considerable effort to explore policy analysis in developing countries. During the course, we will explore implications for public policy and reform in Pakistan and for business strategy. This course is a step to:

(i) Develop a cadre of technically competent policy analysts who can advise on public policy to governments, international development institutions, businesses, and non-profits and;
(ii) Groom future civic leaders who will influence their institutions, society, and public policy. Students will apply the policy analysis process to diverse policy problems in Pakistan that are of interest to them.

Pre-Requisites: ECO531 / ECO501 / ECO102 / ECO104 / ECO103 / 113

ECO561 Environmental and Resource Economics
This course is designed to provide a rigorous introduction to microeconomic frameworks and tools for analyzing and improving the efficiency of natural resource use and environmental protection. Students will explore the dynamics of natural resource use and environmental protection and the policy instruments used to improve the efficiency of resource use and efficiency and effectiveness of environmental protection. Considerable effort will be exerted to apply these concepts and policy instruments to policy problems in developing countries with particular emphasis on Pakistan.
Pre-Requisites: ECO301 / ECO312 / ECO501 / ECO531 /

ECO574 Water Economics and Policy
This course is about the economics and public policy associated with water and its applications, pricing, valuation, demand, and supply. This course is particularly relevant in Pakistan where a majority of the population's access to water is at risk, access to safe potable water is limited, and the irrigation system is the backbone of the economy. The course provides a rigorous introduction to water scarcity and its implications for supply, pricing, and demand, and public policy issues related to social institutions, water property rights and climate change.
Pre-Requisites: ECO301 / ECO312 / ECO501 / ECO531 /

ECO575 The Microeconomics of Public Policy Analysis
This is the second course in the public policy analysis sequence. This course is designed to enable students to apply microeconomic frameworks for conducting policy analysis. Students will explore the economic rationales for public policy, microeconomic models of individual choice for policy analysis, potential policy interventions in markets, and sources of market failure and institutional choice. Students will learn to develop microeconomic models for public policy analyses in diverse applications of interest to them.
Pre-Requisites: ECO301 / ECO312 / ECO501 / ECO531 /

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 short-term assets of the firm.

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 include the banking industry, the non-banking financial institutions, the stock market, the bond market and the foreign exchange market.
Prerequisite: FIN201

FIN305 Alternate Investments
The purpose of this course is to explore the world of alternative investments such as investments on hedge funds, private equity / venture capital funds, real estate, and commodities, either directly or through funds of funds. The course will combine theory with empirical exercises, allowing students to get a "hands-on" experience. We want to see what the return-risk characteristics of alternative investments are, what attributes to their appeal, and how to construct a portfolio using them.

FIN308 Real Estate Investments: Analysis and Financing
The course examines debt and equity financing for residential and commercial real estate properties. The objective of the course is to establish a solid foundation in the fundamentals of real property valuation and underwriting, as well as an understanding of the various debt and equity financing alternatives available and

in use in the capital markets. The course will also examine lender and investor perspectives on risk and reward across property types.

FIN310 International Banking
This course aims at providing students with an understanding of the operating environments of international banking institutions. The course will look at the nature and theory of international banking, the major functions of international banking (international trade financing, participation in the interbank foreign exchange and Eurocurrency markets, international investment banking services, and sovereign lending), and other important issues (international money laundering, international banking crisis, regulation of international banking, international debt crisis, and offshore banking markets). The course will also include a discussion of international monetary law - primarily, the law and guidelines established by the International Monetary Fund and Bank for International Settlements.

FIN312 Behavioral Finance
This course describes how individuals and firms make financial decisions, and how those decisions might deviate from those predicted by traditional financial or economic theory. Students explore the existence of psychological biases in financial decision-making, and examine the impacts of these biases in financial markets and other financial settings. The course examines how the insights of behavioral finance complements the traditional finance paradigm.

FIN315 Corporate Restructuring
Corporate restructuring involves any substantial change in a company's financial structure, or ownership or control, or business portfolio, designed to increase the value of the firm. This course will be taught around several major topics employing in-depth group work on case studies and deal documentation. The focus will be on identifying situations that call for nonstandard corporate finance solutions, and the design and pricing of the situation-specific financing instruments. Examples of such situations include stress-induced financial restructuring, recapitalizations, private equity and leveraged buyouts, mergers and acquisitions, and divestitures. In many cases resolving these issues will require structured finance solutions. Structured finance techniques include the design of debt, equity and hybrid financing techniques in order to resolve particular issuer or investor problems that cannot be solved by conventional methods

FIN320 Empirical Research in Finance
This course introduces basic methods that are used in contemporary financial research. The objective is to provide students with the necessary tools to study the relevant literature of other core courses in the program and to conduct empirical financial research within the framework of the Master's thesis. The course pays ample attention to the intuition and the practical applicability of a variety of econometric techniques that are widely used in contemporary empirical financial research. Reference will be made to many real world examples from the corporate finance and asset pricing literature. The classes intend to provide hands on experience with an econometric package such as STATA and will focus on a careful interpretation of the empirical results obtained.

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

FIN405 Venture Capital and the Finance of Innovation
This course covers the finance of technological innovation, with a focus on the valuation tools useful in the venture capital industry. These tools include the "venture capital method," comparables analysis, discounted cash flow analysis,Monte Carlo simulation, contingent-claims analysis, decision trees, and real options. Specific topics of the course include investment selection, due diligence, valuation, negotiation, portfolio company management, exits, limited partners, and firm management. Students will develop a perspective and a framework for understanding the practical aspects of the business as well as the current state of the venture capital industry

FIN410 Buyouts and Acquisitions
The focus of this course is on buying (or acquiring controlling stakes in) firms. The main topics to be covered are mergers and friendly acquisitions, hostile takeovers and buyouts. Using case studies, the course surveys the drivers of success in the transactions. While issues regarding motive and strategy will be discussed, financial theory would be the main lens used to view these control acquiring transactions.

This will allow students to
(1) Evaluate transactions through valuation approaches and;
(2) Structure deals employing financial innovation as a response to legal framework and economic frictions. This course should be of interest to students interested in pursuing careers as private equity investors, advisors in investment banking and corporate managers that deal with these issues. This course will be demanding and assumes familiarity with valuation analysis.

FIN425 Branch Banking
This course introduces participants to the concept of branches in banks, functions of a branch and its role in the overall banking arena, products and operations of a branch and the laws and regulations that govern its operations. The course is aimed at building primary knowledge base for bankers of all levels to better understand the branch level functionalities and its scope

FIN426 Lending- Products, Operations & Risk Management
The course aims to provide insights into the nature of lending products, the related operations and the role of risk management in maintaining a healthy lending portfolio. Information about the prevailing mark up rates, their structures and the impact they have on income recognition is made part of the syllabus. This course also introduces the various types of financing facilities available in the local as well as the global market. Furthermore, the course gives an insight about the risk management concepts along with basic knowledge of fraud and how to assess lending risk and risk appetite

FIN427 Finance of International Trade and Related Treasury Operations
The principal objective of this course is to impart knowledge and expertise in the field of international trade finance & related treasury operations. It enables students to understand the role of banks in international trade, the risks inherent in trade and become aware about local laws and regulations as well as international conventions / practices.

FIN428 Introduction to Marketing of Financial Services
The objective of this course is to familiarize the applicants with the basic concepts of marketing, its scope and application in the corporate arena specifically in banks. Concepts of brand equity, marketing management and customer relationship management are discussed in detail. Also, information on developing the marketing mix, distribution of products and logistics management is covered. Primarily this course aims to provide an in-depth appreciation and understanding of the unique challenges inherent in managing and delivering quality services.

FIN429 Information Technology in Financial Services
With the increasing use of and reliance on technology in the financial services industry, bankers need to know not only the basic computing concepts but also understand the correlation that now exists between banking and technology. This course is designed to equip participants to have an understanding of the above.

FIN451 Investment Banking
The aim of the course is to introduce the students to the various facets of the Investment Banking Industry.
The course begins on a broad conceptual level with an examination of the philosophy and the scope of Investment Banking, and then narrows down to focus on the different facets of Investment Banking. This includes Secondary Markets (trading in the stock markets), Primary Markets (listing regulations, pricing of Equity and Term Finance Certificates for the Initial Public Offers), Financial Innovation, the concept and the basic building blocks of Financial Engineering, Eurobonds, Funds Management, and the Regulatory Framework interfacing the Investment Banking Industry.
Prerequisites: ECO103 / ECO201, ECO104 / ECO202 & FIN401

FIN452 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: ECO10413 / ECO202 and FIN401

FIN453 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: FIN401

FIN454 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: FIN401

FIN455 Portfolio Management
This course introduces the theory and practice of investment analysis and portfolio management. The course surveys various quantitative applications and assets valuation models and their use in constructing a profitable investment portfolio. Topics include designing portfolios, risk diversifications, conceptual framework for making risk management and insurance decisions to increase business value and individual welfare, institutional aspects of the managed funds sector in Pakistan market structure and market efficiency. Security valuation models, setting investment goals and policies, equity and fixed income portfolio strategies and portfolio performance, transaction costs, turnover and trading are also covered.
Prerequisite: FIN401

FIN456 Financial Risk Management
The course provides students with a quantitative perspective of risk management and the conceptual framework for making risk management and insurance decisions to increase business value and individual welfare. The effects of, and rationale behind public policies that affect risk and allocation of risk among businesses and individuals are also discussed.
Prerequisite: FIN401

FIN457 Derivatives
The course deals with applications of derivatives, investigating the risks involved in derivative instruments, and examining how investors adjust the payoff pattern of their portfolios. The course also deals with various topics, like types of option contracts, taxation of option contracts, binomial option pricing model, Black Sholes model for call options, portfolio insurance, future versus call options and synthetic futures.
Prerequisite: FIN401

FIN458 Fundamentals of Treasury and Fund Management
It deals with an in-depth analysis of the various methods of treasury and fund management, incorporating asset pricing, expectation theory, interest rate risk and the term structure of interest rates. The differences among asset and liability management, managing interest rate risk, and selling interest rate risk products are also covered.
Prerequisite: FIN401

FIN506 Business Finance I
This course aims at introducing the students to the theory and principles of business finance. The course starts with the goals of a corporation and the basic financial decisions. Successful completion of this course will enable the students to evaluate the financial performance of a firm, calculate the measures of risk and return, understand the principles, time value of money and discounted cash flows, net present value, internal rate of return, identify techniques used to manage acceptable levels of net working capital, and ratio analysis

FIN507 Business Finance II
The course builds up on the topics that are covered in the introductory business finance course. It provides the students with an understanding of the financial securities' evaluation and the computation of the cost of capital. The management of corporate capital structure, particularly the choice between debt and equity financing and dividend policy, forecasting techniques, types of financing and investment options are also discussed in this course.
Prerequisite: FIN506

FIN531 Financial Intermediation
This course reviews the evolution of financial intermediaries in the global economy. The role played by financial intermediaries to integrate the financial system would be discussed. It will expose the participants to analyze recent global credit and subprime crises and develop a comprehensive understanding of the integrated financial system. Focused discussion will take place with respect to Pakistan market and participants would be required to develop intermediary solution for further broadening of the financial markets along with the legal and regulatory prospective.

FIN532 Advance Credit Management
Credit is the bread and butter of banking. It is the core function of every bank, without which a bank cannot sustain. Recent banking crisis has highlighted the importance of sound credit management across the world. The course will include introduction to credit management, fundamentals of credit management, classic credit analysis, Credit-related regulations in Pakistan, Principles for management of credit, Program-based vs. Relationship-based credit management, Credit management under Base III, Credit portfolio management, Credit rating, Credit documentation, Problem credits management.

FIN533 Financial system - process, players, status and prognosis
The Course will cover detailed study of the financial system significance and role in the Economy, Financial institutions, financial markets, financial instruments - term and type based, financial services, monetary policy, Forex and debt management , financial sector reforms: analysis and suggestions, financial system: issues and challenges, global financial crisis and lessons learnt, macro prudential financial stability framework, financial safety nets / ensuring financial soundness and financial infrastructure.

FIN541 The Strategic Management of Banks
The top leader of a bank, the visionary has to have an eye on all critical areas, including but not restricted to; products, customers, competitors, Board of Directors, human resource, regulators, policies, financial and non-financial resources, operations, controls, risk factors, liquidity, profitability and reputation. Banking is becoming more complex and exposed to multidimensional risks. The global financial crisis 2007-8, depicted how the big guns / giants have failed to see the impending danger and take timely action. The eventual hit was taken by the tax payers and the system will swallow the bitter pill. This course is aimed at raising all these issues to offer a holistic view to the future leaders of the bank.

FIN552 International Financial Management
The course begins with the introduction of real world institutions and analysis of financial concepts and uses questions and short problems to clear these concepts. Those cases are used that focus on managerial practices and real world issues and decision problems. The course also deals with how evaluations of the international monetary system provide challenges and also opportunities for the key players in the field.
Prerequisite: ECO501 / FIN507

FIN554 Investment Banking & Financial Services
The aim of the course is to introduce the students to the various facets of the Investment Banking Industry. The course begins on a broad conceptual level with an examination of the philosophy and the scope of Investment Banking, and then narrows down to focus on the different facets of Investment Banking. This includes: Secondary Markets (trading in the stock markets), Primary Markets (listing regulations, pricing of Equity and Term Finance Certificates for the Initial Public Offers), Financial Innovation, the concept and the basic building blocks of Financial Engineering, Eurobonds, Funds Management, and the Regulatory Framework interfacing the Investment Banking Industry.
Prerequisite: FIN507

FIN556 Security Analysis & Capital Markets
The course covers an analysis of the economy, current state of the economy, significance and interpretation of economic indicators, industry analysis and the growth cycle, company analysis, marketing, accounting and dividend policies, capital structure analysis and fundamental security analysis. The course also includes changes in financing patterns of Pakistani companies, their debt-equity ratio and cross-sectional variation in Debt Financing. Short cases and problems are used to clear concepts.
Prerequisite: FIN507

FIN558 Regulation & Financial Markets
The course is designed for studying finance and financial laws, and does not assume any previously studied financial regulations. It is designed to contribute to enhance students' understanding of the ways in which government and public authorities intervene in the operation of financial markets. The course also provides a critical view of current regulatory development with the aim to identify the most appropriate regulatory policies toward increasingly complex financial phenomena and markets.
Prerequisite: FIN507

FIN559 Islamic Finance
This course will cover the fundamental principles of Islamic Finance and banking. Islamic banking refers to a system of banking or banking activity that is consistent with Islamic law (Shariah) principles and guided by Islamic economics. In particular, Islamic law prohibits usury, the collection and payment of interest, also commonly called riba. Generally, Islamic law also prohibits trading in financial risk (which is seen as a form of gambling). In addition, Islamic law prohibits investing in businesses that are considered unlawful, or haraam.

FIN560 Advanced Corporate Finance
This course covers analytical foundations of corporate financial policies and strategies. It deals with exploration and application of theoretical and empirical literature on firms'

investment and financing decisions. Topics include valuation, tax policy, option pricing, mergers and acquisitions, and corporate bankruptcy.
Prerequisite: FIN507

FIN563 Advanced Portfolio Management
This course introduces the 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 portfolio. Topics include designing portfolios, risk diversifications, conceptual framework for making risk management and insurance decisions in order to increase business value and individual welfare, institutional aspects of the managed funds sector in Pakistani market structure and market efficiency. Security valuation models, setting investment goals and policies, equity and fixed income portfolio strategies and portfolio performance, transaction costs, turnover and trading are also taught in this course.
Prerequisite: FIN 507

FIN565 Treasury and Fund Management
The course deals with an in-depth analysis of the various methods of treasury and fund management, incorporating asset pricing, expectation theory, interest rate risk and the term structure of interest rates. The differences among asset and liability management, managing interest rate risk, and selling interest rate risk products are also covered.
Prerequisite: FIN507

FIN567 Risk Management
The course provides students with a quantitative perspective of risk management and the conceptual framework for making risk management and insurance decisions to increase business value and individual welfare. The effects of, and rationale behind, public policies that affect risk and allocation of risk among businesses and individuals are also discussed.
Prerequisite: FIN507

FIN568 Derivatives & Risk Hedging
This course is designed to provide a thorough knowledge of valuation and hedging of derivatives contracts such as options, futures and forwards. The practice and application of options and futures in risk management is also demonstrated. Empirical hands-on exercises using Microsoft Excel will be assigned throughout the course. The course also examines the issues in regulation of derivative market and their importance in socio-economic settings. The course also enables students to read and analyze current financial news on derivatives trading.
Prerequisite: FIN507

FIN569 Financial Econometrics
This course introduces econometrics emphasizing the application of least squares method to cross-sectional and time series financial data. It covers mainly the estimation of linear regression model and deals with various econometrics problems associated to model estimation, such as multicollinearity and heteroscedasticity, and extensions such as simultaneous equations, co-integration techniques, etc. These techniques are applied to estimate and forecast risk premiums, return volatility and optimal mix of financing, and other related financial models
for investment decision-making.
Prerequisite: MTS506 / FIN507

FIN574 Financial Modeling
The course teaches how to conceive and build a financial The course also deals with how financial models guide commercial decisions, and how to negotiate off the model.
Prerequisite: FIN507

FIN577 Seminar in Finance
The course provides an introduction to empirical research in finance, heavily skewed toward 'Capital Markets'. This course is essentially discussion-oriented. The participants are required to write a paper which is to be an original research or a critical review of an area. Plagiarism will not be tolerated.
Prerequisite: FIN507

Department of Management

MANAGEMENT COURSES

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 with 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, good and bad, right and wrong so as to develop a criterion of judgment for socially responsive behavior. This course examines 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. Fundamentals of lessons of Islamic society and those of all other religions are also included.
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 will be discussed. The course will provide an opportunity to evaluate various selected theoretical concepts and their application to business organizations.

MGT401 Small Business Management
This interdisciplinary course emphasizes the importance of small businesses 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 teaching 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.
Prerequisites: 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 process, business lifecycle, principle concepts and general guidelines for establishing a new business enterprise at a small or large scale in a dynamic business environment.
Prerequisites: MGT201, FIN201,MKT201

MGT 430 Managerial Policy
This is an advanced management course in strategic planning, policy formulation and implementation that develops an integrated organizational viewpoint by inter-relating the functional areas of finance, marketing, production, human resource and the general business environment. As a course in business statesmanship and leadership, it intensively uses case studies to develop class discussions on real life situations.
Prerequisites: MGT201, MGT211, MGT221, FIN201, MKT201, HRM401, ECO103, ECO201. spread over 2 semesters, 3 credits each. The FME course will be taught by two faculty members from different disciplines. The students will take this course in semester 3 & 4.

MGT455 Executive Leadership
This course provides a comprehensive review of current theories and best practices to students, which enables to understand the role of Effective Leadership in Building Successful Corporate Culture. The students will comprehend the well known fact that the sources of competition today have more to do with the ways one manages people and the ways those people interact. Unlike patent, technology and other competencies, it is the only unique value proposition that cannot be copied. It also provides opportunities for leadership research projects.
Prerequisites: MGT201, HRM401

MGT506 Corporate Strategy
Corporate Strategy is designed to train the students in methodologies of formulating and implementing successful strategies. Students learn to view, analyze and solve business problems from an integrative perspective and learn how firms develop and sustain competitive advantage over time. The valuable insights acquired in various functional areas are applied within an integrated conceptual framework. The course uses case-method as the primary teaching methodology.

MGT510 Operations and Production Management
This course includes design, planning, and control of a firm's capabilities and resources. The course 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 and efficient systems. The operations aspect of the course examines the establishment processes that create the products and / or services for a company's market and at the same time increase its competitiveness in terms of cost, speed, quality, innovation, flexibility and dependability.

MGT512 Strategic Human Resource Management
Organizations derive their sustainable competitive advantage on the basis of the resource bundle they possess, their ability to formulate a strategic fit with the environment and skills to efficiently implement the same. This course is a bridge between formulation and efficient strategy implementation through people. It addresses the issues behind the right mental attitude, required knowledge and optimization of skills needed to accelerate profitable business growth. The course will be taught through case method and augmented with required text and industry academia interaction.

MGT513 Business Strategy
A strategy is a set of policies, objectives and resource commitments that determine how a business positions itself to create wealth for its stakeholders. Business strategy is designed to train students in methodologies of formulating and implementing successful strategies. The course primarily uses the case method as a teaching methodology. Topics include the analysis of industry economics, boundaries of the firm, strategic positioning and competitive advantage and the role of resources and capabilities in sustaining and shaping competitive business advantages.

MGT519 Personal Effectiveness and Communication (Non-Credit)
This course introduces the students to being more 'self aware and effective leaders' in today's complex business environment. A key element of 'knowing thyself' is about sorting out what's really important to the students along with a clear sense of their personal principles and priorities. Without these aspects, it's almost impossible to bring the picture of our preferred future or vision sharply into focus. The course includes an introduction to key tenets of effective leadership, which help the students to develop a toolkit of new skills and strategies for leading effectively. It also discusses and develops their interpersonal skills as well as teaches them how to be effective in a team-based environment.

MGT552 Strategic Management
This course is designed to give a broad overview of the concepts and applications of state-of-the-art management and presents a horizontal view of the organization. It is an integrative course that pull together all the functional areas in marketing, finance, human resource, operations / production, labour management relations, research and development and general management. It takes a cross-functional view of the organization and prepares it to make an effective response to dynamic external environment by elevating external environmental scan and analysis to functional level importance. As a part of this course, a conceptual base is prepared first that is followed by case analysis to demonstrate how business enterprises effectively steer their course in rapidly changing external environments with a view to accomplishing the mission of the organization. As a part of case analysis, strategic alternatives are generated and a strategic choice is made.

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 topics 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 the Project Management Institute PMBOK standard.
Prerequisite:MGT201 / MGT400

MGT557 Organizational Behavior and Leadership
This course provides an understanding of how an organization works and the behavior of groups and individuals within it. It aims at inculcating 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, corporate vision, organizational culture and leadership; designing effective organizational structure, small group behavior and inter-group conflict are extensively covered. This course exposes students to frameworks for diagnosing and solving problems in organizational settings.

ENTREPRENEURSHIP COURSES

Foundation for Management & Entrepreneurship (FME) MGT102 / 103
FFME is a one year course which encompasses the world of business in which student teams create, develop, launch & manage business. During the courses, students study entrepreneurship, marketing, accounting, organizational behavior, information systems, and operations. The CED at IBA would fund up to Rs.100, 000 /- as a start-up money for student businesses. Each team comprises students, who will start and run the business across 2 semesters. This is a 6-credit hour course, spread over 2 semesters, 3 credits each. The FME course will be taught by faculty members from different disciplines. The students will take this course in semester 3 & 4.

ENT451 Marketing for Entrepreneurs
This course provides an in-depth study of entrepreneurial marketing strategies for the 21st century. It covers marketing strategies for startup small and medium sized companies. The course also covers issues related to sustaining business in a highly competitive environment. The need of management to operate flexibly, make maximum use of scarce resources in human resource, equipment and funds, as well as the opportunities that exist within new and established markets. Teachers' pedagogy is a combination of lectures, case study analyses and group assignments involving entrepreneurial products or service offerings.

ENT452 Entrepreneurial Finance
This course focuses on the various aspects of funding and managing entrepreneurial ventures through the various stages of business growth and focuses on understanding business models and kinds of organizations and the various ways these can be financed (i.e. corporate, technology, non-profit). Students will learn: 1) the value of pro forma financial planning and what if analysis; b) the various ways to fund and manage the growing firm from inception through harvest with a particular emphasis on deal structure and risk / reward scenarios for different investor types. The class will utilize cases based on real world companies from various industries to cover topics in investment analysis, financing the entrepreneurial firm, managing the growing business and harvesting. Frequent guests ranging from entrepreneurs, private equity venture capital, banking and legal professionals will bring the entrepreneurial experience to life in this course

ENT453 Business Law for Entrepreneurs
This course teaches entrepreneurs how to manage the law from start-up with contract law and forms of business organization through securities law for public offerings, mergers & acquisitions, and bankruptcy. To succeed, businesses need to effectively manage intellectual property and employment law issues. Managers also must be aware of their legal obligation of loyalty to the firm and seek to manage litigation risks involved with product liability, antitrust and other areas of law. Managers have a legal obligation to society in terms of minimizing crime and tort liability for themselves and their employees.

ENT454 Entrepreneurial Management
A survey of management topics designed to give students a broad view of the environment and techniques of entrepreneurial business, introducing various disciplines including strategy, entrepreneurship, accounting, finance, marketing, marketing research, organizational behavior, and effective presentations. The backbone of the course is a business plan where student teams create product or service concepts which are then developed into a cohesive and persuasive business plan. At the end of the semester, the plans are presented to and evaluated by a panel of judges including debt and equity capital providers, entrepreneurs, and the teaching team.

ENT455 Family Business Management
Entrepreneurship is the key to family business success. A family business enterprise must view each challenge from a multi generational perspective. The business must also examine its goals, objectives, and ability to reinvent itself and its growth. The course is most useful for students interested in the issues, challenges and unique concerns of family business involvement and management and in starting up businesses with family members. It is intended for those who are now affiliated with family firms or may be in the future, or those who may start their own businesses. It is organized around the following themes: mentoring, reinvention, individual development and career planning; management of family structure, conflicts, and relationships; and organizational issues including succession and estate planning, strategic planning, and formalizing the firm.

ENT456 Developing Entrepreneurial Opportunities
This is a course that will provide students with the knowledge needed to recognize and evaluate entrepreneurial opportunities in a

variety of settings. The course is also intended to give students a solid understanding of the vital role played by entrepreneurs and entrepreneurship in the global economy. Entrepreneurial behavior is a human universal and the course will approach it as a way of thinking and acting. The course's emphasis will be on entrepreneurship as a manageable process to be applied in virtually any organizational setting. We will identify the many ways in which entrepreneurship manifests itself and discuss the characteristics and implications of social entrepreneurship, high-tech entrepreneurship, corporate entrepreneurship, public sector entrepreneurship, family business, and other contexts. It explores entrepreneurial thinking and how thinking affects our behaviors that lead to entrepreneurial action.

ENT457 Women's Entrepreneurship & Leadership
This course explores leadership roles that have been held by women in politics, social movements, science, engineering, business, religion, and the arts, using readings, movies, and guest lectures. In each case, we consider what difference gender makes. It covers the constraints and enables the unique contribution of these women leaders, what barriers they faced, what are the qualities of a good leader, are they the same for men and women. This course is designed to help you acquire the knowledge, attributes, skills, practices, and resources necessary to achieve your leadership potential. The course will include self-assessment; self-leadership development; and exploration of leadership philosophy, traits and styles within diverse cultures and contexts from a woman's perspective. You will emerge from this experience with an enhanced knowledge of your own leadership capacity; an ability to identify and analyze the leadership styles exhibited by others; an expanded network of peer advisors, colleagues and mentors who will contribute to your leadership development; and a clearer understanding of leadership in diverse cultures and contexts.

ENT458 Social Entrepreneurship
Social enterprises are often launched to address problems where government, the private sector and the traditional non-profit sector fail to provide a public good. These organizations adapt various aspects of the market model emphasizing a core value of profit leveraged to a social end, rather than as an end itself. The course emphasis will be on how such organizations are started, how they are sustained, and the various business models that are adopted to achieve an organizational mission. The focus will be on how to bring and adapt business skills to the creation and management of social enterprises. It provides a conceptual framework and techniques for thinking strategically about innovation in the social sector. The students are made to understand that for profit and non-profit entrepreneurs lead various types of social enterprises involved in a wide range of social sector causes, encompassing education, health care, economic development, youth services, social advocacy, and environment.

ENT459 Financing Entrepreneurial Ventures
This course focuses on financing entrepreneurial companies, especially startup and early-stage ventures. The overall aim of the course is to understand how entrepreneurs and their financial backers can spot and create value. This involves learning about the topics that trace out the 'venture capital cycle, such as opportunity recognition, valuation and evaluation, negotiating funding, and managing the investment. It will explore the new venture finance from a number of different perspectives: the entrepreneur's, the venture capitalists, that of the investors backing the VC, and stock-market investors. Entrepreneurial ventures often contend with the challenge of raising capital for their development and growth. By addressing issues of risk and return with various providers of capital, this course equips entrepreneurs with an informed perspective in dealing with these parties. The objective and means of building venture value will likewise be studied with the view of maximizing outcomes from possible harvest scenarios. Venture valuation methods will consequently be taught. Finally, management strategies for ventures undergoing financial distress will be explored.

ENT460 New Technology Ventures
This course introduces the fundamentals of 'technology entrepreneurship', a recent global phenomenon that has driven vital changes in society by empowering individuals to seek opportunity in technological and business solutions when presented with what others see as insurmountable problems. Technology entrepreneurship, in itself, is a spirited approach to business leadership that involves identifying high-potential, technology-intensive commercial opportunities, gathering resources such as talent and capital, and managing rapid growth and significant risks using principled decision-making skills. It is designed to be approachable for all students from all majors, who seek to understand this entrepreneurial process. This course provides a basic understanding of the personal, technical, and market success factors of a new high tech or Internet venture. It will draw heavily on case studies of technology-based businesses. Students will work individually or in small groups to develop a product concept and a business plan around a new innovation in their concentration area.

ENT461 Sustainable Entrepreneurship Strategies
This course introduces students to the global challenges and opportunities arising

from exponential growth in resource use and economic activity. Beginning with an introduction to the economics of sustainability, students will study trends and science driving the growing role of businesses in promoting sustainability. Strategies being pursued by innovative and entrepreneurial business organizations to provide much needed solutions will be evaluated on conventional economic criteria and alternative metrics. There will be a special focus on climate change abatement and adaptation, poverty alleviation and healthy living. The entrepreneurial potential of new technologies and community-oriented models for localization of essential services will be considered from a practical perspective.

ENT462 Corporate Entrepreneurship
In a competitive environment, entrepreneurship is an essential and indispensable element in the success of every business organization - whether small or large, new or long-established and mature. Intrapreneurship is the practice of entrepreneurial skills and approaches by or within an organization. The essential objective of the course is to develop an awareness and understanding of the range, scope, and complexity of the issues related to the creation of an organizational environment that is supportive of entrepreneurial endeavours as well as to gain insight concerning the effective implementation of technological and organizational innovations in a corporate setting. It examines the challenges and opportunities for both employees and companies in creating and maintaining a culture that fosters intrapreneurial endeavours. The focuses primarily on managerial efforts aimed at the identification, development and exploitation of technical and organizational innovations, the management of new product or process developments, and on effective new venture management in the context of large corporations in manufacturing as well as in service industries.

ENT463 Creativity and Innovation
This course is a comprehensive introduction into innovation from both a practical and theoretical viewpoint. The course addresses thinking, problem solving, domain knowledge, creativity, culture, innovation and entrepreneurship. The innovation process of inspiration, ideation, and implementation are explained. The course is designed to be interdisciplinary and innovative in order to assist students to expand their perception, employ creative skills, develop ideas with their team, sustain a creative climate and manage innovation. It offers methods and processes designed to help identify opportunities and cultivate appropriate skills and attitudes.

ENT464 Entrepreneurial Sales Strategy
Focusing on sales strategy and execution is one of the most critical success factors in building entrepreneurial ventures. This course will enable students to develop the practical knowledge and specific skills necessary to maximize top-line revenue growth for emerging companies. Topics to be covered include direct, indirect and channel sales strategies; implementing pipeline management principles and forecasting techniques; the use of technology in selling; building a sales organization; and the development of strategic partners and alliances. Also covered are the use of sales tools and skills (presentation, negotiation, territory management, and pipeline development), building successful channel partners, and the keys to successful selling including solution selling vs. product selling.

ENT465 Co-Curricular Activities
- Hatchery Development & Management
- Venture Accelerator
- Women Entrepreneurship Center
- Youth Entrepreneurship Center

** Summer Entrepreneurship Intensive Program (Sixth Semester)

Each student will have to go through a mandatory Summer Entrepreneurship Intensive Program in the 6th Semester, where they would have to spend 2 months (July - August) working for an Entrepreneurial venture, either in Pakistan or abroad. This will give them a hands-on experience of running a business, including marketing, accounting, organizational behaviour, information systems, and operations.

HUMAN RESOURCE MANAGEMENT (HRM) COURSES

HRM401 Human Resource Management
This course serves as an introduction to HRM students who plan to specialize and learn advanced level in the field. This course is focused on people at work. Over the years a variety of management policies, practices, and decisions have been tried to ensure that employees can achieve the organization's objectives - This HRM course would expose the students to learn and understand the Human

Resource basic functions and processes starting from recruitment through development and the separation of employees from the corporations.
Prerequisite: MGT201

HRM430 Recruitment and Selection Techniques
This module is based on academic theory and research on selection and recruitment practices for both Human resources students and practitioners. The course explains different recruitment techniques and the key features of common selection methods along with the criteria of evaluating these methods. Nature of performance is discussed to analyze jobs and their measures leading to description of the main stages in process of job selection. The validity of these selection methods is covered including the examination of psychological processes that take place within selection. Finally, issues associated with fairness in selection and assessments are considered. The focus of the module is on academic research and not on presenting a prescriptive model of evidence-based method of selection. A good selection system depends upon the changing nature of work, the context in which selection takes place and the organization's procedures and policies. Therefore, organizations must be flexible enough to embrace changes and adapt to the environment in which it operates to make appropriate firm-specific selection decisions.
Prerequisites: MGT201, HRM401

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, HRM401

HRM450 The Legal Environment of HRM
The students will be exposed to diverse areas like 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

HRM451 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, HRM401

HRM452 Organizational Analysis and Research
The module helps students understand organizational theories in a historical context and explains the different level of analysis used in organizational research. The course also provides an overview of the research paradigms applied in the fields of organizational behavior and occupational psychology, enabling individuals to develop their critical thinking skills when analyzing organizational issues. The students will also learn the different forms of research, the steps involved in it and the paradigms used in social sciences research.
Prerequisites: MGT201, HRM401

HRM453 Life Career Development
The module aims to help individuals understand the importance of career development in an employment and social context and their influences on career choice and career development. The module brings with it stocks of knowledge related to various career models and theories available, to critique and evaluate their usefulness and application in making appropriate career decisions in a life space available to an individual. A variety of career interventions are discussed including career guidance and career counseling.
Prerequisites: MGT201, HRM401

HRM456 Training and Development
The aims of this module are to help students assess influence of organizational strategy on the role and practice of training and development. The course enables students to identify training needs of individuals and organizations, select training methods and consider their influence on trainee development and training transfer to work place. The course provides for a critical review of the techniques available for the evaluation of training and to consider their role in practice. The significance of resource based strategies for training and development are used to provide a context for considering different training and development techniques
Prerequisites: MGT201, HRM401

HRM457 HR and Information System
The collection and use of information has long been recognized as a potential source of value addition to organizations. Human Resource Management Information is pivotal to the strategic planning and subsequent success of

the organization. Thus, the subject focuses on the primary activities performed by the human resources (HR) function and how Human Resource Information Systems (HRIS) can be developed to support these activities.
HRIS is a cross-disciplinary subject and encompasses two critical areas, namely, Human Resource Management (HRM) and Information Technology / Systems (IT / IS). With the emergence of Enterprise Resource Planning (ERP) System that seamlessly integrates various business modules within the information architecture of any business enterprise, HRIS has become a critical area of attention for management professionals. Undertaking this course will allow the students to build on, and expand, their knowledge of HRIS from a theoretical and a practical perspective. In addition, the HRIS assessment items expose students to a variety of HRIS issues and subsequent application problems.
Prerequisites: MGT201, HRM401

HRM458 Leading the Change Process
The course is concerned with the tasks of leading the change process in organizations. Creating a shared changed vision, fostering an understanding of the change process, and leading the change transition are important ingredients of the course. Other topics include encouraging an innovative organizational culture, managing growth and decline and corporate restructuring.
Prerequisites: MGT201, HRM401

HRM462 Performance and Compensation Management
The performance of an organization depends on the performance of its people. Everything in an organization gets done by its people. A successful organization is one in which competent people perform at their best and where employees are rewarded according to their work and worth. The course elaborates on the quantum transformation that has occurred in Human Resource Management in the 21st century, how HR strategies impact organizational performance and why performance and compensation management is so critical for organizations. This course will prepare students to become effective managers of human capital by teaching them how to develop, motivate and reward a competent team and maximizing its performance.
Prerequisites: MGT201, HRM401

HRM530 Recruitment and Selection Techniques
The course explores recruitment process and techniques and how they contribute to selection process. The students can examine the constructs and dimensions used to predict and measure performance at work, and also the conceptual relationships between these dimensions. It enables students explain the theory and research on individual and group decision-making in organizations, and apply this within the context of selection and assessment. The course further provides for a critical and effective use of several forms of statistical analysis of importance in the examination of the validity and fairness of selection systems.
Prerequisites: 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.
Prerequisite: MGT201 / MGT400
HRM551 Industrial Relations Management
The course is centered on management of labor

HRM552 Organizational Development
The course is about the study of behavioural science techniques to improve organizational health and effectiveness, internal relationships and problem-solving capabilities. Organizational learning, transition processes, changing values, diversity of labor forces and other challenges put forward by globalization are some of the topics discussed.
Prerequisite: MGT201 / MGT400

HRM557 Team Management
The course is about forming, leading and managing teams and groups. 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.
Prerequisite: MGT201 / MGT400

HRM558 Leading the Change Process
The course is concerned with the tasks of leading the change process in organizations. Creating a shared changed vision, fostering an understanding of the change process, and leading the change transition are important ingredients of the course. Other topics of discussion include encouraging an innovative organizational culture, managing growth and decline and corporate restructuring.
Prerequisite: MGT201 / MGT400

HRM562 Performance and Compensation Management
The performance of an organization depends on the performance of its people. Everything in an organization gets done by its people. A successful organization is one in which competent people perform at their best and

where employees are rewarded according to their work and worth. The course elaborates on the quantum transformation that has occurred in Human Resource Management in the 21st century, how HR strategies impact organizational performance and why performance and compensation management is so critical for organizations. This course will prepare students to become effective managers of human capital by teaching them how to develop, motivate and reward a competent team and maximizing its performance.
Prerequisite: MGT201 / MGT400

HRM570 Strategic Human Resource Management
The course aims to help us understand the value of HRM to contemporary organizations, by looking at its origins and the factors for its emergence in the late 1980s. This is followed by a critical review of the theories which underpin various versions of HRM, explores the links between HR practices and firm performance, analyzing this in an organizational context.
Prerequisites: MGT201 / MGT400

HRM571 Training and Development
The aims of this module are to help students assess influence of organizational strategy on the role and practice of training and development. The course enables students to identify training needs of individuals and organizations, select training methods and consider their influence on trainee development and training transfer to work place. The course provides for a critical review of the techniques available for the evaluation of training and to consider their role in practice. The significance of resource based strategies for training and development are used to provide a context for considering different training and development techniques.
Prerequisites: MGT201 / MGT400

Department of Social Science & Liberal Arts

SSC101 English Grammar & Composition
This course highlights the key aspects of writing for academic purpose. The grammatical concepts are taught in context. Reading skills are a major focus being an essential input for quality output in the form of writing. The course also focuses on embedding in students the concept that writing is a recursive process. The course aims to train students for critical reading and analytical writing. The students are made to work on patterns of development, dictions and genre analysis.

SSC106 Intermediate English Grammar and Composition
This course will build on the previous course to further teach students how to communicate effectively using written English. Students will learn how to develop deliberate, methodological strategies to generate ideas, formulate arguments, draft essays, revise, and proofread, and cite academic sources. The course will help students to gather and synthesize evidence pertinent to the arguments they choose to make, as well as facilitate guided practice in a range of written modes, including but not limited to narrative, discursive, argumentative, reflective, and summary writing.

SSC121 Major Themes in World History

This survey course introduces students to major patterns, processes, and events in world history organized around recurring issues and themes through the close reading and analysis of primary and secondary texts. Themes considered may include economics, conquest and war, religion, government, revolution, disease, technological invention, empires and nations, and globalization.

SSC151 Pakistan History
This course serves as an introductory survey to the history of Pakistan from 1947 to the present. Over the course of the semester, we will proceed thematically through different aspects and periods of Pakistani history, and reflect upon where these issues stand today. Successful students will learn to think critically about various events, periods, and themes in Pakistani history.

SSC154 Research Methods in Social Sciences
The aim of the course is to develop an understanding of research methods so as to enable students to 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 Arabic I
This course develops in students a basic but solid knowledge of Arabic grammatical structures and syntax, a limited functional vocabulary, extensive practice in speaking and writing, a familiarity with Arabic sound and intonation patterns, as well as an elementary knowledge of Arabic cultures. Upon completion of this course, students should be able to understand simple, non-edited text and oral passages of medium length without reference tools, to be able to sustain an elementary conversation with a native speaker, and to be able to communicate effectively in writing on general topics.

SSC202 Arabic II
This course develops and refines listening, speaking, reading, and writing skills; provides strategies for effective communication and reading; reviews and supplements previously introduced grammatical structures and uses. Upon completion of this course, students should be able to communicate using sustained, linear discourse on topics of general interest, and to comprehend the general meaning of most texts of a non-technical nature written in Arabic.

SSC203 Arabic III
This course develops in students an advanced level of proficiency defined as the ability to communicate with some ease, if not perfectly, with a native speaker of Arab, in spoken and written language, and to understand the meaning and most details of an Arabic text, written or spoken. At the end of the semester, students will be required to take both an oral and a written examination that evaluates their achieved level of proficiency. Students will be tested in five areas: listening comprehension, reading comprehension, grammar, writing ability, and speaking ability.

SSC204 Arabic IV
This course uses literature, newspaper and magazine articles, art, music, and films to explore the histories and cultures of Arab countries. Students will be introduced to methods of literary and cultural study in Arabic in order to develop advanced linguistic comprehension and expression.

SSC205 French I
This course develops in students a basic but solid knowledge of French grammatical structures and syntax, a limited functional vocabulary, extensive practice in speaking and writing, a familiarity with French sound and intonation patterns, as well as an elementary knowledge of French cultures.Upon completion of this course, students should be able to understand simple, non-edited text and oral passages of medium length without reference tools, to be able to sustain an elementary conversation with a native speaker, and to be able to communicate effectively in writing on general topics.

SSC206 French II
This course develops and refines listening, speaking, reading, and writing skills; provides strategies for effective communication and reading; reviews and supplements previously introduced grammatical structures and uses. Upon completion of this course, students should be able to communicate using sustained, linear discourse on topics of general interest, and to comprehend the general meaning of most texts of a non-technical nature written in French.

SSC207 French III
This course develops in students an advanced level of proficiency defined as the ability to communicate with some ease, if not perfectly, with a native speaker of French, in spoken and written language, and to understand the meaning and most details of a French text, written or spoken. At the end of the semester, students will be required to take both an oral and a written examination that evaluates their achieved level of proficiency achieved. Students will be tested in five areas: listening comprehension, reading comprehension, grammar, writing ability, and speaking ability

SSC208 French IV
This course uses literature, newspaper and magazine articles, art, music, and films

to explore the histories and cultures of Francophone countries. Students will be introduced to methods of literary and cultural study in French in order to develop advanced linguistic comprehension and expression

SSC209 Mandarin I
In this course, students are expected to achieve control of the Mandarin sound system (especially the 4 tones), basic sentence patterns, aural comprehension, daily conversations and writing characters. A limited number of Mandarin characters will be introduced in this course for reading comprehension. In addition, students will study Pinyin, the Romanization system used to transcribe Chinese sounds using the western alphabet.

SSC210 Mandarin II
The goals of this course are to help students improve their listening and speaking proficiency; achieve a solid reading level through the introduction of roughly 500 new vocabulary entries; and learn to express themselves clearly in writing on a variety of covered topics using learned grammar patterns and vocabulary. These goals are approached through grammar lectures, in-class drills and listening / speaking activities, oral presentations, and regular quizzes / tests, collectively covering all four areas of proficiency: listening, speaking, reading, writing.

SSC211 Mandarin III
This course develops in students an advanced level of proficiency defined as the ability to communicate with some ease, if not perfectly, with a native speaker of Mandarin, in spoken and written language, and to understand the meaning and most details of a Mandarin text, written or spoken. At the end of the semester, students will be required to take both an oral and a written examination that evaluates their achieved level of proficiency. Students will be tested in five areas: listening comprehension, reading comprehension, grammar, writing ability, and speaking ability.

SSC212 Mandarin IV
This course uses literature, newspaper and magazine articles, art, music, and films to explore the history and culture of China. Students will be introduced to methods of literary and cultural study in Mandarin in order to develop advanced linguistic comprehension and expression.

SSC213 Advanced English Composition
This course will focus in-depth on a question or topic in a disciplinary or interdisciplinary context within the Social Sciences. By means of this specific focus, the course explores thinking, research, and writing practices in specific fields, and the ways in which scholars and practitioners use writing to communicate their findings to a wider audience. Each course will structure as one of its major assignments a 20-page research paper to be submitted at the end of the semester that requires students to engage with primary and secondary sources of scholarship.

SSC216 Culture, Media, Society
This course serves as a theoretical and historical introduction to the pervasive impact of mass media on global culture and society. This course defines the media broadly as facilitators of human and social communication (print, broadcast, visual, promotional, and digital forms of cultural and social practice), and will help students become critically self-conscious consumers and producers of media texts.

SSC217 Introduction to Political Science
An introduction to the study of political institutions, processes, and behaviors, of the relationship among political ideologies, state practices, and systems of governance; international relations among states; processes of political decision-making; and individual and social behavior within political contexts. The course should acquaint students with major political thinkers, and with the three major forms of governance that have emerged in the modern era: democracy, fascism, and communism.

SSC218 Introduction to Psychology
This survey will introduce students to the history, concepts, major theories, and methods of research that contribute to our understanding of both human and animal behavior. Students will engage with historical and contemporary debates about cognitive processes and neurological disorders, identity formation, human and animal interaction, individual and social development, perception and sensation, learning and memory, and biological and evolutionary perspectives on human and animal development.

SSC221 South Asian History
This survey course introduces students to major developments in South Asian History from the emergence of the early Harappan period to the struggle for independence. Students will investigate key historical forces and individuals that shaped South Asian politics, society and culture including the introduction of Buddhism, Hinduism, and Islam, the development of languages, the production of major cultural and scientific works, interactions with regional neighbors, the formation of ethnic communities, and major political incursions and social reconfigurations.

SSC231 Fundamentals of Sociology
This course introduces students to basic concepts, theories, and methods of thinking and analysis in the Social Sciences. Students will develop a sociological imagination by learning how social scientists formulate questions about human identity, agency, and behavior; the

nature of social life and social interactions; and the historical development of civilizations and societies. It will also introduce students to methods of theoretical and empirical analysis through which social scientists have proposed answers to the complex questions they ask.

SSC232 Introduction to Historical Methods
This course will introduce students to historiography and historical methods of research and analysis. The course will emphasize how historians frame their explorations of the past; investigate issues and debates in current historical practice; articulate questions about conventional periodization; and distinguish between oral, artifactual, and written evidence, between objective and subjective narratives, and between private and public histories.

SSC233 Introduction to Social and Cultural Anthropology This course serves as an introduction to the study of social and cultural development, and of diversity in human societies. Lectures and discussions will focus on:

1. Questions of anthropological heterogeneity, and on how varying social and cultural forces define and describe these regional, national, and local differences;
2. Case studies offered by major figures in the field that help illuminate how anthropologists conduct research, synthesize evidence, and arrive at provisional analyses of the social groups they study;
3. Theoretical and historical readings on the major subjects anthropologists address: kinship and family, gender, religion, race and ethnicity, language and communication, magic, ritual and symbolism, human and animal evolution, social transformation, and economic exchange.

SSC234 Introduction to Urban Studies
An introduction to the history, formation, planning, economics, social structures, and cultures of urban environments, this course will help students understand how urbanization, inner-city migrations, industrialization, available housing, economic, ethnic and racial segregation, environment, crime, municipal efficiency, telecommunications, and political governance affect the development and growth of cities.

SSC235 Introduction to Linguistics
An introduction to the fundamental properties of languages, their morphology, phonology, and syntax, their semantic and pragmatic functions, their historical development, and the ways in which they are shaped by different cultural and social contexts.

SSC239 History of Ideas I
Ideas have shaped how we think about and respond to our world. History is replete with instances that demonstrate how small changes in ways of thinking lead to creative tensions and large shifts in social and cultural thinking. This two-semester course explores the metaphysical and material histories of such ideas as freedom, justice, ethics, reason, the self, the real, identity, faith, citizenship, rights, etc. It introduces students to methods of critical and philosophical analysis that investigate the sources and limits of historical, empirical, and theoretical knowledge.

SSC238 History of Ideas II
Ideas have shaped how we think about and respond to our world. History is replete with instances that demonstrate how small changes in ways of thinking lead to creative tensions and large shifts in social and cultural thinking. This two-semester course explores the metaphysical and material histories of such ideas as freedom, justice, ethics, reason, the self, the real, identity, faith, citizenship, rights, etc. It introduces students to methods of critical and philosophical analysis that investigate the sources and limits of historical, empirical, and theoretical knowledge.

SSC240 Personal Effectiveness Course
This course is designed to improve the levels of personal effectiveness in the cooperate environment. It aims at increasing students self awareness and confidence levels by teaching them tools of effective behavior. This would include developing and understanding of the relationship between their own values, attitudes, believes and behaviors and how it influences others perception of them. It would also work towards development of leadership strategies for changing limiting believes to empowering believes. An understanding of the role of assertive behavior and assertive communication as a business skill.

The importance of image management and power dressing. Developing a range of influencing interpersonal skills for clients, customers and other members of the staff and last but not least an opportunity to put these skills into practice in the safe environment of the training room under the supervision of a professional.

SSC301 Socioeconomic Philosophy of Islam
How does one study a given religious system? What are the scholarly tools and conceptual frameworks for exploring a civilization radiating from a religious core? What are the limitations of an academic study of Islam? In what way is it different from the account and conception of the believer or, in the case of cultures, of the actor? These and similar questions will inform our investigation of Islam as we explore its intellectual, social, political and philosophical history.

NATURAL SCIENCES COURSES

NSC351 History of Science
This course surveys the history of scientific knowledge from classical antiquity to the present, emphasizing two key ideas. One is the relation between science and utility: what is science for and how have sensibilities about the utilities of science changed over time? Second, the ways in which science emerged over the course of the last few centuries as an inherently global practice.

NSC352 Ideas of Physics
This course introduces students to the major discoveries and basic concepts in physics that examine how scientists make sense of the physical world in which we live. Topics discussed include the scientific method, basic principles of classical physics, gravity, laws of motion and conservation, thermodynamics, and relativity and quantum mechanics.

NSC353 Space, Time, and Space-Time
An introduction to major scientific, mathematical, and philosophical theories and debates about the nature of space and time, and the way these shape our understanding of the physical world. Theorists and thinkers considered include Aristotle, Euclid, Descartes, Newton, Leibniz, Galileo, Riemann, Poincare, Einstein, Schrodinger, and Hawking.

NSC354 Introduction to Environmental Sciences
An introduction to the history and scope of the environmental sciences, methods of research and experiment that produce scientific knowledge about the environment, major problems (global warming, pollution, industrial development) that degrade biological ecosystems, and a complex understanding of the impact human societies have had and continue to have on the natural world.

NSC355 Principles of Ecology and Conservation
The purpose of the course is to present the major scientific ideas and principles that shape ecology and conservation science, especially as these relate to frequently encountered environmental issues. Topics discussed will include population regulation,species decline, competition and predation, dynamics of ecosystems, habitat fragmentation, ecotourism, and the role of biological and physical factors in developing community structures. Students will learn how to think critically about these concepts; develop the ability to analyze, manipulate, present and interpret scientific data; and understand how to review and critique scientific reports on scientific problems.

NSC356 History of Evolution
A survey introduction to theories of evolution, evolutionary history, and evolutionary processes and patterns that have produced life on earth, this course considers evolutionary biology as a way of knowing and discovering, a set of approaches to questions about the living world that inform how biologists organize and produce scientific knowledge.

NSC357 Introduction to Geology
This course will provide an introduction to the geological sciences, covering geological materials and processes, and including an historical background. Lectures and discussions will focus on the practical applications of geology to everyday life. Students will gain an overview of the biophysical history of the Earth, including its formation. They will identify the ways in which geology affects our lives, and discover interactions between geology and other realms of knowledge.

VISUAL STUDIES & HUMANITIES COURSES

HUM201 Speech Communications
The course aims to enable students to understand, analyze, and acquire communication skills. Oral presentation experiences are heavily integrated throughout the course with a focus on public speaking design and delivery. The goal is to help students communicate orally for effective interpersonal communication. The pedagogical tools for this include presentations, parliamentary debates, MUN workshops, and stage performances.

HUM351 Great Books
Great Books is a course designed to introduce students to enduring works of literature and philosophy. The aim of the class is to develop habits of close critical reading, textual analysis, argumentative writing, aesthetic appreciation, and thoughtful discussion. Authors considered might include Homer, Plato, Kalidasa, Firdousi, Dante, Shikibu, IbnSina, and Shakespeare.

HUM352 Reading Poetry
Reading Poetry is a course designed to introduce students to enduring works of lyric expression. The aim of the class is to develop habits of close critical reading, textual analysis, argumentative writing, aesthetic appreciation, and thoughtful

discussion. Authors considered might include Chaucer, Donne, Rumi, Coleridge, Basho, Whitman, Dickenson, Hardy, Ghalib, Rimbaud, Frost, Tagore, and Moore.

HUM353 Introduction to Drama
How do plays work? What is the relation between a dramatic text and a theatrical performance? How can we move from one to the other? How might we profitably approach a reading of character, place, dialogue, costume, movement, sound, rhythm, spatial composition, and story (to name some of the elements which make a performance)? What makes a play different from a novel or a poem, a film or a painting? Which elements represented in these other media does drama also appropriate? These and related questions will inform our study of canonical dramatic texts.

HUM354 Introduction to Urdu Literature
The course presents an introduction to various genres of Urdu literature (read both in translation and in Urdu) as they developed through the eighteenth, nineteenth and twentieth centuries, with greater emphasis on fiction and poetry. We will examine the works of major writers with close attention to the development of traditional narrative and poetic genres, styles, and influences.

HUM355 Anglo-Indian Narrative and the Postcolonial Subject
This course surveys colonial and postcolonial narratives in English written in or about India and Pakistan. Authors considered may include Harriet Tytler, E.M Forster, Rudyard Kipling,Nirad Chaudhury, Raj Anand, Ruskin Bond, Khushwant Singh, Anita Desai, Salman Rushdie, BapsiSidhwa, Aamir Husain, Sara Suleri, HanifKureishi, David Davidar, KamilaShamsie, ManizaZaqvi, Arundathi Roy, JeetThayil, and Mohsin Hamid.

HUM356 Foundations of Philosophical Thought
This course will introduce students to major questions and issues in philosophy, and its methods of inquiry and analysis. Readings include arguments articulated by major western and eastern philosophers. Topics considered include the problem of evil; free will and determinism; moral imperatives; the limits of knowledge; utilitarian versus deontological ethics; faith and belief; justice and goodness.

HUM357 Philosophy Logic and Ethics
This course will acquaint students with basic philosophical and ethical concepts, and methods of logical thinking through close readings of major philosophical texts.

HUM358 Comparative Classical Philosophy
Through close readings of primary classical texts from China, India, and Greece, students will engage major epistemological debates as these were articulated by different societies and cultures in the ancient world. Specific attention will be paid to how these debates frame and shape how we think today.

HUM359 Introduction to Comparative Religions
This course will give participants an understanding of the world's major religions: Zoroastrianism, Hinduism, Judaism, Buddhism, Christianity, and Islam. The course will examine a number of cross-cultural themes in religion, including monotheism vs. pantheism, the soul, the sacred, peace and war, as well as the social and cultural practices of each faith. By the end of the course participants will have an understanding of the history of these religions and the issues they each face in the contemporary world.

HUM360 Creative Writing
George Orwell once wrote that the four great motives for writing were sheer egoism, aesthetic enthusiasm, historical impulse, and political purpose. In this introductory course, students will explore all four motives, and the kinds of prose, poetic, and dramatic texts these produce. Students will work on identifying and sustaining their unique aesthetic voices, languages, and styles; learn strategies for the generation and development of plots, characters, dialogue, and description; discuss how substance relates to form; and explore how shifting points-of-view are crucial to the aesthetic experience of imaginative texts.

HUM361 Theater Project: The Living Newspaper
This course introduces students to techniques and strategies of documentary performance using a form developed in the US during the Great Depression. Students will research a social issue of immediate local and / or national concern, and then use this research to write and stage a "living newspaper" performance.

HUM363 Introduction to Visual Culture
Our world is saturated with an extraordinary range of visual images: advertisements, films, television programs, music videos, photographs, posters, billboards, newspapers, magazines, paintings, graffiti, architecture. Reading and analyzing visual material, however, requires a different set of approaches than reading and analyzing text. This introductory course investigates the visual in its myriad manifestations. Topics considered include the social and psychological construction of vision, the function and cultural production and consumption of visual images, ideologies of the visual, originality and reproduction, visual narratives and cultural specificity, and semiotic approaches to interpretation.

HUM364 History of Art I: Classical Antiquity to the Middle Ages
This course will offer students a broad introduction to the aesthetic and social

interpretation of selected works of art from classical antiquity to the renaissance, with an emphasis on the comparative analysis of Asian, Greco-Roman, and Medieval traditions. The course introduces the student to the basic terminology of the arts, the language of aesthetic criticism, and the relationship of the arts to each other and to their historical context

HUM365 History of Art II: Renaissance to the Present
This course will offer students a broad introduction to the aesthetic and social interpretation of selected works of art from 1500 to the present. The course introduces the student to the basic terminology of the arts, the language of aesthetic criticism, and the relationship of the arts to each other and to their historical context.

HUM366 Art of the Islamic World
This course introduces students to the rich aesthetic history and culture of the Islamic world, from the 8th century to the present day. Lectures and discussions will concentrate on selected monuments, paintings, and other visual material produced in the Arab Middle East, North Africa, Spain, Iran, Turkey, South Asia, and the Far East, with especial emphasis on the historical, geographical, and cultural contexts within which this art was produced.

HUM367 Theories of Design
This course examines different aspects of design by examining larger questions of production, consumption, and use, and their participation in a larger discourse about design and visual culture. Reading and discussion will assess the relationship between design and the visual by investigating questions about spatial control, framing, sequence, and social communication.

HUM368 Colonial and Postcolonial Visual Cultures
This class addresses how our experiences of the colonial and the postcolonial are shaped and mediated by visual texts. Readings and discussions will introduce students to major theories of colonialism and post-colonialism, and to the politics of postcolonial representation. We will examine how contemporary artists resist, reconfigure, or appropriate their colonial heritage, how questions of cultural agency and cultural hybridity inform frames of social and aesthetic analysis, and how individual works may be read as both contiguous with, and as breaking away from an imperial past.

HUM369The Rhetoric of Architecture
This course will introduce students to basic principles and concepts in architectural design. Students will learn how look at, appreciate, and analyze the aesthetic richness of our built environment. Students will examine both historical and contemporary structures, the social and geographical contexts in which they were built, the manner in which these structures configure public and private space, and their impact on historical and contemporary ways of experiencing our world.

MEDIA AND COMMUNICATIONS COURSES

MCS301 Research Methods in Media and Communications
This course serves an introduction to quantitative and qualitative methods of media and communications research. Students will consider how research questions have changed over the past century and the differing critical strategies researchers have used to address these questions. Topics investigated include media effects theories, content analysis, communication models, semiotic analyses, surveys and questionnaires, interviewing and participant-observation, and secondary-data analysis.

MCS302 Gutenberg to Google: A Social History of Media
This course introduces students to the history of media forms and communication technologies from the invention of printing to the emergence of the Internet. It explores the processes of mediation in and through time; the social, economic, and geographical contexts that shape different forms of communication; the evolution and institutionalization of communication technologies; the development of a global public sphere; and the effect of new media on local, national, and global communities.

MCS303 Theories of Media and Communications
An introduction to theoretical and critical

approaches used to analyze the content, structure, context, and processes of media communication. The course will help develop a complex, nuanced understanding of media environments, familiarity with specialized language used to assess processes of communication, and an understanding of contemporary debates in media and communication studies.

MCS351 Media and Post - Colonialism
This course will introduce students to theories and practices of media representation as these relate to the formation and analysis of postcolonial societies. Topics covered include theories of the post-colonial; the politics of post-colonial representation; post-modernism and the post-colonial; nationalism and identity; alternative media and resistance; ethnicity, indignity and hybridity; and language and representation.

MCS352 Media, Law, and Ethics
This class will introduce students to major ethical and legal issues that govern or guide the various uses of mass communication technologies and cultural and social resources. Topics covered include freedom of expression, privacy, and media regulation; public vs. private media; stakeholders and vested interests (governments, industry, civil society); social and governmental protections; intellectual, economic, and technological tensions in media policy; law and governance within global media systems; ethics and responsibilities; and the challenges posed by new media technologies.

MCS353 Race, Class, and Gender in Film and Television
Film and television are two of the primary forums through which notions of race, ethnicity, and citizenship have been constructed, especially in their intersection with class and gender. This class explores the evolution of these dynamics in cinematic and televisual representation through the study of how racial and ethnic diversity have been represented, and how various racial and ethnic groups have participated in film and television production and consumption, and how gender and class complicate how we interact with these visual media.

MCS354 The International Newsroom
Traditionally international news has focused on wars, conflicts and the relations between governments. While this course will look at these, it will also examine some of the deeper issues that continue to shape our world: climate change, global disease, the imbalance between population growth and food supplies, and the depletion of natural resources. Students will learn to cultivate the qualities that are important for reporting global events: accurate information, careful analysis, intelligent use of background material, and an understanding of the nuances that color any issue.

MCS355 Analyzing the News
This course examines the analysis of news media content and structure using range of critical strategies including content analysis as a methodology. Students will investigate questions such as: What can we learn about news by analyzing news content? What are the quantitative and qualitative techniques used by professional media content analysts? What is the nature of content? Who is involved in producing this content? Who comprises the intended audience?

MCS356 Introduction to Visual Communication
Life in the modern world has made us adept at reading an array of visual imagery. These images inform our individual and collective identities since we are partially determined by the visual representations we produce and consume. It is therefore imperative that we not only look, but also reflect on the images with which we are confronted every day. This introductory course will focus on reckoning with the complex visual world we live in using a range of examples from fine art to advertising, from architecture to film. Students will be encouraged to think broadly about what makes up their visual world and its cultural implications through careful looking, reading, and writing.

MCS357 History of Commercial Art
This course will introduce students to the history of the commercial arts from lithography to logos, book design to branding, and stencils to motion graphics, and including the origins and history of advertising.

MCS358 Communication in Advertising
This course introduces students to the study of advertising as social communication, as cultural representation, as an economic force, and as central structural feature of consumer societies.

The course will survey the history of advertising, investigate changing strategies used by advertisers over the past two centuries, examine social attitudes and ideologies as these emerge through advertisements, and introduce students to semiology and the semiotic analysis of promotional texts.

MCS359 Watching Films
This course introduces students to an interrelated set of approaches to film study, all of them defined by their attention to the filmic text. The course begins with an extended examination of the elements of film form, principally style (mise-en-scène, cinematographic properties, editing, sound) and narrative (structure and narration). After students have an initial grounding in the principles of film form, we will examine how different types of film operate formally by

examining cinematic texts that typically do not depend upon narrative (i.e. the documentary and the avant-garde). In particular, we will investigate analytical approaches to mainstream films, with a concentration on how the critical categories of genre and author have proven relevant. Finally, we will consider several alternatives to commercial practice, taking up questions of film's representational strategies (particularly of gender and race).

MCS360 History of Film
This course will introduce students to the history of world cinema from its origins to the present, emphasizing the work produced by major directors, historically and critically important movements and films, the emergence and development of film genres and national cinemas, the socioeconomic structure of the industry, and the development of new and innovative technologies.

MCS361 The Non-Fiction Film
This course will introduce students to a range of non-fiction film genres including documentaries, educational films, propaganda, ethnographies, autobiographies, cinematic essays, and newsreels. Readings, lectures, and discussions will focus on issues of truth and accuracy, sociological and ethical questions raised by the films themselves and their processes of production, and the films as aesthetic and cultural texts. The course will pay close attention to the way these films reflect the social contexts in which they were produced.

MCS362 Introduction to Television Studies
Television is arguably the most influential and ubiquitous mass medium of the last half century. It is also often the medium most dismissed and maligned. Through an examination of the history of television, this course introduces students to a theoretical framework for thinking about and analyzing this important medium of communication. The course will cover interdisciplinary approaches to studying globaltelevision texts, audiences, and industries.

MCS363 Television Newsmagazines and Documentaries
This course will introduce students to the practice and principles of TV newsmagazines and documentaries. As part of the course work, students will watch, discuss and write about a range of non-fiction narrative pieces The course will also take students behind-the-scenes and explore how non-fiction stories come together from the first idea to the completed work. Students get the opportunity to try their hand at basic production techniques and create simple narratives of their own. This course works to build overall media literacy and enhance the ability to critically observe and analyze non-fiction media.

MCS364 Theories of Film and Television
A broad introduction to the major theories of film and television that will help students develop multiple strategies through which to analyze the many and varied visual narrative texts they encounter every day. Topics covered include genre theory, the psychology of spectatorship, Hollywood and Bollywood studio star systems, ideologies of visual narrative, auteur theories, the gaze and the politics of identity, serialization, reality television, and apparatus theory.

MCS365 Narratives across Media
Artistic and popular media employ their own medium-specific techniques of storytelling. This course explores how narrative structures and models operate differently between film, television, and digital media in both fictional and non-fictional forms. Drawing heavily on various theories of narrative, the course will consider how different media offer possibilities to creators and viewers to tap into the central human practice of storytelling. We will focus on works that challenge convention in a variety of ways, centered on new media and contemporary trends in narrative technique.

MCS366 Digital Activism and Democracy
How does the Internet affect politics? In the last decade, text message campaigns, online social networks, and citizen media have played a major role in world events. This course explores how digital technology changes both the manner and the meaning of democratic participation. Students will read and analyze case studies and both scholarly and popular readings about new media technologies and applications, and their measurable impact on global and local social and political structures.

MCS367 Media Convergence and the Virtual Public Sphere
The boundaries between forms of mediated communication have long been unstable; today, they have all but disappeared. This course investigates the social, cultural, and aesthetic effects of such convergences, the shifting roles of spectators, participants, artists, and industries across a range of media practices, and the pervasive impact these shifts have had on the way we understand our selves

MCS401 Communication for Social Change
This course will introduce students to strategies through which they can use communication processes and techniques to facilitate social, economic, and technological change. We will read historical and contemporary theories of social change, assess case studies of communication campaigns that have made a difference in peoples lives, consider the effect of new technologies in local and global contexts, examine independent and alternative news gathering organizations, leading to a

major project that designs and executes a media campaign focused on a specific local social issue.

MCS491 / 492 Culminating Experience
The culminating experience is a 9-credit final project that includes both a written and an experiential component undertaken by students in their final year of study at IBA. Project proposals must be submitted before the beginning of the fall semester. The proposal should include a well-articulated research question, research methods to be used, an extensive bibliography that lists both primary and secondary sources to be consulted, and a brief summary of why the student wishes to pursue this line of inquiry. The final written component should be at least 40-pages (including appendices), and both include a synoptic summary of the data collected and an extensive analysis of that data as it pertains to the research question.

POLITICAL SCIENCE COURSES

POL301 Research Methods in Political Science
Research is an important component of social / political sciences. It allows for a better understanding of the world. The course aims at making students think systematically, understand research, and the interface between data and theory. The focus of the course would be to develop an understanding of qualitative and quantitative techniques and when and why scholars and researchers use them. Thus inculcating an appreciation of how ideas produce research questions, how research questions lead to methodological choices, and how methodological choices help answer complex questions.

POL302 History of Political Thought
The history of political thought is interdisciplinary in nature. It covers a broad range of topics that helps students understand political processes and their contexts. The course will cover central themes in the history of political thought, political theory, and related areas of inquiry from classical Greek antiquity to contemporary debates.

POL303 Introduction to Comparative Politics
This course introduces students to the fundamental concepts political scientists use to study the processes and outcomes of politics in a variety of state settings, including the study of global economic and political change. The comparative component allows students to study politics and society in comparative perspective both within the state and across the world. The course provides a general introduction to the concepts, methods and the substance of comparative politics.

POL351 Political Psychology
This course will seek to critically analyze the waythe national political elite perceives the world. The course will focus on an examination of the psychological factors influencing or driving these views and behavior. Particular attention will be paid to how these elites conceptualize different policy issues, internal and external, and then formulate / implement differing approaches to attain "national objectives." Consequently, social-psychological factors (culture, language, socioeconomic background, education, institutional and individual psyche) will be treated as intervening variables that play a pivotal role in shaping a "national consciousness." Understanding this "national consciousness" is the ultimate objective of this course.

POL352 Foreign Policy of China
This course will critically analyze the foreign policy of the People's Republic of China. The course will focus primarily on contemporary issues of salience in Chinese foreign policy - strategic imperatives, regional security dynamics, geo-economic factors, and bilateral and multilateral relations. Two different and yet interconnected levels of analysis will be employed. First, China's conceptualization of the world (elite perceptions) and the prescriptive policy initiatives being implemented; second, the course will also consider China's overall policy making system and the way that system shapes foreign policy output. The ultimate objective of the course is to further a deeper and more nuanced understanding of the variables shaping and influencing China's behavior within the international system.

POL353 State and Society
This course will undertake a philosophical examination of the concept of the state and its relation to those who reside therein. In this course, we will seek to examine the evolution of the modern state through a careful critical consideration of the "Social Contract" that serves as a mediating mechanism between the citizens and the state they inhabit. We will read classic texts such as Thomas Aquinas, Cicero, Thomas Hobbes, Machiavelli, John Locke, Rousseau, and John Stuart Mill to examine the philosophical rationale behind the "Social Contract".

POL354 War: Conceptual Underpinnings
This course will conduct a critical examination of the concept of war with particular attention being paid to conflict between states. Is war a natural consequence of human nature? Can states only resolve their differences through the imposition of physical coercion? The philosophical rationale behind war will be examined, as will the political and economic imperatives that ultimately drive and shape human interactions. The history of violence between states and within states will also be touched upon. The main emphasis of the course will be on contemporary global conflicts, and will attempt to undertake a case study based approach to the concept of war.

POL355 Human Rights
Human Rights enjoy a significant place in international politics today. All states are expected to adhere to a basic, minimum standard of 'universal' human rights. Human Rights have often been violated by states claiming to be champions of the concept. It is important for all sections of civil society to understand the concept, its validity and its application, as well as the historical evolution of the practice. Case studies of the application of the concept during conflict situations e.g. Iraq, Afghanistan, Palestine, Kashmir, Rwanda, Chechnya etc. will be focused on. International institutions and their approach, NGOs dealing with Human Rights issues and the approach of international public opinion on the issue will also be considered

POL356 Environment and Politics
The course will be designed to create a better understanding of issues related to the environment. The atmosphere, land and oceans are all exposed to threats that can play havoc with human health. It will not be an exaggeration to say that this is the greatest challenge threatening all civilizations. Factors leading to pollution will be discussed. Strategies to control the problem will be given particular significance. Various dimensions of politics of environment will be discussed. The contribution of international organizations, non-governmental organizations and specialized agencies to the cause of regulating the environment will also be discussed.

POL357 Diplomacy in a Globalized World
Diplomacy is an old institution traditionally relied onto resolve conflicts. Diplomacy was also used to build alliances, to isolate adversaries and promote dynastic interests. The evolution of diplomacy over the centuries will be briefly discussed. Two factors have had tremendous impact on diplomacy i.e. culture and technology. Culture provides the key to understanding the content and processes of diplomacy. The introduction of technology and increasing number of states today has increased the occurrence of crisis, reduced time available to diplomats for decision-making and enhanced psychological pressures on decision-makers. Impact of media on diplomacy and the role of diplomats will also be discussed. Use of diplomatic channels for non-diplomatic activities (espionage) and economic diplomacy will also be included.

POL358 Islam and International Relations
International Relations are weaved around modern state system and are nurtured by power equations. Over the ages, various civilizations have had differing perceptions about states, their functions, the nature and role of power and the need for cooperation between civilizations. This course will consider Muslim states, Islamic empires and other Islamicate political entities, and their relations with other states, from the classical age of Islam to modern times. Islamic history saw the creation of a state at Medina. How did this state interact with other political entities? Further, various Islamic empires e.g. Ummayads, Abbasids, Fatimids, Seljuks, Ottomons and the Mughals to name just a few played an important role in the international politics of their own times. Toward the end, the challenges before the Muslim states in post-WWII period particularly since 9 / 11 will also be discussed.

POL359 The Modern Middle East
The Arab Spring has generated newfound interest in a region that has always held great geo-strategic importance. Though the Middle East is very much in the limelight at the moment, few people have a grasp on the region's history and development, political, social or economic. The purpose of this course is to introduce students to the region and to trace the history and development of its countries to the present day.

POL360 Theories of Democratic Transition
The fast growth of democracy in a wider mix of societies has put into questions many of the old theories of democratization, and has generated fresh ideas, debates and controversies about the modes, processes and the role of elites and civil society groups in bringing about democratic transition. This course will cover contemporary literature on democratic transition with a close focus on the Third Wave. We will start with an overview of the debate on social requisites

of democracy, background factors, and modernization theory. They will be critiqued in the light of new theories based on empirical evidence from Latin America and East European countries that reject cultural explanations. The question of compatibility between Islam and democracy has generated more heat than light and the literature is largely polemical with very few exceptions. We will raise the question why Muslim societies have not made transition to democracy and under what conditions they are likely to do so? And what role external factors can or should play in developing democracy around the world, including Islamic states?

POL361 Democracy and Difference
In recent years, the project of liberal democracy has come under increasing criticism for being insufficiently sensitive to differences amongst human subjects. In this course, we will consider the merits and shortcomings of various arguments that have been advanced along these lines. We will also examine a number of texts that endeavor to "strike a balance" between democratic universalism and a politics attuned to the unique desires, beliefs, and ways of life of particular individuals and groups.

POL362 Pakistan's Foreign Policy
The course will begin by examining the main determinants that fashion foreign policy including preservation of sovereignty, national security and achieving economic goals. The course would then examine the instruments of executing foreign policy. Once these international principles have been studied, the course will evaluate Pakistan's relations with its neighbors - India, China, Afghanistan, Iran and the Arab Gulf States - moving on to Pakistan's adherence to regional blocs - SAARC and ECO - and multilateral associations like the UN, NAM and the Commonwealth. The significance of relations with the Great Powers would be discussed in reviewing Pakistan's relations on a bi-lateral and multi-lateral basis.

POL363 Purchasing Power: A Political History of Money
This course has been designed to stimulate a critical examination of the link between money and political power. The history of monetary thought and monetary systems is considered in light of the struggle for the control of resources within and among societies. Besides learning how monetary developments contributed to major historical shifts in the balance of power, students will gain an appreciation of how our understanding of money has been shaped by historical developments. Students will also be introduced to the unique monetary history of South Asia, and its role in shaping the international financial system.

POL401 International Politics
This course introduces students to the analytic and normative study of international relations. We will survey various theoretical perspectives in the discipline to help understand the chief problems, actors, and structures of international politics. Through the organizing concepts of security, identity, and political economy, students will explore a range of contemporary phenomena, including the state, nation, and ethnic group; international organizations and society; political change, resistance, and violence (including terrorism); normative concerns; and international political economy and its accompanying inequality.

POL491 / 492 Culminating Experience
The culminating experience is a 9-credit final project that includes both a written and an experiential component undertaken by students in their final year of study at IBA. Project proposals must be submitted before the beginning of the fall semester. The proposal should include a well-articulated research question, research methods to be used, an extensive bibliography that lists both primary and secondary sources to be consulted, and a brief summary of why the student wishes to pursue this line of inquiry. The final written component should be at least 40-pages (including appendices), and both include a synoptic summary of the data collected and an extensive analysis of that data as it pertains to the research question.

PSYCHOLOGY COURSES

PSY301Research Methods in Psychology
This course introduces students to concepts and methods used in behavioral research. Topics include the nature of behavioral research, testing of research ideas, quantitative and qualitative techniques of data collection, analyzing and interpreting research data, and ethical considerations in research.

PSY302 Human Development
This course examines human development, defined as systemic change within an individual and between and individual and her social environment, from psychosocial, cognitive, and neurobiological perspectives. Through primary readings and case studies, students will investigate why we behave the way we do, how these behaviors shape and affect our emotions, attachments and relationships, and how these emotions, attachments, and relationships change as we grow older. Theorists considered include Freud, Vygotsky, Piaget, Erikson, Kohlberg, Bronfenbrenner, Ainsworth, and Bowlby.

PSY303 Personality, Identity, and the Self
What do we mean when we talk about the self? Is this self synonymous with our personality? Or is it a catchall term referring to a collection of diverse cognitive functions? Can we locate the self in our bodies? Or are we using the term metaphorically as a way to define who we are in opposition to others? Does the self change over time, and if it does what allows to make

claims about our individuality? This course investigates these and other vexing questions about how the social, psychological, and biological determinants of the self and identity interact and shape one another.

PSY351 Introduction to Social Psychology
This course will introduce students to the psychological study of human social influence and interaction, to how human behavior, thinking, and feeling are socially influenced by the presence (imagined, implied, or actual) of other people. Topics covered will include self-concept, social judgment, attitudes, persuasion, conformity, aggression, prejudice, and interpersonal relationships. Emphasis will be placed on developing critical / analytical and empirical research skills that help students develop a complex understanding of why and how the social world shapes how we act.

PSY352 Organizational Behavior and Industrial Psychology
This course surveys the history and application of psychological principles and methods to industrial and organizational behavior. Topics covered include teams in organizations, motivation, individual differences, attitudes and emotions relevant to work, stress and well being, fairness and diversity within organizations, leadership, decision-making, conflict resolution, and organizational change and development.

PSY353 Psychology and the Media
This course examines the relationship between forms mass media and psychology from two complementary perspectives: representations of psychological issues in the mass media (film, television, radio, news papers), and their psychological, cultural, and ethical implications; the impact of the mass media on human identity and human behavior.

PSY354 Psychology of Conflict
This course introduces students to the psychology of human aggression, intergroup bias, stereotyping, and discrimination, and investigates methods and strategies of negotiation and conflict resolution. It proceeds from the assumption that transforming cultures of violence into cultures of peace requires an understanding of the psychological roots of human aggression. Theoretical readings and case studies will address a range of perspectives on the psychology of victims, perpetrators, and witnesses; on the social and psychological effects of trauma; and on genetic, biological, social, and cultural influences on human behavior.

PSY355 Introduction to Developmental Psychology
This course explores human psychophysiological, cognitive, and emotional development and change from conception to old age. Students will be introduced to major theories that attempt to explain how humans develop over time, and to research and case studies on which these theories are based. Theorists and practitioners considered include Freud, Piaget, Vygotsky, Kohlberg, Erikson, and Ainsworth.

PSY356 Attachment and Loss
Attachment Theory, formulated by John Bowlby and extended by his colleague Mary Ainsworth, serves as the dominant approach to social development in children and adults. This course will introduce students to Bowlby's work on attachment, separation, and loss, and explore how events experienced in early childhood impact individual behaviors in both personal and professional settings.

PSY357 Child and Adolescent Development
This course offers a chronological examination of the physical, cognitive, and psychosocial aspects of development from conception through early adulthood. Major topics of focus include the interactive influences of heredity and the environment, prenatal development and birth, parenting, schooling, peer-groups, religion, the mass media, emotional and / or physical abuse, and transitions during puberty.

PSY358 Psychology of Aging
Psychology of Aging examines age-related changes, both normal and pathological, that people experience in their learning, memory, and intellectual skills, their personalities, their social relationships, and their interaction with the physical environment. Research evidence for change as well as stability in multiple psychological domains will be examined in the context of changing paradigms of aging. Students will learn to distinguish between changes that occur with normal adult development (otherwise known as primary aging) and those that might occur secondary to systemic disease and mental disorders (secondary aging).

PSY359 Introduction to Cognitive Psychology
Cognitive psychology is the scientific study of mental processes, of how the mind works (and fails to work), how it absorbs, selects, processes, and transforms sensory information. Students will investigate how perceptual information enters the mind, how knowledge is organized, how new information is added to memory, how information is retrieved from memory,
How individuals convey information through language, and how knowledge is transformed by inductive and deductive reasoning.

PSY360 Sensation and Perception
This course serves as an introduction to how humans (and some other animals) sense and perceive their environment. Students will investigate major psychological approaches to sensation and perception including

behaviorist, empiricist, gestalt, Gibsonian, and computational theories. Topics explored include seeing (vision), hearing (audition), tasting (gustation), smelling (olfaction), feeling (somatosensation), and the range of methods psychologists use to study these senses.

PSY361 Human Memory
This course provides an overview of classic and current issues in the study of human memory. We will examine research findings to gain a better understanding of the structure and organization of memory. Topics will include working memory, encoding and retrieval processes, implicit memory and multiple memory systems, reconstructive processes in memory, eyewitness memory, developmental changes in memory, neuropsychological correlates of memory and memory disorders, source memory, memory improvement, and the repressed / recovered memory controversy

PSY362 Abnormal Psychology
This course will introduce students to fundamental psychological, biological, and socio-cultural concepts and principles that help define psychopathological human behavior. Readings and discussions will focus on how psychologists define, describe, classify, assess, and diagnose mental disorders; their causes and treatment options; and preventive strategies that help reduce the disruptive impact of maladaptive behaviors.

PSY363 Psychology of Human Emotion
What are emotions? What purpose do they serve? Where do they come from? How do they relate to our thoughts about and behaviors toward others? Why can't we stop ourselves from feeling? Is the love or anger we feel the same as the love or anger someone else feels? Why do different people respond differently to the same emotional event or provocation? These and many other questions will serve to ground this investigation of human emotions, their impact on cognitive processes and on human development, and on the way they structure the very architecture of
all our social interactions.

PSY401 Language, Memory, and the Human Mind
This course introduces students to major issues and debates about how the mind encodes and decodes information, forms concepts, categorizes thought, and acquires language. Topics explored include information theory, recognition memory, perceptual development, decision-making processes, and the representations of meaning and knowledge.

PSY491 / 492 Culminating Experience
The culminating experience is a 9-credit final project that includes both a written and an experiential component undertaken by students in their final year of study at IBA. Project proposals must be submitted before the beginning of the fall semester. The proposal should include a well-articulated research question, research methods to be used, an extensive bibliography that lists both primary and secondary sources to be consulted, and a brief summary of why the student wishes to pursue this line of inquiry. The final written component should be at least 40-pages (including appendices), and both include a synoptic summary of the data collected and an extensive analysis of that data as it pertains to the research question.

Department of Marketing

MARKETING COURSES

MKT201 Principles of Marketing
This is an introductory course for exposing students to the discipline of marketing by equipping them 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 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 they can observe business processes, formulate hypothesis, conduct experiments, draw conclusions and disseminate these conclusions for organizational benefits. Given Research is a tool for decision making, the Research process is closely intertwined with the business decision making process. From problem definition to developing alternate courses of action and then monitoring the implementation of decision made research is used across all of these.
Prerequisite MKT 201 / MTS 202

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 fulfills the need to understand the local marketing landscape and the peculiar challenges it poses for marketers in Pakistan. Class room discussions are highly interactive and focus on emerging topics like bottom of the pyramid marketing, issues in market research, new product development, evolving Pakistani consumer, brand Pakistan, issues in branding, and challenges in export marketing, changing retail landscape in Pakistan, sales and distribution issues and social marketing. Teaching pedagogy also includes frequent guest speaker sessions from marketing practitioners and case study discussions.
Prerequisite: MKT 201

MKT451 Advertising
he purpose of this course is to provide students with an understanding of how the practice of advertising is applied in a marketing environment. There is a need to equip students with knowledge of the importance of the role of advertising in the economy, and its place in the media of mass communications. This course emphasizes the preparation and execution of a media strategy. The students will have an in-depth understanding and study of advertising appeals, product and market research, selection of media, testing of advertising effectiveness and organization of the advertising profession. Students will also develop skills in scientific media planning and management. The course will place a heavy emphasis on the underlying marketing disciplines of customer-focus and branding. Understanding high value customer segments and delivering branded satisfaction to those segments through innovative communication techniques is an imperative for all marketers today. This imperative will be examined in an advertising context across multiple business sectors including consumer packaged goods, financial services, information technology, retail, and the marketing of people. An investigation of the nature and scope of advertising and its place within marketing strategy decisions and society falls within the gambit of this course.
Prerequisite: MKT 201

MKT452 Consumer Behavior
Consumer Behavior begins with an overview of importance of understanding consumers as buyers and users of products and services, and the course delves into deeper issues revolving around consumer decision making. Multiple factors forming the foundations of consumer behavior such as economic, social, psychological and cultural factors are discussed in the light of individual behavior variables such as needs, motives, perceptions, attitudes, personalities and learning. Lectures, interactive sessions, and real life cases are all included in the pedagogical design to enable students to understand how the marketing mix can be developed to satisfy demanding consumers. A field project is incorporated to allow students to extend their learning to designing an effective communication plan for a product or service.
Prerequisites: MKT 201: MKT 301

MKT453 Sales Management
Sales Management is critical for the success of any business enterprise, as it focuses on the development of sound sales and distribution strategy, the management of marketing channels, and sales force management in a business organization. The objective of this course is to familiarize BBA level students with the concepts and practices of sales management. The course focuses on setting up sales objectives, planning and implementation of sales programs, supervising the sales effort and measuring sales performance. The areas of sales forecasting, budgeting, hiring, sales force motivation, compensation and performance evaluation are also covered.
Prerequisite: MKT 201 / MKT 401

MKT454 Personal Selling
In the highly competitive and complex environment of the business world personal selling has an even more important and critical role to play. Personal Selling has evolved into a different activity than it was just a decade

ago. At BBA level, this course provides an overview of personal selling, providing insight into the operating paradigm of today's personal selling endeavors. This course encompasses all new concepts, technologies, and techniques that have contributed to this evolution. It also describes approaches to personal selling and presents the sales process as a series of interrelated steps.
Prerequisite: MKT 201 / MKT 401

MKT455 Retail Management
This course will help the students to see how retailing fits within the broader disciplines of business and marketing and will introduce them to the basic concepts and strategies in retailing. It will help them grasp the role of retailing in society and, conversely, society's impact on retailing. This course is meant for the students who ultimately envisage fulfilling a managerial function in any area of retailing. It will help them to analyze the importance of store location,merchandising, products and pricing.
Prerequisite: MKT 201

MKT456 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 yardsticks, advertising and sales promotion and packaging for exports, export terms and documents, banking services and transportation for exports.
Prerequisite: MKT 201

MKT457 Dynamics of Distribution and Logistics
The course reviews all pertinent concepts making the subject a timely issue. The course also serves as a training tool to someone who wants to broaden his / her knowledge about the difference between logistics and distribution from that of supply chain management. It will enable them to learn about tools as to how to be a cost-effective market leader. The first objective of this course is to learn about the strategic importance of logistics and distribution management, planning and operations and it brings about a competitive edge to the overall business. The second objective is to differentiate between logistics and other related disciplines such as Supply Chain Management, material handling and also to differentiate between distribution management and inventory management, warehousing, and transportation. The basic aim is to develop understanding of the four key areas and their interrelationships, namely strategic role of logistics and distribution management, difference between logistics and distribution and related disciplines, key activity centers of logistics and distribution, analytical tools and techniques for logistics and distribution management. The strategic concepts discussed in the course are tied together through a variety of examples that show that a combination of concepts is needed to achieve significant increase in performance.
Prerequisite: MKT 201

MKT458 Public Relations
Public Relations (PR) has gained prominence in the marketing communications mix, especially today, since media proliferation and high costs are forcing marketers to find more targeted approaches to achieve their objectives. Public Relations will provide students with the basic framework for creating and managing a PR Campaign. Through practical exercises students will also learn how to create, edit and evaluate PR texts for various publics and different situations. They will also be able to conduct basic research for PR purposes, create a PR plan, budget and implement it and finally evaluate the results. Topics which will be taught will include the publics in PR, PR tools, research methods in PR, planning, budgeting and implementing a PR campaign, and creating and managing relationships. Effective targeted writing skills and event management are also part of this course.
Prerequisite: MKT 201

MKT460 Direct Marketing
Direct marketing has become a powerful tool as part of an overall integrated marketing strategy. It is the study of the ability to reach a specific audience, create or enhance customer bonding, create dialogue or combine various media and disciplines. Here the student will learn the interactive use of advertising and other promotional media to stimulate consumer behavior predominantly through database and targeted marketing in order to obtain a measurable response. Tools include direct mail, telemarketing, TV and press advertising, web banner ads,door drops and inserts. The course will include the study of one- to-one and customer relationship marketing in which measuring customer value and building customer loyalty are major concepts which will relate to the concept of mass customization.
Prerequisite: MKT 201

MKT461 Brand Management
The study of brand management is a crucial area in marketing and business curriculum as brands are amongst the most valuable assets a company can have in today's highly competitive marketplace. The course includes an understanding of the psychological aspects of consumers awareness, preference, and loyalty to brands which is vital in developing long-term company growth, what brands are, how they are created and managed, and how they add value to consumers and the firm. Topics include the importance of product, service and corporate brands, how awareness, loyalty, perceived quality, strategies and tactics for maintaining and reviving brands, multi-brand portfolios, extensions, brands as a driving force for standardization and globalization with

explicit examples of branding drawn from local industry in Pakistan.
Prerequisite: MKT 201

MKT462 Essentials of Demand and Supply
The practice of Supply Chain is becoming widespread in all industries around the globe and firms are quickly realizing the benefits provided by the efficient Demand & Supply process. The new paradigm has evolved to include and give more importance to Supply Chain Management. Students will be introduced to the concepts of the Value Chain Model - Planning, Inbounds, Operations, Outbound and Measurements with a balanced equation of Demand and Supply and an understanding of the analytical tools necessary to solve Demand & Supply Chain problems. New concepts namely

Demand-Driven Company, Demand-Driven Economy, '5th P' are also to be introduced whereby 'Precision' Demand Planning will be focused as a back-end 'pillar' of the subject.

MKT501 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. It dilates upon the philosophy of integrated marketing and focuses on giving a top level leadership view of managing businesses. Upon completion, students should be able to understand the role of marketing led decisions and appreciate the criticality of the marketing function in order to achieve organizational success.

MKT505 Advanced and Applied Business Research
The purpose of the course is to have the students learn advance tools and techniques of Marketing and Business Research which is imperative to effective decision-making. Research is systematic and scientific and as such it carries with it a huge knowledge bank of dos and don'ts. Throughout this course students practice various forms of qualitative and quantitative methods of information collection, analysis, and interpretation and learn how to apply them effectively in different situations. This learning is achieved through case-based class discussions, interaction with the industry through guest speakers, and a live semester-long project. Advanced statistical techniques are taught for data analysis and interpretation and reinforced through their application to the assigned research project. Students are also encouraged to use sophisticated software for data analysis, such as SPSS, and classroom learning is extended to the interpretation of the software outputs and their relevance to decision-making.
Prerequisite: MKT501 / MTS 506

MKT551 Advertising
The purpose of this course is to provide students with an understanding of how the practice of advertising is applied in a marketing environment. The course caters to the need to equip students with knowledge of the importance of the role of advertising in the economy, and its place in the media of mass communications. This course emphasizes the preparation and execution of a media strategy. The students will be given an in-depth understanding and study of advertising appeals, product and market research, selection of media, testing of advertising effectiveness and organization of the advertising profession. Students will develop skills in scientific media planning and management.
Prerequisite: MKT 501

MKT552 Consumer Behavior
The course helps in better understanding of the individual as a consumer. The concepts and theories that underlie consumer behavior provide a deeper understanding of how the consumer contributes to the success of a brand or firm. Students learn how to apply concepts like learning, personality, motivation, perception, attitudes, communication and decision making in tailoring marketing and brand strategies to persuade customers to purchase. The need of understanding consumers and their role in building brand loyalty and brand equity is vividly discussed with each concept. The research based project is a live practical application incorporating strategies like developing the product and improving it; determining a price point for the brand and designing marketing strategies especially advertising, direct marketing

techniques and nontraditional communication.
Prerequisite: MKT501 : MKT505
*Recommended elective for Marketing Major

MKT553 Entrepreneurial Management
The objectives of this course are:

a. To appreciate the role of entrepreneurship in economic growth and thereby personal career growth of business managers.

b. 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 & entrepreneurial 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: Principles of Management / Introduction to Business Finance

MKT556 Social Marketing
Pakistan ranks very low in social indicators and the majority of the population are living below the poverty line. Social marketing is an approach towards behavior change that has been developed by using the principles of commercial sector marketing. Yet, the goals of social marketing are extremely different from the goals of commercial entities. In the United States, social marketing has been used successfully to combat smoking in public places and has been used to increase physical activity, improve nutrition, reduce heart disease, increase the use of seat belts, and in improving the environment. This course is designed to examine research and practice in the area of social marketing, with the purpose of developing an excellent understanding of the application of social marketing principles and approaches. Social marketing relies heavily on consumer research and students will be expected to apply research techniques such as in-depth interviews to do consumer research on target groups as part of developing a strategy for a social marketing project of their choice. The course will focus on deepening understanding of target markets through research and on using information collected through research to manipulate the 4 Ps to develop an effective social marketing campaign.

Social marketing as opposed to commercial marketing focuses on behavior change of various cross-sections of society. This behavior change relates to habits which are detrimental to the uplift of society. Through a combination of theory and demonstration of practical projects, the students are exposed to the techniques of social marketing. This exposure will broaden the employment prospects of students in non-profit and non-governmental organizations in addition to social welfare organizations in Pakistan.
Prerequisite: MKT501

MKT558 Customer Ascendancy
The course helps to understand Marketing in the 21st Century and transforming ordinary marketing organizations into Customer Driven Businesses. The students will apply marketing concepts and theories learnt in basic marketing courses to develop strategies and plans for maximizing Customer Satisfaction and Market Leadership. Customers are the reason why businesses exist. Identifying their needs and changing expectations, developing matching offers, delivering the offers, designing customer service programs, customer relationship management, making strategies to maximize customer satisfaction, obtaining customer feedback and monitoring customer satisfaction are included in this important course for all marketers. Knowledge of theory, concepts, processes and practices for attaining customer ascendancy in organizations is predominantly discussed through case studies. The project report is a major pedagogical tool of this applied course.
Prerequisite: MKT501

MKT559 Supply Chain Management
The objective of this course is to generate a basic level understanding and translating conceptual exposure among the students and professional as to why supply chain management is among the top initiatives for businesses of all sizes. Yet most purchasing, operation, planning, and finance managers feel they don't have good control over their supply chains. Even the best informed are saddled with questions about establishing organization buy-in, defining metrics and benchmarks, optimizing material and transactional flow, and conducting relevant competitive analysis to define business opportunities. The challenges involved in optimizing a company's supply chain are substantial. While studying SCM, students will be able to understand and appreciate the significance of a strong SCM model; to help top management to make decisively differentiated options to counter their competition. They will learn the strategic importance of an efficient supply chain design, planning and operation within the strategic framework. The course will include analysis of these key elements and how they may be used on a conceptual level during supply chain design, planning and operation to improve performance. The strategic frameworks and concepts are tied together through a variety of examples that show how a combination of concepts is needed to achieve significant improvement in overall performance.
Prerequisite: MKT501

MKT561 Brand Management
The astronomical growth in the wealth and the culture influence of multinational corporations

over the last 40 years can arguably be traced back to a single, seemingly innocuous idea developed by management theorist in the mid 80s': successful companies must produce brands. Brands are known as the most valuable assets that a company has invested in and developed over time. This is true for large global conglomerates as well as small local start-up companies. Often a company itself is considered a brand. Marketers see a brand as an implied promise that the level of quality people have come to expect from a brand will continue with future purchases of the same product. Lack of branding is perceived as a major weakness in marketing in Pakistan, both in domestic market and the international markets. Brand management is the application of marketing techniques to a specific product / services, product line, or brand. It seeks to increase a product's perceived value to the customer and thereby increase demand for a particular brand and its brand equity. Brand Management will help you to understand how to apply concepts like brand identity, brand name, brand logo, brand value, brand equity, brand positioning and image so as to culminate in the growth of a premium brand. Brand audits are conducted so that students can learn how to map consumer behavior insights for effective brand building activities.
Prerequisite: MKT501
*Recommended elective for Marketing Major

MKT566 Media Management
Media planning is a crucial part of the advertising process and ultimately of the brand planning process, yet there has been little done towards imparting formal education on this relatively new field of Marketing Communications. Since media is closely linked to technology, it is continuously changing in dynamics and affecting the overall brand marketing process, hence closely knitting the subject with Brand Management and Marketing Management. This course is the key to developing a synergized thought process amongst students with a Marketing major. However, the fact that since media is the second highest cost on the P&L for most FMCG or Marketing Services companies, it is equally important for finance-based graduates to go through the course so that they have a fair idea of the subject and its implications to the overall budgeting process involved. Taking this course may not make students media experts but it will provide a solid grounding in the process, terminology, and practice of advertising media planning.
Prerequisite: MKT 501

MKT586 Retailing
The present day marketer needs to be equipped with a sense of the interface between channels and consumers. An understanding of retailing concepts and strategies as an outcome of this course gives them that critique. An analysis of existing generalizations and principles related to the economic and social role of retailing, competitive strategies, efficiency in retailing, and essential concepts for retail management gives an understanding of the retail channel in the marketing mix. The objective of this course is to familiarize students with the decisions involved in running a retail firm and the concepts and principles for making those decisions. While the course focuses on the retail industry including retailers of consumer services, the content of the course is useful for students interested in working for companies that interact with retailers such as manufacturers of consumer products or for students with a general management or entrepreneurial interest.

The course will focus a great deal on the value of strategic planning, including a detailed review of the titans of retailing.
Prerequisite: MKT 501

MKT651 Personal Selling
The field of Personal Selling has matured into a professional endeavor. To-day, selling may be a stronger profession because of the obstacles it has overcome and sometimes still battles. Personal selling gives hands-on training to the students by inviting them to make sales presentations in class. A working insight into the personal selling area is developed so that sales managers can empathize with the sales people and make more informed decisions. The course also emphasizes the connections of personal selling with other marketing activities. It is approached with a modular approach covering communications, prospecting, negotiating and sales presentations.
Prerequisite: MKT501

MKT653 Sales Management
Sales Management as a function of marketing focuses on the development of a sound sales and distribution strategy, the management of marketing channels, and sales force management in a business organization. Rapid changes in technology, a higher level of customer orientation, the globalization of business, and increasing competition have made sales and distribution management critical for the success of any business enterprise. The aim of this course is to familiarize you with the concepts and practices of sales management. With a focus on setting sales objectives, planning and implementing sales programs, supervising the sales effort and measuring sales performance; sales forecasting, budgeting, hiring, sales force motivation, compensation and performance evaluation is also covered. Sales are a culmination of the marketing effort. Allocating resources optimally by careful territory design is the key its 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 also studied in depth.
Prerequisite: MKT501

MKT656 Services Marketing
The service sector forms an increasingly important part of the world economy. The Services Marketing module seeks to provide an understanding of the differences and similarities between goods and services, as well as analyzing services marketing to enable students to become an expert service marketer. This course is designed to cater to the continuous dominance of services over products. Many economies, especially in the developed world, are now known as service economies. This course addresses the issues of intangibility of the service environment. The course also looks at the use of technology in conception, design, and, execution of the service product. Keeping in view Pakistan's demography, whereby human resource is a great asset, service differentiation through people is a cornerstone of this course.
Prerequisite: MKT501

MKT657 Strategic Marketing
The goal of this course is to help make better business decisions - from high level strategic choices to tactical decisions on product policy, promotions, pricing and distribution, which require a thorough understanding of marketing. Effective marketing results not from simply internalizing marketing facts and institutional detail, but from systematic critical thinking and the reasoned application of underlying principles. The framework applied is described as the 4 C's: Customer, Company, Competition and Collaborator. What sets marketing apart from many other disciplines is its focus on the customer, and a great deal of time will be spent discussing ways in which marketers view customers and how that enhances the quality of strategic business decisions. But given the messy, real-world problems, any framework designed requires a balanced view that includes company, competitive and collaborative factors. This framework will be used to discuss strategies, as well as tactical decision-making that focus on elements of the marketing mix, often called the 4 P's: price, place (distribution), product and promotion. The course will apply this framework in a variety of settings: from consumer goods to business-to-business marketing, to service markets to e-commerce to business to government. Prerequisite: MKT501

MKT658 Business to Business Marketing
This specialized course in marketing is concerned with management of business-to-business marketing transactions and developing marketing strategies for industrial, corporate and institutional customers. The students will develop an understanding how organizations make buying decisions; what are the various organizational influences and the methodologies for addressing the various concerns of these influences. Further they will also understand the various occasions of organizational decision making, the role of B2B market research, branding of B2B brands and the innovative field of B2B Services. Discussions on marketing to the Government and marketing to institutions are incorporated throughout the course. The course discusses the industrial marketing environment, modern concepts of interaction, buying behavior of businesses, role of technology, industrial marketing research and planning. Prerequisite: MKT501

MKT659 Global Marketing Management
The marketing function can no longer be demarcated across boundaries and needs to be seen in the context of an increasingly globalised world. Various forces affect the marketing of goods and services around the globe, and the savvy marketer needs to be aware of them and use them to his / her advantage while remaining socially responsible. This module will be taking students on the journey to become the best global marketer that they can possibly be - and will also look at global marketing in the Pakistani context. Political, economic, cultural and regulatory issues will be considered, as well as issues that belong to export-oriented firms. Multi-nationals will also be examined in terms of their impact on the global economy, and how they formulate marketing strategies that work in different regions. The key theme running throughout the course will be 'Think Globally, Act Locally'.
Prerequisite: MKT 501

MKT752 Seminar in Marketing
Seminar in marketing is a capstone marketing course. This is a modular course with practitioners and experienced experts leading many sessions. This is value added by presenting various points of view of leading marketing gurus and thoroughly debated incorporating practical implementation strategies. The important issues in marketing especially those of the local environment, customer ascendancy, nation branding, differentiation, segmentation and positioning are discussed. Research is undertaken specifically of interest to the marketing community and a solution provided. In this course students are thus expected to contribute to marketing knowledge through research and review of cutting edge marketing concepts.
Prerequisite: MKT501 / MKT505

Faculty of Computer Science

Department of Computer Science

MIS COURSES

MIS103 Introduction to Computer Applications (2,1,3)
The course provides a fundamental understanding of computer applications with the core focus on Microsoft Office Application (Microsoft Word, Microsoft Excel and Microsoft PowerPoint). This is a complete lab based course where students would 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 Power Point. Students would also be covering the basic concepts in Computer Hardware and Operating Systems and the usage of the Internet.
Offered Semester: Fall

MIS343 Data Warehousing (3,1,4)
This course is a study of the techniques for planning,designing, building, populating, and maintaining a successful data ware house. The data ware house continues to be one of the most organizationally complex and technically interesting projects in Information Technology. This course provides studentsan in-depth knowledge of the different phases of building data warehouse. Throughout the course, the special focus is given to the practical aspects of dimensional modeling, ETL, Data Quality and cleansing,and decision support through OLAP.
Pre-Requisite: CSE 341
Offered Semester: Fall

MIS405 Excel & Access for Business Managers (2,1,3)
Spreadsheet and database applications are widely used in most organizations for data analysis. These applications help management to take better decisions. Spreadsheet and database applications come either in the form of desktop or web based applications. Microsoft Excel and Access are well known general purpose desktop based spreadsheet and database software. Unfortunately, many managers hardly know the basics of the Excel and Access capabilities and as a result they spend hours on simple tasks that could be completed in minutes. Spreadsheets created by such users are difficult to update. They fail to understand the core drivers in business models developed by others and undermine their decision-making ability. The purpose of this course is to produce skilled MBA students so that they may enter in the market as effective Excel and database users and can become efficient managers. This course will enable them to use Microsoft Excel and Access to improve their work, analysis and decision making skills.
Offered Semester: Both

MIS406 Social Computing (3,0,3)
The course focuses on the emerging area of 'Social Computing', which is becoming quite popular and important these days within the discipline of Information Systems. As information systems are becoming more social, Information Systems increasingly require both social and technological perspectives. Social computing hinges on this intersection of social and computer sciences. This course's pedagogy also reflects this new paradigm and is not teacher centric. Rather it is collaborative learning, where peers learn from each other and the role of the teacher becomes that of a guide, resource person and moderator. The students make use of a class wiki as their collaborative learning platform. Typical topics covered include; network theory, theories of social influence, analysis and design of social online environments, blogosp here, business applications of social computing,

collective intelligence,computer supported cooperative work, folks onomies, prediction markets, recommender systems, reputation management systems, social collaboration, social network analysis and visualization, tagging, virtual communities of practice, wiki technology and culture.
Pre-Requisite: CSE 341 MGT 211
Offered Semester: Fall

MIS450 Technopreneurship (3,0,3)
This course aims towards developing Technopreneurial skills in CS students so that they are able to start up a technology-based business. With the amalgamation of class discussions, mentoring and sharing real life practical experiences students would develop an understanding of what it takes to start a technology business. Students would be prepared for challenges & risks that a technopreneur is likely to face.
Offered Semester: Fall

MIS454 Audit, Ethics & IS Issues (3,0,3)
The course analyzes the impact of computers onsociety. Topics included are privacy issues, changing patterns of interaction, security, control of information systems, breakdowns, vulnerability, hazards, computer crimes, fraud, defenses, access controls, audit planning and execution, disaster recovery and risk management.
Pre-Requisite: MGT 211
Offered Semester: Both

MIS456 E-Commerce (3,0,3)
The course introduces the e-commerce concepts, objectives, market drivers that affect techniques and technologies. The topics in the course include: intelligent agents, client/server model, commitment, concurrency, recovery, network service and application management, quality of service management, service level agreement management, application service providers and security management. It discusses policy and regulatory issues in e-commerce. It also identifies the various e-commerce applications in the areas of finance, securities, trading, auctions, and travel. Software Engineering is also recommended (but not required) as a prerequisite.
Pre-Requisite: CSE 248
Offered Semester: Spring

MIS458 Enterprise Resource Planning (3,0,3)
The course is designed to provide an overview of enterprise resource planning systems. In particular, the course focuses on the ERP life cycle. The course introduces students to problems that traditionally fragmented information systems create and therefore, to the underlying need for integration of business processes and information in large organizations. Further students will learn the technical development environment of ERP Software. A part of the course is set aside for demonstrations and "hands on" exercises. Students use this software to perform some of the processes and tasks to create, track, and communicate enterprise information.
Pre-Requisite: ACC 111
Offered Semester: Fall

MIS459 Customer Relationship Management (3,0,3)
Pre-Requisite: MKT 401, MKT 201, MKT 453
Offered Semester: Spring

MIS463 Mobile Marketing - A Technological Perspective (3,0,3)
This course examines the business potential of using the mobile platform for marketing purposes and examines both the technology opportunities and technology challenges involved in the implementation of a successful mobile marketing campaign. Students will learn how to assess different mobile technologies and platforms, examine the right technology architecture suitable to marketing needs, leverage them to implement a mobile marketing campaign and identify associated technology challenges. Throughout the course, a special focus on the local telecommunications market will be given so that students can gain a better understanding of how to adapt their mobile strategies to create long term value in their local business environment. The course is only open for Juniors and Seniors.
Offered Semester: Spring

MIS464 Financial Services Technologies (3,0,3)
The role of Financial Services Technologies are becoming increasingly essential and critical to achieve efficiency and delivery of low cost transactions to the customers. It has increasingly become inevitable to deploy effective controls and security in the financial institutions, by deploying systems such as integrated banking systems and applications, payment solutions, innovative e-delivery channels, e-commerce, exploding mobile platforms with sustainable risk management framework under robust IT Services Delivery Infrastructure and Management comprising of Data Centre Management, Network and Security. The purpose of this course is to provide students with in-depth understanding and knowledge base of all components involved in the evaluation, implementation, integration and operation of Financial Services Technologies. ICT Infrastructure, IT Service Delivery Management and associated tools and techniques being utilized in the leading financial institutions across the globe in this sector is also covered within the course. The course is restricted to 3rd and 4th year undergraduate students.
Offered Semester: Spring

MIS503 Enterprise Integration (3,0,3)
This course provides students with the theories, models,and analytic techniques required to develop solutions for integrating heterogeneous information systems. Basic concepts that must be applied to enable diverse applications developed in different environments under a variety of rules and standards to process cooperatively will be explored and illustrated. This course serves asa focused introduction to the concept that information systems must be utilized (i.e., Re-used) rather than redeveloped and will give consideration to the role of users and the impact of information systems on those people. Independent and group assignments will provide the students with the opportunity to investigate Enterprise Integration solutions from the Web and in use in local environments.
Pre-Requisite: Track-IM
Offered Semester: Upon Request

MIS550 Logistics and Supply Chain Management (3,0,3)
Logistics is one of the most important aspect of supply chain and its importance is growing rapidly as the world is moving towards globalization. Modern days Logistics is quite different from the older Logistics Practices. New Logistics Practices and the usage of Advanced Technologies have made the field of logistics a competitive advantage for many companies. After completing this course the students will have a clear understanding of what is supply chain management and the role of logistics in the modern supply chain paradigm. The course is specifically designed for students who are proactive in their work style and want to sharpen their problem solving and solution designing skills. The students will learn how to identify issues / problems and develop solutions in the areas such as procurement management, supplier management, inventory handling, warehouse management, logistics etc. The course will cover areas such as understanding the supply chain, purchasing management, supplier management, strategic sourcing , demand forecasting and collaborative planning, inventory management & bull-whip effect (SCM game), domestic and international transport, logistics outsourcing (3pl and 4pl), designing the transport network, performance measurement along the supply chain. A term report will also be submitted at the end of the semester.
Pre-Requisite: Track-IM
Offered Semester: Upon Request

MIS552 Advanced Data Warehousing (2,1,3)
Data warehouses are databases of a specific kind that periodically collect information about the activities being performed by an organization. This course will discuss advanced topics of data warehousing in order to provide a detailed know how of the subject to the student. Topics included in this course are: discussion on conventional data warehousing techniques, spatial data warehousing techniques, temporal data warehouses, designing conventional data warehouses,designing spatial and temporal data warehouses, and ongoing research in ware housing.
Pre-Requisite: Track-IM
Offered Semester: Spring

MIS553 Mobile Marketing Strategies (3,0,3)
As many marketers are now acknowledging: Mobile is the Future. This course is designed to provide students with a sound understanding of the mobile channel as a marketing tool in both the international and local markets. In particular, the course takes a very practical and realistic approach to examining Pakistan's own mobile marketing eco-system and the opportunities and challenges therein. The course also emphasizes how mobile is becoming an essential component of both digital and cross-media marketing campaigns. The course is primarily for MBA / MS students with several years of experience. MBA students are expected (but not required) to have taken Marketing Management as a prerequisite. For MS students, some prior marketing exposure would be desired.
Offered Semester: Fall

MIS555 Auditing IT Infrastructures (3,0,3)
The course will discuss the components and basic requirements for creating an audit plan to support business and system consideration. In this course we will explore the various parameters required to conduct and report on IT infrastructure audit for organizational compliance. The course will also discuss the qualifications, ethics, and certification organizations for IT auditors.
Pre-Requisite: Track-IM
Offered Semester: Upon Request

MIS565 Advance E-Commerce (3,0,3)
To introduce e-commerce with Business, Technology & Social perspective and examine the relationship of basic e-business strategies to business success. Furthermore, the course will stress on the understanding of end to end technological infrastructure to establish and support e-commerce. Other business aspects of e-commerce such as marketing, logistics, third party integrations among others, will also be discussed. The course will include the overview of some of the commercial B2C and B2B e-commerce systems.
Pre-Requisite: MIS 456
Offered Semester: Upon Request

MIS566 Fundamentals of SAP-ABAP Programming-I (2,1,3)
The first section of this course comprises of Introduction to SAP ABAP, SAP architecture, and ABAP Development work bench tools. The second section deals with study of ABAP

workbench in detail, which includes, study of flow of an ABAP program, ABAP workbench, ABAP dictionary, ABAP language elements, data retrieval, subroutines and ABAP events. The third section of this course is based on in-depth study of ABAP dictionary, including study of data objects, performance, input hecks, object dependencies, views, search and performance monitoring.
Pre-Requisite: CSE 341
Offered Semester: Upon Request

MIS567 Simulated Approach to SCM (1,.5,1.5)
In today's competitive environment organizations are struggling for sustainability and profitability. Besides Marketing and Financial issues, Supply Chain issues like poor planning and forecasting, long lead times, poor ordering, poor quality raw material, poor quality finished products and poor logistical activities etc, make a deep impact on organizational image and performance. Successful organizations are employing Supply Chain Management (SCM) techniques to minimize the supply chain issues which ultimately improve organizational performance and profitability. In 1960 MIT developed the famous simulated "Beer Game" to illustrate "Bullwhip whip effect" along the supply chain which happens due to lack of communication and coordination among the supply chain partners .Understanding business issues through just theory is extremely difficult. Business Case studies take the understanding to the next higher level. Simulation approach takes the understanding to even higher level than understanding business through case studies where the participants understand the issues and what causes those issues properly. Supply Chain issues can be easily understood through a simulated supply chain environment. SCM simulation game increases the participant's understanding of Supply Chain dynamics and common supply chain issues and their impact on organizational performance.
Pre-Requisite: MKT 201, MGT 311
Offered Semester: Upon Request

MIS 651 Theoretical Foundations of IS (3,0,3)
The field of Information Systems is still young and in the process of building native theories. This course aims to introduce the students to the evolving theoretical foundations of the discipline at the same time developing in them and appreciation of Information Systems links with its reference disciplines. The students are exposed to the major theories utilized and appropriated in the field during the last few decades. The students also learn the philosophical perspectives on theories, models and explanations. The above objectives are achieved by reading and comprehending latest research in information systems.
Pre-Requisite: Track-IM
Offered Semester: Upon Request

MIS 653 Advanced Theoretical Concepts in IS (3,0,3)
The course aims to review and critically evaluate recent advances in Information Systems theories. The students are exposed to and asked to read, critically analyze and discuss three to four recent research papers each week. This engages the student in the current debate and discourse on theoretical issues in information systems and their impact on organizations, society and individuals. The course is not based on lectures; rather it is based on participatory learning paradigm. The students are expected to produce a conceptual paper at the end of the semester analyzing a locally relevant and important research problem utilizing theoretical understanding acquired during the semester.
Pre-Requisite: MIS 651
Offered Semester: Upon Request

COMPUTER SCIENCE & ALLIED COURSES

CSE141 Introduction to Programming (3,1,4)
This is a first of a series of programming based courses. It introduces fundamental problem solving skills and algorithm development with the help of a programming language. It covers topics like Variables & Data Types, Selection and Iteration Structures, Methods and Recursive Methods, Arrays and Structures, File I / O and optionally elementary 2D Graphics based on certain tool kits. It also covers flowchart design and pseudo code approaches for representing solution to problems as well as debugging and testing techniques. Many programming languages support the required functionalities for this course.
Offered Semester: Both

CSE 142 Object Oriented Programming Techniques (3,1,4)
This course describes another paradigm as a better replacement for structured / procedural programming paradigm (CSE141) for managing large programs to segregate code into reusable chunks called classes. Principles of Abstraction, Encapsulation, Inheritance and Polymorphism are explored as well as developing an understanding of code structuring and design philosophies. It requires a thorough understanding of fundamentals of programming. Topics include class definition, constructors, destructors, access control, method overloading and overriding, inheritance, static and dynamic binding, exception handling, object life cycle and garbage collection, and name spaces. Either Java, C+ or C++ is used as a tool for implementation of concepts learnt in this course.
Pre-Requisite: CSE 141
Offered Semester: Both

CSE145 Introduction to Computing (3,1,4)
This course takes a breadth-wise approach to different areas in the discipline of computer science. It overviews topics from number representation, hard ware 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.
Offered Semester: Both

CSE241 Digital Logic Design (3,1,4)
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, pipe lining, and memory hierarchy.
Pre-Requisite: CSE 145, MTS 201
Offered Semester: Both

CSE247 Data Structures (3,1,4)
The purpose of this course is to provide students a solid foundation in the basic concepts of programming: data structures. Students are taught how to select and design data structures and algorithms that are appropriate for problems that they might encounter. The course focuses on comparing algorithms and studying their correctness and computational complexity. Students are provided a mixture of theoretical knowledge and practical experience using any programming language (JAVA, C, C++ or C#). Other topics covered in the course include analysis of algorithms, 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.
Pre-Requisite: CSE 142, MTS 201
Offered Semester: Both

CSE 307 Introduction to AI (3,0,3)
This course provides an overview of the theoretical and practical aspects of designing intelligent computer systems. Students are expected to implement the concepts learned during the course using standard and AI-specific programming languages and tools. Topics included are history and overview 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 and computational intelligence techniques.
Pre-Requisite: CSE 247, MTS 201
Offered Semester: Both

CSE308 Web Based Application Development (3,0,3)
The main objective of the course is to enable students to be able to start their own digital venture. The course curriculum is a project-based introduction to web design, development and application development. Students will learn website design, development and application development. They will also learn how to create and maintain quality web pages, web design standards and their importance and manipulation of images.
Pre-Requisite: CSE 341
Offered Semester: Both

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 Graphics, Context Free Grammars and Derivations, Push-Down Automata and Pumping Lemma, Turing Machines and other equivalent machines, and Chomsky Hierarchy of Languages. The domains and limitations of each computational model are also explored.
Pre-Requisite: MTS 211, CSE 141
Offered Semester: Both

CSE312 Software Engineering (3,0,3)
This course introduces students to the fundamental principles and methodologies of large-scale software development. Students learn about the theory and practice of software engineering. It requires a programming background. Students apply the taught practices on their individual programming efforts to identify their strengths and shortcomings through the use of Personal Software Process (PSP). Additionally, they work as part of a team on a full life cycle software project that includes planning, software specification, software design, coding, inspections, and testing.
Pre-Requisite: CSE 247
Offered Semester: Both

CSE 317 Design and Analysis of Algorithms (3,0,3)
This course is a core course, and requires a working knowledge of the basic algorithms, such as searching, sorting, hashing, and various other computational algorithms. Students are taught how to analyze these methods and design efficient ones. The key emphasis is on algorithms that are in widespread use. Integer algorithms as well as matrix computations are also covered. The aim is to enable students to design competing alternatives of their own by creative design and analysis.
Pre-Requisite: CSE 247, CSE 142
Offered Semester: Summer & Fall

CSE318 Design Patterns (3,0,3)
This course is an advancement of the techniques learnt 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.
Pre-Requisite: CSE 247, CSE 142
Offered Semester: Spring

CSE331 Operating Systems (3,0,3)
The objective of this course is to introduce the organization of operating systems. Topics included are process management and scheduling, interaction of concurrent processes, interrupts, I/O, device handling, memory and virtual memory management and file management. A survey is carried out of the design and implementation of distributed operating systems, both by introducing basic concepts and considering examples of current systems: UNIX and recently developed operating systems such as Linux, Vista are presented.
Pre-Requisite: CSE 247
Offered Semester: Both

CSE341 Database Systems (3,1,4)
The course covers the foundations of database systems, database management systems and the design and implementation of database systems using industries top DBMS such as Oracle, SQL Server, etc. Topics included are fundamentals of database architecture, focusing on basics such as the relational algebra and data model, deriving a physical design from the logical design, schema normalization & denormalization, data security, data integrity, query optimization, transactions management, and introduction to distributed databases, object oriented databases and data warehousing.
Pre-Requisite: CSE 247
Offered Semester: Both

CSE344 Compiler Design (3,1,4)
This course examines the design consideration, constraints and implementation techniques for developing compilers and interpreters. Programming language code translation issues are explored with reference to problem domains, resource requirements and runtime requirements. 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 Front end Operations like Runtime Environments, Code Generation and Introduction to Code Optimization.
Pre-Requisite: CSE 309, CSE 310, CSE 310
Offered Semester: Fall

CSE345 Computer Architecture and Assembly Language (3,1,4)
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, overflow and underflow situations, fixed point and floating point data, instruction codes, super scalar structures, VLIW, and other modern CPU architectures.
Pre-Requisite: CSE 241, CSE 247
Offered Semester: Both

CSE403 System Modeling and Simulation (3,0,3)
The course focuses on two areas, analysis of practical problems, and their solution using computational techniques. The standard singe queue server problem is used to introduce the student to problem analysis techniques and computational modelling. The use of statistical techniques is introduced to model random processes in a non-mathematical way. These techniques are then used to solve other practical problems in which convergence, system behavior, performance measures and validation are discussed. All techniques are discussed with practical problems such as the single/double queue server and communication systems as practical models so that the student is capable of applying the theory to a problem as part of the course. Programming skills are a prerequisite of the course, though the student wil be left to his/her own choice of programming language.
Pre-Requisite: CSE 248
Offered Semester: Fall

CSE407 Human Computer Interaction (3,0,3)
This course aims to gives students an understanding of how the study of Human

Computer Interaction (HCI) affects the design of interactive systems, hardware and software and improves students' awareness of the issues that determine the usability of an interactive computer system. Humans are the key deciding factor to make a computer system successful. This course discusses the key issues and their solutions to make a system more human friendly. Effective design is reliant upon understanding the human context in which a new artefact has to fit. This course provides the necessary knowledge and skills to design, prototype and evaluate usable human-computer interaction in both its narrow sense (the user interface) and its broad sense (information systems, people, organizations,even societies and cultures). It further provides as strategic grounding in both theory and good practice for students to make effective use of applying HCI principles to IS design in their professional work.
Pre-Requisite: CSE 312
Offered Semester: Both

CSE441 Systems Programming (3,1,4)
The purpose of this course is to provide the students with an introduction to system-level programming. The course is primarily based on Linux Operating Systems Programming and C/C++ Language is primarily used as a language. General OS Systems Concepts and Windows OS Systems concepts are discussed also. This course covers a selection of systems programming topics in multitasking, process synchronization, inter-process communication, and operating system mechanisms and interaction. Material about task handling (such as multiprocessing and multithreading), task synchronization mechanisms (such as signals, locks / semaphores), task communication mechanisms (pipes and/or messages, sockets), file system interaction, system functions, and current open standards will be presented and used in labs, programming assignments and project. Operating Systems course and good programming skills preferably in C/C++ are Pre-requisites for this course.
Pre-Requisite: CSE 331
Offered Semester: Both

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 Micro controller Programming and Interfacing will also be covered. This course consists mostly of hardware labs in which students develop projects on electronics,leading to a final semester project.
Pre-Requisite: CSE 345
Offered Semester: Upon Request

CSE450 Application Development for Mobile Devices (3,0,3)
The main objective of the course is to familiarize students with application development (web or native) challenges for mobile devices. The course syllabus aims to achieve the objective by focusing on the following issues: Developing understanding of differences between Conception, UI-Design, Coding, Launching of a mobile application and a traditional application; Developing a basic Mobile website; Understanding some discrete techniques to enhance user experience used uniquely in mobile devices. The selection is left up to the course instructor(s) following are some recommendation: Using accelerometer, GPS locator, gestures, Iris scan. Use of one mobile device platform (Android, iOS, Windows etc.) will be made to develop native mobile applications.
Pre-Requisite: CSE 142, CSE 312
Offered Semester: Both

CSE455 Network Security (2,1,3)
Students are introduced to the security issues in computing, communications, and electronic commerce. The course covers security requirements and vulnerabilities, legal and ethical issues, basic cryptology, private and authenticated communication, electronic commerce security, software security, viruses and other malicious codes, operating system protection,trusted systems design, network security, firewalls, auditing, physical security and disaster recovery.
Pre-Requisite: CSE 211
Offered Semester: Fall

CSE459 Business Intelligence (3,0,3)
Business intelligence (BI) refers to technologies, applications and practices for the collection, integration, analysis, and presentation of business information. The purpose of business intelligence is to support better business decision making. This course provides an overview of the technology of BI and the application of BI to an organization's strategies and goals.
Pre-Requisite: CSE 341, MIS 343
Offered Semester: Spring

CSE460 Introduction to Game Programming and Robotics (3,0,3)
The course introduces the fundamentals of game programming and robotics. This is a programming intensive course and students are required to spend a significant amount of time in developing interactive games and creating virtual simulation environments to be used in conjunction with robots. Students will get hands on experience of XNA Studio Express, Microsoft Robotics Development Studio, and Lego Robots. The main focus of the course is on the processes, algorithms, and mathematics necessary to create 3D computer games and to build autonomous robots for various tasks. The course provides great opportunity to students to expand their programming and engineering

skills even if they are not interested in pursuing careers in robots or video games development.
Pre-Requisite: CSE 307
Offered Semester: Upon Request

CSE461 Mathematics for Games (3,0,3)
The course focuses specifically on the necessary mathematics required to represent object behaviour in practical gaming. Areas covered include bouncing balls, with and without energy loss, projectile analysis, bouncing projectiles, fireworks and explosions. The theory is taught followed by practical programming of the theory via an example. The course focuses on practical implementation of theory as part of the course activity. Simulation and Modelling is a prerequisite for the course.
Pre-Requisite: CSE 403
Offered Semester: Upon Request

CSE491 Computer Science Project - I (0,3,3)
This is the first of a two semester intensive software 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. Students are expected to have a complete prototype ready for demonstration at the end of the first semester. An industry partner or equivalent is part of the requirement.
Pre-Requisite: CSE 341, CSE 312
Offered Semester: Both

CSE492 Computer Science Project - II (0,3,3)
This is the second of the two semester intensive software development project. Students are expected to look into the advanced issues of implementation of their prototype developed in the first part and possible commercialization aspects of their project.
Pre-Requisite: CSE 491
Offered Semester: Both

CSE503 Software Project Management (3,0,3)
This course deals with lifecycle of Software Project Management, Project Planning, Software estimation, software project schedules, reviewing work products,system requirements, project automation, software metrics, testing, bugs and diagnosis, change configuration, managing organization, team and project,software process improvement. This course will enable students to have a complete view of Project Management, as described by PMBOK.
Pre-Requisite: CSE 312
Offered Semester: Fall

CSE556 Image Processing for Recognition (3,0,3)
This course would help students to understand how concepts of image processing would provide the basis for Machine recognition. The course would explain how images and sequence of images could be used to understand about the scene and real world problems. The course focuses on different models which are used for object recognition. The course also includes machine learning techniques which are used for object classification and recognition. Different segmentation algorithms will be applied to single and multi view images, and object 3D reconstruction will be studied. Single and Multi-view image processing would be used to understand problems of 3D reconstruction, navigation in 3D space and bio metric recognition. Concepts of visual tracking would also be explain for object tracking with a focus on surveillance. Multi-camera systems would be studied for object reconstruction and localization. Different feature extraction models would be explain which are used for image and object classification and recognition.
Pre-Requisite: CSE 559
Offered Semester: Fall

CSE558 Mobile Computing (3,0,3)
This course presents an extensive overview of the technical as well as business aspects of mobile computing and wireless communications. Main topics to be covered are: mobile applications, mobile computing platforms, wireless networks, architectures,security, and management, of mobile computing and wireless communications. The role of wireless Internet and Mobile IP is reviewed and the mobile computing plat forms are examined with a discussion of wireless middle ware, wireless gateways, mobile application servers, WAP, i-mode, J2ME, BREW, Mobile Internet Toolkit, and Mobile Web Services.
Pre-Requisite: CSE 142
Offered Semester: Upon Request

CSE559 Image Processing (3,0,3)
Image processing is an applied course and designed in a way that students would be able to use this course toward their postgraduate research or final year project. The course is designed to provide students intermediate level expertise in image processing. The course will explain formation of image and its digitization by using different sampling criteria. The student would learn Human visual system and different colour systems used to represent images. Different image transformations will be explained which are important in image registration. Student will learn how to enhance images using different enhancement filters. Different spatial filters will be implemented during the course for image preprocessing and obtaining edges of objects in an image. Different seminal segmentation algorithms will be implemented to obtain segmentation of image in objects and meaningful regions. Application of segmentation to biometrics will be investigated. Motion analysis is performed to extract rigid/non-rigid foreground objects in a video sequence. Stereo geometry will be explained which is used for 3D object

reconstruction and texture mapping.
Pre-Requisite: Track-IS
Offered Semester: Upon Request

CSE564 Software Systems Engineering (3,0,3)
Computers and software that directs our daily operations are the driving elements of the so-called "information revolution", which has changed the face of much of modern industry, commerce, finance, education, entertainment – in fact the very way of life in developed countries. They have done so largely by automating tasks that had been performed by human beings, making more complex operations possible, and introducing a whole range of new complex computer-controlled systems. These new systems have now been embedded in nearly every form of vehicle and appliance and are now even found in children's toys. However the products are becoming more complex day by day. There is a growing need for engineers to take a holistic or system level view with a structured approach to managing large projects that involve people, tools, information and technology. Combination of Systems Engineering and Software can solve our major problems of complex problem scenarios. So, through this course students will be introduced to the concept of Systems engineering and use of software for systems engineering. This course covers the theoretical and applied aspects of systems engineering using software.
Pre-Requisite: CSE 141, CSE 142
Offered Semester: Fall

CSE566 Software Quality Assurance (3,0,3)
This course will teach how to define software quality requirements, assess the quality of a software design, explain specific methods of building software quality, understand software reliability models and metrics, develop a software quality plan, understand quality assurance and control activities and techniques, understand various testing techniques including being able to verify and test a unit of code and comprehend ISO standards and CMMI. This course will also cover software quality planning, validation and verification methods and techniques, risk analysis, software review techniques, software standards and software process improvement and software reliability. The course will show how to define software quality and how it is assessed through various testing techniques. Topics include review/inspection technique for non-executable software, black-box and white box testing techniques for executable software and test result analysis. Specific test case development techniques using boundary value, equivalence class, control paths, and dataflow paths test and different levels of testing such as functional, component and system/regression tests are discussed with the concept of configuration management.
Pre-Requisite: Track-SE
Offered Semester: Spring

CSE567 Requirements Engineering (3,0,3)
The course will teach concepts for systematically establishing, defining and managing the requirements for a large, complex, changing and software-intensive system, from technical, organizational and management perspectives. The course will consider the past, present and future paradigms and methodologies in requirements engineering. The course will cover informal, semi-formal and formal approaches, while striking a balance between theory and practice. The course will involve building models of both requirements engineering process and requirements engineering product, concerning both functional and non-functional goals / requirements / specifications, using a systematic decision-making process. Applications of requirements engineering to the management of the software development lifecycle will be covered.
Pre-Requisite: Track-SE
Offered Semester: Spring

CSE575 Advanced Human Computer Interaction (3,0,3)
This course aims to gives students an understanding of how interactive systems are developed and used. The hardware and software issues that determine the usability of an interactive computer system will also be read in this course. Usability of systems will be the main focus of this course. Humans are the key deciding factor to make a computer system successful. This course discusses the key issues and their solutions to make a system more human friendly. Effective design is reliant upon understanding the human context in which a new artefact has to fit. This course

provides the necessary knowledge and skills to design, prototype and evaluate usable human-computer interaction in both its narrow sense (the user interface) and its broad sense (information systems, people, organisations, even societies and cultures). It further provides a strategic grounding in both theory and good practice for students to make effective use of applying HCI principles to IS design in their professional work.
Pre-Requisite: Track-HCI
Offered Semester: Upon Request

CSE652 Knowledge Discovery and Data Mining (3,0,3)
This course will offer a comprehensive coverage of well known Data Mining topics including classification, clustering, and association rules. A number of specific algorithms and techniques under each category will be discussed. Methods for feature selection,dimensionality reduction and performance evaluation will also be covered. Students will be exposed to relevant Data Mining research.
Pre-Requisite: Track-IM
Offered Semester: Upon Request

CSE654 Combinatorial Optimization (3,0,3)
This a graduate level introductory course on optimization. The course will cover fundamental concepts in optimization theory, generic algorithmic approaches, as well as modeling optimization problems and their numerical solution. In particular, the topics will include elements of convex analysis, linear programming, sensitivity analysis, Lagrangian duality, and introduction to discrete optimization. Optimization algorithms, including the simplex method and its variants, and branch-and-bound method will be introduced.
Pre-Requisite: Track-IS
Offered Semester: Upon Request

CSE655 Probabilistic Reasoning (3,0,3)
This course provides an in-depth analysis of Bayesian Belief Networks which have become the tool of choice for reasoning under uncertainty. The course focuses on the syntax and semantics of Bayesian Networks and how to use BNs to model and analyze uncertain situations. Models that aim to integrate time and uncertainty such as dynamic Bayesian networks,dynamic Influence Nets, Markov Nets as well as the learning of structure and parameters of a Bayesian network will be discussed in detail. The course is intended for graduate level CS students and a significant amount of time will be spend on the current research issues in the field of probabilistic reasoning. Students are expected to use various softwares and develop their own tool to implement various reasoning and learning algorithms.
Pre-Requisite: Track-IS
Offered Semester: Upon Request

CSE657 Essentials of Theoretical Computer Science (3,0,3)
This course is about those aspects of theoretical computer science that study the limits of what can be done with computing machines. The course is divided into three parts, corresponding to the three ways of modeling computations. In the first part we consider the model of finite state automata. This is a very simple model, and it captures a small set of algorithms. Its advantage is that it captures algorithms used in parsing and string matching and is simple enough that we can understand it thoroughly. In the second part we see how all conceivable discrete computing devices can be simulated by Turing machines, a conceptually simple abstract device, and we consider the model of Turing machines that always solve the given problem, even though they can take arbitrary time. This is an extremely powerful model which allows us to solve otherwise intractable problems. Its generality makes it easier to study, and in fact a lot is known about this model too. Finally, we study polynomial time computations, a more pragmatic model of the computations that can actually be realized in practice. Being the most realistic, this is also the most intricate field of study, and our ignorance far outweighs our understanding here. (And a million dollar price awaits the solver of the main open question in this field.) Meanwhile, complexity theorist have already proved several very beautiful, and sometimes unexpected, results in the past thirty-five years, and in this course we will get a chance to study a few of these.
Pre-Requisite: Track-TCS
Offered Semester: Upon Request

CSE658 Knowledge management and e-learning systems (3,0,3)
This course aims to introduce a wide range of methods and techniques that are currently used and researched in knowledge management systems and applications that are based

on knowledge of human understanding. A focused approach on the topics of "structured information retrieval" will be used to learn some techniques of knowledge and data acquisition.
Pre-Requisite: Track-IM
Offered Semester: Upon Request

CSE659 Computational Intelligence (3,0,3)
The course presents the fundamentals of computational intelligence. Topics included are evolutionary algorithms, particle swarm optimization, ant colony optimization, artificial immune systems, artificial neural networks, fuzzy systems and hybridization of the above techniques. The course focuses on the applications of these techniques on real world problems and shows how they are designed, implemented and analyzed for a given a problem domain. Real world applications include portfolio optimization in financial domain, control and strategy optimization in robotics,route optimization in path planning and network traffic flows, and so on. A significant amount of time will bespent on the current research issues in computational intelligence. This is a programming intensive course and students are expected to spend a significant amount of time on implementing all the techniques studied in the course and applying them on a significantly complex problem of their choice.
Pre-Requisite: Track-IS
Offered Semester: Upon Request

CSE660 Computer Vision (3,0,3)
Computer Vision is a study in algorithms, tools and techniques that enable computers to extract information out of digital images. Computer Vision is being used extensively for driving autonomous vehicles,planetary exploration, life-saving medical imaging techniques, enhancing the Human-Computer-Interaction experience and preservation of accumulated human wisdom by digitizing books. This course will offer an introduction to the core concepts, some industrial-strength tools and recent breakthroughs in Computer Vision. By the end of this course, students should be able to analyze problems in Computer Vision,break them into simpler problems, associate these simpler problems to established solution techniques,design efficient algorithms using these established techniques and make computer programs based on these algorithms.
Pre-Requisite: Track-IS
Offered Semester: Upon Request

CSE661 Semantic Web (3,0,3)
The World Wide Web (WWW) has changed the way in which people conduct business and shared knowledge. The explosive growth of the Web has led the problem of information overload. The Semantic Web can be seen as the solution to the problems of WWW. In this course, we examine existing Semantic Web technologies: XML, RDF (Resource Description Framework), RFDS, OWL (Web Ontology Language), understand the role of ontology, ontology modeling, reasoning, and querying mechanisms. Latest papers published in recent Semantic Web conference proceedings and journals are also discussed. This course also offers a practical experience using Protégé ontology editor, Jena ontology API with JAVA programming language. Students are required to complete the semantic web project at the end of the semester.
Pre-Requisite: Track-IS
Offered Semester: Upon Request

CSE662 Parallel Processing (3,0,3)
This course requires sequential programming concepts and practices as a Pre-Requisite. It is a beginner's introduction to parallel processing, and introduces the concepts from the fundamental architectural differences in terms of memory and data. Interprocess communication is motivated and introduced. Teaching MPI (Message passing interface), which is the main implementation tool for parallel algorithms, is an integral part of this course. The goal is to provide students with a proper grounding (at entry level) in concurrent programming concepts and to equip them with the tools necessary to build their own parallel programs.
Pre-Requisite: Track-TCS
Offered Semester: Upon Request

CSE665 Information Retrieval and Web Search - I (3,0,3)
This course covers the foundations of Information Retrieval (IR) as well as advanced or more recent topics in Web Information Retrieval (WIR). Core topics include material necessary to understand how an IR system is constructed and study of recent topics of research in the area. In IR, topics such as IR models (Boolean, vector space, probabilistic, latent semantic indexing, and neural nets), Indexing models (storing and accessing), file organization, query processing, and document clustering will be covered. Advanced research topics such as Aggregated Search, Digital Advertising, Digital Libraries, Discovery of Spam and Opinions in the Web, Evaluation, Information Retrieval in Context, Multimedia Resource Discovery, Scalability Challenges in Web Search Engines, and Users in Interactive Information Retrieval Evaluation will also be discussed.
Pre-Requisite: Track-IM
Offered Semester: Upon Request

CSE666 Information Retrieval and Web Search - II (3,0,3)
This is a research based coursed with heavy influence on reading latest research articles in Information Retrieval and their application on tools such as Lucene, Solr, Luke, Knime, etc,. The course covers the advanced and most

recent research topics of Information Retrieval. Topics such as aggregated search, discovery of opinions in a corpus, digital advertising, digital libraries, information retrieval in context, multimedia resource discovery, and scalability challenges in web search engines will be covered and their experiments conducted.
Pre-Requisite: CSE 665
Offered Semester: Upon Request

CSE668 Big Data Analytics (3,0,3)
The course covers the recent trends and advances in Data Analytics. The focus is on analyzing massive structured and unstructured data sets using Hadoop based Big Data platform. The list of covered topics include text analytics, sentiment analysis, social network mining, streaming data mining, recommender system, time-series analysis, kernel-based learning, advanced visualization. The course makes heavy use of analytics software such as R and KNIME. Students participate in multiple data analytics competition hosted on Kaggle.com or on places like KDD, PAKDD. The course also prepare students for several company-specific certifications in Data Science. In addition to lectures and class-room discussion, the course makes extensive use of online material available on sites such as UdaCity, Coursera, Youtube, among others.
Pre-Requisite: CSE 652
Offered Semester: Upon Request

CSE690 MS Research Survey (0,3,3)
The Research Survey is required to be taken by all students, regardless of whether they opt for a Thesis or non-Thesis based MS degree. Students opting to do a thesis based MS-CS from IBA are expected to write a research-based thesis, with a significant amount of original research. Naturally, as a precursor to this work, similar work performed by others in similar and allied areas must be studied. Traditionally, this is known as survey of the research literature and forms an important building block on which later original research of the individual rests. Interested students embark on their thesis work by enrolling in Research Survey as the first step, and then subsequently, in MS-Thesis as the final step. The literature survey phase of the thesis work qualifies as a stand-alone course having a total credit worth of 3. At the end of the semester, a grade is awarded to the student by his/her supervisor based on their own assessment techniques and grading schemes which the supervisor may independently choose and practice. For students not opting for a thesis, the objective of the research survey is to expose them to the process of conducting an in-depth literature review of a particular topic that may become their area of specialization. Students must have completed 18 credit hours of MS course work before undertaking the MS Research Survey.
Offered Semester: Both

CSE699 MS Thesis (0,3,3)
For students opting for a Thesis based MS degree, this is the second and final sequel of the "thesis-work". It has a credit-worth of 3 independently of Research Survey. The expected duration of this is a conventional semester. Only those students who have successfully completed Research Survey may enroll in this course. The thesis itself comprises independent research, and experimentation; with findings taking place in a full-blown report called the Thesis/Dissertation. The assessment is done commensurate with the international standards and the Board of Advanced Study and Research (BASR-IBA) is indulged in the process to ensure quality and transparency of the process.
Pre-Requisite: CSE 690
Offered Semester: Both

ICT & ALLIED COURSES

ICT512 Advanced Web Technologies (3,0,3)
To deliver in-depth knowledge of the basic concepts and general principles associated with web application development, illustrating specific technologies. To provide an understanding of different concepts, architectures, techniques, and infrastructures for service oriented computing in web development. The course explains the principles and practice of web services. It provides a comprehensive overview of state of the art web services and associated disciplines,relating concepts to practical examples and emerging standards.
Pre-Requisite: CSE 308
Offered Semester: Upon Request

ICT515 Distributed Systems (3,0,3)
This course deals with an in-depth understanding of Distributed Systems. Distributed system is a computer system consisting of several independent computers, include: the World Wide Web, net worked file systems, DNS, and massive multiprocessor super computers. This course focuses on the principles, techniques, and practices relevant to the design and implementation of such systems. The course takes a systems-oriented view of distributed systems, concentrating on infrastructure software and providing hands-on experience implementing distributed systems. The main objectives of this are: to present the principles underlying the functioning of distributed systems; to create an awareness of the major technical challenges in distributed systems design and implementation; to expose students to modern and classic technology used in distributed systems and their software; to expose students to past and current research issues in the field of distributed systems; and to provide experience in the implementation of

typical algorithms used in distributed systems.
Pre-Requisite: CSE 341
Offered Semester: Fall

ICT554 Information Security (3,0,3)
The objective of this course is to establish the strategic importance of information security. This course provides solid foundation needed for multi-disciplinary approach to this multi-faceted challenge of securing information requiring holistic view of security. This is a very rigorous course comprehensive grounding in theoretical basis, explaining high-level frameworks, discussing available standards and deliberating upon best practices of information security. It is a very demanding course and one has to be really passionate and enthusiastic about information security to successfully compete this course.
Pre-Requisite: Track-IM
Offered Semester: Upon Request

ICT556 RFID Technologies (3,0,3)
This course provides the students with an understanding of the fundamentals of Auto IDs (machine readable IDs) and its uses in our life. The course then focus on RFIDs and goes in depth. Starting with fundamentals of wireless technology (as RFID is based on wireless), its various components, how it works, standards, operations and ends on applications of RFIDs including Internet of Things (IoT).
Pre-Requisite: Track-NCC
Offered Semester: Fall

ICT651Computer Communication Networks & Simulation – I (2,1,3)
This is a PhD level course that focuses on the architecture and performance evaluation of wireless and wired network protocols for data and telecommunications networks. Students are expected to have a strong mathematical background and an understanding of probability theory. Topics discussed will include: queuing theory, performance of data link and network layers; flow and congestion control and routing; Networks considered include Sensor, Local, Metropolitan and Wide Area Networks as well as broadband, satellite, mobile and wireless networks. Network simulations and Wireless Sensor Networks test bed will also be used to establish certain concepts where possible.
Pre-Requisite: CSE 248, MTS 102
Offered Semester: Upon Request

ICT654 Computer Communication Networks & Simulation - II (2,1,3)
This is a continuation of the Computer Communication Networks and Simulation-I (CCNS-I) course at the PhD level that will focus on the architecture and performance evaluation of network protocols for wireless networks. As required in CCNS-I, students are expected to have a strong mathematical background and an understanding of probability theory as well as a good working knowledge of programming concepts. Topics discussed will include: simulation of advanced concepts in queuing theory, performance of wireless networks, including 802.11x (WiFi), WiMax and Long Term Evolution (LTE) network. The prime emphasis in the course will be towards completion of projects initiated during CCNS-I and publishing of results. Time permitting, issues pertaining to data link; network layers; flow and congestion control and routing may be discussed.
Pre-Requisite: ICT 651
Offered Semester: Upon Request

ICT659 Wireless Sensor Networks (1,2,3)
This focus of this PhD level course is on the research aspects of wireless and sensor networks. Students are expected to have a good understanding of data communications and networks as well as a working knowledge of programming concepts. The course will be lab intensive with 2 credit hours for labs and 1 credit hour for theory. The objective of the labs will be to expose students to extensive hands-on programming of sensor networks. In addition simulation of sensor networks will be conducted where necessary. Topics discussed will include: physical layer, MAC Layer, IEEE 802.15.4 and ZigBee, routing protocols, energy management, mobility, and sensor network

programming. An important component of the course will be conduct of a research project and publishing of results. Time permitting, issues pertaining to time synchronization, localization and security may also be discussed. Reading assignments will be given from both books, training material as well as published papers.
Pre-Requisite: CSE 248, CSE 141, MTS 102
Offered Semester: Upon Request

ICT660 Advanced Topics in Wireless Sensor Networks (1,2,3)
This course will build up on the concepts studied in ICT659 (Wireless Sensor Networks) and will pursue existing and new research topics. The new areas of research will be based on focusing on recent advances in the field of wireless sensor networks, and in particular will focus on cross-layer and context-aware protocols for sensor networks. The course will be lab intensive with 2 credit hours for labs and 1 credit hour for theory. The objective of the labs will be to expose students to extensive hands-on programming of sensor networks. In addition simulation of sensor networks will be conducted where necessary. Group and individual research topics will be pursued with possibilities of international research collaboration. Topics discussed will include: cross-layer design of wireless sensor network protocols; implementation of SMAC (Sensor Medium Access Network) protocol, and other recent cross-layer protocols in TinyOS; concepts of context-aware protocols. An important component of the course will be conduct of a research projects and publishing of results. Detailed topics covered would be based on the individual research topics selected which will subsequently be covered in the mid-term and final exams. Important issues will relate to the MAC layer, time synchronization, and energy efficient protocols. Reading assignments will be given primarily from recent research papers.
Pre-Requisite: ICT 659
Offered Semester: Upon Request

ICT661 Applications of Mathematical and Computational Techniques to Networking (3,0,3)
The course focusses on the practical applications of mathematical and computational techniques to networks. Using graph theory and statistical techniques, computational models of different networks are developed and analysed. Typical problems such as shortest path optimzation, max flow min cut algorithm, travelling salesman problems are computationaly modelled.
Pre-Requisite: Track-NCC
Offered Semester: Upon Request

ICT 662 WSN Protocols and Applications (3,0,3)
This is a broad-based PhD level course that focuses on a review of the current trends in Wireless Sensor Network protocols, applications, implementations and standards. Students will be expected to conduct a broad literature review of the field from the academic research as well as the industry implementation and standardization points of view. The topics will be covered initially of the various protocol layers and subsequently of advanced topics. At each stage emphasis will be given to the following issues: academic research direction, industry implementation, standardization and finally future research directions. Students will be expected to review the literature and present presentations with focus on debating the future direction of research in each selected area. Discussions will also focus on the direction of the academic community vis-à-vis the WSN industry. A detailed review of the various research areas that exist in WSN along with the innovations being explored in each area will be routinely conducted. A broad range of papers will be selected for review and their conclusions will be analyzed. A review of industry implementation trends and standardization efforts will be made. The outcome of this course will be to equip current PhD students with a comprehensive overview of the field which will allow them to select future research topics, or to modify their existing research areas to meet future demands in this field. Students will also be expected to select a research topic or modify their research topic to meet the demands of the evolving industry. They will also compare and contrast existing research areas to determine futuristic areas of research.
Pre-Requisite: CSE 248
Offered Semester: Upon Request

Department of Mathematical Sciences

MATHEMATICS COURSES

MTS101 Calculus-1 & Plane Geometry
This course develops concepts of Functions and Algebra of Functions, Limits and Continuity of Functions, Derivability and Differentiability. After handling the basic concepts, deeper indulgence in theoretical concepts such as the Mean Value Theorems, Higher derivatives, Generalization of Mean Value theorem, Taylor's and McLaurin's Expansions, Curve Sketching and other applications of derivatives are taught. Students also explore Integral Calculus by studying Anti-Derivatives and techniques of Integrations, Riemannian Sum, Fundamental Theorem of Integral Calculus. Curves in a plane, differential and integral properties of curves. Successful completion implies thorough understanding of basic univariate calculus.
Pre-Requisite: College Algebra or Inter / A-Level Math.

MTS102 Introduction to Statistics
This is intended as an introductory course for data analysis, presentation and probability. The aim is to acquaint students with the basic methods of data handling which are required for different kinds of analysis, as well as to provide them with the requisite knowledge for taking up courses of advances Statistics and Business Research methods in their academic term.

MTS104 Calculus with Application-I (pre-req Maths at Intermediate or A levels or MTS105)
This course is meant for students not doing major in mathematics. It covers the basic concepts in differential and integral calculus of functions of a single variable with emphasis on applications in various areas. Wherever possible the mathematical rigor is reduced in order to spare time for in-depth understanding of the applications in business, management, social sciences etc.

MTS106 Calculus with Applications-II (pre-req MTS104)
This course includes the basic concepts in differential and integral calculus of functions of two and more variables with emphasis on applications in various areas. Wherever possible the mathematical rigor is reduced in order to spare time for in-depth understanding of the applications in business, management, social sciences etc.

MTS110 Mathematical Methods
The methods and investigative techniques of mathematics as employed in various domains of application, is imparted in this course. This course covers Complex Numbers, Circular and Hyperbolic Functions and Complex Exponential and Logarithms. Furthermore, students get exposed to Infinite Sequences and Series, as well as theoretical matters relating to Convergence of Sequences and Infinite Series. This also includes Piece-wise, continuous and bounded functions, Periodic Functions, and especially Fourier Series. A little bit of elementary abstract algebra such as the concepts of Groups, Rings and Fields, also form part of this course. Similarly, some bits of elementary linear algebra such as Matrix methods and their Algebra, Determinants, and elementary Vector Spaces are also included. Successful students may be expected to use these methods successfully in any area of application.

MTS111 Essential Software
This course has two components, Matlab, and LaTeX. This is a first year standard course and assumes that the audience know high-school mathematics, and has basic understanding of functions and graphs. The use of Matlab as a computational tool is introduced without dependence on any previous computer programming experience, and teaches Matlab specific tools as well as general style programming in it. Students are trained to work on small scale applied problems so that they may experience tool usage on a variety of problems. The second component is LaTeX, which is a standard document production tool. Students are trained in LaTeX programming, and are exposed to mathematical document production with all formalities of the document in place.

MTS112 Applied Probability Theory (pre-req MTS202)
All Statistical inferences are based on probability theory. Probability distributions for discrete and continuous data are introduced. Limit theorems, generating functions, bivariate distributions and sampling distributions of popular statistics are derived. Applications of distributions in real life problems are highlighted.

MTS201 Logic & Discrete Structures (pre-req MTS101)
The main purpose of this course is to introduce the students to a variety of discrete mathematical and combinatorial structures related to science, engineering and computing. The course will provide an opportunity to the students to learn the nature and scope of discrete mathematical structures in areas of Mathematical Logic & Set theory, Elementary Number Theory, Analysis of Algorithms, Elementary Combinatorics & Discrete Probability and Graph Theory.

MTS202 Statistical Inference (with econometrics lab)
This course in intended for sampling, decision analysis and data modeling using sample information. This course provides basic methods for research and practice in social and physical sciences and business administration. The aim is to acquaint students with the advanced methods of data.
Pre-Requisite: MTS101, MTS102

MTS203 Linear Algebra
This is a standard sophomore course of linear algebra, and aims to ground students in linear algebraic concepts and structures such as Vector spaces; direct sums of sub spaces of a finite dimensional vector space, as well as linear transformations. Deeper issues such as Dimension theorem, null spaces, image spaces of linear transformations, rank and nullity of a linear transformation, relation between rank, nullity, and dimension of the domain of a linear transformation, etc. are then introduced. Subsequently, students are exposed to advanced concepts such as inner product spaces, Cauchy Schwartz inequality and its application, orthogonal and orthonormal bases, similar matrices and matrix diagonalization. The ultimate aim is to empower students sufficiently so that they may use linear algebraic techniques in diverse application areas, such as, designing good numerical solution techniques for applied problems.

MTS204 Calculus-3 (pre-req MTS232)
This course is the third in a sequel of three undergraduate courses in calculus. This course requires the audience to be versed in topics of analytic geometry of plain and space curves, calculus of a single variable, and initial concepts of vector analysis such as parameterizations, conics, and vector functions. It builds on these concepts, and takes the audience to advanced concepts of multivariate calculus, which include the limit and continuity of multivariate functions, as well as the differentiability. The concepts of partial derivatives and multiple integrals are also an integral part of this course. The course concludes on general vector calculus.

MTS210 Regression Analysis and Experimental Design
Simple linear regression model is discussed in details with study of residual plots, lack of fit test, normality of data, homogeneity of variances. Interval and prediction intervals and different tests are discussed. Inverse regression, General linear test and Multiple linear regression is introduced. Multicollinearity and other problems in regression are discussed. Some elementary Designs of Experiments are introduced. Computation is carried on by SPSS or SAS.
pre-req MTS112

MTS212 Business Mathematics & Linear Algebra
Algebra of Matrices and matrix methods of solving systems of linear equations are taught in this course with particular emphasis on application to areas in business and management. Linear Programming Problem is also taught as a tool of optimization in business and management. Some other mathematical models and tools of practical importance are also included in this course.
pre-req MTS106

MTS211 Discrete Mathematics
Symbolism and logic as used in mathematics merits proper training. This course serves two purposes. It aims to introduce symbolism and logic as well as treating the subject of discrete mathematics at a sophomore standard. Topics at a glance include Logic, Discrete Sets, Functions, Algorithms, and their complexity, as well as Mathematical Reasoning, and Methods of Proofs. Graph theory and Boolean Algebra at the sophomore standard are also treated here.

MTS232 Calculus-2 & Solid Geometry
Concepts from calculus and geometry are integrated in this course. Topics (in brief) include, multivariate differential calculus and their applications; Lines, curves and surfaces in 3D;Surface and Solid of Revolution; Double and triple integrals; Arc length, surface area and volumes; Scalar and Vector Fields; Vector Valued Functions and Elementary Vector Calculus; Gradient Divergence and Curl; Theorems of Gauss and Green. It is expected that students taking this course, would develop a good understanding of how calculus might be employed for solving geometrical problems.
Pre-Requisite: MTS101

MTS241 Introduction to Differential Equations
This course will mainly focus on the theory and applications of Ordinary Differential Equations (ODEs). The students will be introduced to terminology, formulation and solution procedures for ODEs in the context of physical sciences and engineering problem-situations. They will be able to appreciate the scientific significance and importance of applications and computational procedures for ODEs in our effort to comprehend a fairly wide variety of natural phenomena occurring in the universe.
(pre-req MTS101)

MTS301 Real Analysis
This is a pure mathematics real analysis course at the junior standard. Topics include Ordered sets, completeness properties of the real numbers, limits of numerical sequences, properties of continuous functions on closed bounded intervals, Point-wise and uniform convergence. Functions and calculus in several variables, properties of continuous functions on compact sets, and Taylor series in Rnwith applications, the inverse and implicit function theorems. This course aims to provide a pure grounding in Real Analysis and therefore facilitates related courses such as Stochastic processes.
Pre-Requisite: MTS232

MTS302 Complex Analysis
This course, in its own spite, is the complement of the Real Analysis course MTS 301. It includes the algebra and the geometry of complex numbers, Cauchy-Riemann equations, and harmonic functions. The study of complex calculus is amply treated here in junior standard detail, and includes, Contour integrals, the Cauchy-Goursat Theorem, Cauchy integral formulas, the Morera Theorem, maximum modulus principle, the Liouville theorem, and the fundamental theorem of algebra. Advanced topics covered expose students to Laurent series, uniqueness of representation, zeros of analytic functions. Residues and poles, integrals around a branch point., the argument principle, and the Roche theorem.
Pre-Requisite: MTS301

MTS303 Advanced Differential Equations
This course mainly deals with partial differential equations (PDEs). PDEs form the mathematical model of many problems of interest, typically, the ones that admit a mathematically analyzing approach. A thorough grounding in the analytic methods and techniques of forming models and solving PDEs therefore merits inclusion in this program. This course exposes students to first order PDEs, the classification of second-order PDEs, and their canonical forms. Then the standard diffusion, heat, and the wave, equations in Cartesian, cylindrical and spherical-polar coordinates are treated. The solution of PDEs by different methods is introduced next, closely followed by the Fourier, the Laplace and the Hankel transforms. Students finishing this course are expected to have the skills required for modeling and solving important problems in a diverse application area.
Pre-Requisite: MTS241

MTS304 Stochastic Processes
Stochastic processes form the basis of mathematical models of many phenomena which have a mathematical side to them. They include credit-crisis, stock movements in stock markets, dynamics of financial derivative prices, as well as the dynamics of elementary particles. This subject here is only treated upto the junior standard. Briefly, it includes basic stochastic processes, probability spaces, random variables and moments. Then moves on to develop random walks, Gambler's ruin, Markov chains, decomposition of state space etc. After that stochastic calculus is introduced and the concepts of continuity, differentiability, Ito's lemma, Ito's integral, spectral representation, and Martingales, is brought in. Finally some advanced topics such as white noise, and Kolmogorov forward / backward equations are handled. The goal is this course is to impart the understanding and the appreciation of non-deterministic phenomena, and their mathematical treatment.
Pre-Requisite: MTS202, & MTS301

MTS305 Abstract Algebra-I
This is a pure mathematics abstract algebra course, and aims to develop the skills of recognizing mathematical abstractions. Purely abstract concepts such as groups, subgroups, generators, cyclic groups, cossets and quotient sets are introduced first. Permutations, symmetric, and alternating groups, rings, finite and infinite fields are treated next. Finally advanced concepts, such as Normalizers and Centralizers of a subset of a group, congruency classes of a group, quotient groups, homomorphism and isomorphism between groups, as well as , automorphisms, finite p-groups, orbits, and the 1st, the 2nd and the 3rd Sylow theorems are given.
Pre-Requisite: MTS110

MTS306 Numerical Analysis
Phenomenally, mathematical models of different problems happen to be much more sophisticated than the available analytic solution methods. Fortunately, this issue can be addressed in most cases by resorting to numerical and computational techniques that aim to approximate the real solution upto a prescribed accuracy. This course imparts the skills of numerical analysis and techniques for different problems. Computer arithmetic is introduced, and different iterative methods for the solution of nonlinear equations and their error analysis is treated. Interpolation and numerical calculus follows, incorporating important techniques and algorithms. Finally, direct numerical solution of systems of linear equations is treated.
Pre-Requisite: MTS232

MTS241 Introduction to Differential Equations
This course introduces the concepts of equations involving derivatives. The Introduction, formation, solution and applications of first-order-differential equations is first dealt, paving the way for the introduction and solution of higher order linear differential equations. The approach to this subject in this course is analytic (as opposed to numerical / computational). Advanced concepts that merit an inclusion at the sophomore standard such as differential equations with variable coefficients; Sturm-Liouville (S-L) system and boundary-value problems are brought in next. The course culminates on concepts such as series solutions and Bessels Function.
Pre-Requisite: MTS232

MTS411 Functional Analysis-I
This senior level Functional Analysis course deals with the following topics. Completeness, convergence, and completion of metric spaces. Normed spaces, Banach spaces, Bounded and continuous linear operators and functionals, Dual spaces, Finite dimensional spaces, F. Riesz Lemma, The Hahn-Banach Theorems,

The open mapping theorem, The closed graph theorem, Uniform boundedness principle and its applications. Applications in Differential and Integral equations. Also included are the Inner-product space, Hilbert space, orthogonal complements, the Gram-Schmidt orthogonalization process, besides other topics. The course facilitates Functional Analysis-II.
Pre-Requisite: MTS302

MTS412 Functional Analysis-II
This is an add-on course to Functional Analysis-I and brings the subject of Functional Analysis to a sufficiently sophisticated standard, suitable for senior level students. In brief, topics incorporate affine spaces, Banach spaces, and Hilbert spaces. Calculus on manifolds, homomorphic spaces, Urysohn's lemma, and Baire category theorem. Metrization of spaces , and spaces with measure, measurable functions, idea of ??fields. Students who successfully finish this course are expected to apply the knowledge for further research in this and related fields.
Pre-Requisite: MTS411

MTS413 Numerical Analysis
This course aims to teach Abstract Algebra at a senior level, and requires Abstract Algebra 1 as a Pre-Requisite. Topics in brief include, review of rings and fields, introduction to integral domain, ideals, prime and maximal ideals, ?eld of quotients of an integral domain, and ?eld extensions. Advanced topics incorporate free Abelian groups, Z-modules, scissors congruence group, simplicial complexes, homology groups, and their computations. Splitting ?elds, and Galois theory is treated last.
Pre-Requisite: MTS305

MTS414 Scientific Computing for Linear PDEs.
Linear PDEs model a wide variety of interesting problems in science and finance. This course aims to impart the theoretical foundation as well as the practical implementation of some of the methods used for solving PDEs. The numerical solution of important PDEs, such as the Poisson and the Helmholtz PDE is dealt in this course. Discretization techniques, and multilevel iterative solution methods are the main highlights. Implementation of the algorithms is another salient feature.
Pre-Requisite: MTS303 & MTS306

MTS431 Numerical Solutions of PDEs
This course aims at developing computational skills required for numerically solving partial differential equations (second order). Different discretization methods are introduced from the scratch and different solution strategies, some for linear PDEs and some for non-linear PDEs are built. Discretization methods include, the Finite Difference Methods and the Finite Volume Method. The resulting linear / linearized systems are solved directly using suitable LU decompositions. Successful completetion of this course implies the skill set required for direct numerical solutions of PDEs.
Pre-Requisite: MTS306

MTS432 Integral Equations
The major topics discussed in this course include Linear integral equations, Fredholm integral equations, Eigenvalue problems, Volterra integral equations, Singular integral equations, Systems of linear integral equations, Nonlinear integral equations, Miscellaneous special kernels, Integro-ordinary differential equations, Integro-partial differential equations, Qualitative behavior, Abstract integral equations, integral equations in abstract spaces, Integral operators, Inverse problems, Random integral equations
Pre-Requisite: MTS303

MTS433 Advanced Numerical Analysis I
The main aim of this course is to teach modern techniques of solving a system of linear equations, obtained from PDE discretizations of various kinds. The solution method used in this course would be iterative, in particular, the Krylov subspace family of iterative methods prototyped by Conjugate Gradients. Students taking this course should be able to contribute to the development of these iterative solvers as well as solving any consistent system of linear equations.
Pre-Requisite: MTS301 & MTS306

MTS434 Advanced Numerical Analysis II
This is an advanced course for the iterative solution of discretized Partial Differential equations of the second-order. The iterative

solution technique taught here is multigrid. Concepts related to solving PDEs on multiple resolutions that correspond to each other are built here. Different multigrid components are constructed and the students are encouraged to explore the comparative merits of these components. Multigrid preconditioned Krylov methods are also taught, which form some of the fastest known solvers. The skill set developed in this course would include solving PDEs through multigrid based solvers.
Pre-Requisite: MTS453

MTS435 Differential Geometry
The course introduces the basic language of differentiable manifolds, important in understanding geometric objects independent of being embedded in any ambient space. Differential forms and its integration are introduced to emphasize the intrinsic notion of calculus. By introducing tangent and cotangent bundles, the aim is to lay down a strong foundation for a general theory of vector bundles, very important for the gauge theory of mathematical physics. This is followed topics such as Lie bracket, Lie derivative of vector fields and introduction to Riemann geometry. On completion of this course, student is expected to have the basic tools of modern geometric methods applicable in modern physics.
Pre-Requisite: MTS241 & MTS301

MTS437 Fluid Dynamics I
The study of fluid mechanics helps to understand many other aspects of engineering and applied sciences for example food industry, energy conversion systems and fluid control systems. Fluid mechanics deals with fluids either in motion or at rest. We concentrate on fluid in motion and the forces on them (fluids include liquids, gases, and plasmas).The aim of this course is to study famous principle of classical mechanics such as Newton's laws of motion, conservations and basic equations used in fluid mechanics. We will study many useful situations by using simple idealized fluid models and classical principle of mechanics. On completion of this course, students will be able to formulate solutions to flow problems, including those based on differential analysis, using appropriate fluid properties, flow conditions, and coordinate representations.
Pre-Requisite: MTS303

MTS438 Fluid Dynamics II
This course is a follow up course of fluid dynamics I. In this course we study about rheology and some of its properties like shear thinking and shear thinningviscoelasticity. The motion of a fluid in the neighborhood of a sliding or rotating cylinder is of great interest. Students are taught about geostrophic flow and Kelvin-Helmholtz instability. This is followed by more advanced topics such as constitutive models and Orr-Sommerfeld equation. This concludes the course.
Pre-Requisite: MTS437

MTS441 Financial Mathematics with a Computational approach
Financial mathematics is the basis of understanding financial markets which are deriving the world economy today. This course aims to introduce financial mathematics from a sufficiently elementary level and to take it up to computational level. Basis stochastic processes are introduced and market dynamics are connected to well defined processes. Stochastic calculus is also taught in this course as well as all requisite concepts which finally give way to the Black-Scholes equation for pricing options. Different kinds of derived contracts are also studied both theoretically as well as mathematically. Successful students will have the skills required for setting and pricing derivatives.
Pre-Requisite: MTS304 & MTS306

MTS442 Computational Finance
Many models used in finance end up in formulation of highly mathematical problems. Solving these equations exactly in closed form is impossible as the experience in other fields suggests. Therefore, we have to look for efficient numerical algorithms in solving complex problems such as option pricing, risk analysis, portfolio management, etc. This course will provide a systematic introduction to the development, analysis and implementation of numerical methods for solving financial problems. After this course, the students will understand the basic concepts of quantitative finance and will be aware of the major hedging, and pricing problems in finance. They will also learn how to formulate these problems as mathematical models, and understand the computational technique to solve the arising model.
Pre-Requisite: MTS441

MTS443 Modern Algebra I (Galios Theory & Applications)
Galois Theory is one of the most spectacular mathematical theories. It gives a beautiful connection between the theory of polynomial equations and group theory. It also gives complete answers to questions such as the solution of equations by radicals and the devising of a circle into n equal arcs using ruler and compasses. The aim of this course is to impart a comprehensive and working knowledge of the classical field and Galois Theory from a theoretical as well as a computational perspective. It deals with "field extensions", and the central topic is the "Galois correspondence" between extensions and groups. Students taking this course should be able to understand "solvability" of wide range of problems.
Pre-Requisite: MTS413

MTS444 Modern Algebra II (Commutative Rings & Fields)
Commutative Algebra deals with the properties of commutative rings and modules over them. This course aims to introduce commutative algebra and also present it with respect to homological algebra point of view. It starts with the quick review of rings and modules, following different notions related with it, a Special class of rings: Noetherian rings, Artinian rings and their properties are studied. Successful completion of this course implies the abilities required to work in core areas of mathematics such as algebraic geometry and algebraic topology.
Pre-Requisite: MTS443

MTS445 Measure Theory I
Measure theory is the study of measures. It generalizes the intuitive notions of length, area, and volume. The objective of this course is to introduce the notion of abstract measure space and the corresponding integral. We construct integrals with respect to a Lebesgue-Stieltjes measure and state their most relevant properties, together with the most important convergence result, the Monotone Convergence Theorem and the Dominated Convergence Theorem. After this course, students will be able to use these new tools in the context of the analysis and probability courses.
Pre-Requisite: MTS301

MTS446 Measure Theory II
This course is a brief introduction to the theory of Lebesgue integration. H. Lebesgue introduced the integral that bears his name. His key idea was to extend the notion of length from intervals to more complicated subsets of R (and Rn). The aim of this course is to introduce the Lebesgue measure on R and to show how this theory leads to the Lebesgue integral on R, and to introduce the concept of Hausdorff dimension of sets in Rn. Lebesgue integral integrates any function which is Riemann integrable, and also has good limit properties. On successful completion of this course students will be able to understand the manipulation of Lebesgue integrals using basic theorems.
Pre-Requisite: MTS445

MTS447 Operations Research I
Operational Research is a discipline that deals with the application of advanced mathematical techniques to help make better decisions. The aim of this course is to introduce the key aspects of operations research methodology. This course will introduce mathematical models, including transportation, network, linear and integer programming. Successful completion of this course implies that a student has required skill set to formulate, analyze, and solve mathematical models that represent real-world problems.
Pre-Requisite: MTS203

MTS448 Operations Research II
This course is a follow up course of operation research I. It will cover topics such as network optimization models, branch-and-bound algorithm for combinatorial optimization and advanced integer programming.
Pre-Requisite: MTS447

MTS451 Topology I
Topology is an important mathematical language which plays a role in virtually all areas of modern mathematical inquiry. The aim of this course is to introduce topology, covering topics fundamental to modern analysis and geometry. It deals with subjects like topological spaces and topological properties. Further topics such as function spaces and the fundamental group are included. Successful students will have the skills required for advance courses like algebraic topology and differential topology.
Pre-Requisite: MTS301

MTS452 Topology II (Differential Topology)
Differential topology deals with the extension of differential calculus to manifolds. Manifolds provide the natural setting for a general study of differentiable (smooth) functions and mappings. The main aim of this course is to provide some basic tools with which to study manifolds and, as is the case with the best mathematics, gives proofs of results about familiar objects that are not easy to obtain by elementary means. For example, we shall give a proof of the fundamental theorem of algebra from this point of view, as well as the famous Brouwer fixed-point theorem. We shall also define and study the Euler characteristic for compact orientable manifolds; this classifies compact orientable manifolds. Successful completion of this course implies the abilities required to work in the category of smooth manifolds.
Pre-Requisite: MTS451

MTS506 Quantitative Methods for Decision-Making
One of the primal aims of the course is to try to give a thorough insight and understanding of fundamental statistical concepts in the context of social & management sciences, in particular economics and management problem situations. The objective of this core course is to make students critical consumers of statistical analysis using available software packages. The fundamental statistical tools & methodologies enable the student to analyze a wide variety of quantitative and qualitative data collected in diverse problem-situations encountered in the real world. The purpose of the inferential statistics is to test, deduce and infer the validity of different types of hypotheses and models built on the basis of the raw data collected in a variety of problem-situations. Key concepts also include interpretation of regression analysis, time series analysis and decision-making under uncertainty.

MTS511 Advanced Real Analysis
This is a 3 credit hours course designed for a graduate degree in Mathematics. This course starts with the basic concepts of set theory and then gradually builds up preliminary concepts of real analysis such as real number system, sequence of real numbers, open sets and closed sets. Once foundation is laid down we discuss Riemann integration, measurable sets, outer measure, measurable functions, Lebesgue measure and Lebesgue integral. This course has some additional things that are very unlikely to a standard course in Advanced Real Analysis that along with Riemann Integration we also introduce Lebesgue Integration without going into formal theory of measure spaces. The course has been divided into four parts. First module is all about set theory and introductory real analysis. In the second, module we discuss Riemann theory of integration and also talk about Lebesgue integration. Third module is mainly about convergence in measure. Fourth module is actually some topics from functional analysis that will prepare students for the next course in this series, Measure and Integration Theory, in which a thorough treatment of measure spaces is given. We presuppose that student has good foundation of an undergraduate real analysis before taking this course. This course aims to be more dynamic and problems solving oriented than just proving theorems and asking students to reproduce them in the exams.

MTS512 Measure Theory & Integration
This is a 3 credit hours course on Measure Theory designed for advanced graduate students of PhD Mathematics. Here we treat measure theory in the abstract and rigorous way. In addition, some topics from Functional Analysis have also been added in order to understand measure theory in its real spirit. Course has been divided into four modules. In the first module, mainly we define measure as a set valued function and discuss the properties of measure and Lebesgue measure in abstract setting. In the second module we define measure on sigma algebra, drive outer measure from the measure and define measurable sets. Third model defines mappings on the measure spaces. Fourth module is about defining measure on a class of locally compact Hausdorff Spaces.
Pre-Requisite: MTS512

MTS513 Topics in Algebra
Algebra is the language of modern mathematics. This course introduces students to algebra through a study of group and ring theories. Group theory studies the algebraic structures known as groups. Groups recur throughout mathematics, and the methods of group theory have strongly influenced other disciplines, both inside and outside mathematics, such as geometry, number theory, cryptography, chemistry and physics. Ring theory is also an important area of abstract algebra. It is the study of rings which is an algebraic structure in which addition and multiplication are defined and have similar properties to those of integers. The aim of this course is to introduce the students to some of the basic ideas and results of group and ring theories through case studies.

MTS514 Topics in Commutative Algebra
In this course, the object of study is predominantly a commutative ring, hence the title commutative algebra. We introduce theory of commutative rings along with modules on them as our main tool of representation in studying such rings. We also introduce the basic homological characterization of modules with the help of exact sequences that has many applications both in Algebra, Topology and Geometry in general, at an advanced level. Fractions and localizations are introduced with the intention of application-besides algebra- both in geometry

and analysis where they arise naturally as germs of functions locally determining both the geometry and analysis, of which meromorphic functions on Riemann Surfaces is just a special case. The idea of Neothriannes is very important in obtaining strong results that has application in many branches of mathematics along with Hilbert basis theorem.
Pre-Requisite: MTS513

MTS515 Advanced Numerical Analysis
This is a 3 credit hours course designed for a graduate degree in Mathematics. This course is basically Numerical Functional Analysis that deals with both theoretical and numerical issues of partial differential equations such as condition number, perturbation, spectral theory and also thorough treatment of some of the advanced methods for linear and non-linear systems.

MTS516 Topology
This course introduces topology at graduate level covering both general and algebraic aspects. Starting from basic point set topology, one of the goal is to prepare students attending the course for applications in mathematical analysis besides topology itself at advanced level. On the other hand algebraic topology is introduced to help develop necessary tools for calculations involving invariants, and develop necessary background in dealing classification issues up to an equivalence.

MTS521 Scientific Computing
This course is aimed at developing PDE based problem solving skills. The course takes on from a fairly basic level such as problem discretization, and carries on to a relatively advanced stage, such as developing and trying novel preconditioners for a discrete linear system. Successful students are expected to be fully capable of actually using computers to solve a wide variety of applied problems.
Pre-Requisite: MTS515

MTS525 Stochastic Processes II
This course is a successor to Stochastic Processes I and requires participants to understand the basic stochastic processes, and probability space laws. From this stage it builds up the more involved concepts of Martingales and uses various examples to motivate the study. Models from Finance are also discussed to motivate continuous time Markov models. Successful students are expected to understand continuous and discrete processes and to be able to successfully apply this knowledge to solve applied problems.
Pre-Requisite: MTS304

MTS529 Stochastic Differential Equations
This course is aimed at providing students the background that they will require for stochastic analysis of financial derivatives, and developing exotic contingent claims later on. The same comprehension skills for stochastic processes and equations is expected of successful students.
Pre-Requisite: MTS304

MTS533 Integral Equations
This course emphasizes concepts and techniques for solving integral equations from an applied mathematics perspective. Material is selected from the following topics: Volterra and Fredholm equations, Fredholm theory, the Hilbert-Schmidt theorem; Wiener-Hopf Method; Wiener-Hopf Method and partial differential equations; the Hilbert Problem and singular integral equations of Cauchy type; inverse scattering transform; and group theory. Examples are taken from fluid and solid mechanics, acoustics, quantum mechanics, and other applications.

MTS537 Mathematical Astronomy
The purpose of this course is to provide the students with fundamental knowledge of the mathematical tools used in exploring positional astronomy. Starting with the basics of spherical trigonometry it describes the various terrestrial and celestial coordinate systems and coordinates transformations. It also addresses the issues related to time that are fundamental to astronomy and astrophysics. This course also explores the basic issues in celestial dynamics starting with Kepler'sPlanetary laws and the Kepler's equation.

MTS539 Homological Algebra
The approach we intend to follow in this course is one that can be considered as a special case of taking Homological Algebra as a theory of function of two variables, one abelian and the other non-abelian. This is in spirit of axiomatic (Co)homology theory of Eilenberg-Steenrod, which have had its roots in (Co) homology theories of topological spaces. The other approach comes from Grothendieck which modifies it to convert into the theory of a single abelian variable, leading to algebraic geometry in its range of applications-the line which we find beyond the scope of this course. The student is assumed to have background in algebra, specially in the class of rings and modules determined by various finite and stationary conditions, and exact sequences. However, the details can be filled in whenever necessary. It is in this background we introduce very basic homological machinery that could be dealt justly in 1-semester graduate course. Thus it is expected that after completing this course, the student will be able to use it in algebraic topology and will be able to pursue his study further into (Co)homology theories of Groups, Lie Algebras and Associative Algebras.
Pre-Requisite: MTS513

MTS541 Computational Algebraic Geometry
The main focus in this course is the computational aspects of algebraic geometry, hence the title. Since many major calculations in algebraic geometry, involve only calculating in the corresponding affine neighborhoods,

we thus develop the main tools accordingly, hence major relevant ideas are all developed from scratch in this respect in context of affine algebraic geometry. The first step towards this goal is Hilbert's Nullstellensatz which we introduce to establishes the theoretical dictionary needed to transfer the computations from pure algebra into geometry. In order to extend or enlarge the applications to geometry from smooth to mildly non-smooth cases, we introduce normalizations. This also helps extending the theoretical dictionary further when applied to non-singular models of affine curves. Projective setting is introduced to extend the span of the local scope of affine geometry and exemplify the local nature of affinness in the course's computational aspects.
Pre-Requisite: MTS513

MTS545 Applicable Modern Geometry I
In this course, we intend to establish the transition from vector calculus in R^n to the more general setting, that of manifold, and show that the former is just a special case of the latter via the fact that every manifold offers a calculus intrinsic to its own isomorphism class in the corresponding category. This also helps us establish a deep and rich interplay b / w topology and analysis, especially when we do integration on manifolds.
Pre-Requisite: MTS511, MTS513, MTS516

MTS549 Algebraic Geometry I
In this course, the primary object of study is the classical algebraic variety (or a pre-variety as in EGA) with affine varieties serving as its local model. Throughout the course, everything is modeled on an algebraically closed field; however, one can extend most of the arguments to the fields of characteristic zero. We introduce the concept of a rational map giving rise to birational geometry along with resolution of singularities, very powerful aspects of algebraic geometry. It also aims at appreciation and application of the Riemann-Roch theorem, one of the most important results of algebraic geometry. For this course, the basic background in commutative algebra is assumed. However, to handle all algebraic instruments necessary for both, local and global analysis of varieties, required details can always be filled in whenever necessary. Some intersection theory is included, in both affine and projective cases, to help student develop an appreciation for the advanced topics in the context of applications.
Pre-Requisite: MTS513, MTS516

MTS551 Scientific Computing & Software Calculus-3
Same as MTS521 Scientific Computing.

MTS553 Algebraic Cycles I
This course provides rigorous introduction to the most important objects and concepts of algebraic geometry and number theory. At the end of this course students will be familiar with the concept of schemes and able to define higher chow groups.
Pre-Requisite: MTS513

MTS557 Arithmetic Algebraic Geometry
This is an introductory course on Diophantine geometry that deals Fermat's equations as well as Diophantine equations and inequalities. At the end of this course students will be familiar with L-functions and zeta-functions.
Pre-Requisite: MTS513

MTS561 Exploratory Data Analysis
Analysis of scientific data and experiments: Design of experiments and ethical research. Data modeling management, Exploratory data analysis, Randomness and probability, Statistical analysis including linear regression, analysis of variance, logistic regression, categorical data analysis and non-parametric methods.The aim of this course is to provide an understanding of the nature of scientific data and the subsequent need for statistical analysis. You will develop your statistical expertise and critical judgment in scientific studies, including an awareness of ethical issues in research and analysis. You will learn about the different types of data and how each can be visualized and summarized, and how you can make conclusions and predictions from the statistical analysis. You will also see that these statistical tools are based on simple mathematical ideas and associated assumptions.

MTS565 Mathematical Physics I
Complex Analysis: Analytic functions, Contour integration. Ordinary Differential Equations : Exact solutions, special functions Series solutions Approximation methods (WKB, perturbation theory). Linear Algebra: Vector spaces and matrices, Infinite-dimensional spaces; Fourier and other transforms. Partial Differential

Equations and Boundary Value Problems: General properties, Green's functions, Boundary-value problems.

MTS569 Statistical Data Mining & Knowledge Discovery
Development of high performance computing facilities have given the way for testing and implementation of those concepts that were assumed impossible and so were not given their proper status. This list includes complex mathematical function mapping and classification techniques, linguistic and imprecise computing and machine learning paradigms. These approaches are capable to handle complex and gigantic real world problems. Computing facilities provided the chance to make breakthrough against the conventional requirement of mathematical rigidity and formality of solutions that even become impossible due to high complexity. These techniques replaced the complexity of exactness of solution with proximity of solution.On the other hand, massive data sets pose a great challenge to many cross-disciplinary fields, including statistics. The high dimensionality and different data types and structures have now outstripped the capabilities of traditional statistical, graphical, and data visualization tools. Extracting useful information from such large data sets calls for novel approaches that meld concepts, tools, and techniques from diverse areas, such as computer science, statistics, artificial intelligence machine learning. Statistical Data Mining and Knowledge Discovery bring together a stellar panel of experts to discuss and disseminate recent developments in data analysis techniques for data mining and knowledge extraction. This carefully edited collection provides a practical, multidisciplinary perspective on using statistical techniques in areas such as marketing research, risk management, financial forecasting and classification, rule based systems for decision support systems, image and speech analysis, health informatics.

MTS573 Statistical Machine Learning
Development of high performance computing facilities have given the way for testing and implementation of those concepts that were assumed impossible and so were not given their proper status. This list includes complex mathematical function mapping and classification techniques, linguistic and imprecise computing and machine learning paradigms. These approaches are capable to handle complex and gigantic real world problems. Computing facilities provided the chance to make breakthrough against the conventional requirement of mathematical rigidity and formality of solutions that even become impossible due to high complexity. These techniques replaced the complexity of exactness of solution with proximity of solution. On the other hand, massive data sets pose a great challenge to many cross-disciplinary fields, including statistics. The high dimensionality and different data types and structures have now outstripped the capabilities of traditional statistical, graphical, and data visualization tools. Extracting useful information from such large data sets calls for novel approaches that meld concepts, tools, and techniques from diverse areas, such as computer science, statistics, artificial intelligence machine learning. Statistical Data Mining and Knowledge Discovery bring together a stellar panel of experts to discuss and disseminate recent developments in data analysis techniques for data mining and knowledge extraction. This carefully edited collection provides a practical, multidisciplinary perspective on using statistical techniques in areas such as marketing research, risk management, financial forecasting and classification, rule based systems in decision support systems, image and speech analysis, health informatics.

MTS577 Galois Theory
This course gives a detailed introduction to Galois theory that starts from review of group action on a set and Sylow theorem with its application. Here students will understand the concept of field extension and Galois groups. Students will also study separable and inseparable extensions.
Pre-Requisite: MTS513

MTS621 Numerical Treatment of P.D.E
This course is intended to be an introduction to numerical methods for hyperbolic partial differential equations. These equations require special treatment which do not often form part of standard numerical analysis courses for PDEs. Successful students are expected to be able to solve a wide variety of hyperbolic PDEs numerically.
Pre-Requisite: MTS515

MTS625 Financial Mathematics I
This course develops concepts of financial mathematics, mainly for pricing financial derivatives. Another aim of the course is to develop and re-visit stochastic calculus concepts applied to options and different exotic contingent claims.

MTS629 Financial Mathematics II
This course aims to develop numerical methods for solving different PDEs related to mathematical finance. Tool-development in Matlab and C also forms a part of this course. Successful students are expected to be comfortable solving different finance problems related to pricing of derivatives.
Pre-Requisite: MTS515

MTS637 Computational Astronomy
In this course advanced techniques of computations of the major celestial phenomenon based on positional astronomy are explored. The objective is to prepare students to be able to compute details of astronomical events and phenomena independent of any commercial software. This would enable them to work in areas for which software are not available and make them do highly complicated computations for the various areas of research in Astronomy.
Pre-Requisite: MTS537

MTS645 Applicable Modern Geometry II
In this course, we intend to go beyond the study of the fundamental instruments of differential geometry of manifolds and investigate some of the algebraic and topological invariants associated to a manifold, along with some algebraic techniques which are useful in handling modern research tools. We introduce theory of Lie groups and Lie algebras which have applications in theoretical physics where they naturally arise in solving problems, for instance, by translating inherent symmetries via transformation groups. After completing this course the student will be expected to use the techniques learned in theoretical physics, or pursue his studies further in differential geometry.
Pre-Requisite: MTS545

MTS649 Algebraic Geometry II
This course is the core of modern algebraic geometry as pioneered by Grothendieck and his "French-School". In this course we have just touched the basic ideas that form the basic language of modern algebraic geometry, the language of sheaves and schemes. Even though, it is considerably difficult to adopt a main line towards a significant goal from just a scratch, but we still hope that with the very basics of cohomological machinery and basic ingredients of intersection theory along with big results of Hirzebruch-Riemann-Roch and Hodge-Index-Theorem, that we have introduced by the end of semester, will help and prepare student with some advanced topics in intersection theory,specially in case of low dimensional algebraic geometry, where he should find himself prepared, to some extent, for handling intersection form determining intersection theory on complex algebraic surfaces. Also, equipped with the basic technical language of schemes, a student is expected to be prepared to venture into the geometric invariant theory pioneered by Mumford and Deligne, very important tool in moduli theory. On the other hand, a comprehensive introduction to sheave theory is developed to help student learn the basic tools required, with a view towards application in classification accounts in Algebraic Geometry, in context of Moduli Theory of sheaves on schemes.
Pre-Requisite: MTS549

MTS653 Algebraic Cycles II
This course is the extension to algebraic cycles I that provides in depth knowledge of higher chow groups and additive higher chow groups. It also provides the relations between higher chow groups and polylogs.
Pre-Requisite: MTS549

MTS657 Polylogarithms
This course can also be studies after algebraic cycles I as well. Students will be familiar with polylogs, infinitesimal and tangential versions

of polylogs and their relations with the groups generated by geometric configurations.
Pre-Requisite: MTS557

MTS661 Multivariate Statistical Analysis
Multivariate analysis arises with observations of more than one variable when there is some probabilistic linkage between the variables. In practice, most data collected by researchers in virtually all disciplines are multivariate in nature. In some cases, it might make sense to isolate each variable and study it separately. In most cases, however, the variables are interrelated in such a way that analyzing the variables in isolation may result in failure to uncover critical patterns in the data. Multivariate data analysis consists of methods that can be used to study several variables at the same time so that the full structure of the data can be observed and key properties can be identified. This course covers estimation, hypothesis tests, and distributions for multivariate mean vectors and covariance matrices. We also cover popular multivariate data analysis methods including multivariate data visualization, maximum likelihood, principal components analysis, multiple comparisons tests, multidimensional scaling, cluster analysis, discriminant analysis and multivariate analysis of variance, multiple regression and canonical correlation, and analysis of repeated measures data. Course work will include computer assignments.
Pre-Requisite: MTS525

MTS665 Mathematical Physics II
This is an advanced level course that builds the basic mathematical techniques to be used in exploring deeper issues in the theoretical and particle physics.
Pre-Requisite: MTS565

MTS671 Monomial Algebra
Monomial ideals are ideals in polynomial rings that can be described in combinatorial and geometric terms. These descriptions make monomial ideals quite accessible by allowing us to employ intuition and tools from discrete mathematics and geometry to study them. In spite of their simplicity, monomial ideals are powerful tools. For example, in algebraic combinatorics they are used to attach algebraic invariants to finite simple graphs and, more generally, simplicial complexes. These invariants have led to the solutions of several important problems in combinatorics.
Pre-Requisite: MTS514

MTS691 Topics of Special Interest I
To be described by the supervisor offering the course.

MTS692 Topics of Special Interest II
To be described by the supervisor offering the course.

SCI105 Physics-I (Mechanics)
The contents of this course Mechanics: Statics -Mathematics & Physics of Scalars & Vectors; Mechanics of Coplanar & Non-Coplanar Forces; Torque & Principle of Moments; Equilibrium of Rigid Bodies in 2- and 3- dimensions & Free-Body Diagrams; Calculation of CM & CG; Moment of Inertia & Radius of Gyration: Parallel & Perpendicular Axis Theorem; Dynamics-Kinematics & Kinetics of Particles and Rigid Bodies in 2- and 3-dimensions: Newton's Laws; Work -Energy Theorem & its Applications; Static & Kinetic Friction (Tribology); Gravity & Gravitational Potential; Impulse & Conservation of Linear Momentum; Collisions & Impacts; Angular Momentum & its Conservation. A Brief Introduction to the Fundamentals of Relativistic Mechanics and Quantum Mechanics.

SCI205 Physics-II (Electromagnetism)
This course covers elementary topics in Vector Analysis, Electrostatics: Electric charge and its conservation, Coulomb's law, Electric Field and Potential, Flux & Gauss's Law, Capacitance, Dielectrics and Energy storage. Electrodynamics: Current, Resistance, Ohm's law, Power and RC circuits. Magnetism: Sources of Magnetic Fields, Force in Magnetic Field, Lorentz Equation, Biot-Savart Law, Ampere's law, Solenoids, Toriods etc. Induction: Faraday's law, Lenz's law, Mutual and Self Inductance, Inductors, Transformers, LC, LR and LRC circuits. Basics of AC circuits, Maxwell's Equations and Electromagnetic Waves.

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The City of Karachi encapsulates a multitude of cultures, nations, architecture, sight-seeing places, career opportunities and so much more. It is a standing monument to the efforts of the Father of the Nation, whose dream is now a reality and which we now live in today. The 3rd largest city in the world with regard to population and the 20th largest metropolis in the world, its flyovers, high rises and expansive roads present never-ending opportunities for ambitious and creative minds looking for innovation and challenges. While holding its glorious title as the gateway to Asia, the city generates 65% of the total national revenue and is the major port city of the country.

This industrial, financial and commercial powerhouse of the country has more than 600 listed companies on its stock exchange and is the headquarters of most of the local and multinational companies in Pakistan. It offers ample career opportunities in various market sectors including financial institutes, oil and petroleum industry, FMCGS, multinationals, telecommunication / media, television, production, publishing, software production, business and market research, education and tourism and so many more.

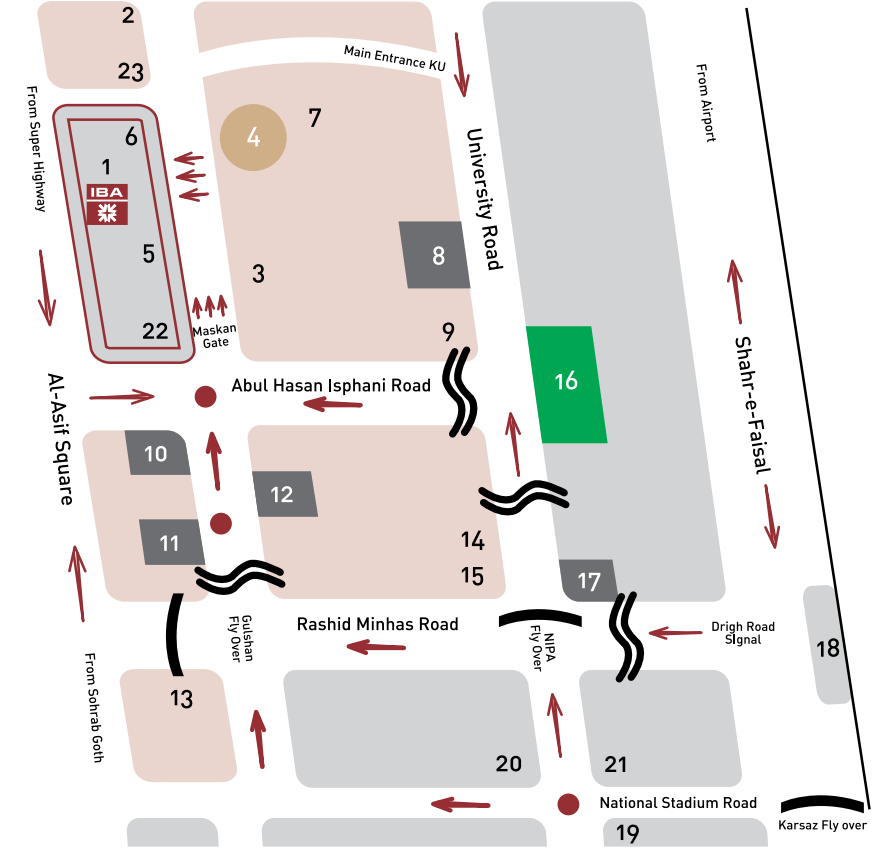
Looking for recreation? This city will not disappoint you. Bowling, go-carting, Cineplex, amusement and water parks like Aladdin and Dream world, gaming zones, boating, and crabbing: it's all here. The Arena offers you the best ice- skating, rock-climbing and swimming experiences while concerts, theatres and drive-in cinemas await to give you the movie experience of your life.

That's not all. A city is incomplete without any landmarks of its history and culture and you will find plenty of these in the City of Lights. Top of the list is the white marble glory of the Quaid-e-Azam's Mausoleum. The most visited sight of all, this memorable place is home to hundreds of tourists who come to pay respects to the Father of the Nation and admire the beauty of the structure and the impressive change of guards' ceremony. In addition, you will find museums and art galleries like the Maritime, PAF and National Museums, the Fayzee Rahman Art Gallery, and Sadequain Gallery in Frere Hall, among others. And not to forget, the ancient and compelling splendor of the Mohatta Palace, Bhanbore, Thatta, and Mohenjo-Daro, to name a few.

Finally, purely from a professional point of view, it is noteworthy that this city is a hub of local and international business organizations. All major employers of Pakistan are located in the City of Karachi, making it a perfect choice for a business school. IBA Karachi welcomes you to this extraordinary city and promises you the experience of your lifetime!

Direction Map

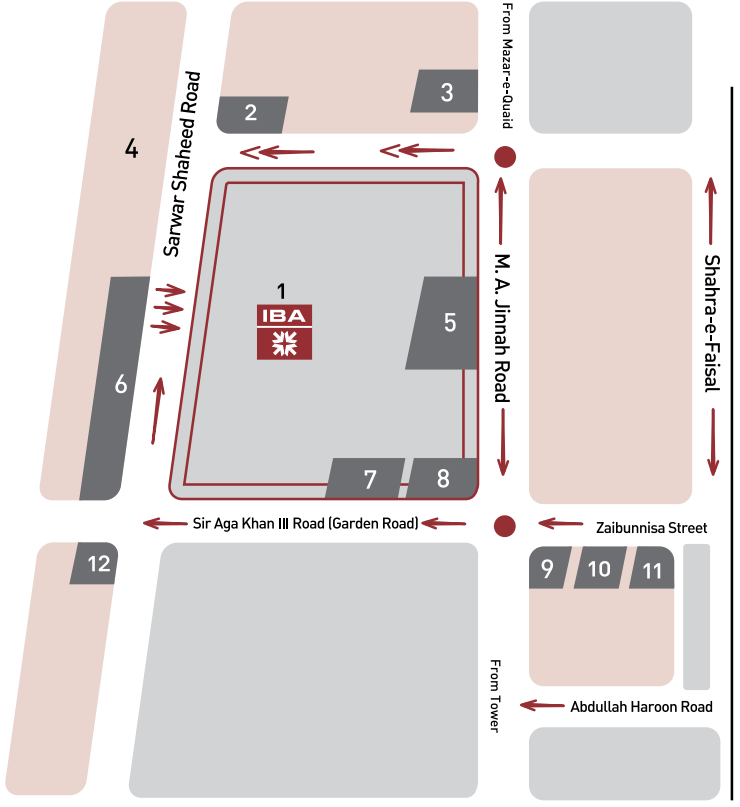
Main Campus



1 IBA Main Campus
2 IBA Staff Town
3 IBA Boys Hostel
4 Cricket Ground
5 Commerce Department
6 Applied Economics Research Center
7 United Bank Limited
8 NED University
9 SGTC
10 Maskan Apartments
11 Disco Bakery
12 KFC
13 Oxford School
14 Petrol Pump
15 Nadeem Medical Centre
16 Safari Park
17 NIPA
18 Drigh Road Train Station
19 Civic Center
20 Hasan Square
21 Expo Center
22 Bhayani Heights
23 HEJ

Traffic Signal / Square
Long Distance
Fly Over
Park / Ground

City Campus



1 IBA City Campus
2 OMI Hospital
3 Prince and Princess Cinema
4 Headquarters Pakistan Coast Guard
5 Nishat Cinema
6 APWA Building
7 Pakistan Medical Association
8 Kandawala Building
9 Lyrics Cinema
10 Bambino Cinema
11 Star Cinema
12 Anklesaria Hospital

Traffic Signal / Square
One-Way Traffic

NOTES

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