



# Institute of Business Management



College of Business  
Management  
(CBM)



College of Computer Science  
& Information Systems  
(CCSIS)



College of Economics  
& Social Development  
(CESD)



College of Engineering  
& Sciences  
(CES)

Catalog  
2016-2017



**Institute of Business Management  
Catalog 2016-2017**



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## VISION / MISSION STATEMENT

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### Vision

The Institute of Business Management aims to be one of the leading institutes nationally and internationally for imparting knowledge, skills, confidence, and values to its students thereby enabling them to become successful professionals globally.

### Mission

The mission of the Institute of Business Management is to foster a learning environment where students are motivated to make learning an on-going life-long process. We see ourselves as a multi-dimensional educational institution. Our aim is to:

- Use the best teaching and training methodologies
- Prepare students to excel academically as well as in management skills to function ethically and take effective rational decisions in all endeavors of life
- Pursue leading-edge research
- Engage in the development of innovative ideas and analytical, interpersonal and leadership skills
- Allow freedom of thought and expression
- Encourage both faculty and students to be independent and creative thinkers
- Commit to our students and other stakeholders to create responsible future global leaders



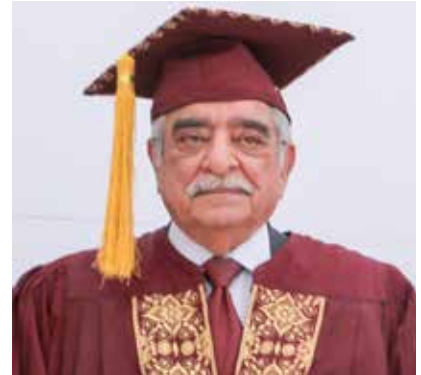
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## FROM THE CHANCELLOR

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As the new Chancellor of the Institute of Business Management it gives me great pleasure to welcome the perusal of this catalogue by our prospective students seeking to identify the courses they wish to pursue in an institute that recently celebrated its twentieth year of service to the cause of higher education in Karachi.

From a modest beginning in small rented premises IoBM has grown to occupy this 11-acre campus and a city centre campus. It has done so on the strength of its ability to provide high quality education in many distinct fields. It has done so because the calibre of its graduates has made them preferred candidates for internships and employment in major corporations in Pakistan and abroad. It has done so because it has sought to tailor the expansion of its educational programmes to the growing needs for business and finance managers, for civil engineers, for computer experts, for media managers. Perhaps it has been this facet of the IoBM that has prompted your decision to pursue your higher education here.



Increasingly the world is moving towards more knowledge-based activity, a world in which progress will come through innovation and creativity. Helping you to move in this direction will be one of the principal tasks of the faculty.

The ambition of IoBM management and experienced faculty however goes beyond providing you with the expertise that will make you easily employable or capable of starting your own enterprise. Education at IoBM must mean more. It must even, while preparing you for the career you wish to pursue, inculcate in you a sense of social responsibility, of recognising that you owe a duty to the betterment of the lot of the less fortunate in your city, your province and your country.

This is a task that needs not only faculty guidance, but active student participation. Numerous student forums exist on the campus. I urge you to be part of these forums. They will help develop your social skills and equally importantly inform you of the many ways in which, as privileged citizens, you can help enforce standards of ethical behaviour, help promote social cohesiveness and above all, help improve the availability of better educational and health facilities for all our fellow Pakistanis.

IoBM will offer you state-of-the-art facilities to enhance your intellectual capacity, to give you the required expertise in your special field and to develop your sense of social responsibility. But the primary responsibility will be yours. I am confident that you will live up to our expectations and with Allah's blessings leave this Institute not only as experts in your field of endeavour but as well rounded citizens with a strong sense of civic responsibility.

**Najmuddin A. Shaikh**  
Chancellor

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## WELCOME TO IOBM FROM THE PRESIDENT

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A very warm welcome to all those young men and women, who look forward to finishing their university education at this globally recognized institution, before embarking on a resplendent career and a rewarding personal life ahead!

Over the last two decades we have worked passionately to fulfill our mission and deliver on our promise to develop global leaders. Our unwavering commitment to invest in people, systems, and infrastructure contributes immensely towards enhancing our capabilities.

Last year, Eduniversal, an institution whose surveys have ranked us highly in the past, ranked our MBA (Marketing) program among the top 10 best master's program in Central Asia. Rather than resting on our laurels we set the bar higher, and launched a revitalized CBM-MBA Program in Fall-2015, with experiential learning built into its core.

Our MPhil/Ph.D Program has also shown rapid growth with 115 students currently enrolled in it. Another laudable achievement last year was the awarding of our first PhD degree to a doctoral student.

Our research journal, the Pakistan Business Review or PBR, was also upgraded to Category X, bringing it up to just one level short of the top-most category of Impact Factor Journals.

Our linkages with leading educational institutions worldwide continue to strengthen. More than 40 students went on exchange programs for a full semester each last year to partner universities in Italy, Georgia, North Cyprus, Morocco, Malaysia, Thailand, China, South Korea and Japan. Tuition and accommodation costs were fully covered in most of the cases.

Another acknowledgement of our capabilities overseas was that our Quality Enhancement Cell (QEC) was invited by the Asia Pacific Quality Network (APQN) last year to conduct a workshop at the University of Yunnan in China.

At IOBM, we provide merit and need-based scholarships to students to cover up to 100% of tuition fee. Additionally, under our Outreach Program launched last year sponsored by Pakistan State Oil (PSO) on their own initiative, 16 students were selected from the interior of Sindh and are working toward their engineering degree, with full tuition fee waiver, and financial support to pay for a large part of their accommodation and meals cost.

With over 7,500 graduates already working for MNCs or national companies, or spearheading their own enterprises, there is hardly any doubt that IOBM has come a long way. Feedback that we periodically solicit from institutions and our alumni, gives us comfort that the hard work of our dedicated academic and management personnel benefits thousands of talented individuals who have walked through the corridors of this institution.

That is why we remain committed to reshaping the destiny of our youth and the country at large.

**Shahjehan S. Karim**  
President





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## AN INTRODUCTION TO THE INSTITUTE OF BUSINESS MANAGEMENT

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This catalog will provide you valuable, up-to-date information about the programs of study and courses offered by the Institute, as well as information about the fee structure, facilities and student services available to students.

Beginning with an introduction to the Institute, the catalog provides an introduction to life at IoBM, as well as detailed information on all undergraduate and graduate level programs along with core courses, electives and specialized courses. Every effort is made to update information on courses in the catalog. However, changes in curricula may be necessary as part of a process of continuous improvement and the need to keep each program fully aligned with academic and professional developments. For that reason, the Institute reserves the right to make necessary alterations in courses and/ or course structures, after clearing them with the concerned Boards of Studies. Teaching methodology, academic and research programs, assessment procedures and course descriptions also form part of the catalog.

The catalog also describes the facilities at computer labs, library resources, student support services and information on application and course registration procedures. Information regarding opportunities for financial assistance and stipends for students are also included. The latter part of the catalog contains brief profiles of academic and administrative personnel.

### **IoBM: 1994 - 2016**

The Foundation for Higher Education was established as a non-profit institution in 1994 by a group of dedicated citizens of Karachi, and was registered under the Societies Registration Act of 1860. The Foundation promotes dissemination of quality education. Its first project was setting up a management university to serve trade, industry and commerce by producing highly competent and talented business executives. Teaching began at the College of Business Management (CBM), IoBM's first constituent college, in September, 1995.

In January 1998, a bill was unanimously approved by the Sindh Provincial Assembly for establishing a university known as the Institute of Business Management in the private sector. At present, the Institute has its four constituent colleges, the College of Business Management (CBM), the College of Computer Science & Information Systems (CCSIS), the College of Economics & Social Development (CESD) and the College of Engineering and Sciences (CES). Since 2006, the Institute has been ranked as one of the top universities in the private sector, both by the Higher Education Commission of the Federal Government and the Sindh Provincial Government. From 2010 to 2015, we have been honored with prestigious awards of EDUNIVERSAL Palms for meritorious evaluation and certification of educational institutions around the world. The Institute is a member of the International Association of Universities (IAU), Association to Advance Collegiate Schools of Business (AACSB) and other international and national organizations.



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The Governor of Sindh is an ex-officio Patron and the Chancellor, Mr. Najmuddin A. Shaikh is also the Chairman of the Board of Governors of the Institute. The other members of the Board are:

- Chairman, Higher Education Commission or his nominee
- Mr. Justice<sup>®</sup> Ata-ur-Rahman
- President, Federation of Pakistan Chamber of Commerce and Industry
- President, Karachi Chamber of Commerce & Industry
- President, Karachi Stock Exchange (Guarantee) Ltd.
- Secretary, Government of Sindh, Education & Literacy Department
- Mr. Shahjehan S. Karim, President IoBM
- Mr. Basheer Janmohammad
- Mr. Jahangir Siddiqui
- Mr. S. M. Muneer
- Dr. Zafar Saied Saify
- Mr. Salahuddin Qureshi
- Mr. Muhammad Sharif
- Mr. Muhammad Sikandar Sultan
- Mr. Muhammad Ali Tabba
- Mr. Masood Hashmi
- Mr. Talib Syed Karim Rector, IoBM
- Mr. M. W. Jahangir, Secretary BoG

The Institute, through its College of Business Management (CBM), offers a four year BBA (Honors) and a two/three year MBA degree program with specialization in Marketing, Finance, Human Resource Management and Management Information Systems, Health & Hospital Management, Pharmaceutical Administration, Media Management, Industrial Management and Telecommunication Management. BS (Honors) Economic & Finance, Accounting & Finance and BS Social Entrepreneurship and Social Leadership are also offered. A research degree, an MPhil leading to PhD, is offered in Finance, Human Resource Management, Marketing, Education, Psychology and Management Information Systems. A four year Bachelor of Computer Science (Honors) followed by a two years Master of Computer Science and MBA in Finance & Risk Management, BS in Mathematics & Economics and BS Data Science are offered through the College of Computer Science & Information Systems (CCSIS).

The College also offers programs in Industrial Engineering & Management, Actuarial Science & Risk Management, Telecommunication Engineering & Management and Financial Mathematics & Statistics. The College of Economics and Social Development offers a BS program in Commerce, Media, B.Ed, MBA in Educational Management and MSc leading to MPhil in Economics. College of Engineering and Sciences (CES) offers the program in Electrical Engineering.



The Institute emphasizes on research and publishes HEC and internationally recognized Pakistan's first business policy and research journal, Pakistan Business Review. Pakistan Journal of Engineering Technology & Science by College of Computer Science & Information Systems and Journal of Education & Educational Development by CESD are also published. Students and faculty contribute regularly to its pages. A research seminar is organized on a weekly basis. The Institute is the only business school where foreign language courses, Arabic, French, Spanish, Italian or Chinese are compulsory subjects in the BBA and BCS programs. The Institute has a competent and dedicated faculty with the majority holding foreign degrees. One international seminar funded by the HEC is organized on an annual basis. IoBM academic programs are up to date and comprehensive in concept and structure, resembling honors programs offered by UK and graduate programs of US Universities. It has extensive links with a number of North American and British universities. Professors from these universities have served as Chief Academic Officers of the Institute.



Since 1998, more than 8,000 students have graduated from the Institute. Most of them are placed in key positions in leading national and multinational firms including Habib Bank, Faysal Bank, Standard Chartered, PIA, Engro, Berger Paints, Geo TV, National Bank of Pakistan, Unilever, IBM, ICI, SmithKline & Beecham, Aga Khan University Hospital, Karachi Stock Exchange and several provincial and federal government agencies. Many graduates have proceeded for their post-graduate program to reputable universities in the UK and USA. More than 400 students go for compulsory internships every year to national and multinational organizations.

The Entrepreneurship & Management Excellence Center (EMEC) / ORIC of the Institute organizes professional education, training and research programs for serving the corporate sector to enhance both its profitability and contribution to society. Support is provided in the areas of banking and finance, marketing, human resource development and information systems management.



The Institute has come a long way since its inception. There are over 4000 students on our campus which is large and purpose-built at Korangi Creek on a 11 acre site, comprising the Business College building, Administration and Entrepreneurship & Management Excellence Center building, CCSIS building, a Convocation Center, Student Activity Center, a five-storeyed library building, Industrial Engineering and Management building, a mosque and CESD building. Another nine acre site has been purchase 1 km from the present campus. A new state-of-art Entrepreneurship and Management Excellence Center with over 150,000 sq.ft of covered area is under construction and is expected to be completed by June 2016.

At the Institute's fourth convocation in December, 2001, an honorary degree of Doctorate of Philosophy was conferred upon Dr. Nafees Sadik, former Executive Director, United Nations Population Program. At the fifth convocation held in December, 2002, an honorary degree was conferred on our keynote speaker, Mr. Babar Ali, Pro-Chancellor, Lahore University of Management Sciences (LUMS), and at the ninth convocation an honorary degree was conferred on Dr. Goolam Mohamedbhai, President, International Association of Universities (IAU). The sixth convocation was held in December 20, 2003 with Dr. Atta-ur-Rahman, Chairman, Higher Education Commission and Minister for Science & Technology as the Chief Guest and Ms. Musharaf Hai, Chairperson, Unilever Pakistan Limited as the keynote speaker.



The seventh convocation was held on December 18, 2004 with the Governor Sindh as the Chief Guest and Mr. Hameed Haroon, Chief Executive Dawn Group of Newspapers as the keynote speaker. Over 300 students were awarded BBA (Hons), BCS (Hons), BS



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The eighth convocation was held on December 17, 2005 with the Minister for Education, Sindh, as the Chief Guest and Syed Ali Raza, President, National Bank of Pakistan, as the keynote speaker. Over 400 students were awarded degrees at this convocation.

The ninth convocation of the Institute was held on December 16, 2006 with the Education Minister as the Chief Guest and Dr. Goolam Mohamedbhai President, IAU, as the keynote speaker. Over 450 students were awarded degrees at this convocation.

The tenth convocation was held on December 8, 2007, where Mr. Jose Manuel Salazar-Xirinachs, Executive Director of the International Labour Organization, Geneva was the keynote speaker and over 500 students were awarded degrees.

The eleventh convocation of the Institute was held on December 6, 2008 where the Governor, State Bank of Pakistan was the keynote speaker and Governor Sindh, Dr. Ishrat ul Ebad was the chief guest and over 700 degrees were awarded to students at this convocation.

Syed Qaim Ali Shah, Chief Minister of Sindh and Mr. Nisar Ahmed Khuhro, Speaker Sindh Assembly attended the twelfth convocation of the Institute, held on December 05, 2009. The keynote Speaker was Mr. Shaharyar Muhammad Khan, former Foreign Secretary and former Chairman of the Pakistan Cricket Board. As many as 927 graduates were awarded degrees.

The thirteenth convocation was held on December 4, 2010. The chief guest on the occasion was Dr. Abdul Hafeez Shaikh, Minister for Finance, Revenue, Economic Affairs & Statistics and the keynote speaker was Dr. Javaid R. Laghari, Federal Minister / Chairperson of the Higher Education Commission of Pakistan.

The fourteenth convocation was held on December 10, 2011 over 983 degrees were awarded to students at this convocation. The chief guest on the occasion was Dr. Shams Kassim-Lakha, Founding President and Trustee of AKU and the keynote speaker was Mr. Javed Jabbar, Chairman and Chief Executive, JJ Media (Pvt.) Ltd.

The fifteenth convocation was held on December 08, 2012. Over 825 degrees were awarded to students at this convocation. The keynote speaker was Mr. Shahid Aziz Siddiqi, Chairman and CEO, State Life Insurance Corporation of Pakistan.

The sixteenth convocation was held on December 07, 2013. Over 850 degrees were awarded to students at this convocation. The chief guest was Mr. Nisar Ahmed Khuhro, Senior Minister for Education, Govt. of Sindh, keynote speaker was Dr. Kakha Shengelia, President Caucasus University Republic of Georgia, and Mr. Munir Kamal, Chairman National Bank of Pakistan was the guest of honor in this convocation.

The Seventeenth convocation was held on December 07, 2014. Over 850 degrees were awarded to students at this convocation. The chief guest was Mr. Nisar Ahmed Khuhro, Senior Minister for Education, Govt. of Sindh, keynote speaker was Mr. Muhammad Aliuddin Ansari, President & Chief Executive Officer of Engro Corporation in this convocation.

The eighteenth convocation was held on December 12, 2015. Over 900 degrees were awarded to students. The chief guest was Mr. Muhammad Mian Soomro, Former President of Pakistan and keynote speaker was Mr. Kamal A. Chinoy, Chief Executive of Pakistan Cables Limited at the event.



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## CITY CENTER

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### City Center

IoBM City Center was established in September 2012, targeted at working people looking for career advancement. The location was carefully chosen, close to the intersection of Shaheed-i-Millat Road and Sharae Faisal, to make the center easily accessible. Twenty-four students took admission in the evening MBA program offered at the Center that year. In summer 2015, the campus reached full capacity with a student head count of over 300. A major objective of the Center was to forge close relationships with city-based business organizations and finance companies that could help in the development of programs and courses with increased experiential content. Two regular courses, Financial Management and Marketing Management have benefited from the initiative so far, based on the guidance and support of leading company executives.

A 'Friends of the City Centre' group was formed to drive this initiative forward, and develop the Centre into a focal point for serving the manpower development needs of the corporate sector. It is also intended to turn this group into a business policy think-tank, to facilitate regular dialogue between the business community, academia and policy makers. The City Centre is also currently running custom-designed training under the Government of Sindh Youth Development Program. The courses focus primarily on Accounting, Computer Science, and Communication Studies. Pre-engineering courses are also offered during morning hours, and students registered at the City Center can also take courses at the main campus to expedite the completion of their degree requirement.

The City Centre is supervised by a Management Committee, headed by the Rector. It includes the Dean, CBM and several departmental heads. This Committee is also responsible for the academic administration of the Center. The rapid growth of business interest in the Center, and growing student intake has encouraged us to invest in a 3,000 square yard plot of land close to the present location. Plans for a four-storied, state of the art building have been approved, and the construction is expected to commence in the latter part of the year 2016.



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## WHY CHOOSE IOBM?

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For the last four years, IOBM has been rated as one of the top universities in the private sector, both by the Higher Education Commission of the Federal Government and the Provincial Government of Sindh. Eduniversal, during its international conventions of Deans of Business Colleges has awarded IOBM 2 Palms as one of the two best Business Schools in Pakistan since 2010. The Institute has been an active member of the International Association of Universities (IAU), International Association of University Presidents (IAUP), Association to Advance Collegiate Schools of Business (AACSB), Association of Commonwealth Universities (ACU) and is also associated with several other international academic organizations.

IOBM has established linkages and earned credibility with reputed foreign business schools and leading international institutes, associations and organizations pertaining to sharing and contributing ideas and insight in business education and research.

The programs we offer include executive MBA and MBA (Evening) in diverse fields, held on weekends placing special emphasis on the needs of busy executives and those who, having finished one career, wish to go for a new one. IOBM offers programs in Health and Hospital Management, Finance & Risk Management, Industrial Management, Telecommunication Management, Environment & Energy Management, Education Management, Organizational Psychology, Economics and many other disciplines. IOBM faculty excel in their respective fields. They pass on their expertise in research and scholarship to students enabling them to have an enhanced understanding of their respective disciplines.

Students have access to excellent facilities and learning resources as IOBM continually invests in the University's infrastructure: library, gym, sports, computer equipment, Wi-Fi facility, video conferencing, state-of-the-art campus building and subsidized transport facilities. IOBM has earned its reputation through an excellent internship and graduate employment record. The rigorous academic degree courses enable graduates to acquire breadth and depth in their chosen subjects and, therefore, enter a wide range of careers. A large number of its graduates join top business schools in Europe, USA and Canada.

Research is a core competence at IOBM. All members of the IOBM community are actively engaged in disseminating knowledge, pursuing research in a diverse range of themes. The Institute publishes the research quarterly journal, Pakistan Business Review (PBR), which is recognized by the Higher Education Commission (HEC) as category X, and ECONLIT, Journal of Economic Literature, USA. An annually held HEC financed international conference provides a platform for the presentation of research undertaken at IOBM. Pakistan Journal of Engineering Technology & Science and Journal of Education & Educational Development are also being published. IOBM is now connected with PERN2, a high speed dedicated National Research & Education Network (NREN) for the universities/institutes and other academic sectors of Pakistan.

**"The essence of IOBM's academic programs pertains to career focused education towards Individual fulfillment, professional excellence, institutional credibility, family welfare and social responsibility. The net result is reflected in the net product. IOBM's credibility speaks for itself."**

**Shahjehan S. Karim**  
President  
Institute of Business Management

**LIFE AT  
IoBM**

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## RESOURCES AND FACILITIES

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Institute of Business Management has a purpose built twenty acre campus located in the serene and secure surroundings of Korangi Creek, Karachi. The College of Business Management building, covering an area of 85,000 sq. ft., is equipped with state-of-the-art teaching equipment to enable the Institute to keep pace with the dynamics of the global market. All classrooms are equipped with internet and intranet facilities. IoBM is a Wi-Fi campus. The campus buildings are centrally air-conditioned and they have all been self financed with no outside assistance or donation. A separate centrally air-conditioned modern Administration and Entrepreneurship & Management Excellence Center building, with a covered area of 26,900 sq.ft. was completed in 2001. Another centrally air-conditioned building with a covered area of 31,655 sq.ft., houses the College of Computer Science and Information Systems and has been operational since 2002. The Convocation Center was completed in November, 2002, and the Students Activity Center building in September, 2003 which has a second floor housing 10 faculty residential suites for visiting scholars and was completed in January, 2006. The library building has been operational since January, 2005. A separate building houses the department of Industrial Engineering & Management. A new 150,000 sq.ft building will be completed by June 2016. The Institute provides students with subsidized transportation to and from the campus through conveniently located pick and drop points all over Karachi. Girls are provided this facility to and from their homes. The campus also has ample car parking facilities.



### Computing Facilities

One of the strengths of the IoBM program is the incorporation of information technology as a key component of the curriculum. The academic programs offered by the Institute require students to obtain hands on experience on computers and develop a high level of expertise in this field. The Information Systems Department (ISD) of the College of Computer Science and Information Systems provides administrative, networking and technical support to the faculty and students. The College of Computer Science and Information Systems building includes a number of computer laboratories with around three hundred workstations. It is fully equipped with satellite/ radio-linked e-mail, Wi-Fi facilities and internet facilities for all students, faculty and staff.

### Library

The IoBM library, an ideal setting for learning and research, serves as a repository for the rich array of both traditional and electronic information services. A distinctive strength is its rich spectrum of resources, including a large number of books, journals, periodicals, reference material, audio-visual material, government documents and reports catering to the scholarly needs of students, faculty and researchers. Its pleasant and conducive-to-learning environment accommodates 350 students and 48,851 books. All library books are searchable using OPAC (Online Public Access Catalog) and the newly developed software Library Information and Management System (LIMS), available at the front desk. Students are provided with internet workstations and rooms for group study. Of the many recent initiatives by IoBM are its access to a large number of e-resources through the HEC Digital library, and online journals through JSTOR e-database. The library also provides access to print and online journals through subscription to a number of business, marketing, management and HRM journals. In addition to the main library, the Learning Resource Center in the Academic block caters to the scholarly requirements of M Phil and PhD programs. The Library engages in numerous projects to expand access to its physical and digital collections. Skills development sessions are conducted for students and faculty from time to time. The library projects on the horizon include development of a portal of web links, just a click away, on the desktops of faculty and students.





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## STUDENT ACTIVITIES

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Exciting and eventful as always, the last year at IoBM has been no exception. Following are some examples to give you a glimpse of life at IoBM in general:

Student life at IoBM is not just about presentations, reports, midterms and finals. In fact, there is a whole range of student-organized entertainment and events that take place throughout the year. Students on campus are genuinely interested in cultural vibrancy and a sense of community. In between the busy academic schedule there are seminars, talk shows, guest speakers, fund raiser bake sales, the Event Management class food and fun stalls, CBMUN, Green Day, Drama festival and so much more. One can never get enough of it. To cater to the individual student's choice, there are a number of societies for likeminded people such as:

Literary and Public Speaking; Finance; Mathematics; Entrepreneurs; Club IT; CBM Society for Health Managers; Egalitarians- Economics; Youth Enhancement; Enlighterz; Industrial Engineering & Management; Dialogue; Marketing; Strategic & Human Resource; Entertainment Plus; Vanguard and the Sports Society; Mentor; SWAT and Music & Arts Society (MARTS). Each society is headed by a faculty advisor who is a senior member of the faculty or management and a team of student office bearers. These societies are diverse in their activities, organizing university-wide forums for students to talk about and debate social, economic, and political issues; organize seminars & workshops where they invite well known personalities from the business, government and corporate world. This provides them with an opportunity to exchange ideas and opinions with market leaders.

Our students participate in various events organized by other universities / institutes locally, as well as, nationally and have won laurels for their Institute. Social care is a regular feature of these societies. Every year, in the month of Ramzan, donations in cash and kind are collected and, along with the Management's major contribution, distributed to the needy in various hospitals of the city. Among other regular features is blood donation camps put up from time to time.

### Students' Achievements

- IoBM team won the Unilever Talent Hunt 2014
- IoBM team won 2nd position in HEC All Pakistan Intervarsity (Men) Table Tennis Championship 2016
- IoBM team won 2nd position at FAST Robotics competition, 2015
- IoBM team won Battle of the Bands at LUMS Music Festival, 2015
- IoBM team won 2nd prize at LUMS Leadership Marathon, 2015
- IoBM team won the 1st prize at Pakistan Tobacco's "Battle of Minds", 2015
- IoBM team was Runner-up in HEC Inter-varsity Table Tennis Zone "G" Championship 2015-2016
- IoBM team was Runner-up in Lays Inter-Regional Futsal Glory Cup Tournament 2016 in Lahore
- IoBM team Telecare secured 2nd Runner-up position in the Amanclinics Accelerator, 2016





## Recent Events

### Digicon

- Experia'15; a three day, multi-purpose event organized by the Digicon Informatics Society took place on the 6th, 7th and 8th November 2015.

### Egalitarians (The Economic Society)

- An interactive session on China PAK Economic Corridor (CPEC)
- A panel discussion on Industrial revival in Pakistan

### IoBm Club for Entrepreneurs (ICE)

- Entrepreneurial Showcase 2015

### Marketing Society

- The Marketing Society of the Institute of Business Management conducted an event labelled, "When Life Gives You Lemons".

### CBM Society of Health Managers (CSHM)

- Health and Nutrition Festival Thar, April 2015
- IoBM Health Camp –Health First Conference, November 2015
- CSHM-SWAT Blood Drive, February 2016
- World Health Workers Week, World Health Day, April 2016
- Health Convention, April 2016



## Media Society

- Ho Mann Jahaan: The Director, Cast and Crew of Ho Man Jahaan, described as “a 2016 Pakistani coming-of-age drama film,” written and directed by Asim Raza visited IoBM on December 2, 2015
- Film Festival: A short-film festival was organized by the Media Society over three days – March 10, 11 and 12, 2016
- Screening of Sharmeen Obaid Chinoy’s Oscar-winning documentary “A Girl in the River: The Price of Forgiveness”, March 21, 2016



## Sports Society

- Sports Talent Hunt, September, 2015
- Inter Society Sports Festival and Cake Cutting Ceremony under the banner of 20 year’s Celebrations of Institute of Business Management ( IoBM ) November, 2015
- HEC Inter- varsity Basketball Zone “G” Championship December 2015
- HEC Inter- varsity Table Tennis Zone “G” Championship January 2016
- HEC All Pakistan Inter- varsity Table Tennis Championship January 2016
- HEC Inter- varsity Cricket Tournament February 2016
- IBA Inter University Cricket Tournament February 2016
- IBA Inter University Football Tournament February 2016
- HEC Inter- varsity Badminton Championship March 2016
- HEC Inter- varsity Volleyball Championship April 2016



## Entertainment Plus Society (EPS)

- Eid Milad un Nabi (SAW): In a world of losing hope and shaking faith, EPS brought Milad to reconstruct and polish the good faith with soothing recitations in praise of Allah and the Holy Prophet (P.B.U.H), February, 2016





## IoBM 20 Years Celebration

To celebrate its 20-year IoBM organized a musical evening with Abida Perveen on March 5, 2016 at the IoBM convocation area. She mesmerized thousands of attendees with her soulful voice. Amjad Sabri was also present on the occasion and the ceremony ended with his DUA. Around 6000 to 7000 people attended the event including students, faculty, management, staff, IoBM alumni, board members, CEOs from the corporate sector and foreign dignitaries.



## CONVOCATION

In December 2015, IoBM held its eighteenth Convocation, awarding degrees to 272 BBA (Honors), 60 BS (Joint Honors), 19 BS (Honors) Media Studies, 16 BS (Accountancy, Management and Law), 15 BS (Actuarial Science and Risk Management), 14 BS (Honors) Commerce, 9 BE (Electrical), 8 BS (Industrial Engineering and Management), 7 BS (Computer Science), 263 MBA (Regular), 88 MBA (Executive), 44 MBA (Health & Hospital Management), 31 MBA (IM), 21 MBA (Advertising and Media Management), 18 MBA (Evening), 18 MBA (Finance and Risk Management), 8 MSc (Organizational Psychology & HRM), 7 MBA (Educational Management), 4 MBA (Telecommunication Management), 2 MBA (E&EM), 2 MS (Computer Science), 5 MPhil and 1 PhD.

The chief guest was Mr. Muhammad Mian Soomro, Former President of Pakistan. Keynote Speaker was Mr. Kamal A. Chinoy, Chief Executive of Pakistan Cables Limited in this convocation.



### Gold Medals were awarded to the following students:



**Asma Ahmed**  
MBA (FRM)  
Standard Chartered  
Gold Medal



**Sakina Yousuf**  
MBA (Health & Hospital Mgmt.)  
Dr. Essa's Laboratory  
Gold Medal



**Asfia Aziz**  
BBA (Honors)  
S. H. Hashmi Memorial  
Gold Medal



**Anum Alnoor**  
BBA (Honors)  
Janmohammad Dawood  
Gold Medal



**Ramla Abid**  
BS (AML)  
Halima Fatima Memorial  
Gold Medal



**Hani Ghulam Abbas**  
BS (ARM)  
Tabba Foundation  
Gold Medal



**Neha Saleem**  
BS (Joint Honors)  
Imam Ali Kazi Memorial  
Gold Medal



**Areesha Mazhar**  
BS (MS)  
Karachi Council on Foreign  
Relations (KCFR)  
Gold Medal



**Hina Urooj**  
MBA (Regular)  
Shan Foods  
Gold Medal



**Harish Chander**  
MBA (Executive)  
Adamjee Foundation  
Gold Medal



**Misbah Asif Aziz**  
MBA (AMM)  
Westbury Group of Companies  
Gold Medal



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## GLOBAL LINKAGES

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### International Relations Department

Institute of Business Management (IoBM) has its International Relations Department that works under the supervision of the President of IoBM. The Department is successfully managing execution of international relations on bilateral and multilateral terms with a large number of universities in Europe, Asia and U.S.A.

### Eduuniversal Ranking

Eduuniversal, based in Paris, France, is a worldwide academic institutions ranking organization which ranks the 4,000 best academic institutions from around the world. The expertise of IoBM is distinguished in the 2014 Eduuniversal Best Master's Ranking with the following programs:

#### Top 200 Best Master's Programs:

- MBA Advertising and Communication Management - Ranked 2
- MBA Human Resource Management - Ranked 6
- MBA Industrial Management - Ranked 6
- MSc Economics - Ranked 6
- MBA Marketing - Ranked 7
- MBA Finance and Accounting - Ranked 7
- MBA Executive - Ranked 8
- MBA Full Time - Ranked 15

#### Top 100 Best Master's Programs:

- MBA Finance and Risk Management
- MBA Health and Hospital Management
- MBA Environment and Energy Management
- MBA Logistics and Supply Chain Management



## Erasmus Mundus (EM)

Erasmus Mundus is a cooperation and mobility program of the European Union in the field of higher education. IoBM is participating in the EM Project as the Joint Coordinator to develop institutional cooperation by promoting linkages between leading Asian and European Universities, in the form of student, faculty and staff mobilities. This program also enables undergraduate, master, Ph.D and post doctorate students of Asian partner countries to benefit educationally, linguistically and culturally from studying at partner universities. Further, the project also provides opportunity to IoBM faculty members and staff to get training at partner Higher educational institutions, which will upgrade their knowledge, skills and orientation through different training programs.

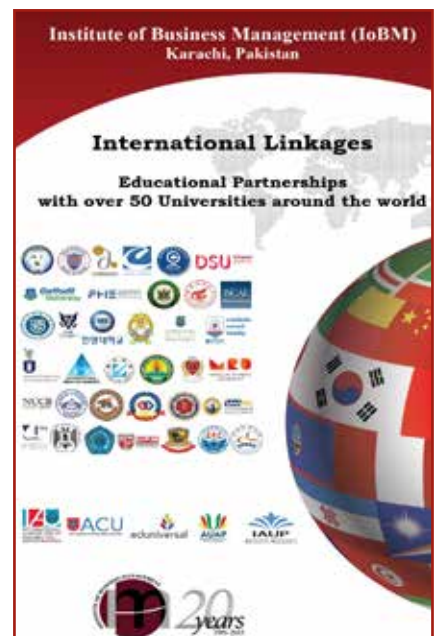
List of the members of our EM Consortium 2014 is as follows:

### European Union Partners:

- Spain University of Malaga (Coordinating Institution)
- Lithuania Vytautas Magnus University
- Germany Erfurt University of Applied Sciences
- Greece University of Peloponnese
- Italy University of Florence
- Portugal Institute of Politecnico de Castelo Branco
- France University of Montpellier 2
- Poland Wroclaw University of Technology
- Slovakia Technical University of Kosice
- Finland Haaga-Helia University of Applied Sciences
- France IPAC

### Asian Partners:

- Pakistan Institute of Business Management (Joint Coordinating Institution)
- Bangladesh American International University
- Bhutan Gaeddu College of Business Studies
- Nepal Kathmandu University
- Sri Lanka University of Peradeniya
- Sri Lanka University of Kelaniya
- Thailand Chiang Mai University
- Malaysia University of Kuala Lumpur





## Bilateral Agreements

IoBM has bilateral agreements under formally signed Memorandum of Understanding (MoU) with the following universities, which provide exchange of students, faculty and staff and promote joint research and consultancy.

Country	University
1. Albania	Eqrem Cabej University,
2. Australia	MacQuarie University
3. Bangladesh	American International University
4. Bangladesh	University of Chittagong
5. Bhutan	Gaeddu College of Business Studies
6. Bhutan	Royal University of Bhutan
7. Bosnia	International Burch University
8. Cambodia	IIC University of Technology
9. China	Guilin University of Technology
10. China	Guangxi University of Finance and Economics
11. China	Guangxi University of Technology (GXUT)
12. China	Sias International University
13. China	Zhengzhou Institute of Science & Technology
14. China	Zhengzhou Xinlian University
15. Georgia	Caucasus University
16. Germany	Erfurt University of Applied Sciences
17. Germany	Eurasia Institute International Education (EIIE)
18. Indonesia	University of Muhammadiyah Semarang Central
19. Italy	University of Florence
20. Japan	Nagoya University of Commerce and Business
21. Liberia	WilliamV. S. Tubman University
22. Lithuania	Mykolas Romeris University
23. Lithuania	Vytautas Magnus University
24. Malaysia	University of Kuala Lumpur
25. Mexico	Universidad Autonoma de Guadalajara
26. Mongolia	National University of Mongolia
27. Morocco	Groupe ISCAE
28. Nepal	Kathmandu University School of Management
29. Nepal	Pokhara University
30. North Cyprus	Girne American University
31. Philippine	LPU Laguna
32. Philippine	Lyceum of the Philippines University
33. Portugal	Institute of Politecnico de Castelo Branco
34. Romania	Petre University of Lasi
35. Russia	Institute of Business Studies
36. South Korea	Dongseo University
37. South Korea	Hanyang University
38. Spain	University of Malaga
39. Sri Lanka	University of Kelaniya
40. Lanka	University of Peradeniya
41. Taiwan	I-SHOU University
42. Thailand	Naresuan University
43. Thailand	Siam University
44. Turkey	Bilkent University
45. Turkey	Istanbul Kemerburgaz University
46. Ukraine	International Institute of Business
47. Ukraine	International Management Institute
48. USA	Michigan Technological University
49. Vietnam	Institute of Policy & Management (IPAM)
50. Vietnam	Vietnam National University





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## Student and Faculty Exchange Program

IoBM students have gone to the following universities on student exchange programs:

- International Burch University, Bosnia
- Guilin University of Technology, China
- Sias International University, China
- Cuacacus University, Georgia
- Erfurt University of Applied Sciences, Germany
- University of Florence, Italy
- Nagoya University of Commerce and Business, Japan
- Vytautas Magnus University, Lithuania
- University of Kuala Lumpur, Malaysia
- Groupe ISCAE, Morocco
- Girne American University, North Cyprus
- Institute of Politecnico de Castelo Branco, Portugal
- Institute of Business Studies (IBS- Moscow), Russia
- Dongseo University, South Korea
- Hanyang University, South Korea
- University of Malaga, Spain
- Naresuan University, Thailand
- Bilkent University, Turkey

IoBM has entered into an understanding with these universities for exchange of students on waiver of university tuition and in some cases provision of free hostel facilities. Our students going to Erfurt University of Applied Sciences for undergraduate studies for a semester also work with leading German companies as internees and thus gain practical experience. IoBM also welcomes students from our partner universities to spend a semester at IoBM. More students are expected from different universities in the upcoming semesters through the student exchange program. Experts visit IoBM for a semester from Spain, Germany, China and Nigeria. Exchange of students, faculty members as well as joint research projects are a continuous process with a number of universities all over the world.

### Senior Expert Services

A German NGO, Senior Expert Services (SES) has been sending technical experts and faculty to IoBM for giving training and assistance in various programs in Health Management, Marketing, Media Management, Industrial Engineering, Corporate Social Responsibility, IT, Human Resource, Supply Chain, Telecommunication, Education, Economics, development of Academics and Vocational Training. SES is also assisting IoBM in setting up a full-fledged academic program in Environment and Energy Management.

### IAU LEADHER Program 2014

The LEADHER program offers opportunities for learning partnerships and collaboration among IAU member institutions in Good Standing and enables participating institutions to tap into the wealth of experiences around the world. Institute of Business Management (IoBM) in collaboration with Caucasus University, Georgia (CU) was selected for funding a project on Strengthening research capacity and research management in universities for the International Association of Universities (IAU) Leadership for Higher Education Reform (LEADHER) Program 2014.

### Memberships of Professional Bodies

IoBM is also an active member of the following international and national professional bodies:

1. International Association of Universities (IAU), UNESCO, France
2. International Association of University Presidents (IAUP)
3. The Association of Commonwealth Universities (ACU), UK
4. Association of Universities of Asia and the Pacific (AUAP), Thailand
5. AACSB International -The Association to Advance Collegiate Schools of Business, USA
6. Asian Media Information and Communication Centre (AMIC), Singapore
7. Management Association of Pakistan (MAP), (Member, Executive Council)
8. Marketing Association of Pakistan (President)
9. Employers Federation of Pakistan
10. Institute of Corporate Governance
11. International Finance Corporation (IFC), USA
12. Association of University Programs in Health Administration
13. Association of Management Development Institutions in South Asia (AMDISA)
14. OPEN, Karachi (President)
15. Association of Management Development Institutions in Pakistan (AMDIP), (Chairman, Karachi)



**COLLEGE  
OF BUSINESS  
MANAGEMENT**



**COLLEGE  
OF  
BUSINESS MANAGEMENT**





# COLLEGE OF BUSINESS MANAGEMENT

To be the leading business school, recognized for producing ethical, transformational and change leaders and managers, nationally and internationally.

To provide transformational and change leadership and management for the development of the economy and society through excellence in character, professionalism, education and research.

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## BBA (HONORS)

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The Bachelor of Business Administration (Honors) is a professional and comprehensive management degree providing conceptual knowledge and in-depth exposure to functional areas in business management including accounting, marketing, finance, management, entrepreneurship and MIS along with special emphasis on leadership, social awareness, creativity and innovation. The program employs the latest approaches in experiential learning to develop skills for interpersonal communication, team work, foreign languages and managing diversity. Students learn to think critically and to apply conceptual knowledge to real world challenges and design solutions. Graduates of the BBA program distinguish themselves with their personal and professional excellence as managers and entrepreneurs in their areas of specialization. They are well rounded professionals known as doers and go-getters and are in great demand in the industry. BBA is a four-year program. It requires completion of 144 credit hours of course work and 2 credit hours of internship in a firm approved by the Institute. A student is required to complete 48 courses of 3 credit hours each in order to meet the degree requirements. Six credit hours are structured into the program for a foreign language course. Students must maintain a CGPA of 2.5 for the conferment of the degree.

To promote lifelong learning at IoBM, the program emphasizes on Experiential Learning (EL) and developing readers and writers. The college's mission is reflected through courses designated with a suffix R, W or E in the program structure:

- An experiential learning course (E) requires an intensive experiential learning project focusing on a real life problem in a real life setting
- A writing-intensive course (W) has a substantial writing component and requires multiple writing assignments to be submitted at designated times during a semester
- A reading-intensive course (R) has a substantial reading component and requires multiple reading assignments that are evaluated at designated times during a semester

Students are provided with general business courses as part of their studies and select electives from the following specializations:

- Accounting\*
- Entrepreneurship
- Finance and Banking
- Human Resource Management
- Industrial Management
- Management Information Systems
- Marketing
- Management
- Logistics and Supply Chain Management

Courses are divided into Foundation, Core and Electives.

*\*ACCA affiliation with BBA program of IoBM offers 5 course exemptions (F1 - F5) to BBA students of IoBM*



## Foundation Courses

### Communication

COM100 Foundation English\*\*  
COM107 Academic English (W, R)  
COM202 Business and Professional Speech (E)  
COM205 Persuasive & Analytical Writing for Bus. Comm. (E, W)  
*\*\* This non credit course can be exempted by taking and clearing a test designed by the institute.*

### Language

LAN 10\* Foreign Language I  
LAN 20\*\* Foreign Language II  
\*1 = Introduction to Arabic      \*2 = Introduction to French  
\*3 = Introduction to Spanish      \*4 = Introduction to German  
\*5 = Introduction to Japanese      \*6 = Introduction to Italian  
\*7 = Introduction to Russian      \*8 = Introduction to Chinese  
  
\*\*1 = Intermediate Arabic      \*\*2 = Intermediate French  
\*\*3 = Intermediate Spanish      \*\*4 = Intermediate German  
\*\*5 = Intermediate Japanese      \*\*6 = Intermediate Italian  
\*\*7 = Intermediate Russian      \*\*8 = Intermediate Chinese

### Economics

ECO101 Principles of Microeconomics  
ECO102 Principles of Macroeconomics  
ECO402 Pakistan Economic Policy OR  
ECO405 Seminar in Economic Policy

### Law

LAW409 Corporate and Business Law

### Mathematics

MTH101 College Algebra  
MTH103 Calculus for Business Decisions

### Political Science

PSC301 Pakistan Studies (W)

### Social Science

SSC101 Introduction to Psychology  
SSC301 History of Ideas (W)  
SSC401 Business Ethics

### Religious Studies

REL101 Islamic Studies (R)

### Statistics

STA201 Quantitative Business Analysis  
STA202 Quantitative Skills and Managerial Statistics

## Core Business Courses

### Accounting

ACC101 Introduction to Financial Accounting  
ACC201 Intermediate Financial Accounting  
ACC320 Cost and Management Accounting

### Finance

FIN201 Introduction to Business Finance (R)  
FIN202 Financial Management  
FIN301 Financial Institutions (E)

### Entrepreneurship

MAN307 Entrepreneurial Leadership and Motivation  
MAN308 Social Advocacy and Community Service  
MAN403 Entrepreneurship and Small Business Management

### Human Resource Management

HRM301 Human Resource Management (E)

### Management

MAN101 Principles of Management  
MAN302 Organizational Behavior (E)  
MAN303 Production and Operations Management  
MAN405 Strategic Management (R)  
MAN408 Analysis of Pakistani Industries

### Management Information Systems

MIS303 IS Audit and Management (E)  
MIS305 CRM Systems and Applications (E)

### Marketing

MKT301 Principles of Marketing  
MKT302 Marketing Management  
MKT403 Sales Management (E)  
MKT404 Methods in Business Research (E)  
MKT509 Consumer Behavior  
MKT511 Brand Management (R)

### Logistics and Supply Chain Management

SCM301 Introduction to ERP Systems

## Elective Business Courses

### Accounting

ACC302 Accounting and Financial Information Systems  
ACC502 Advanced Managerial Accounting  
ACC505 Auditing  
ACC506 Analysis of Financial Statements





### **Finance and Banking**

- FIN503 Corporate Finance
- FIN504 International Finance
- FIN505 Treasury and Fund Management
- FIN506 Investment Banking and Security Analysis
- FIN507 Portfolio Management
- FIN508 Risk Management
- FIN511 Analysis of Financial Statements
- FIN514 Asset Liability Management

### **Human Resource Management**

- HRM501 Recruitment and Selection
- HRM503 Employee Training and Development
- HRM504 Negotiation Skills
- HRM508 Salary and Compensation
- HRM511 Performance Appraisal
- HRM512 HR Analytics



### **Management**

- MAN305 International Relations
- MAN410 Introduction to Industrial Management
- MAN501 Total Quality Management
- MAN502 Business Process Re-engineering
- EEM601 Environmental Management and Green Technology

### **Management Information Systems**

- MIS509 Software Project Management
- MIS522 Business Information Systems
- MIS524 Decision Support Systems
- MIS525 Enterprise Systems
- MIS526 Enterprise Resource Planning Systems
- MIS527 Information Security
- MIS528 Advanced Information Security
- MIS530 Information Systems Research
- MIS532 New Perspectives on Organizations and Information Systems



### **Marketing**

- MKT405 Marketing Research
- MKT506 International Marketing
- MKT507 Services Marketing
- MKT508 Personal Selling
- MKT510 Direct and Digital Marketing
- MKT513 Media Planning
- MKT520 Merchandising and Sales Promotion
- MKT521 Distribution and Channel Management
- MKT526 Public Relations and Event Management
- MKT530 New Product Management
- MKT531 Retail Management
- MKT532/ADV401 Principles of Advertising
- MKT608 Small Business Marketing

## Entrepreneurship

ENT503	Startup Experience
ENT504	Technology Support for Small Business
ENT505	Innovative Internet Based Business Models
ENT506	Emerging Entrepreneurial Environment
ENT507	Affordable Design and Entrepreneurship
ENT508	Getting to Market: Commercializing Your Idea
ENT509	Building and Managing Start-Up Teams
ENT510	Raising Capital Via Crowd Funding Venture Capital, Angel Funding and Debt
ENT511	Managing a Growing Business
ENT512	Startup Growth Strategies
FIN603	Entrepreneurial Finance

## Logistics and Supply Chain Management

SCM302	Quantitative Methods in Production and Logistics
SCM306	IT Applications in Logistics
SCM309	Packaging Design and Environmental Aspects
SCM501	Supply Chain Management
SCM504	Procurement and Inventory Management
SCM506	Transportation Techniques and Management

Students must take a minimum load of twelve credit hours (four courses) or a maximum load of eighteen credit hours (six courses) in a semester. In order to obtain the BBA (Honors) degree in four years, they need to complete twelve courses in a year. Full load of six courses can be taken each in Fall and Spring semesters with an option for fewer courses in the latter and making up for the shortfall in the summer session.

## Course Structure

<b>Semester One</b> Academic English (W, R) Principles of Microeconomics Principles of Management Introduction to Psychology College Algebra Islamic Studies (R)	<b>Semester Two</b> Introduction to Financial Accounting Principles of Macroeconomics Principles of Marketing Calculus for Business Decisions Pakistan Studies (W) Entrepreneurial Leadership and Motivation (R)
<b>Semester Three</b> Intermediate Financial Accounting Persuasive and Analytical Writing for Business Comm. (E, W) IS Audit and Management (E) History of Ideas (W) Quantitative Business Analysis Social Advocacy and Community Service (E)	<b>Semester Four</b> Business and Professional Speech Introduction to Business Finance (R) Business Ethics Marketing Management (R) Quantitative Skills & Managerial Statistics Organizational Behavior (E)
<b>Semester Five</b> Introduction to ERP Systems Financial Institutions (E) Foreign Language I* Methods in Business Research (E) Human Resource Management (E) Cost and Management Accounting	<b>Semester Six</b> Financial Management Foreign Language II Production & Operations Management Consumer Behavior Corporate and Business Law CRM System and Applications (E)
<b>Semester Seven</b> Sales Management (E) Entrepreneurship and Small Business Management Analysis of Pakistani Industries (R) Elective I Elective II Elective III	<b>Semester Eight</b> Pakistan Economic Policy OR Seminar in Economic Policy (R) Strategic Management (R) Brand Management (R) Elective IV Elective V Elective VI Internship (2 credit hours)

\* Six units of a foreign language course complete the language sequence.



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## BS (HONORS) ECONOMICS AND FINANCE

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The BS (Honors) is designed to instill in students academic skills necessary for a professional career in Finance and Economics. It requires completion of 144 credit hours of course work and 2 credit hours of internship of at least six weeks in a firm approved by the Institute. Students graduating with a CGPA of 2.5 automatically qualify for MBA program offered by CBM. Students must take a minimum load of twelve credit hours (four courses) or a maximum load of eighteen credit hours (six courses) in a semester. In order to obtain the BS degree in 4 years, a student is required to cover twelve courses in a year. Full load of six courses can be taken each in Fall and Spring semesters with an option of four courses in the latter and making up for the shortfall in the Summer session.

### Required Courses

#### Accounting

- ACC101 Introduction to Financial Accounting
- ACC201 Intermediate Financial Accounting
- ACC503 Taxation

#### Communication

- COM107 Academic English
- COM202 Business and Professional Speech
- COM203 Methods in Business Writing

#### Economics

- ECO101 Principles of Microeconomics
- ECO102 Principles of Macroeconomics
- ECO103 Intermediate Microeconomics
- ECO105 Intermediate Macroeconomics
- ECO301 Managerial Economics
- ECO302 International Trade
- ECO303 Financial Economics
- ECO304 Introduction to Econometrics
- ECO305 Topics in Microeconomics
- ECO306 Topics in Macroeconomics
- ECO307 Monetary Theory and Policy
- ECO402 Pakistan Economic Policy
- ECO406 Money and Banking

#### Finance and Banking

- FIN201 Introduction to Business Finance
- FIN202 Financial Management
- FIN301 Financial Institutions
- FIN305 Internet Banking and EPS
- FIN503 Corporate Finance
- FIN504 International Finance
- FIN505 Treasury and Fund Management





FIN506 Investment Banking and Security Analysis  
FIN507 Portfolio Management  
FIN509 Financial Derivatives  
FIN513 Project Appraisal

### Human Resource Management

HRM301 Human Resource Management

### Language

LAN 10\* Foreign Language I

LAN 20\*\* Foreign Language II

\*1 = Introduction to Arabic      \*2 = Introduction to French  
\*3 = Introduction to Spanish      \*4 = Introduction to German  
\*5 = Introduction to Japanese      \*6 = Introduction to Italian  
\*7 = Introduction to Russian      \*8 = Introduction to Chinese

\*\*1 = Intermediate Arabic      \*\*2 = Intermediate French  
\*\*3 = Intermediate Spanish      \*\*4 = Intermediate German  
\*\*5 = Intermediate Japanese      \*\*6 = Intermediate Italian  
\*\*7 = Intermediate Russian      \*\*8 = Intermediate Chinese

### Law

LAW401 Business Law

### Management

MAN101 Principles of Management  
MAN302 Organizational Behavior  
MAN403 Entrepreneurship and Small Business Management

### Management Information Systems

MIS402 Computer Concepts and Applications

### Marketing

MKT301 Principles of Marketing  
MKT404 Methods in Business Research

### Mathematics

MTH101 College Algebra  
MTH103 Calculus for Business Decisions

### Political Sciences

PSC301 Pakistan Studies

### Religious Studies

REL101 Islamic Studies

### Social Sciences

SSC101 Introduction to Psychology  
SSC201 Policy Studies\*  
SSC202 Environmental Studies\*

*\*Students can either opt for the two foreign language courses or Policy Studies and Environmental Studies. However, they will not be allowed to take one foreign Language and Policy Studies or Environmental Studies.*



*From the day of orientation till graduation, the journey at IoBM has been dynamically challenging yet rewarding. Being a recipient of gold medal and having the opportunity to represent IoBM at Bilkent University Turkey as an exchange student, it's a dream turned to reality. I take pride in calling myself an IoBM graduate because the institute not only gives a platform for students to learn and explore their utmost potential, but also motivates them through scholarships and fosters personal development by transforming mindsets that pass the threshold to stand out in corporate sector. The courses taught at IoBM have helped me to increase my knowledge while remolding my perspective.*

*All this would not have been possible without the constant support of my professors, family and friends who made this 4 year journey full of everlasting joyous memories.*

**Anum Alnoor**  
Gold Medalist





### Statistics

STA203	Probability Theory and Statistics
STA301	Model and Inference
STA302	Methods of Data Analysis

### Course Structure

<b>Semester One</b> Academic English Principles of Microeconomics Foreign Language I or Policy Studies Computer Concepts and Applications College Algebra Islamic Studies	<b>Semester Two</b> Introduction to Financial Accounting Methods in Business Writing Principles of Macroeconomics Foreign Language II or Environmental Studies Calculus for Business Decisions Intermediate Microeconomics
<b>Semester Three</b> Intermediate Financial Accounting Business and Professional Speech Probability Theory and Statistics Business Law Introduction to Psychology Principles of Management	<b>Semester Four</b> Intermediate Macroeconomics Internet Banking and EPS Introduction to Business Finance Principles of Marketing Pakistan Studies Model and Inference
<b>Semester Five</b> International Trade Introduction to Econometrics Money and Banking Financial Management Financial Institutions Methods of Data Analysis	<b>Semester Six</b> Managerial Economics Financial Economics Corporate Finance Entrep. & Small Business Management Organizational Behavior Methods in Business Research
<b>Semester Seven</b> Taxation Topics in Microeconomics Monetary Theory and Policy International Finance Portfolio Management Human Resource Management	<b>Semester Eight</b> Topics in Macroeconomics Pakistan Economic Policy Treasury and Fund Management Investment Banking & Security Analysis Financial Derivatives Project Appraisal Internship (2 credit hours)

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## BS (HONORS) ACCOUNTING AND FINANCE

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BS (Honors) in Accounting and Finance prepares graduates for careers in accounting and finance professions, such as banking and corporate finance. It requires completion of 144 credit hours of course work and 2 credit hours of internship of at least six weeks in a firm approved by the Institute. Students graduating with a CGPA of 2.5 automatically qualify for the MBA program offered by CBM. Students obtaining the BS (Accounting and Finance) degree have been granted exemption from five ACCA examination papers by ACCA, UK. CFA Scholarship also awarded to this program candidates upto three scholarship in a year. Students must take a minimum load of twelve credit hours (four courses) or a maximum load of eighteen credit hours (six courses) in a semester. In order to obtain the BS degree in 4 years, a student is required to cover twelve courses in a year. Full load of six courses can be taken each in the Fall and Spring semesters with an option of four courses in the latter and making up the shortfall in the Summer Session.

### Required Courses

#### Accounting

- ACC101 Introduction to Financial Accounting
- ACC201 Intermediate Financial Accounting
- ACC301 Cost Accounting
- ACC302 Accounting and Financial Information System
- ACC405 Internal Auditing and EDP Accounting
- ACC501 Advanced Financial Accounting
- ACC502 Advanced Managerial Accounting
- ACC503 Taxation
- ACC505 Auditing

#### Communications

- COM107 Academic English
- COM202 Business and Professional Speech
- COM203 Methods in Business Writing

#### Economics

- ECO101 Principles of Microeconomics
- ECO102 Principles of Macroeconomics
- ECO301 Managerial Economics
- ECO402 Pakistan Economic Policy
- ECO406 Money and Banking

#### Finance and Banking

- FIN201 Introduction to Business Finance
- FIN202 Financial Management
- FIN301 Financial Institutions
- FIN305 Internet Banking and EPS
- FIN403 Islamic Banking and Finance
- FIN503 Corporate Finance
- FIN504 International Finance





FIN505 Treasury and Fund Management  
 FIN506 Investment Banking and Security Analysis  
 FIN507 Portfolio Management  
 FIN509 Financial Derivatives  
 FIN511 Analysis of Financial Statements  
 FIN513 Project Appraisal

**Human Resource Management**

HRM301 Human Resource Management

**Language**

LAN 10\* Foreign Language I

LAN 20\*\* Foreign Language II

*1 = Introduction to Arabic	*2 = Introduction to French
*3 = Introduction to Spanish	*4 = Introduction to German
*5 = Introduction to Japanese	*6 = Introduction to Italian
*7 = Introduction to Russian	*8 = Introduction to Chinese

**1 = Intermediate Arabic	**2 = Intermediate French
**3 = Intermediate Spanish	**4 = Intermediate German
**5 = Intermediate Japanese	**6 = Intermediate Italian
**7 = Intermediate Russian	**8 = Intermediate Chinese

**Law**

LAW401 Business Law

**Management**

MAN101 Principles of Management  
 MAN302 Organizational Behavior  
 MAN403 Entrepreneurship and Small Business Management

**Management Information Systems**

MIS402 Computer Concepts and Applications

**Marketing**

MKT301 Principles of Marketing  
 MKT404 Methods in Business Research

**Mathematics**

MTH101 College Algebra  
 MTH103 Calculus for Business Decisions

**Political Sciences**

PSC301 Pakistan Studies

**Religious Studies**

REL101 Islamic Studies

**Social Sciences**

SSC101 Introduction to Psychology  
 SSC201 Policy Studies\*  
 SSC202 Environmental Studies\*



*\*Students can either opt for the two foreign language courses or Policy Studies and Environmental Studies. However, they will not be allowed to take one Foreign Language and Policy Studies or Environmental Studies.*



### Statistics

STA203 Probability Theory and Statistics

STA301 Model and Inference

STA302 Methods of Data Analysis

### Course Structure

<p><b>Semester One</b> Academic English Principles of Microeconomics Foreign Language I or Policy Studies Computer Concepts and Applications College Algebra Islamic Studies</p>	<p><b>Semester Two</b> Introduction to Financial Accounting Methods in Business Writing Principles of Macroeconomics Foreign Language II or Environmental Studies Calculus for Business Decisions Pakistan Studies</p>
<p><b>Semester Three</b> Intermediate Financial Accounting Business and Professional Speech Probability Theory and Statistics Business Law Principles of Marketing Introduction to Psychology</p>	<p><b>Semester Four</b> Accounting &amp; Financial Info. Systems Internal Audit &amp; EDP Accounting Introduction to Business Finance Internet Banking &amp; EPS Model and Inferences Principles of Management</p>
<p><b>Semester Five</b> Advanced Financial Accounting Managerial Economics Financial Management Financial Institutions Money and Banking Methods of Data Analysis</p>	<p><b>Semester Six</b> Cost Accounting Corporate Finance Treasury &amp; Fund Management Islamic Banking and Finance Organizational Behavior Methods in Business Research</p>
<p><b>Semester Seven</b> Advanced Managerial Accounting Analysis of Financial Statements Portfolio Management International Finance Human Resource Management Entrep. &amp; Small Business Management</p>	<p><b>Semester Eight</b> Auditing Taxation Pakistan Economic Policy Investment Banking &amp; Security Analysis Financial Derivatives Project Appraisal Internship (2 credit hours)</p>



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## BS SOCIAL ENTREPRENEURSHIP AND SOCIAL LEADERSHIP

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BS Social Entrepreneurship and Social Leadership program inspires and equips graduates to demonstrate leadership through creation of sustainable social advocacy enterprises focused on solving real life problems. This is an innovative and fully experiential learning program focusing on PBL; Project Based Learning and Problem Based Learning. It provides an inter-disciplinary understanding of real life problems from humanities and liberal arts perspectives, and additionally enables students to envision and create enterprise solutions through managerial and leadership skills imparted in the program. The projects involve field work to explore real life social enterprises advocating solutions in areas such as education, health, violence, poverty, women empowerment, environment and “glocalization”. These projects integrate course work of leadership and enterprise management studies with perspectives from several inter-linked subject areas such as philosophy, psychology, history, sociology, economy, power, culture, religion, ethics, arts, literature and aesthetics. This integration enables students to design sustainable solutions to local challenges that reflect their internal desires to benefit themselves and the community and that can give them confidence to take on the global challenges.

It requires completion of 144 credit hours of course work in a total of 8 semesters or 4 years. Student’s graduation with CGPA of 2.5 automatically qualifies for MBA program offered by CBM. Students must complete an internship and comprehensive exam as part of their degree requirements.

### Distinctive Feature of the Program:

- **Experiential Learning:** Learning by doing via PBL; Project based Learning and Problem Based Learning: Eight thematic projects on real life problems. Projects are exploratory and descriptive during the earlier part of the program and are prescriptive and implementation oriented during the later semesters.
- **Focus on Social Problems:** During each semester, students work on a major project dealing with a real life problem. Each thematic project consists of multiple sub-projects corresponding to the six threads linking the courses across the semesters:

Semester-1: Foundational Projects

Semester-2: Education related project

Semester-3: Health related project

Semester-4: Poverty or development related project

Semester-5: Environment related project

Semester-6: Violence related project

Semester-7: Globalization related project

Semester-8: Capstone Projects

- **Course design:** Courses designed around PBL sub-projects with deliverables requiring application, analysis/evaluation and creation levels of Bloom’s taxonomy
- **Integrated curriculum:** Courses in each thread integrate perspectives from multiple subject areas. Every semester has a course from each one of the following threads:



- Thread-1: Philosophical/Psychological thread explores the problem areas from different schools of thoughts.  
 Thread-2: Historical perspectives of socio-economic and power structures of the area across civilizations and ages  
 Thread-3: Ethics, Cultural and Religious perspectives of the selected problem area  
 Thread-4: Aesthetics, artistic and literary expression of the selected problem area  
 Thread-5 Social enterprise management thread covers management, HR, finance, marketing negotiations, and strategies.  
 Thread-6: Leadership thread covers from personal mastery to the development of change and ethical leadership

- **Portfolio based assessment:** Self Assessment, Peer Assessment, Teacher Assessment and External Assessment of the assignments and projects executed by students
- **Pedagogy:** Faculty members are project supervisors, facilitators and mentors rather than lecturers
- **Field Work:** The program consists of extensive field work, visits, surveys, and internships with social work organizations spanning around two months every year spread over two major semesters
- **Capstone Projects:** 18 credit hours of projects spread over 7th and 8th semester, requiring establishment of a functioning social enterprise

## Required Courses

### Social Entrepreneurship: Philosophical and Psychological Perspectives

- PPP101 Research Methodology for Social Projects  
 PPP102 Philosophy and Psychology of Education  
 PPP201 Philosophy and Psychology of Human Nature  
 PPP202 Philosophy of Development and Psychology of Poverty  
 PPP303 Anthropocentricity and Environment  
 PPP304 Violence, Will and Human Psyche: A Critical Investigation  
 PPP401 Neoliberal Foundations of Globalization

### History of Socio-Economic and Power Structures

- HSP101 History of Social Advocacy: Pakistan and Subcontinent  
 HSP102 Socio-Economic and Political Dynamics of Education in History  
 HSP201 Historical Foundations of Health Care Institutions  
 HSP202 Socioeconomic, Political Institutions and History of Development  
 HSP301 Socioeconomic Transformation and Threat to Environment  
 HSP302 History and Kinds of Violence: Socio-Economic and Power Structures  
 HSP401 Socioeconomics and Political Impacts of "Glocalization"

### Social Entrepreneurship; Aesthetics, Arts and Literature - Studio Based Workshops

- AAL101 Photography and Documentary in Advocacy  
 AAL102 Computer Arts and Graphics Designing for Advocacy  
 AAL201 Recitations/Readings Related to Health and Well Being  
 AAL202 Poverty/Development: Advocacy through Performing Arts  
 AAL301 Literary Writings and Expression as Antidote to Violence  
 AAL302 Street Art/Art Activism for Environmental Awareness  
 AAL401 Aesthetics Approach to Urbanization and Ghettos

### Social Entrepreneurship; Socio-Cultural & Religious Context

- SCR101 Ethics and Society: Islamic Perspective  
 SRC102 Creativity, Novelty and Beauty via Education  
 SRC201 Health Issues Across Cultures and Ideologies/Language-1  
 SRC202 Poverty and Women Empowerment/Language-2  
 SRC301 Artificial vs Natural/Self Sustainable Design  
 SRC302 Cultural Roots of Violence: Religion and Ethics  
 SRC401 Fusion of Global and Local Horizons, Emerging Trends in Fashion and Design



## Social Entrepreneurship; Study of Social Enterprises and Management

- SEM101 Results Based Project Management
- SEM102 Social Enterprises in Education: HRM
- SEM201 Study of Social Enterprises in Health care: Operations and Processes
- SEM202 Study of Social Enterprises: Finances and Accounting
- SEM301 Study of Social Enterprises: Marketing
- SEM302 Conflict Management and Negotiation Skills
- SEM401 Strategic Issues of Social Enterprises

### Social Entrepreneurship; Challenge of Leadership

- MAN307 Entrepreneurial Leadership and Motivation
- SEM104 Case Study of Role Models in Education
- SEM203 Leadership in Healthcare
- SEM204 Leadership in Social Transformation
- SEM303 Leadership in Environmental Project
- SEM304 Leadership issues in violent areas
- SEM402 Sustainability of a Social Enterprise

### Capstone Projects

- SCP501 Capstone Project I
- SCP502 Capstone Project II
- SCP503 Capstone Project III
- SCP504 Capstone Project IV
- SCP505 Capstone Project V
- SCP506 Capstone Project VI

## Course Structure

<p><b>Semester One</b> <b>Foundational Projects</b> Research Methodology for Social Projects History of Social Advocacy: Pakistan and Subcontinent Photography and Documentary in Advocacy Ethics and Society: Islamic Perspectives Results Based Project Management Entrepreneurial Leadership and Motivation</p>	<p><b>Semester Two</b> <b>Project on Educational Issue</b> Philosophy and Psychology of Education Social, Political &amp; Economic Dynamics of Education in History Computer Arts and Graphics Designing for Advocacy Creativity, Novelty and Beauty Via Education Social Enterprise in Education: HRM Education System Development Project</p>
<p><b>Semester Three</b> <b>Project on Health Issue</b> Philosophy and Psychology of Human Nature Historical Foundations of Health Care Institutions Recitations/Readings Related to Health and Well Being Health Issues Across Cultures and Ideologies Study of Social Enterprises in Health Care: Operations Leadership in Health Care</p>	<p><b>Semester Four</b> <b>Project on Poverty / Development Issue</b> Philosophy of Development and Psychology of Poverty Socioeconomic, Political Institutions &amp; History of Development Poverty/Development Advocacy through Performing Arts Poverty and Women Empowerment Study of Social Enterprises: Finances and Accounting Leadership in Social Transformation</p>
<p><b>Semester Five</b> <b>Project on Environment Issue</b> Anthropocentricity and Environment Socioeconomic Transformation and Threat to Environment Literary Writing and Expression of Environmental Impact Artificial vs Natural/Self Sustainable Design Study of Social Enterprises: Marketing Leadership in Environmental Projects</p>	<p><b>Semester Six</b> <b>Project on Violence Issue</b> Violence, Will and Human Psyche: A Critical Investigation History and Kinds of Violence: Socio-Economic and Power Structures Street Art/Art Activism as Antidote to Violence Cultural Roots of Violence: Religion and Ethics Conflict Management and Negotiation Skills Leadership Issues in Violent Areas</p>
<p><b>Semester Seven</b> <b>Capstone / Globalization Project</b> Neoliberal Foundations of Globalization Socioeconomics and Political Impacts of "Glocalization" Aesthetics Approach to Urbanization and Ghettos Capstone Project-1 Capstone Project-2 Capstone Project-3</p>	<p><b>Semester Eight</b> <b>Capstone / Globalization Project</b> Fusion of Global &amp; Local Horizons; Trends in Fashion &amp; Design Strategic Issues of Social Enterprises Sustainability of a Social Enterprise Capstone Project-4 Capstone Project-5 Capstone Project-6</p>





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## OVERVIEW OF MBA PROGRAMS

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The MBA program is designed to produce transformational, ethical and change leadership for businesses and industry through integrated curriculum and experiential learning and prepares graduates for business challenges emerging from globalization, connectivity and technology driven innovations. The program is designed to produce a skilled pool of business leaders possessing a solid set of multidisciplinary expertise.

A distinguishing feature of the program is the academic ecosystem of experiential learning which immerses the student in a cycle of “learning by doing” through reflection. Case studies and project work are among the pedagogies used for delivery of the curriculum content. A significant value adding feature is the 6 credit hours of a Graduate Capstone Project divided into two 3 credit hour components. Students undertake, individually or in small groups, a real life project with a company that addresses a real life issue which, through the application of multidisciplinary knowledge and skills acquired during the MBA studies, helps in more profitable and competitive decision making and implementation in the organization. This project is jointly supervised and evaluated by a faculty member with aligned skills and interest and an industry mentor and is evaluated in an open exhibition by executives and faculty. Capstone Project report has to be converted into a publishable case study as a part of the degree requirement.

The standard MBA program is a 72 credit hours program that most students can complete in two years. It is designed for students having a minimum of 16 years of education with degrees in a wide range of disciplines such as business, commerce, engineering, law, science, medicine, arts and pharmacy.

The program is divided into a foundation stage of 36 credit hours followed by the 36-credit hours of rigorous MBA level courses and a project dealing with strategy and business transformation.

The foundation stage covers areas such as accounting, finance, marketing, economics and management and consists of preparatory course work necessary for the higher level MBA courses. The MBA stage refers to the HEC compliant MS/MBA program requirements.





There are two strands of the standard MBA program; MBA Program with Specializations and Specialized MBA programs.

- MBA Program with specializations allows the students to specialize in majors such as Marketing, Finance, Human Resource Management, Logistics and Supply Chain Management and Development Studies. Credit hour requirements for this program may vary in accordance with the duration of the previous qualification and the amount of relevant foundational background for the MBA stage:
  - MBA Program for applicants with 14 years education is of 108 credit hours. It consists of a foundational stage of minimum 2 years and consists of 72 credit hours followed by 36 credit hours of rigorous MBA level courses. Students completing the 2-year foundational stage are eligible for a Bachelor of Business Studies (BBS) degree.
  - MBA Program for applicants with 4-year bachelor degree from IoBM in business related disciplines such as BBA (Honors), BS Joint (Honors), BS (Honors) Accountancy, Management & Law are exempted from the foundational stage, and their MBA program is of 36 credit hours.
  - MBA Program for applicants with 4-years bachelors degree from IoBM in non-business disciplines are exempted from up to 6 equivalent courses of the foundational stage done at IoBM.
- Specialized MBA Programs are all of 72 credit hours and share the structural guidelines of the standard MBA program with coverage of the foundational courses in the areas such as Economics, Quantitative, Communication, Research, Management, Marketing, Finance, Accounting etc and retain the emphasis on strategy core courses at the MBA level. The specialized MBA Programs include:
  - MBA Educational Management
  - MBA Media Management
  - MBA Industrial Management
  - MBA Environment and Energy Management
  - MBA Finance and Risk Management
  - MBA Logistics and Supply Chain Management
  - MBA Health and Hospital Management



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## MBA AFTER BBA (HONORS), BS JOINT (HONORS) AND BS (HONORS) ACCOUNTANCY MANAGEMENT & LAW

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The program is designed to produce transformational, ethical and change leadership for businesses and industry through integrated curriculum and experiential learning and prepares graduates for business challenges emerging from globalization, connectivity and technology driven innovations. The program is designed to produce a skilled pool of business leaders possessing a solid set of multidisciplinary expertise in the core corporate functions of Finance, Marketing, HRM and Management.

This Program consists of 36-credit hours of rigorous MBA level courses dealing with strategy and business transformation and includes a Capstone Project. Students who have obtained their BBA and BS Joint (Honors) degree from CBM, are exempted from the 36 credit hours of the foundation stage of the standardized 72 credit hour MBA Program. An MBA student is required to take 10 courses, a Capstone Project of 6 credit hours and clear a comprehensive examination in order to complete the degree requirements. Students must maintain a 3.0 CGPA for conferment of the degree. Minimum duration of this program is 1.5 years.

A distinguishing feature of the program is the academic ecosystem of experiential learning which immerses the student in a cycle of “learning by doing” through reflection. Case studies and project work are among the pedagogies used for delivery of the curriculum content. A significant value adding feature of the CBM MBA is the 6 credit hours of a Graduate Capstone Project divided into two 3 credit hour components. Students undertake, individually or in small groups, a real life project with a company that addresses a real life issue which, through the application of multidisciplinary knowledge and skills acquired during the MBA studies, helps in more profitable and competitive decision making and implementation in the organization. This project is jointly supervised and evaluated by a faculty member with aligned skills and interest and an industry mentor and is evaluated in an open exhibition by executives and faculty. The Capstone Project report has to be converted into a publishable case study as a part of the degree requirement.

*Students are eligible to take two electives from BBA Program provided they have not taken those electives in BBA.*

MBA students can specialize in the following areas:

- Marketing
- Finance
- Human Resource Management
- Logistics and Supply Chain Management
- Development Studies
- Islamic Banking and Finance

### Required Course

#### Finance

FIN601\* Strategic Financial Analysis and Design

#### Human Resource Management

HRM606\* Leadership, Ethics and Change



*My four years at IoBM have been eventful. I cannot thank Allah enough for bestowing His grace upon me always. IoBM provided me with 100% merit scholarship throughout my Bachelor's program. I was honored with a Gold Medal for maintaining the highest CGPA in BBA(H), and I was privileged to be the Valedictorian of the graduating batch 2015. I owe all my achievements to my mother, to the management and to the entire faculty of IoBM. I was provided with the opportunity to explore Turkey by being an exchange student at Bilkent University, Turkey. IoBM did not only make me learn subject courses, but also helped me groom myself, build my confidence, and prepared me to face all challenges of life.*

**Asfia Aziz**  
Gold Medalist



## Management

MAN604\* Management Strategies and Emerging Organizations  
MAN606\* Business Analytics for Decision Making  
MAN608\* Technology, Operations and Innovation

## Marketing

MKT601\* Marketing Strategies and Value Innovation

## Capstone Project

BPR601\* Capstone Project I  
BPR602\* Capstone Project II

## Business Elective Courses

Students may choose 4 elective courses from the following specializations. They can also select from BBA (Hons) electives (maximum two courses) of 500 level or above:

### Majors in Accounting

ACC601 Advanced Financial Accounting  
ACC602 Advanced Managerial Accounting  
ACC603 Auditing  
ACC604 Analysis of Financial Statements

### Majors in Finance and Banking

FIN602 Behavioral Finance  
FIN603 Entrepreneurial Finance  
FIN608 Project Appraisal  
FIN610 Debt and Equity Markets  
FIN612 SME and Micro-Financing  
FIN613 Financial Modeling for Decision Making  
FIN614 Financial Derivatives and Risk Management

### Majors in Human Resource Management

HRM607 Recruitment and Selection  
HRM608 Industrial Relations and Labor Laws  
HRM609 Employee Training and Development  
HRM610 Negotiation Skills  
HRM611 Organizational Change and Development  
HRM612 Strategic Human Resource Management  
HRM615 Leadership Studies  
HRM614 Salary and Compensation  
HRM616 Performance Appraisal and Management  
HRM617 HR Analytics



### Majors in Management Information Systems

MIS509 Software Project Management  
MIS523 Decision Systems  
MIS524 Decision Support Systems  
MIS525 Enterprise Systems  
MIS526 Enterprise Resource Planning Systems  
MIS527 Information Security  
MIS528 Advanced Information Security  
MIS530 Information Systems Research  
MIS532 New Perspectives on Organization Information Systems  
MIS533 Big Data and Business Analytics

### Majors in Development Studies

SSC601 Dimensions of Development  
SSC602 Development Sociology  
PDE703 Development Economics  
STA601 Development Statistics and Research Methodology  
MAN607 Project and Planning Management

### Majors in Management

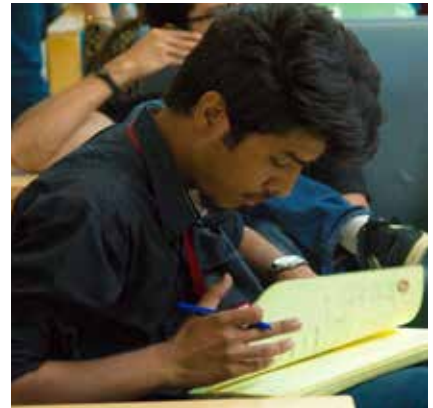
MAN610 Environmental Issues and Management  
MAN611 Project Management  
MAN613 Corporate Governance  
MAN614 Comparative Management  
MAN615 Corporate Social Responsibility

### Majors in Islamic Banking and Finance

ISF601 Economics for Islamic Finance  
ISF602 Islamic Banking Practices  
ISF603 Accounting for Islamic Finance  
ISF604 Islamic Financial Services Marketing  
ISF605 Islamic Capital Markets  
ISF606 International Islamic Finance Standards  
FRM514 Takaful and Risk Management in Islamic Products

### Majors in Marketing

- MKT501 Strategic Marketing and Planning
- MKT602 Marketing Analytics
- MKT605 Pricing Models and Strategies
- MKT611 Integrated Marketing Communications
- MKT613 Marketing of Financial Services
- MKT615 Brand Management
- MKT618 Advertising Management and Strategy
- MKT620 Competitive Strategies
- MKT621 Marketing Strategies for Emerging Economies
- MKT622 Marketing Strategies for Bottom of the Pyramid (BOP)
- MKT623 Pharmaceutical Marketing & Quality Assurance / MHM508/608
- MKT625 Business to Business Marketing
- MKT626 Marketing for Social Impact



### Majors in Logistics and Supply Chain Management

- SCM601 Quantitative Methods in Production and Logistics
- SCM602 Business Process Mgmt. in Supply Chain & Logistics
- SCM603 IT Applications in Logistics
- SCM604 Packaging Design and Environmental Aspects
- SCM605 Supply Chain Management
- SCM606 ERP Systems Design and Implementation
- SCM607 Strategic Supply Chain Management
- SCM608 Procurement and Inventory Management
- SCM609 Storage and Warehouse Techniques
- SCM610 Transportation Techniques and Management
- SCM611 Sustainability & Env. Aspects in Managing Supply Chains
- SCM612 Risk Management in Supply Networks
- SCM613 Innovation Management in Supply Chain and Logistics
- SCM614 Corporate Consultancy Project in Logistics
- SCM615 Contract Management for Supply Chain & Negotiations
- SCM616 Life Cycle Enterprise Asset Management
- SCM617 Mobile Commerce and Mobile Logistics

The SCM specialization is based on internationally recognized curricula and is being run in collaboration with German experts. The added feature of the program is training on SAP® ERP system. There are tremendous job opportunities in the field of supply chain and logistics. MBA graduates can select four elective courses offered in the area of Supply Chain & Logistics Management.

### Course Structure

<b>Semester One</b> Management Strategies and Emerging Organizations Marketing Strategies and Value Innovation Elective I Elective II	<b>Semester Two</b> Technology, Operations and Innovation Strategic Financial Analysis and Design Elective III Elective IV
<b>Semester Three</b> Business Analytics for Decision Making Leadership, Ethics and Change Capstone Project I	<b>Semester Four</b> Capstone Project II

## MBA PROGRAM FOR STUDENTS WITH 16 YEARS EDUCATION



*Joining the Media Studies program at IoBM has been of the best decisions of my life. During the four years of my degree not only I gained insight on media industry but it also helped me grow as a person.*

*The course work was congruent with what is out in the field. The production courses enabled me to make documentaries, short films, and the skills honed by our teachers helped me become a better writer. The teachers sometimes gave us tough time which now has made me competent enough to be perfect when it comes to meet the demands of my work. The BS Media program kept evolving which made me understand how the dynamics of journalism are being reshaped.*

**Areesha Mazhar**

The program is designed to produce transformational, ethical and change leadership for businesses and industry through integrated curriculum and experiential learning and prepares graduates for business challenges emerging from globalization, connectivity and technology driven innovations. The program is designed to produce a skilled pool of business leaders possessing a solid set of multidisciplinary expertise in the core corporate functions of Finance, Marketing, HRM and Management.

The program is a 72 credit hours program that most students can complete in two years. It is designed for students having a minimum of 16 years of education with degrees in a wide range of disciplines such as business, commerce, engineering, law, science, medicine, arts and pharmacy. The 72 credit hours MBA program is divided into a foundation stage of 36 credit hours followed by the 36-credit hours of rigorous MBA level courses and project dealing with strategy and business transformation. The foundation stage covers areas such as accounting, finance, marketing, economics and management and consists of preparatory course work necessary for the higher level MBA courses. The students are also expected to complete 2 credit hours of internship of at least six weeks in an approved firm and the comprehensive examination. Students must maintain a 3.0 CGPA for MBA level courses and project for the conferment of the degree. The program may be completed in a minimum of two years depending upon the relevant preparation. Students who are weak in English and communication skills are required to take an additional Business English course to enhance their proficiency in the language. Students need to clear a comprehensive examination in order to complete the degree requirements.

A distinguishing feature of the program is the academic ecosystem of experiential learning which immerses the student in a cycle of “learning by doing” through reflection. Case studies and project work are among the pedagogies used for delivery of the curriculum content. A significant value adding feature of the CBM MBA is the 6 credit hours Graduate Capstone Project divided into two 3 credit hour components. Students undertake, individually or in small groups, a real life project with a company that addresses a real life issue which, through the application of multidisciplinary knowledge and skills acquired during the MBA studies, helps in more profitable and competitive decision making and implementation in the organization. This project is jointly supervised and evaluated by a faculty member with aligned skills and interest and an industry mentor and is evaluated in an open exhibition by executives and faculty. The Capstone Project report has to be converted into a publishable case study as a part of the degree requirement.

MBA students can specialize in the following areas by taking four electives:

- Marketing
- Management
- Finance
- Human Resource Management
- Logistics and Supply Chain Management
- Development Studies
- Islamic Banking and Finance

***Applicants with 4-year bachelor's degree from IoBM in non-business disciplines can claim up to 6 course exemptions from the foundational stage for the equivalent courses completed in the bachelor program.***



## Required Courses

### Accounting

ACC419 Financial Accounting

### Communication

COM107\*Academic English

COM402 Business Communication

\*Less Proficient Students

### Economics

ECO409 Business Economics

### Finance

FIN408 Theory and Practice of Financial Management

FIN601\* Strategic Financial Analysis and Design

### Human Resource Management

HRM410 Managing Human Capital

HRM606\*Leadership, Ethics and Change

\* Indicates MBA level courses

## Specialized Courses

MBA students have a choice of four electives from the following disciplines. They can also select from BBA (Hons) electives at most two courses of 500 level or above.

### Majors in Accounting

ACC601 Advanced Financial Accounting

ACC602 Advanced Managerial Accounting

ACC603 Auditing

ACC604 Analysis of Financial Statements

### Marketing Electives for MBA

MKT501 Strategic Marketing and Planning

MKT602 Marketing Analytics

MKT605 Pricing Models and Strategies

MKT611 Integrated Marketing Communications

MKT613 Marketing of Financial Services

MKT615 Brand Management

MKT618 Advertising Management and Strategy

MKT620 Competitive Strategies

MKT621 Marketing Strategies for Emerging Economies

MKT622 Marketing Strategies for Bottom of the Pyramid (BOP)

MKT623 Pharmaceutical Marketing & Quality Assurance /  
MHM508/608

MKT625 Business to Business Marketing

MKT626 Marketing for Social Impact

### Law

LAW409 Corporate and Business Law

### Management

MAN403 Entrepreneurship and Small Business Management

MAN418 Management and Organizational Dynamics

MAN606\*Business Analytics for Decision Making

MAN608\*Technology, Operations and Innovation

MAN612\*Strategic Management

### Marketing

MKT402 Marketing Management

MKT404 Methods in Business Research

MKT509 Consumer Behavior

MKT601\* Marketing Strategies and Value Innovation

### Statistics and Mathematics

STA411 Quantitative Analysis for Decision Making

### Capstone Project

BPR601\* Capstone Project I

BPR602\* Capstone Project II

### Majors in Finance and Banking

FIN602 Behavioral Finance

FIN603 Entrepreneurial Finance

FIN608 Project Appraisal

FIN610 Debt and Equity Markets

FIN612 SME and Micro-Financing

FIN613 Financial Modeling for Decision Making

FIN614 Financial Derivatives and Risk Management

### Majors in Human Resource Management

HRM607 Recruitment and Selection

HRM608 Industrial Relations and Labor Laws

HRM609 Employee Training and Development

HRM610 Negotiation Skills

HRM611 Organizational Change and Development

HRM612 Strategic Human Resource Management

HRM615 Leadership Studies

HRM614 Salary and Compensation

HRM616 Performance Appraisal and Management

HRM617 HR Analytics

### Majors in Management

MAN610 Environmental Issues and Management

MAN611 Project Management

MAN613 Corporate Governance

MAN614 Comparative Management

MAN615 Corporate Social Responsibility



### Majors in Logistics and Supply Chain Management

- SCM601 Quantitative Methods in Production and Logistics
- SCM602 Business Process Mgmt. in Supply Chain & Logistics
- SCM603 IT Applications in Logistics
- SCM604 Packaging Design and Environmental Aspects
- SCM605 Supply Chain Management
- SCM606 ERP Systems Design and Implementation
- SCM607 Strategic Supply Chain Management
- SCM608 Procurement and Inventory Management
- SCM609 Storage and Warehouse Techniques
- SCM610 Transportation Techniques and Management
- SCM611 Sustainability & Env. Aspects in Managing Supply Chains
- SCM612 Risk Management in Supply Networks
- SCM613 Innovation Management in Supply Chain and Logistics
- SCM614 Corporate Consultancy Project in Logistics
- SCM615 Contract Management for Supply Chain & Negotiations
- SCM616 Life Cycle Enterprise Asset Management
- SCM617 Mobile Commerce and Mobile Logistics

### Majors in Development Studies

- SSC601 Dimensions of Development
- SSC602 Development Sociology
- PDE703 Development Economics
- STA601 Development Statistics and Research Methodology
- MAN607 Project and Planning Management

### Majors in Islamic Banking and Finance

- ISF601 Economics for Islamic Finance
- ISF602 Islamic Banking Practices
- ISF603 Accounting for Islamic Finance
- ISF604 Islamic Financial Services Marketing
- ISF605 Islamic Capital Markets
- ISF606 International Islamic Finance Standards
- FRM514 Takaful and Risk Management in Islamic Products

### Course Structure

<p><b>Foundation Stage</b> <b>Semester One</b> Management and Organizational Dynamics Marketing Management Financial Accounting Quantitative Analysis for Decision Making Business Economics Business Communication</p>	<p><b>Semester Two</b> Methods in Business Research Theory and Practice of Financial Management Consumer Behavior Corporate and Business Law Managing Human Capital Entrepreneurship and Small Business Management</p>
<p><b>MBA Stage</b> <b>Semester Three</b> Strategic Management Technology, Operations and Innovation Elective I Elective II</p>	<p><b>Semester Four</b> Marketing Strategies and Value Innovation Strategic Financial Analysis and Design Elective III Capstone Project I</p>
<p><b>Semester Five</b> Business Analytics for Decision Making Leadership, Ethics and Change Elective IV Capstone Project II</p>	



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## MBA PROGRAM FOR STUDENTS WITH 14 YEARS EDUCATION

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The program is designed to produce transformational, ethical and change leadership for businesses and industry through integrated curriculum and experiential learning and prepares graduates for business challenges emerging from globalization, connectivity and technology driven innovations. The program develops a skilled pool of business leaders possessing a solid set of multidisciplinary expertise in the core corporate functions of Finance, Marketing, HRM and Management.

This program is designed for students having 14 years of education with degrees in a wide range of disciplines such as business, commerce, law, science, and arts. The 108 credit hours MBA program is divided into a foundation stage of 72 credit hours followed by the 36-credit hours of rigorous MBA level courses and a capstone project dealing with strategy and business transformation. The foundation stage covers areas such as accounting, finance, marketing, economics and management and consists of preparatory course work necessary for the higher level MBA courses. The students are also expected to complete 2 credit hours of internship of at least six weeks in an approved firm and the comprehensive examination. Students completing 72 credit hours of the foundation stage are eligible for the grant of Bachelor of Business Studies (BBS) degree.



Students must maintain a 3.0 CGPA for MBA level courses for the conferment of the degree. The program may be completed in a minimum of 3.5 years depending upon the relevant preparation. Students who are weak in English and communication skills are required to take an additional Business English course to enhance their knowledge of the language. Students need to clear a comprehensive examination in order to complete the degree requirements.

A distinguishing feature of the program is the academic ecosystem of experiential learning which immerses the student in a cycle of “learning by doing” through reflection. Case studies and project work are among the pedagogies used for delivery of the curriculum content. A significant value adding feature of the CBM MBA is the 6 credit hours Graduate Capstone Project divided into two 3 credit hour components. Students undertake, individually or in small groups, a real life project with a company that addresses a real life issue which, through the application of multidisciplinary knowledge and skills acquired during the MBA studies helps in more profitable and competitive decision making and implementation in the organization. This project is jointly supervised and evaluated by a faculty member with aligned skills and interest and an industry mentor and is evaluated in an open exhibition by executives and faculty. The Capstone Project report has to be converted into a publishable case study as a part of the degree requirement.

MBA students can specialize in the following areas by taking four electives:

- Marketing
- Management
- Finance
- Human Resource Management
- Logistics and Supply Chain Management
- Development Studies
- Islamic Banking and Finance

### Required Courses

#### Accounting

ACC401 Introduction to Managerial and Cost Accounting

ACC419 Financial Accounting



### Communication

COM107<sup>+</sup> Academic English  
COM407 Business and Professional Speech  
COM408 Persuasive & Analytical Writing for Business Comm.  
<sup>+</sup>Less Proficient Students

### Economics

ECO405 Seminar in Economic Policy  
ECO409 Business Economics

### Law

LAW409 Corporate and Business Law

### Management

MAN308 Social Advocacy and Community Service  
MAN401 Principles of Management  
MAN402 Organizational Behavior  
MAN403 Entrepreneurship and Small Business Management  
MAN406 Production and Operations Management  
MAN415 Entrepreneurial Leadership and Motivation  
MAN606\* Business Analytics and Decision Making  
MAN608\* Technology, Operations and Innovation  
MAN612\* Strategic Management

*\*Indicates MBA level courses*

### Specialized Courses

MBA students have a choice of four electives from the following disciplines. They can also select from BBA (Hons) electives at most two courses of 500 level or above.

### Majors in Accounting

ACC601 Advanced Financial Accounting  
ACC602 Advanced Managerial Accounting  
ACC603 Auditing  
ACC604 Analysis of Financial Statements

### Majors in Finance and Banking

FIN602 Behavioral Finance  
FIN603 Entrepreneurial Finance  
FIN608 Project Appraisal  
FIN610 Debt and Equity Markets  
FIN612 SME and Micro-Financing  
FIN613 Financial Modeling for Decision Making  
FIN614 Financial Derivatives and Risk Management

### Majors in Islamic Banking and Finance

ISF601 Economics for Islamic Finance  
ISF602 Islamic Banking Practices  
ISF603 Accounting for Islamic Finance  
ISF604 Islamic Financial Services Marketing  
ISF605 Islamic Capital Markets  
ISF606 International Islamic Finance Standards  
FRM514 Takaful and Risk Management in Islamic Products

### Finance

FIN408 Theory and Practice of Financial Management  
FIN601\* Strategic Financial Analysis and Design

### Human Resource Management

HRM606\* Leadership, Ethics and Change  
HRM410 Managing Human Capital

### Marketing

MKT402 Marketing Management  
MKT403 Sales Management  
MKT404 Methods in Business Research  
MKT509 Consumer Behavior  
MKT601\* Marketing Strategies and Value Innovation

### Management Information Systems

MIS526 Introduction to Enterprise Resource Planning Systems

### Statistics and Mathematics

STA403 Statistics and Mathematics  
STA404 Statistical Inference

### Social Sciences

SSC301 History of Ideas  
SSC400 Organizational Psychology  
SSC401 Business Ethics

### Capstone Project

BPR601\* Capstone Project I  
BPR602\* Capstone Project II

### Marketing Electives for MBA

MKT501 Strategic Marketing and Planning  
MKT602 Marketing Analytics  
MKT605 Pricing Models and Strategies  
MKT611 Integrated Marketing Communications  
MKT613 Marketing of Financial Services  
MKT615 Brand Management  
MKT618 Advertising Management and Strategy  
MKT620 Competitive Strategies  
MKT621 Marketing Strategies for Emerging Economies  
MKT622 Marketing Strategies for Bottom of the Pyramid (BOP)  
MKT623 Pharmaceutical Marketing & Quality Assurance /  
MHM508/608  
MKT625 Business to Business Marketing  
MKT626 Marketing for Social Impact

**Majors in Human Resource Management**

HRM607 Recruitment and Selection  
 HRM608 Industrial Relations and Labor Laws  
 HRM609 Employee Training and Development  
 HRM610 Negotiation Skills  
 HRM611 Organizational Change and Development  
 HRM612 Strategic Human Resource Management  
 HRM615 Leadership Studies  
 HRM614 Salary and Compensation  
 HRM616 Performance Appraisal and Management  
 HRM617 HR Analytics

**Majors in Management**

MAN610 Environmental Issues and Management  
 MAN611 Project Management  
 MAN613 Corporate Governance  
 MAN614 Comparative Management  
 MAN615 Corporate Social Responsibility

**Majors in Development Studies**

SSC601 Dimensions of Development  
 SSC602 Development Sociology  
 PDE703 Development Economics  
 STA601 Development Statistics and Research Methodology  
 MAN607 Project and Planning Management

**Majors in Logistics and Supply Chain Management**

SCM601 Quantitative Methods in Production and Logistics  
 SCM602 Business Process Mgmt. in Supply Chain & Logistics  
 SCM603 IT Applications in Logistics  
 SCM604 Packaging Design and Environmental Aspects  
 SCM605 Supply Chain Management  
 SCM606 ERP Systems Design and Implementation  
 SCM607 Strategic Supply Chain Management  
 SCM608 Procurement and Inventory Management  
 SCM609 Storage and Warehouse Techniques  
 SCM610 Transportation Techniques and Management  
 SCM611 Sustainability & Env. Aspects in Managing Supply Chains  
 SCM612 Risk Management in Supply Networks  
 SCM613 Innovation Management in Supply Chain and Logistics  
 SCM614 Corporate Consultancy Project in Logistics  
 SCM615 Contract Management for Supply Chain & Negotiations  
 SCM616 Life Cycle Enterprise Asset Management  
 SCM617 Mobile Commerce and Mobile Logistics

**Course Structure**

<b>Foundation Stage</b> <b>Semester One</b> Persuasive and Analytical Writing for Business Communication Financial Accounting Principles of Management Marketing Management Statistics and Mathematics Organizational Psychology	<b>Semester Two</b> Business and Professional Speech Organizational Behavior Social Advocacy and Community Service Statistical Inference History of Ideas Business Economics
<b>Semester Three</b> Introduction to Managerial & Cost Accounting Corporate and Business Law Managing Human Capital Entrepreneurial Leadership and Motivation Consumer Behavior Methods in Business Research	<b>Semester Four</b> Introduction to Enterprise Resource Planning Systems Theory and Practice of Financial Management Business Ethics Seminar in Economic Policy Entrepreneurship and Small Business Management Sales Management
<b>MBA Stage</b> <b>Semester Five</b> Strategic Management Technology, Operations and Innovation Elective I Elective II	<b>Semester Six</b> Marketing Strategies and Value Innovation Strategic Financial Analysis and Design Elective III Capstone Project I
<b>Semester Seven</b> Business Analytics for Decision Making Leadership, Ethics and Change Elective IV Capstone Project II	



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## MBA WEEKEND PROGRAM FOR STUDENTS WITH 16 YEARS EDUCATION

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The program is designed to produce transformational, ethical and change leadership for businesses and industry through integrated curriculum and experiential learning and prepares graduates for business challenges emerging from globalization, connectivity and technology driven innovations. The program is designed to produce a skilled pool of business leaders possessing a solid set of multidisciplinary expertise in the core corporate functions of Finance, Marketing, HRM and Management.

The program is a 72 credit hours program that most students can complete in two years. It is designed for students having a minimum of 16 years of education with degrees in a wide range of disciplines such as business, commerce, engineering, law, science, medicine, arts and pharmacy. The program is divided into a foundation stage of 36 credit hours followed by the 36-credit hours of rigorous MBA level courses and a project dealing with strategy and business transformation. The foundation stage covers areas such as accounting, finance, marketing, economics and management and consists of preparatory course work necessary for the higher level MBA courses. Students must maintain a 3.0 CGPA for MBA level courses and project for the conferment of the degree. The program may be completed in a minimum of two years depending upon the relevant preparation. Students who are weak in English and communication skills are required to take an additional Business English course to enhance their knowledge of the language. Students need to clear a comprehensive examination in order to complete the degree requirements.

A distinguishing feature of the program is the academic ecosystem of experiential learning which immerses the student in a cycle of “learning by doing” through reflection. Case studies and project work are among the pedagogies used for delivery of the curriculum content. A significant value adding feature of the program is the 6 credit hours of a Graduate Capstone Project divided into two 3 credit hour components. Students undertake, individually or in small groups, a real life project with a company that addresses a real life issue which, through the application of multidisciplinary knowledge and skills acquired during the MBA studies, helps in more profitable and competitive decision making and implementation in the organization. This project is jointly supervised and evaluated by a faculty member with aligned skills and interest and an industry mentor and is evaluated in an open exhibition by executives and faculty. Capstone Project report has to be converted into a publishable case study as a part of the degree requirement.

MBA students can specialize in the following areas by taking four electives:

- Marketing
- Management
- Finance
- Human Resource Management
- Logistics and Supply Chain Management
- Development Studies
- Islamic Banking and Finance

***Applicants with 4-year bachelor's degree from IOBM in non-business disciplines can claim up to 6 course exemptions from the foundational stage for the equivalent courses completed in the bachelor program.***



## Required Courses

### Accounting

ACC419 Financial Accounting

### Communication

COM107<sup>+</sup> Academic English

COM402 Business Communication

<sup>+</sup>Less Proficient Students

### Economics

ECO409 Business Economics

### Finance

FIN408 Theory and Practice of Financial Management

FIN601\* Strategic Financial Analysis and Design

### Human Resource Management

HRM410 Managing Human Capital

HRM606\* Leadership, Ethics and Change

*\* Indicates MBA level courses*

## Specialized Courses

MBA students have a choice of four electives from the following disciplines. They can also select from BBA (Hons) electives at most two courses of 500 level or above.

### Majors in Accounting

ACC601 Advanced Financial Accounting

ACC602 Advanced Managerial Accounting

ACC603 Auditing

ACC604 Analysis of Financial Statements

### Marketing Electives for MBA

MKT501 Strategic Marketing and Planning

MKT602 Marketing Analytics

MKT605 Pricing Models and Strategies

MKT611 Integrated Marketing Communications

MKT613 Marketing of Financial Services

MKT615 Brand Management

MKT618 Advertising Management and Strategy

MKT620 Competitive Strategies

MKT621 Marketing Strategies for Emerging Economies

MKT622 Marketing Strategies for Bottom of the Pyramid (BOP)

MKT623 Pharmaceutical Marketing & Quality Assurance /  
MHM508/608

MKT625 Business to Business Marketing

MKT626 Marketing for Social Impact

### Law

LAW409 Corporate and Business Law

### Management

MAN403 Entrepreneurship and Small Business Management

MAN418 Management and Organizational Dynamics

MAN606\* Business Analytics for Decision Making

MAN608\* Technology, Operations and Innovation

MAN612\* Strategic Management

### Marketing

MKT402 Marketing Management

MKT404 Methods in Business Research

MKT509 Consumer Behavior

MKT601\* Marketing Strategies and Value Innovation

### Statistics and Mathematics

STA411 Quantitative Analysis for Decision Making

### Capstone Project

BPR601\* Capstone Project I

BPR602\* Capstone Project II

### Majors in Finance and Banking

FIN602 Behavioral Finance

FIN603 Entrepreneurial Finance

FIN608 Project Appraisal

FIN610 Debt and Equity Markets

FIN612 SME and Micro-Financing

FIN613 Financial Modeling for Decision Making

FIN614 Financial Derivatives and Risk Management

### Majors in Human Resource Management

HRM607 Recruitment and Selection

HRM608 Industrial Relations and Labor Laws

HRM609 Employee Training and Development

HRM610 Negotiation Skills

HRM611 Organizational Change and Development

HRM612 Strategic Human Resource Management

HRM615 Leadership Studies

HRM614 Salary and Compensation

HRM616 Performance Appraisal and Management

HRM617 HR Analytics

### Majors in Management

MAN610 Environmental Issues and Management

MAN611 Project Management

MAN613 Corporate Governance

MAN614 Comparative Management

MAN615 Corporate Social Responsibility





**Majors in Logistics and Supply Chain Management**

- SCM601 Quantitative Methods in Production and Logistics
- SCM602 Business Process Mgmt. in Supply Chain & Logistics
- SCM603 IT Applications in Logistics
- SCM604 Packaging Design and Environmental Aspects
- SCM605 Supply Chain Management
- SCM606 ERP Systems Design and Implementation
- SCM607 Strategic Supply Chain Management
- SCM608 Procurement and Inventory Management
- SCM609 Storage and Warehouse Techniques
- SCM610 Transportation Techniques and Management
- SCM611 Sustainability & Env. Aspects in Managing Supply Chains
- SCM612 Risk Management in Supply Networks
- SCM613 Innovation Management in Supply Chain and Logistics
- SCM614 Corporate Consultancy Project in Logistics
- SCM615 Contract Management for Supply Chain & Negotiations
- SCM616 Life Cycle Enterprise Asset Management
- SCM617 Mobile Commerce and Mobile Logistics

**Majors in Development Studies**

- SSC601 Dimensions of Development
- SSC602 Development Sociology
- PDE703 Development Economics
- STA601 Development Statistics and Research Methodology
- MAN607 Project and Planning Management

**Majors in Islamic Banking and Finance**

- ISF601 Economics for Islamic Finance
- ISF602 Islamic Banking Practices
- ISF603 Accounting fo Islamic Finance
- ISF604 Islamic Financial Services Marketing
- ISF605 Islamic Capital Markets
- ISF606 International Islamic Finance Standards
- FRM514 Takaful and Risk Management in Islamic Products

**Course Structure**

<p><b>Foundation Stage</b>  <b>Semester One</b>          Management and Organizational Dynamics          Marketing Management          Business Communication          Quantitative Analysis for Decision Making</p>	<p><b>Semester Two</b>          Business Economics          Financial Accounting          Methods in Business Research          Managing Human Capital</p>
<p><b>Semester Three</b>          Consumer Behavior          Corporate and Business Law          Theory and Practice of Financial Management          Entrepreneurship and Small Business Management</p>	<p><b>MBA Stage</b>  <b>Semester Four</b>          Strategic Management          Technology, Operations and Innovation          Elective I          Elective II</p>
<p><b>Semester Five</b>          Marketing Strategies and Value Innovation          Strategic Financial Analysis and Design          Elective III          Capstone Project I</p>	<p><b>Semester Six</b>          Business Analytics for Decision Making          Leadership, Ethics and Change          Elective IV          Capstone Project II</p>



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## MBA WEEKEND PROGRAM FOR STUDENTS WITH 14 YEARS EDUCATION

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The program is designed to produce transformational, ethical and change leadership for businesses and industry through integrated curriculum and experiential learning and prepares graduates for business challenges emerging from globalization, connectivity and technology driven innovations. The program develops a skilled pool of business leaders possessing a solid set of multidisciplinary expertise in the core corporate functions of Finance, Marketing, HRM and Management.

This program is designed for students having 14 years of education with degrees in a wide range of disciplines such as business, commerce, law, science, and arts. The 108 credit hours MBA program is divided into a foundation stage of 72 credit hours followed by the 36-credit hours of rigorous MBA level courses and a capstone project dealing with strategy and business transformation. The foundation stage covers areas such as accounting, finance, marketing, economics and management and consists of preparatory course work necessary for the higher level MBA courses. Students completing 72 credit hours of the foundation stage are eligible for the grant of Bachelor of Business Studies (BBS) degree.



Students must maintain a 3.0 CGPA for MBA level courses for the conferment of the degree. The program may be completed in a minimum of 3.5 years depending upon the relevant preparation. Students who are weak in English and communication skills are required to take an additional Business English course to enhance their knowledge of the language. Students need to clear a comprehensive examination in order to complete the degree requirements.

A distinguishing feature of the program is the academic ecosystem of experiential learning which immerses the student in a cycle of “learning by doing” through reflection. Case studies and project work are among the pedagogies used for delivery of the curriculum content. A significant value adding feature of the program is the 6 credit hours Graduate Capstone Project divided into two 3 credit hour components. Students undertake, individually or in small groups, a real life project with a company that addresses a real life issue which, through the application of multidisciplinary knowledge and skills acquired during the MBA studies helps in more profitable and competitive decision making and implementation in the organization. This project is jointly supervised and evaluated by a faculty member with aligned skills and interest and an industry mentor and is evaluated in an open exhibition by executives and faculty. The Capstone Project report has to be converted into a publishable case study as a part of the degree requirement.

MBA students can specialize in the following areas by taking four electives:

- Marketing
- Management
- Finance
- Human Resource Management
- Logistics and Supply Chain Management
- Development Studies
- Islamic Banking and Finance

### Required Courses

#### Accounting

ACC401 Introduction to Managerial and Cost Accounting

ACC419 Financial Accounting

## Communication

COM107+Academic English  
COM407 Business and Professional Speech  
COM408 Persuasive & Analytical Writing for Business Comm.  
+Less Proficient Students

## Economics

ECO405 Seminar in Economic Policy  
ECO409 Business Economics

## Law

LAW409 Corporate and Business Law

## Management

MAN308 Social Advocacy and Community Service  
MAN401 Principles of Management  
MAN402 Organizational Behavior  
MAN403 Entrepreneurship and Small Business Management  
MAN415 Entrepreneurial Leadership and Motivation  
MAN606\*Business Analytics for Decision Making  
MAN608\*Technology, Operations and Innovation  
MAN612\*Strategic Management

*\*Indicates MBA level courses*

## Specialized Courses

MBA students have a choice of four electives from the following disciplines. They can also select from BBA (Hons) electives at most two courses of 500 level or above

### Majors in Accounting

ACC601 Advanced Financial Accounting  
ACC602 Advanced Managerial Accounting  
ACC603 Auditing  
ACC604 Analysis of Financial Statements

### Majors in Finance and Banking

FIN602 Behavioral Finance  
FIN603 Entrepreneurial Finance  
FIN608 Project Appraisal  
FIN610 Debt and Equity Markets  
FIN612 SME and Micro-Financing  
FIN613 Financial Modeling for Decision Making  
FIN614 Financial Derivatives and Risk Management

### Majors in Islamic Banking and Finance

ISF601 Economics for Islamic Finance  
ISF602 Islamic Banking Practices  
ISF603 Accounting for Islamic Finance  
ISF604 Islamic Financial Services Marketing  
ISF605 Islamic Capital Markets  
ISF606 International Islamic Finance Standards  
FRM514 Takaful and Risk Management in Islamic Products

## Finance

FIN408 Theory and Practice of Financial Management  
FIN601\* Strategic Financial Analysis and Design

## Human Resource Management

HRM606\*Leadership, Ethics and Change  
HRM410 Managing Human Capital

## Marketing

MKT402 Marketing Management  
MKT403 Sales Management  
MKT404 Methods in Business Research  
MKT509 Consumer Behavior  
MKT601\*Marketing Strategies and Value Innovation

## Management Information Systems

MIS526 Introduction to Enterprise Resource Planning Systems

## Statistics and Mathematics

STA403 Statistics and Mathematics  
STA404 Statistical Inference

## Social Sciences

SSC301 History of Ideas  
SSC400 Organizational Psychology  
SSC401 Business Ethics

## Capstone Project

BPR601\* Capstone Project I  
BPR602\* Capstone Project II

## Marketing Electives for MBA

MKT501 Strategic Marketing and Planning  
MKT602 Marketing Analytics  
MKT605 Pricing Models and Strategies  
MKT611 Integrated Marketing Communications  
MKT613 Marketing of Financial Services  
MKT615 Brand Management  
MKT618 Advertising Management and Strategy  
MKT620 Competitive Strategies  
MKT621 Marketing Strategies for Emerging Economies  
MKT622 Marketing Strategies for Bottom of the Pyramid (BOP)  
MKT623 Pharmaceutical Marketing & Quality Assurance /  
MHM508/608  
MKT625 Business to Business Marketing  
MKT626 Marketing for Social Impact



**Majors in Human Resource Management**

HRM607 Recruitment and Selection  
 HRM608 Industrial Relations and Labor Laws  
 HRM609 Employee Training and Development  
 HRM610 Negotiation Skills  
 HRM611 Organizational Change and Development  
 HRM612 Strategic Human Resource Management  
 HRM615 Leadership Studies  
 HRM614 Salary and Compensation  
 HRM616 Performance Appraisal and Management  
 HRM617 HR Analytics

**Majors in Management**

MAN610 Environmental Issues and Management  
 MAN611 Project Management  
 MAN613 Corporate Governance  
 MAN614 Comparative Management  
 MAN615 Corporate Social Responsibility

**Majors in Development Studies**

SSC601 Dimensions of Development  
 SSC602 Development Sociology  
 PDE703 Development Economics  
 STA601 Development Statistics and Research Methodology  
 MAN607 Project and Planning Management

**Majors in Logistics and Supply Chain Management**

SCM601 Quantitative Methods in Production and Logistics  
 SCM602 Business Process Mgmt. in Supply Chain & Logistics  
 SCM603 IT Applications in Logistics  
 SCM604 Packaging Design and Environmental Aspects  
 SCM605 Supply Chain Management  
 SCM606 ERP Systems Design and Implementation  
 SCM607 Strategic Supply Chain Management  
 SCM608 Procurement and Inventory Management  
 SCM609 Storage and Warehouse Techniques  
 SCM610 Transportation Techniques and Management  
 SCM611 Sustainability & Env. Aspects in Managing Supply Chains  
 SCM612 Risk Management in Supply Networks  
 SCM613 Innovation Management in Supply Chain and Logistics  
 SCM614 Corporate Consultancy Project in Logistics  
 SCM615 Contract Management for Supply Chain & Negotiations  
 SCM616 Life Cycle Enterprise Asset Management  
 SCM617 Mobile Commerce and Mobile Logistics

**Course Structure**

<b>Foundation Stage</b> <b>Semester One</b> Persuasive and Analytical Writing for Business Communication Financial Accounting Principles of Management Organizational Psychology	<b>Semester Two</b> Statistics and Mathematics Marketing Management Entrepreneurial Leadership and Motivation Business and Professional Speech
<b>Semester Three</b> Business Economics Statistical Inference History of Ideas Organizational Behavior	<b>Semester Four</b> Methods in Business Research Introduction to Managerial & Cost Accounting Corporate and Business Law Managing Human Capital
<b>Semester Five</b> Consumer Behavior Social Advocacy and Community Service Introduction to Enterprise Resource Planning Systems Theory and Practice of Financial Management	<b>Semester Six</b> Business Ethics Seminar in Economic Policy Entrepreneurship and Small Business Management Sales Management
<b>MBA Stage</b> <b>Semester Seven</b> Strategic Management Technology, Operations and Innovation Elective I Elective II	<b>Semester Eight</b> Marketing Strategies and Value Innovation Strategic Financial Analysis and Design Elective III Capstone Project I
<b>Semester Nine</b> Business Analytics for Decision Making Leadership, Ethics and Change Elective IV Capstone Project II	



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## MBA EVENING PROGRAM FOR STUDENTS WITH 16 YEARS EDUCATION

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The program is designed to produce transformational, ethical and change leadership for businesses and industry through integrated curriculum and experiential learning and prepares graduates for business challenges emerging from globalization, connectivity and technology driven innovations. The program is designed to produce a skilled pool of business leaders possessing a solid set of multidisciplinary expertise in the core corporate functions of Finance, Marketing, HRM and Management.

The program is a 72 credit hours program that most students can complete in two years. The program is designed for students having a minimum of 16 years of education with degrees in a wide range of disciplines such as business, commerce, engineering, law, science, medicine, arts and pharmacy. The 72 credit hours program is divided into a foundation stage of 36 credit hours followed by the 36-credit hours of rigorous MBA level courses and project dealing with strategy and business transformation. The foundation stage covers areas such as accounting, finance, marketing, economics and management and consists of preparatory course work necessary for the higher level MBA courses. Students must maintain a 3.0 CGPA for MBA level courses and project for the conferment of the degree. The program may be completed in a minimum of two years depending upon the relevant preparation. Students who are weak in English and communication skills are required to take an additional Business English course to enhance their knowledge of the language. Students need to clear a comprehensive examination in order to complete the degree requirements.

A distinguishing feature of the program is the academic ecosystem of experiential learning which immerses the student in a cycle of learning by doing through reflection. Case studies and project work are among the pedagogies used for delivery of the curriculum content. A significant value adding feature of the program is the 6 credit hours Graduate Capstone Project divided into two 3 credit hour components. Students undertake, individually or in small groups, a real life project with a company that addresses a real life issue which, through the application of multidisciplinary knowledge and skills acquired during the MBA studies, helps in more profitable and competitive decision making and implementation in the organization. This project is jointly supervised and evaluated by a faculty member with aligned skills and interest and an industry mentor and is evaluated in an open exhibition by executives and faculty. The Capstone Project report has to be converted into a publishable case study as a part of the degree requirement. The classes of this program will be held at IoBM City Center from 6:00 PM to 9:00 PM for each course.

MBA students can specialize in the following areas by taking four electives:

- Marketing
- Management
- Finance
- Human Resource Management
- Logistics and Supply Chain Management
- Development Studies
- Islamic Banking and Finance

***Applicants with 4-year bachelor's degree from IoBM in non-business disciplines can claim up to 6 course exemptions from the foundational stage for the equivalent courses completed in the bachelor program.***

## Required Courses

### Accounting

ACC419 Financial Accounting

### Communication

COM107<sup>+</sup> Academic English

COM402 Business Communication

<sup>+</sup>Less Proficient Students

### Economics

ECO409 Business Economics

### Finance

FIN408 Theory and Practice of Financial Management

FIN601\* Strategic Financial Analysis and Design

### Human Resource Management

HRM410 Managing Human Capital

HRM606\* Leadership, Ethics and Change

*\* Indicates MBA level courses*

## Specialized Courses

MBA students have a choice of four electives from the following disciplines. They can also select from BBA (Hons) electives at most two courses of 500 level or above.

### Majors in Accounting

ACC601 Advanced Financial Accounting

ACC602 Advanced Managerial Accounting

ACC603 Auditing

ACC604 Analysis of Financial Statements

### Marketing Electives for MBA

MKT501 Strategic Marketing and Planning

MKT602 Marketing Analytics

MKT605 Pricing Models and Strategies

MKT611 Integrated Marketing Communications

MKT613 Marketing of Financial Services

MKT615 Brand Management

MKT618 Advertising Management and Strategy

MKT620 Competitive Strategies

MKT621 Marketing Strategies for Emerging Economies

MKT622 Marketing Strategies for Bottom of the Pyramid (BOP)

MKT623 Pharmaceutical Marketing & Quality Assurance /  
MHM508/608

MKT625 Business to Business Marketing

MKT626 Marketing for Social Impact

### Law

LAW409 Corporate and Business Law

### Management

MAN403 Entrepreneurship and Small Business Management

MAN418 Management and Organizational Dynamics

MAN606 Business Analytics for Decision Making

MAN608\* Technology, Operations and Innovation

MAN612\* Strategic Management

### Marketing

MKT402 Marketing Management

MKT404 Methods in Business Research

MKT509 Consumer Behavior

MKT601\* Marketing Strategies and Value Innovation

### Statistics and Mathematics

STA411 Quantitative Analysis for Decision Making

### Capstone Project

BPR601\* Capstone Project I

BPR602\* Capstone Project II

### Majors in Finance and Banking

FIN602 Behavioral Finance

FIN603 Entrepreneurial Finance

FIN608 Project Appraisal

FIN610 Debt and Equity Markets

FIN612 SME and Micro-Financing

FIN613 Financial Modeling for Decision Making

FIN614 Financial Derivatives and Risk Management

### Majors in Human Resource Management

HRM607 Recruitment and Selection

HRM608 Industrial Relations and Labor Laws

HRM609 Employee Training and Development

HRM610 Negotiation Skills

HRM611 Organizational Change and Development

HRM612 Strategic Human Resource Management

HRM615 Leadership Studies

HRM614 Salary and Compensation

HRM616 Performance Appraisal and Management

HRM617 HR Analytics

### Majors in Management

MAN610 Environmental Issues and Management

MAN611 Project Management

MAN613 Corporate Governance

MAN614 Comparative Management

MAN615 Corporate Social Responsibility





*My two years time span at IoBM, has been a remarkable journey that not only enlightened my academic knowledge but has also provided me with an experience that contributed significantly in my professional life ahead. Apart from the course material, practical experiences shared by the staff broadened my thought processes and gave me an exposure that infused firm confidence and self belief in my-self personality. My entire tenure in general, and my program in particular excelled me in the skills and capabilities that are essential to confront the challenges of a professional life.*

*The Institute earned me some great friends and privileged me with being a gold medalist.*

*Thank you IoBM for making me who I am.*

**Asma Ahmed**  
Gold Medalist

### **Majors in Logistics and Supply Chain Management**

- SCM601 Quantitative Methods in Production and Logistics
- SCM602 Business Process Mgmt. in Supply Chain & Logistics
- SCM603 IT Applications in Logistics
- SCM604 Packaging Design and Environmental Aspects
- SCM605 Supply Chain Management
- SCM606 ERP Systems Design and Implementation
- SCM607 Strategic Supply Chain Management
- SCM608 Procurement and Inventory Management
- SCM609 Storage and Warehouse Techniques
- SCM610 Transportation Techniques and Management
- SCM611 Sustainability & Env. Aspects in Managing Supply Chains
- SCM612 Risk Management in Supply Networks
- SCM613 Innovation Management in Supply Chain and Logistics
- SCM614 Corporate Consultancy Project in Logistics
- SCM615 Contract Management for Supply Chain & Negotiations
- SCM616 Life Cycle Enterprise Asset Management
- SCM617 Mobile Commerce and Mobile Logistics

### **Majors in Development Studies**

- SSC601 Dimensions of Development
- SSC602 Development Sociology
- PDE703 Development Economics
- STA601 Development Statistics and Research Methodology
- MAN607 Project and Planning Management

### **Majors in Islamic Banking and Finance**

- ISF601 Economics for Islamic Finance
- ISF602 Islamic Banking Practices
- ISF603 Accounting fo Islamic Finance
- ISF604 Islamic Financial Services Marketing
- ISF605 Islamic Capital Markets
- ISF606 International Islamic Finance Standards
- FRM514 Takaful and Risk Management in Islamic Products

## **Course Structure**

<b>Foundation Stage</b> <b>Semester One</b> Management and Organizational Dynamics Marketing Management Business Communication Quantitative Analysis for Decision Making	<b>Semester Two</b> Business Economics Financial Accounting Methods in Business Research Managing Human Capital
<b>Semester Three</b> Consumer Behavior Corporate and Business Law Theory and Practice of Financial Management Entrepreneurship and Small Business Management	<b>MBA Stage</b> <b>Semester Four</b> Strategic Management Technology, Operations and Innovation Elective I Elective II
<b>Semester Five</b> Marketing Strategies and Value Innovation Strategic Financial Analysis and Design Elective III Capstone Project I	<b>Semester Six</b> Business Analytics for Decision Making Leadership, Ethics and Change Elective IV Capstone Project II



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## MBA EVENING PROGRAM FOR STUDENTS WITH 14 YEARS EDUCATION

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The program is designed to produce transformational, ethical and change leadership for businesses and industry through integrated curriculum and experiential learning and prepares graduates for business challenges emerging from globalization, connectivity and technology driven innovations. The program develops a skilled pool of business leaders possessing a solid set of multidisciplinary expertise in the core corporate functions of Finance, Marketing, HRM and Management.

This program is designed for students having 14 years of education with degrees in a wide range of disciplines such as business, commerce, law, science, and arts. The 108 credit hours MBA program is divided into a foundation stage of 72 credit hours followed by the 36-credit hours of rigorous MBA level courses and a capstone project dealing with strategy and business transformation. The foundation stage covers areas such as accounting, finance, marketing, economics and management and consists of preparatory course work necessary for the higher level MBA courses. Students completing 72 credit hours of the foundation stage are eligible for the grant of Bachelor of Business Studies (BBS) degree.

Students must maintain a 3.0 CGPA for MBA level courses for the conferment of the degree. The program may be completed in a minimum of 3.5 years depending upon the relevant preparation. Students who are weak in English and communication skills are required to take an additional Business English course to enhance their knowledge of the language. Students need to clear a comprehensive examination in order to complete the degree requirements.

A distinguishing feature of the program is the academic ecosystem of experiential learning which immerses the student in a cycle of “learning by doing” through reflection. Case studies and project work are among the pedagogies used for delivery of the curriculum content.

A significant value adding feature of the program is the 6 credit hours of a Graduate Capstone Project divided into two 3 credit hour components. Students undertake, individually or in small groups, a real life project with a company that addresses a real life issue which, through the application of multidisciplinary knowledge and skills acquired during the MBA studies helps in more profitable and competitive decision making and implementation in the organization. This project is jointly supervised and evaluated by a faculty member with aligned skills and interest and an industry mentor and is evaluated in an open exhibition by executives and faculty. The Capstone Project report has to be converted into a publishable case study as a part of the degree requirement. The classes of this program will be held at IoBM City Center from 6:00 PM to 9:00 PM for each course.

MBA students can specialize in the following areas by taking four electives:

- Marketing
- Management
- Finance
- Human Resource Management
- Logistics and Supply Chain Management
- Development Studies
- Islamic Banking and Finance

### Required Courses

#### Accounting

ACC401 Introduction to Managerial and Cost Accounting

ACC419 Financial Accounting



### Communication

COM107<sup>+</sup> Academic English  
COM407 Business and Professional Speech  
COM408 Persuasive & Analytical Writing for Business Comm.  
<sup>+</sup>Less Proficient Students

### Economics

ECO405 Seminar in Economic Policy  
ECO409 Business Economics

### Law

LAW409 Corporate and Business Law

### Management

MAN308 Social Advocacy and Community Service  
MAN401 Principles of Management  
MAN402 Organizational Behavior  
MAN403 Entrepreneurship and Small Business Management  
MAN415 Entrepreneurial Leadership and Motivation  
MAN606\* Business Analytics for Decision Making  
MAN608\* Technology, Operations and Innovation  
MAN612\* Strategic Management

*\*Indicates MBA level courses*

### Specialized Courses

MBA students have a choice of four electives from the following disciplines. They can also select from BBA (Hons) electives at most two courses of 500 level or above.

### Majors in Accounting

ACC601 Advanced Financial Accounting  
ACC602 Advanced Managerial Accounting  
ACC603 Auditing  
ACC604 Analysis of Financial Statements

### Majors in Finance and Banking

FIN602 Behavioral Finance  
FIN603 Entrepreneurial Finance  
FIN608 Project Appraisal  
FIN610 Debt and Equity Markets  
FIN612 SME and Micro-Financing  
FIN613 Financial Modeling for Decision Making  
FIN614 Financial Derivatives and Risk Management

### Majors in Islamic Banking and Finance

ISF601 Economics for Islamic Finance  
ISF602 Islamic Banking Practices  
ISF603 Accounting for Islamic Finance  
ISF604 Islamic Financial Services Marketing  
ISF605 Islamic Capital Markets  
ISF606 International Islamic Finance Standards  
FRM514 Takaful and Risk Management in Islamic Products

### Finance

FIN408 Theory and Practice of Financial Management  
FIN601\* Strategic Financial Analysis and Design

### Human Resource Management

HRM606\* Leadership, Ethics and Change  
HRM410 Managing Human Capital

### Marketing

MKT402 Marketing Management  
MKT403 Sales Management  
MKT404 Methods in Business Research  
MKT509 Consumer Behavior  
MKT601\* Marketing Strategies and Value Innovation

### Management Information Systems

MIS526 Introduction to Enterprise Resource Planning Systems

### Statistics and Mathematics

STA403 Statistics and Mathematics  
STA404 Statistical Inference

### Social Sciences

SSC301 History of Ideas  
SSC400 Organizational Psychology  
SSC401 Business Ethics

### Capstone Project

BPR601\* Capstone Project I  
BPR602\* Capstone Project II

### Marketing Electives for MBA

MKT501 Strategic Marketing and Planning  
MKT602 Marketing Analytics  
MKT605 Pricing Models and Strategies  
MKT611 Integrated Marketing Communications  
MKT613 Marketing of Financial Services  
MKT615 Brand Management  
MKT618 Advertising Management and Strategy  
MKT620 Competitive Strategies  
MKT621 Marketing Strategies for Emerging Economies  
MKT622 Marketing Strategies for Bottom of the Pyramid (BOP)  
MKT623 Pharmaceutical Marketing & Quality Assurance /  
MHM508/608  
MKT625 Business to Business Marketing  
MKT626 Marketing for Social Impact

### Majors in Human Resource Management

HRM607 Recruitment and Selection  
 HRM608 Industrial Relations and Labor Laws  
 HRM609 Employee Training and Development  
 HRM610 Negotiation Skills  
 HRM611 Organizational Change and Development  
 HRM612 Strategic Human Resource Management  
 HRM615 Leadership Studies  
 HRM614 Salary and Compensation  
 HRM616 Performance Appraisal and Management  
 HRM617 HR Analytics

### Majors in Management

MAN610 Environmental Issues and Management  
 MAN611 Project Management  
 MAN613 Corporate Governance  
 MAN614 Comparative Management  
 MAN615 Corporate Social Responsibility

### Majors in Development Studies

SSC601 Dimensions of Development  
 SSC602 Development Sociology  
 PDE703 Development Economics  
 STA601 Development Statistics and Research Methodology  
 MAN607 Project and Planning Management

### Majors in Logistics and Supply Chain Management

SCM601 Quantitative Methods in Production and Logistics  
 SCM602 Business Process Mgmt. in Supply Chain & Logistics  
 SCM603 IT Applications in Logistics  
 SCM604 Packaging Design and Environmental Aspects  
 SCM605 Supply Chain Management  
 SCM606 ERP Systems Design and Implementation  
 SCM607 Strategic Supply Chain Management  
 SCM608 Procurement and Inventory Management  
 SCM609 Storage and Warehouse Techniques  
 SCM610 Transportation Techniques and Management  
 SCM611 Sustainability & Env. Aspects in Managing Supply Chains  
 SCM612 Risk Management in Supply Networks  
 SCM613 Innovation Management in Supply Chain and Logistics  
 SCM614 Corporate Consultancy Project in Logistics  
 SCM615 Contract Management for Supply Chain & Negotiations  
 SCM616 Life Cycle Enterprise Asset Management  
 SCM617 Mobile Commerce and Mobile Logistics

## Course Structure

<b>Foundation Stage</b> <b>Semester One</b> Persuasive and Analytical Writing for Business Communication Financial Accounting Principles of Management Organizational Psychology	<b>Semester Two</b> Statistics and Mathematics Business and Professional Speech Entrepreneurial Leadership and Motivation Marketing Management
<b>Semester Three</b> Business Economics Statistical Inference History of Ideas Organizational Behavior	<b>Semester Four</b> Introduction to Managerial & Cost Accounting Methods in Business Research Corporate and Business Law Managing Human Capital
<b>Semester Five</b> Consumer Behavior Social Advocacy and Community Service Introduction to Enterprise Resource Planning Systems Theory and Practice of Financial Management	<b>Semester Six</b> Business Ethics Seminar in Economic Policy Entrepreneurship and Small Business Management Sales Management
<b>MBA Stage</b> <b>Semester Seven</b> Strategic Management Technology, Operations and Innovation Elective I Elective II	<b>Semester Eight</b> Marketing Strategies and Value Innovation Strategic Financial Analysis and Design Elective III Capstone Project I
<b>Semester Nine</b> Business Analytics for Decision Making Leadership, Ethics and Change Elective IV Capstone Project II	



## MBA HEALTH AND HOSPITAL MANAGEMENT



The mission of the MBA Health and Hospital management program is to promote an environment of continual learning and development of the health and managerial expertise of its students and faculty keeping in consideration the needs, demands and behavior of target population and stakeholders in the healthcare industry. We are committed to building a competent brand of health managers who excel in creative and critical thinking, decision making, team building and technical mixed with strong communication and entrepreneurial skills to generate research driven results. Our program institutes best teaching methodologies which cater to the capacity building of future healthcare leaders, sensitive to the needs of the society to disseminate applied knowledge and promote the ethical practice of the health care business in turn serving the community and the nation.

This program has a multidisciplinary approach in preparing graduates for the provision of necessary expertise to manage health services most effectively and develop technically competent and socially sensitive managers for leadership roles in global health systems hospitals, NGO sector, pharmaceutical industries and population programs.

This MBA program is a 75 credit hour program which is divided into a foundation stage of 36 credit hours followed by 39 credit hours of rigorous MBA level courses and a project dealing with strategy. The program covers areas such as accounting, finance, marketing, economics, law, management, quantitative, and health services management. The two-year MBA Health and Hospital Management program is offered on weekends. Students are required to complete 25 courses (23 courses of 3 credit hours and one supervised Capstone project of 6 credit hours, divided into two parts) in order to fulfill the degree requirements. Students must maintain a 3.0 CGPA for the conferment of the degree.

***Applicants with 4-year bachelor's degree from IoBM in non-business disciplines can claim up to 6 courses exemption from the foundational stage for the equivalent courses completed in the bachelor program.***

### Core Business Courses

#### Accounting

ACC419 Financial Accounting

#### Human Resource Management

HRM410 Managing Human Capital

#### Communication

COM402 Business Communication

#### Management

MAN418 Management and Organizational Dynamics



*MBA-MHM program is a very practical and organized program and is designed according to the existing need of health managers: Hospitals, Pharma and*

*Non-Profit Organizations. The open-minded and rich interaction with classmates and teachers allowed me to develop in-depth knowledge and made me able to integrate the managerial skills with the day-to-day activities. The most fascinating and attractive thing in this program is the research project, which has nurture my research writing and analytical skills. I am thankful to all IoBM teachers, who have always supported in my research publications and also in the acceptance of the proposal for WHO-EMRO implementation research program.*

Asif Khaliq





## Finance

FIN408 Theory and Practice of Financial Management  
FIN603 Entrepreneurial Finance

## Elective Business Courses\*

\*Refer to Page No. 82.

## Core Health Courses

MHM529 Introduction to Health Policy, Planning & Management  
MHM530 Quantitative Analysis  
MHM531 Health Management Information Systems  
MHM532 Research and Survey Methodology  
MHM533 Business and Health Economics  
MHM534 Health Psychology  
MHM601 Strategic Management of Health Services  
MHM602 Health Service Delivery and Operation Management  
MHM603 Health Ethics, Law and Jurisprudence  
MHM604 Healthcare Leadership

## Marketing

MKT402 Marketing Management  
MKT601 Marketing Strategies and Value Innovation

## Capstone Project

BPR601 Capstone Project I  
BPR602 Capstone Project II

## Elective Health Courses

MHM605 Financial Management of Health Services  
MHM606 Concepts of Primary Healthcare  
MHM607 Introduction to Epidemiology  
MHM608 Pharmaceutical Quality Assurance  
MHM609 Marketing of Health Services  
MHM610 Population and Health  
MHM611 Environmental Health Assessment & Management  
MHM612 Hospital Administration  
MHM613 Regulatory Affairs at Healthcare Industries  
MHM614 Product Management  
MHM615 Pharmaceutical Sales Management  
MHM616 Project Management of Health Services  
MHM617 Seminar in Health Policy Management  
MHM618 Health Communications  
MHM619 Healthcare Human Resource Management  
MHM621 Supply Chain & Prod. Mgmt. in Pharma. Inds.  
MHM622 Quality Management in Healthcare  
MHM623 Pharmaceutical Branding

## Course Structure

<b>Foundation Stage</b> <b>Semester One</b> Introduction to Health Policy, Planning & Management Quantitative Analysis (QA / Biostatistics) Management and Organizational Dynamics Business Communication	<b>Semester Two</b> Research and Survey Methodology Health Management Information Systems Theory and Practice of Financial Management Health Psychology
<b>Semester Three</b> Financial Management Managing Human Capital Marketing Management Business and Health Economics	<b>MBA Stage</b> <b>Semester Four</b> Strategic Management of Health Services Health Service Delivery and Operation Management Health Ethics, Law and Jurisprudence Entrepreneurial Finance
<b>Semester Five</b> Marketing Strategies and Value Innovation Healthcare Leadership Health Elective I Capstone Project I	<b>Semester Six</b> Business Elective I Business Elective II Health Elective II Health Elective III Capstone Project II

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## MBA MEDIA MANAGEMENT AND MARKETING

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The MBA Media Management and Marketing (MMM) program seeks to develop quality human resource, capable of playing strategic leadership roles across a variety of traditional and new media organizations, as well as consumer marketing companies.

MBA (MMM) is a 72 credit hours program which is divided into a foundation stage of 36 credit hours, followed by 36 credit hours of rigorous MBA level courses, which is rounded off with a strategy oriented Capstone Project. Key areas covered by the program include accounting, finance, marketing, economics, law, management, quantitative analysis, as well as media management and marketing.

*Applicants with a 4-year bachelor's degree from IoBM in non-business disciplines can claim up to 6 courses exemption from the foundational stage for the equivalent courses completed in the bachelor program.*

### Required Courses

#### Accounting

ACC419 Financial Accounting

#### Communication

COM410 Digital Business Communication

#### Economics

ECO409 Business Economics

#### Finance

FIN408 Theory and Practice of Financial Management

#### Human Resource Management

HRM410 Managing Human Capital

HRM606\*Leadership, Ethics and Change

#### Law

LAW409 Corporate and Business Law

#### Management

MAN418 Management and Organizational Dynamics

MAN606\*Business Analytics for Decision Making

MAN612\* Strategic Management

MAN616\* Entrepreneurship and Ecommerce



## Marketing

MKT402 Marketing Management  
MKT404 Methods in Business Research  
MKT509 Consumer Behavior  
MKT527 Integrated Marketing Communication  
MKT620\* Digital Marketing

## Media

MMM401 Media and Social Change  
MMM601\* Digital Video Production  
MMM602\* Global Media Marketing Strategies  
MMM603\* Seminar in Strategic Media Marketing  
MMM604\* Screenwriting for TV & Cinema

## Statistics

STA411 Quantitative Analysis for Decision Making

## Capstone Projects

BPR601\* Media Operations Management (*Capstone Project I*)  
BPR602\* Media Operations Management (*Capstone Project II*)

*\*Indicates MBA level course*

## Elective Courses

### Media

MMM605 Advanced Documentary Filmmaking  
MMM606 Media Psychology

## Course Structure

<b>Foundation Stage</b> <b>Semester One</b> Quantitative Analysis for Decision Making Financial Accounting Marketing Management Digital Business Communication	<b>Semester Two</b> Management and Organizational Dynamics Consumer Behavior Methods in Business Research Business Economics
<b>Semester Three</b> Theory and Practice of Financial Management Corporate and Business Law Managing Human Capital Media and Social Change	<b>MBA Stage</b> <b>Semester Four</b> Leadership, Ethics and Change Strategic Management Digital Marketing Screenwriting for TV & Cinema
<b>Semester Five</b> Business Analytics and Decision-Making Integrated Marketing Communication Global Media Marketing Strategies Media Operations Management ( <i>Capstone Project I</i> )	<b>Semester Six</b> Entrepreneurship and Ecommerce Seminar in Strategic Media Marketing Elective I Media Operations Management ( <i>Capstone Project II</i> )



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## MBA FINANCE AND RISK MANAGEMENT

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Financial Managers are expected to have knowledge of principles and practices of Financial Risk Management. Therefore, MBA in Finance and Risk Management program is designed to cover all dimensions of Risk Management and Finance including recent development in Corporate Risk Management, Sustainable Risk and Risk Financing techniques. Students will learn how to choose alternative techniques to reduce exposure and risks and implement a risk-assessment tool to evaluate future risks. They will also learn implementation and monitoring of selected techniques. The Master's program requires completion of 72 credit hours of course work comprising 24 courses. Students require maintaining 3.0 CGPA on a scale of 4 for the conferment of degree.

*Applicants with a 4-year bachelor's degree from IoBM in non-business disciplines can claim up to 6 courses exemption from the foundational stage for the equivalent courses completed in the bachelor program.*

### Required Courses

#### Accounting

ACC401 Introduction to Managerial and Cost Accounting  
ACC419 Financial Accounting

#### Communication

COM402 Business Communication

#### Economics

ECO401 Micro and Macroeconomics  
ECO408 Applied Financial Economics

#### Finance

FIN408 Theory and Practice of Financial Management  
FIN501 Advanced Financial Management  
FIN511 Analysis of Financial Statements

#### Finance and Risk Management

FRM401 Principles of Risk Management  
FRM402 Computational Methods in Risk  
FRM403 Introduction to Financial Risk Management  
FRM404 Risk Financing Techniques  
FRM405 Advanced Financial Risk Management

#### Human Resource Management

HRM410 Managing Human Capital

#### Law

LAW403 Business and Insurance Law



## Management

MAN418 Management and Organizational Dynamics  
MAN405 Strategic Management

## Marketing

MKT401 Principles of Marketing

## Mathematics

MTH409 Financial Mathematics I  
MTH410 Financial Mathematics II

## Social Sciences

SSC405 Business Ethics and Financial Responsibility

## Statistics

STA402 Model and Inferences

## Elective Courses

### Finance and Banking

FIN403 Islamic Banking and Finance

### Finance and Risk Management

FRM503 Corporate Risk Management  
FRM504 Theory of Risk and Insurance  
FRM505 Corporate Treasury and Risk Management  
FRM506 Financial Regulation for Risk Management  
FRM508 Financial Market Issues and Crisis  
FRM510 Energy Risk Management  
FRM512 International Risk and Financial Reporting  
FRM513 Project Risk Management  
FRM514 Takaful and Risk Management in Islamic Products  
FRM516 International Financial Reporting and Standards  
FRM517 Property Risk Management  
FRM518 Management of Insurance Institutions

## Course Structure

<b>Semester One</b> Financial Accounting Business Communication Management and Organizational Dynamics Model and Inferences	<b>Semester Two</b> Micro and Macroeconomics Theory and Practice of Financial Management Principles of Marketing Financial Mathematics I
<b>Semester Three</b> Introduction to Managerial and Cost Accounting Principles of Risk Management Computational Methods in Risk Financial Mathematics II	<b>Semester Four</b> Advanced Financial Management Introduction to Financial Risk Management Business and Insurance Law Managing Human Capital
<b>Semester Five</b> Applied Financial Economics Analysis of Financial Statements Business Ethics and Financial Responsibility Elective I	<b>Semester Six</b> Risk Financing Techniques Advanced Financial Risk Management Strategic Management Elective II



*"Four years at IoBM has been a bumpy ride for me which led me towards a straight road ahead. From quizzes to finals, from presentations to assignments, from classes to cafeteria, the journey at IoBM has drastically enhanced and honed my personality to face the professional world out there.*

*I can confidently say that joining IoBM was a wise decision which along with encouraging faculty and support of my parents made me successful in my professional career"*

Hani Abbas

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## MBA ENVIRONMENT AND ENERGY MANAGEMENT

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IoBM offers the first of its kind MBA in Environment and Energy Management that aims to prepare future decision-makers in companies, government and non-governmental organizations for analyzing and acting in an environmentally proactive way when making decisions about policy, production and resource utilization. This is a weekend program which requires completion of 72 credit hours of course work, including 24 courses of 3 credit hours each spread over six consecutive semesters (two-years). Students must maintain a CGPA of 3.0 for the conferment of the degree. The course structure is subject to change in compliance with HEC requirements. The course is particularly designed for managers, administrators engaged in the environment and energy sector.

This MBA program is a 72 credit hour program which is divided into foundation stage of 36 credit hours, followed by 36-credit hours of rigorous MBA level courses and project dealing with strategy. The program covers areas such as accounting, finance, marketing, economics, law, management, environment and energy management and consists of foundational course work necessary for the higher level MBA courses.

***Applicants with a 4-year bachelor's degree from IoBM in non-business disciplines can claim up to 6 courses exemption from the foundational stage for the equivalent courses completed in the bachelor program.***

### Entry Requirements

Applicants are required to have a four year Bachelor's degree in Agriculture, Architecture, Biology, Business Administration, Chemistry, Engineering, Commerce, Medical, Forestry, Geology, Geography, Microbiology, Public health, and Environment Science from HEC recognized institutions.

### Required Courses

#### Accounting

ACC419 Financial Accounting

#### Communication

COM402 Business Communication

#### Finance

FIN408 Theory and Practice of Financial Management

FIN601\* Strategic Financial Analysis & Design

#### Human Resource Management

HRM410 Managing Human Capital

HRM606\*Leadership, Ethics and Change



## Management

MAN418 Management and Organizational Dynamics  
MAN608\* Technology, Operations and Innovation  
MAN612\* Strategic Management

## Marketing

MKT402 Marketing Management  
MKT601\* Marketing Strategies and Value Innovation

## Statistics

STA411 Quantitative Analysis for Decision Making

## Environmental and Energy Management

EEM401 Environmental Issues and Management  
EEM403 Energy Sources and Management  
EEM404 Industrial and Municipal Waste Management  
EEM405 Renewable Energy and Energy Conservation  
EEM410 Environmental Impact Assessment  
EEM411 Environmental Rules, Laws and Regulations  
EEM412 Research and Survey Methodology  
EEM510 Economics of Energy Management  
EEM614 Safety, Health and Environmental Management

## Capstone Project

BPR601\* Capstone Project I  
BPR602\* Capstone Project II

*\*Indicates MBA level courses*

## Elective Courses

### Environmental and Energy Management

EEM603 Air and Noise Pollution Management  
EEM604 Coastal Environment and Management  
EEM605 Climatic Changes and its Impact  
EEM606 Natural Resources Management  
EEM607 Hospital Waste Management  
EEM608 Solid and Hazardous Waste Management  
EEM609 Energy Audit  
EEM610 Energy Conservation  
EEM611 Energy Planning  
EEM612 Environmental Ethics  
EEM613 Public Awareness for Environment and Energy Sector  
EEM615 Risk and Disaster Management

## Course Structure

<b>Foundation Stage</b> <b>Semester One</b> Business Communication Management and Organizational Dynamics Energy Sources and Management Quantitative Analysis for Decision Making	<b>Semester Two</b> Financial Accounting Marketing Management Managing Human Capital Environmental Issues and Management
<b>Semester Three</b> Theory and Practice of Financial Management Economics of Energy and Environment Environmental Rules, Laws and Regulations Research and Survey Methodology	<b>MBA Stage</b> <b>Semester Four</b> Leadership, Ethics and Change Strategic Management Renewable Energy and Energy Conservation Industrial & Municipal Waste Management
<b>Semester Five</b> Technology, Operations and Innovation Marketing Strategies and Value Innovation Environmental Impact Assessment and Management Capstone Project I	<b>Semester Six</b> Strategic Financial Analysis & Design Safety Health & Environmental Management Elective Capstone Project II

## MBA LOGISTICS AND SUPPLY CHAIN MANAGEMENT



Master of Business Administration in Logistics and Supply Chain Management degree program is solution oriented designed, and addresses strategic economic and process oriented technical problems in industry, administration and commerce. Major subject of the studies are national and international global oriented enterprises in collaboration with national and international partners. The program exercises the latest business oriented thinking and provides international expert knowledge on logistical engineering and technologies as well as application knowledge in process automation, material management and leading software solutions in ERP (enterprise resource planning), process simulation and e-Commerce. In common projects with the local and international industry as well as logistical service provider the theoretical knowledge is applied in realistic problem solving projects. The MBA program is aimed to develop professionals in management functions like logistics, supply chain management, enterprise resource planning production planning, controlling, and procurement or material management in industrial, manufacturing and service enterprises.

This program is a 72 credit hours program and is designed for students having a minimum of 16 years of education with degrees in a wide range of disciplines such as business, commerce, engineering, and science. The 72 credit hours MBA program is divided into a foundation stage of 36 credit hours followed by the 36-credit hours of rigorous MBA level courses and project dealing with strategy and SCM transformation. The program covers areas such as accounting, finance, marketing, quantitative analysis, law, economics, HRM, management and SCM and consists of foundational course work necessary for the higher level MBA courses.

***Applicants with a 4-year bachelor's degree from IoBM in non-business disciplines can claim up to 6 courses exemption from the foundational stage for the equivalent courses completed in the bachelor program.***

### Required Courses

#### Accounting

ACC419 Financial Accounting

#### Communication

COM402 Business Communication

#### Finance

FIN408 Theory and Practice of Financial Management

#### Economics

ECO409 Business Economics

#### Human Resource Management

HRM410 Managing Human Capital

HRM606\*Leadership, Ethics and Change





## Management

MAN403 Entrepreneurship and Small Business Management  
 MAN406 Production and Operations Management  
 MAN418 Management and Organizational Dynamics  
 MAN606\* Business Analytics for Decision Making

## Marketing

MKT402 Marketing Management  
 MKT404 Methods in Business Research  
 MKT601\* Marketing Strategies and Value Innovation

## Law

LAW409 Corporate and Business Law

## Supply Chain and Logistics Management

SCM301 Introduction to ERP Systems  
 SCM601 Quantitative Methods for Logistics & Supply Chain Management  
 SCM605 Supply Chain Management  
 SCM607 Strategic Supply Chain Management  
 SCM612 Risk Management in Supply Networks  
 SCM613 Innovation Management in Supply Chain and Logistics  
 SCM614 Corporate Consultancy Projects in Logistics  
 SCM615 Design of Business Processes - Workflow Management  
 SCM616 Logistical Projects in ERP- Case Study Development

*\*Indicates MBA level courses*

## Elective Courses

### Management

MAN501 Total Quality Management  
 MAN611 Project Management

### Supply Chain and Logistics Management

SCM604 Packaging Design- Environment Aspects  
 SCM606 ERP System Design and Implementation  
 SCM608 Procurement and Inventory Management  
 SCM609 Storage and Warehouse Techniques  
 SCM610 Transportation Techniques and Management  
 SCM611 Sustainability & Env. Aspects in Managing Supply Chains

## Course Structure

<b>Foundation Stage</b> <b>Semester One</b> Business Economics Quantitative Methods for Logistics & SCM Financial Accounting Business Communication	<b>Semester Two</b> Management and Organizational Dynamics Supply Chain Management Theory and Practice of Financial Management Managing Human Capital
<b>Semester Three</b> Corporate and Business Law Marketing Management Methods in Business Research Introduction to ERP Systems	<b>MBA Stage</b> <b>Semester Four</b> Entrepreneurship and Small Business Management Innovation Management in Supply Chain Production & Operations Management Design of Business Processes - Workflow Management
<b>Semester Five</b> Logistical Projects in ERP- Case Study Development ( <i>Capstone I</i> ) Risk Management in Supply Networks Leadership, Ethics and Change Business Analytics for Decision Making	<b>Semester Six</b> Strategic Supply Chain Management Elective Corporate Consultancy project in Logistics ( <i>Capstone II</i> ) Marketing Strategies and Value Innovation



*My journey at IoBM was like a roller coaster, speedy and exciting. My MBA from IoBM helped me to acquire holistic knowledge regarding Finance, Marketing and Human Resource. The faculty over here not only helped me improving the conceptual and technical skills but also instilled self confidence and the power to think out of the box.*

*This three years journey helped me to become a reputable corporate trainer and excel in my financial analyst skills. The best part of IoBM family is that they always make me believe that excellence is nothing without character.*

**Harish Chander**  
 Gold Medalist

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## MBA INDUSTRIAL MANAGEMENT

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Master of Business Administration in Industrial Management degree program is designed to address and solve real life problems relating to industrial set-ups. Collaboration with relevant industries and financial institutes is its modus operandi. This course is one of the very few aimed at mid-career professionals who wish to make the move to senior management within industrial and manufacturing organizations. It is designed to provide the business expertise essential for all senior managers by integrating specific engineering subjects with the management of technology and manufacturing systems. The program also examines the latest business thinking and provides expert knowledge on engineering and technology issues and theories. Topics such as finance, marketing, management strategy are integrated with modern industrial issues such as project and quality management, manufacturing effectiveness, advanced manufacturing technology and supply chain management.

This combination of subjects has been specifically designed to reflect the challenges faced by traditional manufacturing organizations. This MBA program is a 72 credit hour program which is divided into foundation stage of 36 credit hours, followed by 36-credit hours of rigorous MBA level courses and project dealing with strategy. The foundation and MBA level stage covers areas such as accounting, finance, marketing, economics, law, supply chain, engineering. It consists of foundational course work necessary for the higher level MBA courses

***Applicants with a 4-year bachelor's degree from IOBM in non-business disciplines can claim up to 6 courses exemption from the foundational stage for the equivalent courses completed in the bachelor program.***

### Required Courses

#### Accounting

- ACC401 Introduction to Managerial and Cost Accounting
- ACC419 Financial Accounting

#### Communication

- COM402 Business Communication

#### Economics

- ECO409 Business Economics

#### Engineering

- ENG405 Environmental Impact Assessment and Management
- ENG604 Enterprise Asset Management and Financial Analysis

#### Finance

- FIN408 Theory and Practice of Financial Management

#### Human Resource Management

- HRM410 Managing Human Capital



## Management

MAN403 Entrepreneurship and Small Business Management  
MAN406 Production and Operations Management  
MAN418 Management and Organizational Dynamics  
MAN502 Business Process Re-engineering  
MAN611\*Project Management  
MAN612\*Strategic Management

## Supply Chain and Logistics Management

SCM605\* Supply Chain Management

## Law

LAW401 Business Law

## Marketing

MKT402 Marketing Management  
MKT404 Methods in Business Research  
MKT601\* Marketing Strategies and Value Innovation

## Statistics

STA411 Quantitative Analysis for Decision Making

## Capstone Project

BPR601\* Capstone Project I  
BPR602\* Capstone Project II

*\*Indicates MBA level courses*

## Course Structure

<b>Foundation Stage</b> <b>Semester One</b> Business Communication Financial Accounting Quantitative Analysis for Decision Making Management and Organizational Dynamics	<b>Semester Two</b> Business Economics Business Law Managing Human Capital Introduction to Managerial and Cost Accounting
<b>Semester Three</b> Marketing Management Theory and Practice of Financial Management Production and Operations Management Methods in Business Research	<b>MBA Stage</b> <b>Semester Four</b> Entrepreneurship and Small Business Management Project Management Strategic Management Supply Chain Management
<b>Semester Five</b> Business Process Re-engineering Marketing Strategies and Value Innovation Enterprise Asset Management and Financial Analysis <i>Capstone Project I</i>	<b>Semester Six</b> Elective I Elective II Environmental Impact Assessment and Management <i>Capstone Project II</i>

## Elective Courses

### Engineering

ENG408 Facilities Planning  
ENG601 Maintenance Management  
ENG602 Manufacturing Process and Systems  
ENG603 Technology Management

### Environmental and Energy Management

EEM404 Industrial and Municipal Waste Management  
EEM408 Safety, Health and Environment Management  
EEM409 Risk and Disaster Management

### Finance

FIN503 Corporate Finance  
FIN510 Investment Analysis  
FIN608 Project Appraisal

### HRM / Management

HRM606 Leadership, Ethics and Change  
MAN501 Total Quality Management  
MAN606 Business Analytics for Decision Making  
MAN608 Technology, Operations and Innovation

### Marketing

MKT615 Brand Management  
MKT624 New Product Development Management  
MKT625 Business to Business Marketing

### Supply Chain and Logistics Management

SCM606 ERP System Design and Implementation  
SCM607 Strategic Supply Chain Management  
SCM608 Procurement and Inventory Management

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## MS IN BUSINESS MANAGEMENT

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MS program in Business Management is a research route for PhD in Business Management and is designed for students with a 4-year BBA qualification or those meeting the HEC criteria for MS/MPhil in management science i.e. 16 years of education with degree in business relevant field with 1st division/CGPA 3.0.

### Program Structure

MS in Business Management is a 36 credit hours program with 10 courses and one thesis of 6 credit hours. Each of the 10 courses is of 3 credit hours.

After successful completion of the course work, the students are required to carry out research study for the thesis under the guidance of a research supervisor assigned by IoBM. In lieu of thesis, students can also opt for two additional courses for the completion of the degree.

### Course Structure

MPM601 Advanced Qualitative Research  
MPM603 Advanced Quantitative Research  
MPM605 Survey of Current Research Literature in Management  
MPM607 Corporate Governance and Strategy  
MPM609 Seminar in Human Resource Management  
MPM611 Advanced Corporate Finance  
MPM614 Advanced Marketing Strategy  
MPM616 Econometrics

### Elective

Elective I

Elective II

(Electives may be selected from the specialization areas of Business Management of 700 Series) on Page 79.

Thesis (06 credit hours)

*It is mandatory for research students of MS/MPhil and PhD programs to attend at least five sessions of the Multi-disciplinary Research Seminar Series in each semester.*

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## MPhil IN BUSINESS MANAGEMENT

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The MPhil program in Business Management is designed to meet the challenges of the business world and the growing demand for well-qualified and research-oriented scholars in Pakistan. This program has been carefully designed in response to the traditional and emerging trends and to meet the growing market demand for various specialist areas in business management.

### Eligibility

Students with a 4-year BBA qualification or those meeting the HEC criteria for MS/MPhil in management science i.e. 16 years of education with degree in business relevant field with 1st division/CGPA 3.0.

### Program Structure

The MPhil is a 30 credit hours program with 8 courses and one thesis of 6 credit hours.

After successful completion of the course work, students are required to carry out research study for the thesis under the guidance of a research supervisor assigned by the Institute. The students must convert the research thesis into a publishable paper as part of a degree requirement.

### Course Structure

MPM601 Advanced Qualitative Research  
MPM603 Advanced Quantitative Research  
MPM605 Survey of Current Research Literature in Management  
MPM607 Corporate Governance and Strategy  
MPM609 Seminar in Human Resource Management  
MPM611 Advanced Corporate Finance  
MPM614 Advanced Marketing Strategy  
MPM616 Econometrics

For health professionals, electives may be selected from the specialization areas of Business Management of MPM700 Series (on Page No. 79) in lieu of any four of the above mentioned courses.

Thesis (06 Credit hours)

*It is mandatory for research students of MS/MPhil and PhD programs to attend at least five sessions of the Multi-disciplinary Research Seminar Series in each semester.*



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## PHD IN BUSINESS MANAGEMENT

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The mission of PhD research program in business management is to pursue leading-edge research, engage in the development of innovative ideas and analytical skills, and encourage both faculty and students to be independent and creative thinkers. The outcome of this research program is the production of a real and measurable impact on society and industry through quality research published in impact factor journals and recognized by the industry.

### Eligibility

**MS/MPhil or equivalent graduates from HEC recognized institutions meeting the following criteria:**

- A minimum CGPA of 3.00 on a scale of 4.00 (or overall 60% marks) or equivalent
- A minimum of 18 years of schooling that corresponds to MS / MPhil or equivalent degree from HEC recognized institutions in a relevant discipline. Students with HEC recognized MBA have to do at least four pre-requisite courses (HEC equivalency required)
- GRE Subject or GAT test conducted by the NTS. A minimum of 60% (percentage) marks is required
- An interview conducted by the Institute
- All other HEC stipulated requirements

### Program Requirements

**PhD requires completion of course work and dissertation/thesis. Minimum duration is three years and maximum is five years:**

- PhD course work requirements consist of six graduate level courses (18 credit hours)
- On completion of dissertation/thesis the student is awarded 30 credits

**A PhD student must additionally complete the following requirements:**

- Comprehensive Exam
- PhD Proposal/Synopsis Development
- PhD Proposal/Synopsis Defense
- BASR Approval of PhD Proposal/Synopsis
- Continuous enrollment in supervised research courses for meeting the full-time residency requirements
- Completion of PhD Dissertation/Thesis
- Selection of External Evaluators by BASR
- Publication of at least one paper in an ISI indexed or an HEC recognized journal or an official acceptance of the paper
- Evaluation of PhD Dissertation by two foreign faculty members from developed countries as per HEC criteria
- Dissertation/Thesis Finalization
- Open defense of PhD dissertation
- Any other HEC requirement
- Final Dissertation/Thesis submission to BASR



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## Course Structure

### Pre-requisites:

MPM601 Advanced Qualitative Research  
MPM603 Advanced Quantitative Research  
MPM610 Independent Study  
MPM616 Econometrics

### Semester One

Directed Research Elective I  
Directed Research Elective II  
Exploratory Research Elective I

### Semester Two

Directed Research Elective III  
Directed Research Elective IV  
Exploratory Research Elective II

### Semesters Three to Nine

PBM901 Research Thesis

## Graduate Courses:

### Directed Research Electives in Area of Specialization

The objective of the directed research electives is to enable the PhD students to link their chosen areas of specialization with the philosophy and methodology of business research and to benchmark their proposed research with quality publications.

PBM701 Philosophy of Business Management  
PBM703 Multivariate Analysis  
PBM705 Readings in Business Research  
PBM707 Replication of Business Research Design and Results  
PBM708 Directed Study of a Business Research Problem

### Exploratory Research Electives in the Area of Specialization

PhD students may select the following and/or other PhD level courses from CESD and CSIS on the advice of their supervisors.

PBM801 Marketing Models  
PBM803 Marketing Theory  
PBM805 Advanced Topics in Marketing  
PBM811 Advanced Topics in Strategic Management  
PBM813 Advanced Topics in Organization Theory  
PBM815 Advanced Topics in Human Behavior in Organization  
PBM821 Advanced Topics in Operations Management Research  
PBM823 Advanced Research Topics in Operations Management  
PBM825 Advanced Research Topics in Management Information Systems  
PBM831 Advanced Topics in Finance  
PBM841 Advanced Readings in Business Ethics  
PBM842 Globalization Discourses of Ethics

*It is mandatory for research students of MPhil and PhD programs to attend at least five sessions of the Multi-disciplinary Research Seminar Series in each semester.*



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## PHD IN ENVIRONMENT AND ENERGY MANAGEMENT

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The doctoral program in Environment and Energy Management is a rigorous, interdisciplinary and multidisciplinary study. Students will be required to acquire substantial knowledge in primary environment and energy related disciplines with a focus on management and conservation, and sustainable development of resources; develop breadth in specialized fields related environmental and energy; become proficient in advanced research methods and develop expertise in a chosen dissertation topic. Students will be required to write a dissertation that evidences original research and high proficiency in the interpretation, analysis, and explanation of environment and energy related issues and phenomena. The overall objectives of the program are:

To improve understanding of environment and energy related issues and identify solutions to these problems  
To foster collaborative, interdisciplinary and multidisciplinary research amongst researchers from various disciplines

### Eligibility

**MS/MPhil or equivalent graduates from HEC recognized institutions meeting the following criteria:**

- A minimum CGPA of 3.00 on a scale of 4.00 (or overall 60% marks) or equivalent
- A minimum of 18 years of schooling that corresponds to MS / M.Phil or equivalent degree from HEC recognized institutions in a relevant discipline
- GRE subject specific or GAT subject test conducted by the NTS, or equivalent in the relevant discipline. A minimum of 60% (percentage) marks is required
- An interview conducted by the Institute
- All other HEC stipulated requirements
- Complete deficiency courses

### Program Requirements

**PhD requires completion of course work and dissertation/thesis. Minimum duration is 3 years and maximum is 5 years:**

- PhD course work requirements consist of six graduate level courses (18 credit hours)
- On completion of dissertation/thesis the student is awarded 30 credits

**A PhD student must additionally complete the following requirements:**

- Comprehensive Exam
- PhD Proposal/Synopsis Development
- PhD Proposal/Synopsis Defense
- BASR Approval of PhD Proposal/Synopsis
- Continuous enrollment in supervised research courses for meeting the full-time residency requirements
- Completion of PhD Dissertation/Thesis
- Selection of External Evaluators by BASR
- Publication of at least one paper in an ISI indexed or an HEC recognized journal or an official acceptance of the paper
- Evaluation of PhD Dissertation by two foreign faculty members from developed countries as per HEC criteria
- Dissertation/Thesis Finalization
- Open defense of PhD dissertation
- Any other HEC requirement
- Final Dissertation/Thesis Submission to BASR



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## Course Structure

### Semester One

- EEM701 Methods and Issues in Advanced Qualitative Research
- EEM702 Methods and Issues in Advanced Quantitative Research

### Semester Two

- EEM703 Current Advancement and Trends in Environment and Energy Management
- EEM704 Independent Study in Environment and Renewable Energy Management

### Semester Three

- Elective Courses (any two)
- EEM801 Advanced Environment Toxicology & Epidemiology
- EEM802 Advanced Pollution Control Technologies and Mitigation Options
- EEM803 Advances in Green Technology Mechanism
- EEM804 Disaster Risk Management and Mitigation Strategies
- EEM805 Trade and Environment
- EEM806 Sustainability and Conservation of Major Ecosystems

### Semester Four to Nine

- EEM901 Research Thesis

*It is mandatory for research students of MPhil and PhD programs to attend at least five sessions of the Multi-disciplinary Research Seminar Series in each semester.*



## ELECTIVE BUSINESS COURSES

### MBA HEALTH AND HOSPITAL MANAGEMENT



#### Majors in Accounting

- ACC601 Advanced Financial Accounting
- ACC602 Advanced Managerial Accounting
- ACC603 Auditing
- ACC604 Analysis of Financial Statements

#### Majors in Finance and Banking

- FIN602 Behavioral Finance
- FIN603 Entrepreneurial Finance
- FIN608 Project Appraisal
- FIN610 Debt and Equity Markets
- FIN612 SME and Micro-Financing
- FIN613 Financial Modeling for Decision Making
- FIN614 Financial Derivatives and Risk Management

#### Majors in Human Resource Management

- HRM607 Recruitment and Selection
- HRM608 Industrial Relations and Labor Laws
- HRM609 Employee Training and Development
- HRM610 Negotiation Skills
- HRM611 Organizational Change and Development
- HRM612 Strategic Human Resource Management
- HRM615 Leadership Studies
- HRM614 Salary and Compensation
- HRM616 Performance Appraisal and Management
- HRM617 HR Analytics

#### Majors in Management

- MAN610 Environmental Issues and Management
- MAN611 Project Management
- MAN613 Corporate Governance
- MAN614 Comparative Management
- MAN615 Corporate Social Responsibility
- EEM401 Environmental Issues and Management
- EEM603 Air and Noise Pollution Management
- EEM607 Hospital Waste Management
- EEM614 Safety, Health and Environmental Management
- EEM615 Risk and Disaster Management



*My experience at IoBM has been wonderful. The environment and people have helped me grow further both as an individual and as a professional. Time went by*

*really fast, and I learnt so many new things in such a short period of time.*

*I was always interested in Digital Media and pursuing my MBA in Advertising Management gave me the right combination of all the skills and knowledge that I required to excel in my field of interest.*

*I would like to thank all my mentors and peers that were a part of this journey. I will always cherish the time I had at IoBM.*

Misbah Aziz



### **Majors in Management Information Systems**

- MIS501 Information Systems Management
- MIS503 System Analysis and Design
- MIS504 Oracle/Developer 2000
- MIS505 Software Engineering
- MIS506 Data Communication & Networking
- MIS507 Relational Database Mgmt. Systems
- MIS508 Programming in C ++
- MIS509 Software Project Management
- MIS521 Record Management
- MIS522 Business Information Systems
- MIS523 Decision Systems
- MIS524 Decision Support Systems
- MIS525 Enterprise Systems
- MIS526 Enterprise Resource Planning Systems
- MIS527 Information Security
- MIS528 Advanced Information Security
- MIS530 Information Systems Research
- MIS532 New Perspectives on Organizations and Information Systems

### **Majors in Supply Chain and Logistics Management**

- SCM501 Supply Chain Management
- SCM502 ERP System Design and Implementation
- SCM503 Strategic Supply Chain Management
- SCM504 Procurement and Inventory Management
- SCM505 Storage and Warehouse Techniques
- SCM506 Transportation Techniques and Management
- SCM615 Contract Management for Supply Chain & Negotiations
- SCM616 Life Cycle Enterprise Asset Management
- SCM617 Mobile Commerce and Mobile Logistics

### **Majors in Marketing**

- MKT501 Strategic Marketing and Planning
- MKT513 Media Planning
- MKT602 Marketing Analytics
- MKT605 Pricing Models and Strategies
- MKT608 Small Business Marketing
- MKT611 Integrated Marketing Communications
- MKT612 Distribution and Channel Management
- MKT613 Marketing of Financial Services
- MKT615 Brand Management
- MKT616 International Marketing
- MKT618 Advertising Management and Strategy
- MKT619 Marketing Research
- MKT620 Competitive Strategies
- MKT621 Marketing Strategies for Emerging Economies
- MKT622 Marketing Strategies for Bottom of the Pyramid (BOP)
- MKT623 Pharmaceutical Marketing & Quality Assurance
- MKT624 New Product Development Management
- MKT625 Business to Business Marketing
- MKT626 Marketing for Social Impact



**COLLEGE  
OF BUSINESS  
MANAGEMENT**



*COLLEGE OF COMPUTER SCIENCE  
&  
INFORMATION SYSTEMS*





# **COLLEGE OF COMPUTER SCIENCE AND INFORMATION SYSTEMS**

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## BS COMPUTER SCIENCE

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The program emphasizes on the need for an overall development that includes exposure to an integrated series of courses in technology, methodology, social sciences, liberal arts and management. Project-based software development along with research assignments have also been emphasized on. These courses seek to impart a broad and deep knowledge of theory, design and application of digital computers and information processing techniques. The curriculum has been designed to prepare students to serve the productive needs of Pakistan's software industry. It requires completion of 135 credit hours of course work. Students are required to take 45 courses, a live project and comprehensive research assignment in order to complete their degree requirements. Students must maintain a CGPA of 2.5 for the conferment of degree.

### Foundation Courses

#### Accounting

ACC101 Introduction to Financial Accounting

#### Economics

ECO104 Micro and Macroeconomics

#### Management

MAN101 Principles of Management

MAN411 Project Management

#### Language

LAN 10\* Foreign Language I

LAN 20\*\* Foreign Language II

\*1 = Introduction to Arabic

\*2 = Introduction to French

\*3 = Introduction to Spanish

\*4 = Introduction to German

\*5 = Introduction to Japanese

\*6 = Introduction to Italian

\*7 = Introduction to Russian

\*8 = Introduction to Chinese

\*\*1 = Intermediate Arabic

\*\*2 = Intermediate French

\*\*3 = Intermediate Spanish

\*\*4 = Intermediate German

\*\*5 = Intermediate Japanese

\*\*6 = Intermediate Italian

\*\*7 = Intermediate Russian

\*\*8 = Intermediate Chinese

#### Communication

COM107 Academic English

COM202 Business and Professional Speech

COM203 Methods in Business Writing

#### Physics

ENG307 / PHY209 Basic Electronics

#### Political Sciences

PSC301 Pakistan Studies

#### Mathematics

MTH107 Calculus and Analytical Geometry

MTH204 Linear Algebra

MTH215 Differential Equations

MTH222 Discrete Structure

MTH224 Multivariable Calculus

MTH403 Numerical Computing

#### Statistics

STA203 Probability Theory and Statistics

#### Religious Studies

REL101 Islamic Studies

## Computing (Core Courses)

CSC105	Data Structure and Algorithms
CSC111	Intro. to Info. & Communication Technologies (ICT)
CSC112	Object Oriented Programming
CSC213	Computer Communications and Networks
CSC113	Programming Fundamentals
CSC218	Operating Systems
CSC217	Digital Logic Design
CSC317	Introduction to Software Engineering
CSC220	Introduction to Database Systems
CSC320	Human Computer Interaction
CSC461	Project I
CSC462	Project II

## Computer Science (Core Courses)

CSC205	Computer Architecture and Organization
CSC222	Computer Organization and Assembly Language
CSC315	Theory of Automata & Formal Languages
CSC318	Design & Analysis of Algorithm
CSC410	Data Communication and Networking
CSC411	Compiler Construction
CSC412	Artificial Intelligence

## Computer Science (Elective Courses)

CSC303	Computer Graphics	CSC305	System Analysis and Design
CSC309	Microprocessor and Applications	CSC345	Digital Image Processing
CSC428	Web Engineering	CSC434	Software Quality Assurance
CSC435	Distributed Systems	CSC443	Mobile Computing
CSC445	Network Security	CSC448	Digital Signal Processing
CSC451	Telecommunication Systems	CSC463	Operations Research
CSC464	Wireless Network	CSC465	Data Warehousing
CSC467	Neural Network	CSC466	Fuzzy Systems

## Course Structure

<b>Semester One</b> Intro to Info. & Comm. Technology (2+1) Programming Fundamentals (2+1) Calculus and Analytical Geometry (3+0) Islamic Studies (3+0) Academic English (3+0) Basic Electronics (2+1)	<b>Semester Two</b> Object Oriented Programming (2+1) Discrete Structure (3+0) Multivariable Calculus (3+0) Probability Theory and Statistics (3+0) Methods in Business Writing (3+0) Micro and Macroeconomics (2+1)	<b>Semester Three</b> Digital Logic and Design (2+1) Data Structures and Algorithms (2+1) Linear Algebra (3+0) Business and Professional Speech (3+0) Numerical Computing (2+1) Intro. to Financial Accounting (3+0)
<b>Semester Four</b> Operating Systems (3+0) Differential Equations (2+1) Intro. to Database Systems (2+1) Data Comm. & Networking (2+1) Computer Org. & Assembly Lang. (2+1) Foreign Language I (2+1)	<b>Semester Five</b> Computer Comm. & Networks (2+1) Theory of Automata & Formal Lang. (2+1) Computer Architecture & Org. (2+1) Intro. to Software Engineering (2+1) Foreign Language II (3+0) Pakistan Studies (3+0)	<b>Semester Six</b> Artificial Intelligence (3+0) Computer Graphics (2+1) Design & Analysis of Algorithms (2+1) Digital Signal Processing (2+1) Principles of Management (3+0) Human Computer Interaction (2+1)
<b>Semester Seven</b> Project I (0+3) CS Elective I (2+1) Operations Research (3+0) CS Elective II (3+0) Compiler Constructions (2+1)	<b>Semester Eight</b> Project II (0+3) Wireless Network (2+1) CS Elective III (2+1) CS Elective IV (2+1) Project Management (3+0)	

## BS ACTUARIAL SCIENCE AND RISK MANAGEMENT



BS in Actuarial Science and Risk Management program is intended to provide students with the tools of risk analysis, transfer, and financing that are critical to the operation of private and public institutions, and to prepare them for careers in risk management and insurance. As a risk management major, student will gain a broad business background with an emphasis in accounting, finance and law, as well as a thorough knowledge of all types of insurance. BS in Actuarial Science and Risk Management is a four year degree program. It requires completion of 144 credit hours of course work and 2 credit hours of internship of at least six weeks in an organization approved by the Institute. Students graduating with a CGPA of 2.5 on the scale of 4 are eligible to apply for MBA program offered by the Institute.

### Required Courses

#### Accounting

ACC101 Introduction to Financial Accounting

#### Communication

COM107 Academic English

COM203 Methods in Business Writing

#### Economics

ECO101 Principles of Microeconomics

ECO102 Principles of Macroeconomics

ECO304 Introduction to Econometrics

#### Finance and Risk Management

FRM201 Principles of Risk Management

FRM202 Life and Other Contingencies

FRM204 Enterprise Risk Management

FRM206 Institutional Investments

FRM302 Computational Methods in Risk

FRM304 Risk Financing Techniques

FRM310 Project

#### Management

MAN101 Principles of Management

#### Marketing

MKT301 Principles of Marketing

MKT404 Methods in Business Research

#### Actuarial Science

ARM201 Introduction to Actuarial Science

ARM501 Stochastic Process/Modeling

ARM601 Models of Financial Economics-I

ARM602 Models of Financial Economics - II

#### Finance

FIN201 Introduction to Business Finance

FIN406 Financial Econometrics

FIN503 Corporate Finance

FIN507 Portfolio Management

FIN509 Financial Derivatives

#### Language

LAN 10\* Foreign Language I

LAN 20\*\* Foreign Language II

\*1 = Introduction to Arabic

\*2 = Introduction to French

\*3 = Introduction to Spanish

\*4 = Introduction to German

\*5 = Introduction to Japanese

\*6 = Introduction to Italian

\*7 = Introduction to Russian

\*8 = Introduction to Chinese

\*\*1 = Intermediate Arabic

\*\*2 = Intermediate French

\*\*3 = Intermediate Spanish

\*\*4 = Intermediate German

\*\*5 = Intermediate Japanese

\*\*6 = Intermediate Italian

\*\*7 = Intermediate Russian

\*\*8 = Intermediate Chinese

#### LAW

LAW401 Business Law



### Mathematics

MTH104 Calculus I  
MTH105 Calculus II  
MTH204 Linear Algebra  
MTH209 Financial Mathematics I  
MTH210 Financial Mathematics II  
MTH211 Actuarial Mathematics  
MTH403 Numerical Computing

### Statistics

STA203 Probability Theory and Statistics  
STA210 Sampling Theory  
STA302 Methods of Data Analysis  
STA305 Applied Regression Analysis  
STA309 Loss Models I

### Pakistan Studies

PSC301 Pakistan Studies

### Religious Studies

REL101 Islamic Studies

### Elective Courses

#### Finance and Risk Management

FRM503 Corporate Risk Management  
FRM505 Corporate Treasury and Risk Management  
FRM508 Financial Market Issues and Crisis  
FRM512 International Risk and Financial Reporting  
FRM514 Takaful and Risk Management in Islamic Products  
FRM517 Property Risk Management

FRM504 Theory of Risk and Insurance  
FRM506 Financial Regulation for Risk Management  
FRM510 Energy Risk Management  
FRM513 Project Risk Management  
FRM516 International Financial Reporting and Standards  
FRM518 Management of Insurance Institutions

#### Computer Sciences

CSC103 Structured Programming Language

### Course Structure

<b>Semester One</b> Academic English Principles of Microeconomics Foreign Language I Probability Theory and Statistics Calculus I Islamic Studies	<b>Semester Two</b> Introduction to Financial Accounting Probability Theory and Statistics II Calculus II Principles of Macroeconomics Financial Mathematics I Introduction to Actuarial Science	<b>Semester Three</b> Principles of Marketing Linear Algebra Model and Inferences Introduction to Business Finance Methods in Business Writing Financial Mathematics II
<b>Semester Four</b> Numerical Computing Business Law Introduction to Econometrics Principles of Management Pakistan Studies Method of Data Analysis	<b>Semester Five</b> Financial Derivatives Actuarial Mathematics Principles of Risk Management Stochastic Processes Financial Econometrics Corporate Finance	<b>Semester Six</b> Portfolio Management Life and Other Contingencies Enterprise Risk Management Sampling Theory Models in Financial Economics I Methods in Business Research
<b>Semester Seven</b> Institutional Investments Models in Financial Economics II Applied Regression Analysis Computational Methods in Risk Mgmt. Loss Models I Elective I	<b>Semester Eight</b> Decision Theory Loss Models II Risk Financing Techniques Time series Analysis & forecasting Project Elective II	



## BS MATHEMATICS AND ECONOMICS



BS (Mathematics & Economics) is an inter-disciplinary undergraduate program for students with robust mathematical skills and keen interest in economics. This program is a perfect blend of pure and applied mathematics which does not only ensure a solid quantitative foundation for both disciplines but also provide phenomenal coverage of Statistics, Actuarial sciences and Finance. The training this degree provides is a unification of critical economic analysis and strong mathematical skills, which can help student pursue an esteemed position in financial services industry, growth and development centers, business enterprises, as well as public sector. Graduates with this degree are increasingly valued by employers because of their critical reasoning and sound knowledge as much of the economic theory is currently presented in terms of mathematical models. This opens more career options than the ones traditionally available to either mathematics or economics majors. This degree is also a paragon for those who aim for Master/ Doctoral degree in Economics, Finance, Mathematics, Statistics, Actuarial Sciences or other related fields.

The BS (Mathematics & Economics) is a four-year program. Applicants who have successfully completed H.Sc with minimum 50% marks in Pre-Engineering or in General Group (with Mathematics) or A-Levels with a minimum 2 Cs in three principal subjects (with Mathematics) are eligible to apply for admission. Graduation requirement is the completion of 141 credit hours of course work and 3 credit hours of project approved by college. Students must take a minimum load of 12 credit hours (four courses) or a maximum load of 18 credit hours (six courses) in a semester. In order to obtain the BS degree in four years, a student is required to cover twelve courses in a year. Full load of six courses can be taken each in the Fall and Spring semesters with an option of four courses in the latter and making up for the short fall in summer session. Students must maintain a CGPA of 2.5 for the conferment of degree.

### Required Courses

#### Mathematics

MTH104 Calculus I  
MTH105 Calculus II  
MTH203 Introduction to Formal Mathematics  
MTH204 Linear Algebra  
MTH213 Introduction to Computing  
MTH224 Multivariable Calculus  
MTH251 Number theory  
MTH301 Real Analysis I  
MTH311 Real Analysis II  
MTH344 Introduction to Differential Equations  
MTH346 Partial Differential Equations  
MTH350 Topics in Mathematical Economics  
MTH403 Numerical Analysis  
MTH427 Topology  
MTH401 Complex Analysis  
MTH433 Optimization Techniques  
MTH437 Functional Analysis

#### Economics

ECO101 Principles of Microeconomics  
ECO102 Principles of Macroeconomics  
ECO103 Intermediate Microeconomics  
ECO105 Intermediate Macroeconomics  
ECO 207 Game Theory  
ECO301 Managerial Economics  
ECO302 International Trade  
ECO303 Financial Economics  
ECO307 Monetary theory and Policy  
ECO402 Pakistan Economic Policy  
ECO507 Development Economics  
ECO410 Econometrics I  
ECO412 Econometrics II

### Political Sciences

PSC301 Pakistan Studies

### Religious Studies

REL101 Islamic Studies

### Statistics

STA203 Probability Theory and Statistics

STA301 Model and Inference

STA302 Methods of Data Analysis

STA303 Time Series Analysis

STA305 Applied Regression Analysis

### Elective Courses

#### Mathematics

MTH211 Actuarial Mathematics

MTH205 Financial Mathematics

MTH207 Stochastic Models and Mathematical Finance

MTH421 Abstract Algebra

MTH423 Combinatorics

MTH430 Operations Research

MTH439 Introduction to Dynamical Systems

### Communication

COM107 Academic English

COM202 Business and Professional Speech

COM203 Methods in Business Writing

### Language

LAN 10\* Foreign Language I

LAN 20\*\* Foreign Language II

\*1 = Introduction to Arabic

\*3 = Introduction to Spanish

\*5 = Introduction to Japanese

\*7 = Introduction to Russian

\*\*1 = Intermediate Arabic

\*\*3 = Intermediate Spanish

\*\*5 = Intermediate Japanese

\*\*7 = Intermediate Russian

\*2 = Introduction to French

\*4 = Introduction to German

\*6 = Introduction to Italian

\*8 = Introduction to Chinese

\*\*2 = Intermediate French

\*\*4 = Intermediate German

\*\*6 = Intermediate Italian

\*\*8 = Intermediate Chinese

#### Economics

ECO305 Topics in Microeconomics

ECO306 Topics in Macroeconomics

ECO414 Islamic Economics

ECO416 Growth Theories

ECO418 Resource & Environmental Economics

ECOXXX Energy Economics

ECOXXX Public Finance

ECOXXX Economics of Logistics

ECOXXX History of Economics Idea

ECOXXX Agronomics

### Course Structure

<b>Semester One</b> Islamic studies Academic English Principles of Microeconomics Calculus I Foreign Language I Computer concepts and applications	<b>Semester Two</b> Pakistan Studies Methods in Business Writing Principles of Macroeconomics Calculus II Foreign Language II Probability & Statistics	<b>Semester Three</b> Business and Professional Speech Intermediate Microeconomics Model and inference Introduction to Formal Mathematics Multivariable Calculus Introduction to Computing
<b>Semester Four</b> Intermediate Macroeconomics Development Economics Game Theory Methods of Data Analysis Number theory Linear Algebra	<b>Semester Five</b> International Trade Managerial Economics Applied Regression Analysis Topics in Mathematical Economics Real Analysis I Introduction to Differential Equations	<b>Semester Six</b> Monetary theory & Policy Financial Economics Econometrics I Numerical Analysis Real Analysis II Partial Differential Equations
<b>Semester Seven</b> Econometrics II Pakistan Economic Policy Topology Complex Analysis Economics Elective I Mathematics Elective I	<b>Semester Eight</b> Time Series Analysis and Forecasting Optimization Techniques Functional Analysis Economics Elective II Mathematics Elective II Project	



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## BS DATA SCIENCE



BS (Data Science) has a dual emphasis on basic principles of statistics and computer science, with foundational training in statistical and mathematical aspects of data analysis. This program, in addition, develops foundation on broad computer science principles, including algorithms, data structures, data management and machine learning. The program is suitable for students interested in either a career in industry or who wish to pursue more specialized graduate study. This program will prepare students for a career in data analysis, combining foundational statistical concepts with computational principles from computer science. A major component of this degree is the final year two-semester project, that teaches students how to apply statistical and computational principles to solve large-scale, real-world data analysis problems. BS (Data Science) is a four year degree program. It requires completion of 144 credit hours of course work and 2 credit hours of internship of at least six weeks at an organization approved by the Institute.

### Data Science students learn to:

- Define information needs of individuals and organizations;
- Select and transform data to increase usefulness for solving particular problems;
- Analyze and synthesize unstructured data to create actionable information;
- Create information visualizations for data exploration and presentation;
- Manage very large volume data sources from acquisition through disposal;
- Secure and preserve data in ways consistent with legal and organizational considerations

### Learning Outcomes for Data Science students include:

1. Knowledge of how to apply analytic techniques and algorithms (including statistical and data mining approaches) to large data sets to extract meaningful insights.
2. Acquisition of hands-on experience with relevant software tools, languages, data models, and environments for data processing and visualization.
3. Ability to communicate results of analysis effectively (visually and verbally) to a broad audience.

## Required Courses

### Accounting

ACC101 Introduction to Financial Accounting

### Communication

COM107 Academic English

COM203 Methods in Business Writing

COM403 Interpersonal Communication Skills

### Economics

ECO104 Micro and Macroeconomics

ECO304 Introduction to Econometrics

### Language

LAN 10\* Foreign Language I

\*1 = Introduction to Arabic

\*2 = Introduction to French

\*3 = Introduction to Spanish

\*4 = Introduction to German

\*5 = Introduction to Japanese

\*6 = Introduction to Italian

\*7 = Introduction to Russian

\*8 = Introduction to Chinese

### Management

MAN101 Principles of Management

MAN411 Project Management

### Data Science

BDS101 Introduction to Data Science  
 BDS201 Business Process Analysis  
 BDS301 Data Mining-I  
 BDS302 Data Mining-II  
 BDS401 Data Visualization  
 BDS402 Big Data Concept & Techniques  
 BDS403 Big Data & Analytics  
 BDS404 Machine Learning

### Mathematics

MTH107 Calculus and Analytical Geometry  
 MTH204 Linear Algebra  
 MTH215 Differential Equations  
 MTH222 Discrete Structures  
 MTH224 Multivariable Calculus  
 MTH403 Numerical Computing/Analysis

### Statistics

STA203 Probability Theory & Statistics I  
 STA204 Probability Theory & Statistics II  
 STA301 Model & Inference  
 STA302 Methods of Data Analysis  
 STA305 Applied Regression Analysis  
 STA303 Time Series Analysis

### Computer Science

CSC105 Data Structures and Algorithms  
 CSC111 Intro. to Information & Communication Technology  
 CSC112 Object Oriented Programming  
 CSC113 Programming Fundamentals  
 CSC205 Computer Architecture  
 CSC217 Digital Logic Design  
 CSC220 Introduction to Database Management Systems  
 CSC315 Theory of Automata and Formal Language  
 CSC317 Introduction to Software Engineering  
 CSC318 Design & Analysis of Algorithms  
 CSC410 Data Communication and Networking  
 CSC412 Artificial Intelligence  
 CSC428 Web Engineering  
 CSC443 Mobile Computing  
 CSC445 Network Security  
 CSC461 Project I  
 CSC462 Project II  
 CSC463 Introduction to Data Warehousing

### Religious Studies

REL101 Islamic Studies

### Pakistan Studies

PSC301 Pakistan Studies

## Course Structure

<b>Semester One</b> Introduction to Data Science Programming Fundamentals (2+1) Probability theory & Statistics I Calculus and Analytical Geometry Islamic Studies Academic English	<b>Semester Two</b> Multivariable Calculus Object Oriented Programming (2+1) Probability Theory & Statistics II Methods in Business Writing Discrete Structures Pakistan Studies	<b>Semester Three</b> Linear Algebra Intro. to Info. & Comm. Tech. (2+1) Model & Inference Interpersonal Communication Skills OR Foreign Language I Data Structures and Algorithms (2+1) Micro and Macroeconomics
<b>Semester Four</b> Differential Equations Computer Architecture & Org. (2+1) Methods of Data Analysis Business Process Analysis Data Communication & Networking (2+1) Intro. to Database Management Systems	<b>Semester Five</b> Numerical Computing/Analysis (2+1) Data Mining -I Applied Regression Analysis Intro. to Software Engineering (2+1) Mobile Computing Theory of Automata & Formal Language	<b>Semester Six</b> Principles of Management Introduction to Econometrics Data Mining -II Design & Analysis of Algorithms (2+1) Artificial Intelligence Network Security
<b>Semester Seven</b> Data Visualization Digital Logic Design (2+1) Time Series Analysis Project I Big Data Concept & Techniques Introduction to Financial Accounting	<b>Semester Eight</b> Project II Introduction to Data Warehousing Big Data & Analytics Project Management Machine Learning (2+1) Web Engineering (2+1)	

## MS COMPUTER SCIENCE



The Master of Science program in Computer Science provides an intensive preparation in the concepts and techniques related to the design, programming and application of computing systems. The program requires students to take a broad spectrum of courses and simultaneously allows for emphasis on the desired areas of specialization. The program is based on HEC guidelines. The program comprises two year of study over at least 4 semesters. It requires completion of 30 credit hours of course work. Students are required to complete 8 courses and a thesis of 6 credit hours equivalent of 2 courses in order to fulfill their degree requirements. Students must maintain a CGPA of 3.0 for the conferment of the degree.

### Eligibility

BS(CS) / MCS / BE in Computer Engineering candidates are required to make up for the requirement as proposed by the Department Board of Studies. Minimum CGPA of 2.5 on a scale of 4.

MS (Computer Science) program consists of two groups of courses: core and elective.

### Core Courses

- CSC541 Advanced Research Methodology
- CSC543 Advanced Computer Architecture
- CSC545 Decision Theory
- CSC548 Advanced Analysis of Algorithms

### Elective Courses

- |   |   |
|---|---|
| CSC465 Data Warehousing                     | CSC561 Advanced Software Engineering        |
| CSC562 Object Oriented Software Engineering | CSC563 Software Quality Assurance           |
| CSC564 Software Requirement Engineering     | CSC565 Software Testing Strategies          |
| CSC571 Advanced Database Management Systems | CSC573 Data Mining                          |
| CSC574 Distributed Systems                  | CSC575 Parallel and Distributed Computing   |
| CSC576 Parallel and Distributed Algorithms  | CSC578 Communication and Information Policy |
| CSC467 Neural Networks                      | CSC582 Pattern Recognition                  |
| CSC466 Fuzzy Systems                        | CSC591/592 Thesis                           |

### Course Structure

<b>Semester One</b> Advanced Research Methodology Advanced Computer Architecture Advanced Analysis of Algorithm	<b>Semester Two</b> Decision Theory Elective I Elective II
<b>Semester Three</b> Elective III Elective IV	<b>Semester Four</b> MS Thesis (6 credit hours)



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## MS MATHEMATICS AND MS STATISTICS (SCIENTIFIC COMPUTING)

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The MS programs in Mathematics & Scientific Computing and in Statistics & Scientific Computing prepare students for careers in research, applications, and teaching. Students choose courses from two areas of concentration for their course work: Mathematics and Computations or Statistics and Computations. Students are required to successfully qualify for eight courses (4 compulsory and 4 electives) each of 3 credit hours duration. On successful completion of MS course work students will be allowed to work on a 6 credit hour thesis on a subject of interest and on the availability of the faculty. Students will be required to qualify for Final (Comprehensive) Examination, as well as write and defend a thesis. The MS Program takes usually two years to complete and students must pass GRE/NTS exam prior to the completion of the degree.

### Eligibility

16 Years of education in Computer Science, Engineering, Mathematics or Statistics any relevant field.

### Required Courses

#### MS (Mathematics & Scientific Computations)

##### Compulsory Courses (12 credit hours)

- MTS614 Mathematical Statistics
- MTS615 Dynamical System
- MTS617 Advanced Numerical Analysis
- MTS618 Statistical Modeling and Computing

##### Elective Courses

##### Mathematics Concentration (6 credit hours)

- MTS610 Calculus of Variation
- MTS612 Numerical Methods for ODEs and PDEs
- MTS620 Asymptotic Analysis
- MTS626 Advance Convex Analysis
- MTS628 Advance Numerical Optimization
- MTS630 Advance Mathematical Physics
- MTS632 Advance Variational Inequalities
- MTS634 Advance Numerical Linear Algebra
- MTS636 Advance Hilbert Space
- MTS640 Symmetry Methods for Differential Equations
- MTS641 Continuum Mechanics
- MTS642 Geometric Methods in Mechanics and Physics



### Computation Concentration (6 credit hours)

MTS629 Machine Learning and Pattern Recognition	MTS631 Production Quality Software
MTS633 Fundamental Algorithms	MTS635 Information Retrieval and Data Mining
MTS637 High Performance Computing	MTS639 Principles in Parallel Computing
MTS691/692 Thesis	

### Course Structure

#### MS (Mathematics & Scientific Computing)

<b>Semester One</b> Mathematical Statistics Advanced Numerical Analysis Dynamical Variable	<b>Semester Two</b> Statistical Modeling & Computing Mathematics Concentration I
<b>Semester Three</b> Mathematics Concentration II Computation Concentration I Computation Concentration II	<b>Semester Four</b> Thesis (Mathematics Oriented) <i>6 credit hours</i>

#### MS (Statistics & Scientific Computing)

##### Required Courses

##### Compulsory Courses (12 credit hours)

MTS614 Mathematical Statistics
MTS615 Dynamical System
MTS617 Advanced Numerical Analysis
MTS618 Statistical Modeling and Computing

##### Elective Courses

##### Statistics Concentration (6 credit hours)

MTS643 Statistical Inference	MTS647 Advanced Design of Experiments
MTS648 Time Series Analysis	MTS649 Stochastic Processes
MTS650 Applied Regression Models	MTS651 Theory and Practices of Forecasting
MTS652 Statistical Quality Control	MTS653 Multivariate Statistics

##### Computation Concentration (6 credit hours)

MTS657 Machine Learning and Pattern Recognition	MTS658 Production Quality Software
MTS659 Fundamental Algorithms	MTS660 Information Retrieval and Data Mining
MTS661 Simulation and Modeling	MTS662 Principles in Parallel Computing
MTS691/692 Thesis	

### Course Structure

#### MS (Statistics & Scientific Computing)

<b>Semester One</b> Mathematical Statistics Advanced Numerical Analysis Dynamic System	<b>Semester Two</b> Statistical Modeling & Computing Statistics Concentration I
<b>Semester Three</b> Statistics Concentration II Computation Concentration I Computation Concentration II	<b>Semester Four</b> Thesis (Statistics Oriented) <i>6 credit hours</i>



## MS ACTUARIAL SCIENCE (AS) & COMPUTATIONAL FINANCE (CF)

The MS (AS&FC) degree program is conformed upon those candidates who have demonstrated high academic performance at BS level programs in the fields of Actuarial Science, Economics, Mathematics, Statistics, Computer Science, and Physics and interested to explore actuarial science, risk management, financial mathematics and computing sciences in insurance and finance. The field of computational finance along with actuarial science is/will be in demand nationally and internationally in banks, financial institutions, insurance companies.

### Eligibility

1. Sixteen years of schooling or 4 year education (130 credit hours) after HSSC/F.A./F.Sc./Grade 12 equivalent will be required for admission in the MS (AS&CF).
2. The test conducted by IoBM Admission Dept. or some equivalent agency acceptable to HEC (NTS) with a minimum of 50% cumulative score will be required at the time of admission to MS (AS&CF). The test is valid for a period of two years.

### MS (AS&CF)

- For the award of MS (AS&CF) candidates will complete 30 credit hours with 24 credit hours of course work along with a minimum of 6 credit hours for thesis.
- (\*1. 6 credit hours may be exempted only for those disciplines where research is not possible)
- (\*2. The HoD may allow students to do course work of 6 credit hours in lieu of 6 credit hours of research work. This exemption can only allowed if students wish to terminate their course work at MS and not pursue PhD.)
- Course work of 12 credit hours is required to be completed in two semesters and the thesis should be completed in a year time after completing course work. All examinations and grading will be as per Institute's rules.

### Required Courses

#### Compulsory Courses (12 credit hours)

- ACF601 Financial Mathematics and Computational Finance  
ACF602 Finance and Financial Reporting  
ACF603 Life Insurance Mathematics and Computing  
ACF604 Advanced Life Insurance Mathematics and Computing



*I had a glorious four years at IoBM. The best part was getting a Gold Medal at the end for all my hard work. I have always felt that I was so lucky to be a student at IoBM. It is like my second home. IoBM has helped me to develop a positive attitude towards my studies and discover more about myself, which is helping me at my job now.*

*I would like to thank all my family, teachers, and friends for making me the person who I am today and creating a difference in my life. Thank you.*

Neha Lodhi





## Elective Courses (12 credit hours)

### Actuarial Science Concentration

- ACF605 Economics of Risk and Insurance
- ACF606 Statistical Methods (for Insurance and Risk Management) with Computing
- ACF607 Stochastic modeling (for Insurance and Risk Management) with Computing
- ACF608 Survival Models & Theory of Reliability
- ACF609 Risk Theory (for life insurance)
- ACF610 Financial Economics
- ACF611 Introduction to Model Office Building in Life Insurance
- ACF612 Social Insurance in Emerging Markets
- ACF613 Hedge Funds
- ACF614 Risk Assessment and Decision Analysis Using Bayesian Network (BAN)

### Computing Concentration

- ACF615 Time Series Modeling & Forecasting
- ACF616 Simulation & modeling
- ACF617 Machine Learning
- ACF618 Actuarial Computing Using R or Other Software
- ACF619 Financial Soft Computing /Advances in Computational Finance

### Thesis Writing and Evaluation (6 credit courses)

Thesis writing and evaluation will be done as per rules of IOBM (BASR). Thesis should be Mathematics of Insurance and Computing oriented

## Course Structure

### MS (Actuarial Science & Computational Finance)

<b>Semester One</b> Financial Mathematics and Computational Finance Finance and Financial Reporting Life Insurance Mathematics and Computing	<b>Semester Two</b> Advanced Life Insurance Mathematics and Computing Elective I Elective II
<b>Semester Three</b> Elective III Elective IV	<b>Semester Four</b> MS Thesis <i>(6 credit hours)</i>

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## PhD (COMPUTER SCIENCE)

## PhD (MATHEMATICS & SCIENTIFIC COMPUTING)

## PhD (STATISTICS & SCIENTIFIC COMPUTING)

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The PhD programs will connect knowledge of three disciplines mathematics, statistics, and computer science to policy-relevant decision-making in business and government. The program aims to train researchers to contribute to theory, develop inventive and useful models and methods, and conduct applied scientific investigations. Although the individual researchers will vary in their emphasis, the field includes all these aspects. This program emphasizes on rigorous course work and high quality research that should be published in international conferences and HEC recognized journals. Course and research work are arranged as per HEC criteria.

### Eligibility

**M.Phil. /M.S. / in Computer Science related field or equivalent graduates from HEC recognized institutions meeting the following criteria:**

- A minimum CGPA of 3.00 on a scale of 4.00 (or overall 60% marks) or equivalent
- A minimum of 18 years of schooling that corresponds to MS / M.Phil or equivalent degree from HEC recognized institutions in a relevant discipline
- GRE subject specific or GAT subject test conducted by the NTS, or equivalent in the relevant discipline. A minimum of 60% (percentage) marks is required
- An interview conducted by the Institute
- All other HEC stipulated requirements



### Program Requirements

PhD requires completion of course work and dissertation/thesis. Minimum duration is 3 years and maximum is 5 years:

- PhD course work requirements consist of six graduate level courses (18 credit hours)
- On completion of dissertation/thesis the student is awarded 30 credits

**A PhD student must additionally complete the following requirements:**

- Comprehensive Exam
- PhD Proposal/Synopsis Development
- PhD Proposal/Synopsis Defense
- BASR Approval of PhD Proposal/Synopsis
- Continuous enrollment in supervised research courses for meeting the full-time residency requirements
- Completion of PhD Dissertation/Thesis
- Selection of External Evaluators by BASR
- Publication of at least one paper in an ISI indexed or an HEC recognized journal or an official acceptance of the paper
- Evaluation of PhD Dissertation by two foreign faculty members from developed countries as per HEC criteria
- Dissertation/Thesis Finalization
- Open defense of PhD dissertation
- Any other HEC requirement
- Final Dissertation/Thesis Submission to BASR



## Course Structure

Semesters One to Nine (Select Six courses)

### PhD (Computer Science)

- PCS701 Big Data Analytics and Knowledge Discovery
- PCS703 Natural Language Processing Information Retrieval
- PCS705 Advance Theory of Computation
- PCS707 Advances in Machine Learning
- PCS709 Computational Intelligence
- PCS711 Heuristic Search theory & Methods
- PCS713 Advanced Neural Network
- PCS715 Intelligent Web Technologies
- PCS717 Parallel and Distributed Systems
- PCS719 Formal Research Methods
- PCS723 Computer Vision and Robotics
- PCS725 Temporal and Spatial Database Management System
- PCS731 Advanced Digital Signal Processing
- PCS733 Advanced Decision Support System
- PCS739 Advances in Simulation and Modeling
- PCS743 Fuzzy Topologies with Human Centric Computing
- P CS745 Advanced Algorithm Analysis
- PCS749 Seminar on Logic and Scientific Computing
- PCS751 Seminar on Emerging Computing Technologies
- PCS850 Research Thesis



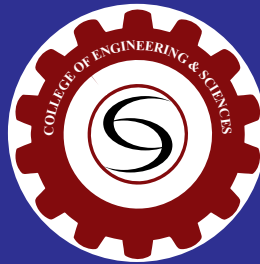
### PhD (Statistics & Scientific Computing)

- PST701 Advanced Statistical Computing and Graphics
- PST703 Regression Modeling and Computing
- PST705 Advanced Mathematical Statistics
- PST707 Advanced Bayesian Inference and Stochastic Modeling
- PST713 Nonlinear and Integer Programming
- PST715 Advanced Design and Analysis of Experiments
- PST717 Advances in Time Series Analysis
- PST719 Advances in Bioinformatics & Biostatistics
- PST721 Statistical Quality Control
- PST723 Stochastic Modeling
- PST850 Research Thesis



### PhD (Mathematics & Scientific Computing)

- PMT701 Advanced Numerical Computing
- PMT703 Linear Algebra and Lie Algebra
- PMT705 Applied Matrix Theory
- PMT707 Numerical Methods for PDEs
- PMT709 Topics in Inverse Problems
- PMT711 Topics in Numerical Differential Equations
- PST701 Advanced Statistical Computing & Graphics
- PST703 Regression Modeling & Computation
- PST713 Nonlinear and Integer Programmng
- PMT850 Research Thesis



# COLLEGE OF ENGINEERING AND SCIENCES

*“Entrepreneurial Engineering with Excellence”*

College of Engineering and Sciences (CES) was established to realize IoBM’s mission of creating an impact as a multidimensional institution of higher learning. The college strives to develop entrepreneurial engineers who have the technical skills and confidence to create new engineering technologies and design innovative engineering products and processes.

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## BS INDUSTRIAL ENGINEERING AND MANAGEMENT

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### Required Courses

#### Accounting

ACC419 Financial Accounting

#### Computer Science

CSC310 Computer Simulations

#### Engineering

ENG101 Workshop Practices  
ENG102 Engineering Mechanics  
ENG103 Engineering Drawing  
ENG105 Basic Industrial Engineering  
ENG108 Introduction to Thermo-Fluids  
ENG109 Industrial Chemistry  
ENG201 Design of Machine Elements  
ENG202 Production System Design  
ENG203 Engineering Economics  
ENG206 Manufacturing Process  
ENG209 CAD/CAM Applications  
ENG218 Metrology and Statistical Quality Control  
ENG219 Industrial Maintenance and Safety  
ENG220 Mechanics of Materials  
ENG300 Electrical Technology and Instrumentation  
ENG303 Production Planning and Control  
ENG304 Automation and Robotics  
ENG305 Work Study and Methods Engineering  
ENG306 Basic Machine Design  
ENG307 Basic Electronics  
ENG403 Human Factor Engineering  
ENG503 Project I  
ENG504 Project II

Graduates of Industrial Engineering Department contribute to the growth of manufacturing and process industries through their technical expertise in creating innovative production processes and developing efficient facilities. Bachelor of Industrial Engineering degree is known as BS (IEM) and is accredited by PEC (see [http://www.pec.org.pk/schedule\\_first.aspx](http://www.pec.org.pk/schedule_first.aspx)) and automatically qualifies the graduates for MS/MBA programs at IOBM. BS (IEM) graduates are given attractive exemptions from the equivalent courses of the foundation stage of the MBA Industrial Management program. Another outstanding feature is the provision of hands on training facilities in industrial units on a continuous basis, which blends theory with practical experience. Each final year student is required to undergo 2 credit hours of internship of 6 to 8 weeks with a reputable engineering firm. This close collaboration increases job opportunities and accessibility to higher technical and managerial positions.

This program requires completion of 138 credit hours of course work, including 46 courses. Students graduating with a CGPA of 2.5 automatically qualify for the MBA program offered by IOBM. Students can also proceed further for postgraduate work in Industrial / Management Engineering at leading international schools.

#### Communication

COM107 Academic English  
COM402 Business Communication

#### Human Resource Management

HRM410 Managing Human Capital

#### General Sciences

GSC101 Physics

#### Management Information Systems

MIS104 Computer Programming and Graphics  
MIS406 Operations Research  
SCM301 Introduction to ERP Systems

#### Management

MAN303 Production and Operations Management  
MAN418 Management and Organizational Dynamics

#### Marketing

MKT302 Marketing Management

#### Mathematics

MTH202 Engineering Mathematics  
MTH208 Differential Equation and Complex Variables  
MTH403 Numerical Computing / Analysis  
MTH406 Finite Element Analysis



### Political Sciences

PSC301 Pakistan Studies

### Statistics

STA204 Industrial Applications of Statistics

EEM412 Research and Survey Methodology

### Religious Studies

REL101 Islamic Studies

### Elective Courses

#### Engineering

ENG204 Plant Engineering

ENG216 Reliability Analysis

ENG401 Computer Integrated Manufacturing

ENG402 Manufacturing Strategies

ENG404 Tool Design

#### Management

MAN405 Strategic Management

MAN501 Total Quality Management

MAN503 Supply Chain Management

MAN509 Logistics and Inventory Control

#### Mathematics

MTH406 Finite Element Analysis

### Course Structure

<b>Semester One</b> Engineering Mathematics Computer Programming and Graphics Physics Workshop Practices Academic English Islamic Studies	<b>Semester Two</b> Introduction to Thermo-Fluids Engineering Mechanics Engineering Drawing Industrial Chemistry Business Communication Diff. Equation and Complex Variables	<b>Semester Three</b> Mechanics of Materials Pakistan Studies Design of Machine Elements Management & Organizational Dynamics Electrical Technology & Instrumentation Basic Industrial Engineering
<b>Semester Four</b> Industrial Applications of Statistics Production System Design Financial Accounting Basic Electronics Introduction to ERP Systems Human Factor Engineering	<b>Semester Five</b> Production & Operations Management Managing Human Capital Operations Research Metrology & Statistical Quality Control Marketing Management Manufacturing Process	<b>Semester Six</b> Basic Machine Design Computer Simulations CAD/CAM Applications Engineering Economics Numerical Computing / Analysis Industrial Maintenance & Safety
<b>Semester Seven</b> Production Planning and Control Research and Survey Methodology Project I Elective I Elective II	<b>Semester Eight</b> Automation and Robotics Work Study and Methods Engineering Project II Elective III Elective IV	



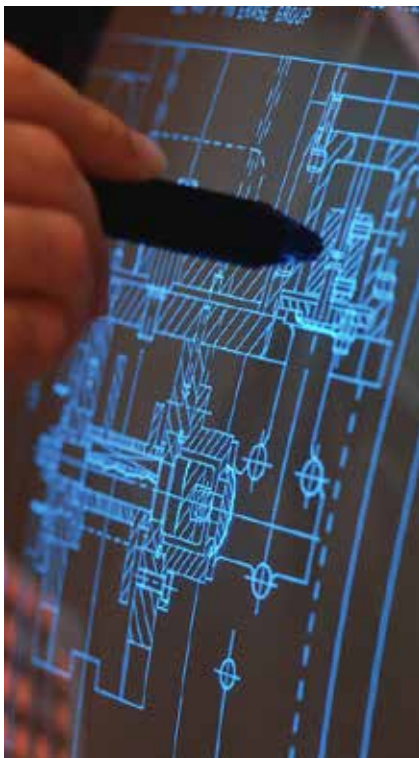
*My five years at IoBM have been a splendid journey which transformed me as an individual and groomed me both personally & professionally. Receiving a gold medal for BS (AML) was one of the biggest achievements of my life which made me realize that hard work always pays off. I would always give credit to the Institute for developing self confidence in me and making me a person I am today as well as my faculty for being supportive throughout my academic journey at IoBM!*

Ramla Abid

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## BE ELECTRICAL ENGINEERING IN ELECTRONICS AND TELECOMMUNICATION

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Electrical Engineering graduates are empowered to ensure the growth of electrical, electronics and telecommunication industry through their technical expertise and entrepreneurial spirit. BE (EE) program is accredited by PEC and students can specialize in either electronics or telecommunication streams. Successful completion of BE (EE) automatically qualifies the students for MS/MBA programs.

The program is Pakistan Engineering Council (PEC) approved (see [http://www.pec.org.pk/schedule\\_first.aspx](http://www.pec.org.pk/schedule_first.aspx)) and designed in close consultation with leading engineering firms and scholars from reputable academic Institutions. The Electrical engineering curriculum is a four-year degree program comprising 8 semesters. The emphasis is given to laboratory work, experimental knowledge and innovative teaching methods. One of its special features is an Internship of 6 to 8 weeks in a reputable engineering organization. During the first four semesters, same courses are offered to all students. At the end of the fourth semester, students are allowed to select either of two of the above mentioned areas of specialization. The course work offered in the last four semesters is especially designed to enhance students' knowledge of area of interest and provide them thorough understanding about the advanced subjects in that particular area of specialization.

Completion of course work (with 2.5 CGPA) and internship automatically qualify students for the Master's programs offered by IOBM. They can also proceed further for postgraduate studies or work in the fields of Telecommunication and Electronics at leading universities and organizations throughout the world. The IOBM course credits are easily transferable to a number of international universities.

### Required Courses

#### Communication

- COM107 Academic English
- COM202 Business and Professional Speech
- COM403 Interpersonal Communication Skills

#### Computer Engineering

- CME102 Fundamentals of Computing
- CME104 Computer Programming and Problem Solving
- CME203 Data Structures and Algorithms
- CME205 Microcontroller and Microprocessor Systems
- CME301 Computer Communication and Networks

#### Electronic Engineering

- ELE200 Electronic Devices and Circuits
- ELE201 Digital Logic Design
- ELE202 Electronic Workshop Practices
- ELE370 Instrumentation and Measurements
- ELE419 Linear Control Systems
- ELE420 Power Electronics
- ELE450 Senior Design Project I
- ELE451 Senior Design Project II

#### Electrical Power Engineering

- EPE101 Linear Circuit Analysis
- EPE200 Electrical Network Analysis
- EPE201 Computer Aided Engineering Design
- EPE302 Electrical Machines



### Telecommunication Engineering

TCE201 Communication System  
TCE204 Electromagnetic Field Theory  
TCE205 Signal and Systems  
TCE301 Probability Methods in Engineering  
TCE321 Wave Propagation and Antennas  
TCE404 Digital Signal Processing  
TCE415 Transmission and Switching Systems  
TCE450 Senior Design Project I  
TCE451 Senior Design Project II

### Engineering Management

ENG203 Engineering Economics

### Mathematics

MTH107 Calculus and Analytical Geometry  
MTH204 Linear Algebra  
MTH215 Differential Equation  
MTH216 Complex Variable and Transforms  
MTH403 Numerical Computing / Analysis

### Religious Studies / Ethics

REL101 Islamic Studies OR  
SSC203 Ethical Behavior

### General Sciences

GSC103 Applied Physics

### Management

MAN403 Entrepreneurship and Small Business Management  
MAN418 Management and Organizational Dynamics

### Political Sciences

PSC301 Pakistan Studies

### Community Service

MAN308 Social Advocacy and Community Service OR  
SSC100 Community Service

### Inter-Disciplinary Engineering

IDE401 Principles of Applied Mechatronics  
IDE402 Renewable Energy Methods

## Course Structure

First two years are common to both Electrical Engineering streamlines (Electronic and Telecommunications)

<b>Semester One</b> Applied Physics (3+1) Academic English (3+0) Linear Circuit Analysis (3+1) Fundamentals of Computing (2+1) Calculus & Analytical Geometry (3+0) Electronic Workshop Practices (0+1)	<b>Semester Two</b> Linear Algebra (3+0) Islamic Studies (2+0) Business and Professional Speech (2+0) Basic Electronics (3+1) Computer Programming & Problem Solving (2+1) Electrical Network Analysis (3+1)
<b>Semester Three</b> Pakistan Studies (2+0) Digital Logic Design (3+1) Data Structure & Algorithms (3+1) Complex Variables & Transforms (3+0) Computer Aided Engineering Designs (0+1) Electronic Devices and Circuits (3+1)	<b>Semester Four</b> Signals & Systems (3+1) Differential Equations (3+0) Interpersonal Communication Skills (3+0) Electromagnetic Field Theory (3+0) Microcontroller & Microprocessor Systems (3+1)



## Course Structure

### Stream 1: Electronic Engineering

<b>Semester Five</b> Electrical Machines (3+1) Numerical Analysis (3+0) Linear Control Systems (3+1) Instrumentation and Measurements (3+1) Probability Methods in Engineering (3+0)	<b>Semester Six</b> Elective I (3+1) Engineering Economics (2+0) Communication System (3+1) Digital Signal Processing (3+1) Power Electronics (3+1)
<b>Semester Seven</b> Elective II (3+1) Elective III (3+1) Management and Organizational Dynamics (3+0) Senior Design Project I (0+3) Renewable Energy Methods (3+0)	<b>Semester Eight</b> Elective IV (3+1) Community Service (0+1) Senior Design Project II (0+3) Entrepreneurship & Small Business Management (3+0) Principles of Applied Mechatronics (3+1)

### Elective Courses

ELE415 Opto-Electronics	ELE417 Industrial Electronics
ELE423 Digital Control Systems	ELE422 VLSI Design
ELE429 Introduction to Nano Technology	ELE428 Digital Electronics
ELE433 Artificial Neural Networks	ELE430 Solid State Devices
ELE434 Introduction to Smart Grid Technology	ELE432 Wireless Power Transmission
CME414 Digital Image Processing	CME301 Computer Communication Networks

## Course Structure

### Stream 2: Telecommunication Engineering

<b>Semester Five</b> Numerical Analysis (3+0) Linear Control Systems (3+1) Communication Systems (3+1) Computer Communication Networks (3+1) Probability Methods in Engineering (3+0)	<b>Semester Six</b> Elective I (3+1) Engineering Economics (2+0) Digital Signal Processing (3+1) Management and Organizational Dynamics (3+0) Wave Propagation and Antennas (3+1)
<b>Semester Seven</b> Elective II (3+1) Elective III (3+1) Transmission and Switching System (3+0) Senior Design Project I (0+3) Renewable Energy Methods (3+0)	<b>Semester Eight</b> Elective IV (3+1) Social Advocacy and Community Service (1+1) Senior Design Project II (0+3) Entrepreneurship & Small Business Management (3+0) Principles of Applied Mechatronics (3+1)

### Elective Courses

TCE416 Digital Communications	TCE420 Information Theory and Coding
TCE423 RF and Microwave Engineering	TCE424 Radar Systems
TCE425 Telecom Management	TCE426 Electromagnetic Compatibility
TCE427 Antenna Theory and Design	TCE428 Mobile and Pervasive Computing
TCE429 Teletraffic Engineering	TCE430 Satellite Communication
TCE431 Digital Filter Design	TCE432 Optical Networks
TCE433 Multimedia and Optical Fiber	TCE434 Wireless Sensor Networks
TCE461 Wireless and Mobile Communications	TCE471 Optical Fiber Communication
CME414 Digital Image Processing	



## MS IN ENGINEERING MANAGEMENT

The MS in Engineering Management degree (MEM) can be either an academic or professional master's degree that bridges the gap between the field of engineering, technology and the field of business by equipping students with the technical expertise and leadership skills required to advance their career in the fast-paced world of technology. Sound decision-making, information management, project management, quality engineering, design engineering, simulation, facility layout, production system and industrial costing management are some of the core issues being dealt as part of their career. MEM graduates can fill this gap.

The need for engineering management has been felt at all levels of managers, particularly in the professional management work environment. Also, management is applicable to every aspect of an organization functions and at all levels of top management, middle management and lower management. Basic and specialized knowledge in the field of engineering management is a dire need for every engineer and profitable business.

Engineering management entails planning, organizing, allocating resources, and directing and controlling activities that have a technological component. The course has been designed by engineers and business experts with experience at the International level, keeping in view the requirements of the country.

This is a weekend program with a minimum load of 6 credit hours (2 courses) and a maximum of 9 credit hours (3 courses) in each of the 3 sessions(Fall, Spring and Summer).

### Course Contents

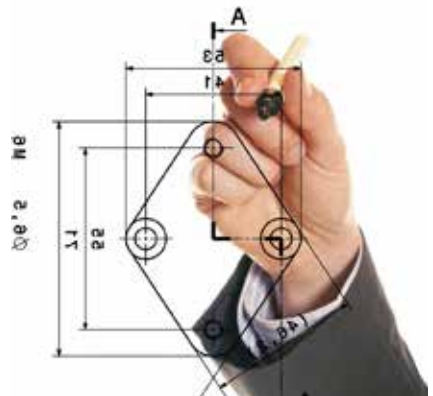
Duration:	2 years
Total credit hours:	30
- Teaching:	24
- Thesis/ Project:	6

A minimum of eight courses (500 Level) of 3 credit hours each with individual research project / thesis of 6 credit hours in a relevant area shall be required for the completion of MS degree requirements in the discipline of Engineering Management. A minimum of four courses from core subjects and four courses from optional subjects are opted.

### Eligibility

BSc/BE degree (16-years of education) in any engineering discipline

*It is mandatory for research students of MPhil and PhD programs to attend at least five sessions of the Multi-disciplinary Research Seminar Series in each semester.*





### Compulsory Core Courses (Four Courses)

- MEM501 Project Management (3+0)
- MEM502 Designs, Patents, Contract and Legal Engineering (3+0)
- MEM503 Quality Processes for Design and Production (3+0)
- MEM504 Research Methodology (3+0)

#### MS Projects (Compulsory)

- MEM600 Thesis / Project (6+0)
- MEM601 Thesis I / Project I (2+0)
- MEM602 Thesis II / Project II (4+0)

### Elective Courses (Any Four Courses)

- MEM505 Applied Engineering Analysis (3+0)
- MEM506 Production System Design and Analysis (3+0)
- MEM507 Operations Analysis & Resource Allocation(3+0)
- MEM508 Operation Management (3+0)
- MEM509 Simulation Modeling (3+0)
- MEM510 Production Planning and Control (3+0)
- MEM511 Advanced Practices in Engineering Management (3+0)
- MEM512 Environmental and Safety Management (3+0)
- MEM513 Industrial Costing Management (3+0)
- MEM514 Technology Management (3+0)
- MEM515 Lean Six Sigma & Lean Manufacturing(3+0)
- MEM516 Marketing Management (3+0)

### Course Structure

<b>Semester One</b> Project Management (3+0) Quality Processes for Design & Production (3+0) Research Methodology (3+0)	<b>Semester Two</b> Design, Patents, Contract & Legal Engineering (3+0) Elective I (3+0) Elective II (3+0)
<b>Semester Three</b> Elective III (3+0) Elective IV (3+0) Thesis-I / Project-I (2+0)	<b>Semester Four</b> Thesis-II / Project-II (4+0)



# COLLEGE OF ECONOMICS AND SOCIAL DEVELOPMENT

## BS (HONORS) ACCOUNTANCY, MANAGEMENT AND LAW



The College of Economics and Social Development (CESD) is a social science and liberal arts college with graduate and undergraduate programs in the areas of accountancy, management and law, education, economics, media studies and psychology. Research is a core competence of CESD. The program is designed to help students build a solid foundation in general business principles and skills. It requires completion of 144 credit hours of course work and 2 credit hours of internship of at least six weeks in a firm approved by the College. Students graduating with a CGPA of 2.5 automatically qualify for MBA program offered by CBM in a weekday full-time program. Students may take a maximum of six courses per semester with Summer as an optional semester. This program will lead to MBA or a professional accountancy qualification. The BS (Hons.) Accountancy, Management and Law degree has been accredited by two of the world renowned accountancy bodies, namely, the Institute of Chartered Accountants of Pakistan (ICAP) and the Association of Chartered Certified Accountants (ACCA), United Kingdom. Students opting for the ICAP qualification may get exemption from all four papers of Assessment of Fundamental Competencies (AFC) and the first four papers of Certificate in Accounting and Finance (CAF). Students opting for the ACCA qualification may get exemption from the following five subjects:

F1- Accountant in Business	F2- Management Accounting
F3- Financial Accounting	F4- Corporate and Business Law
F7- Financial Reporting	

### Required Courses

#### Accounting

ACC102 Introduction to Accounting I (ICAP-CAF-1)  
 ACC103 Introduction to Accounting II (ICAP – CAF-1)  
 ACC202 Taxation I (ICAP – CAF-6)  
 ACC203 Financial Accounting I (ICAP – CAF-5)  
 ACC204 Taxation II (ICAP – CAF-6)  
 ACC303 Financial Reporting I (ICAP – CAF-7)  
 ACC304 Financial Accounting II (ICAP – CAF-5)  
 ACC306 Financial Reporting II (ICAP – CAF-7)  
 ACC307 Cost and Management Accounting I (ICAP – CAF-8)  
 ACC308 Cost and Management Accounting II (ICAP – CAF-8)  
 ACC405 Internal Auditing  
 ACC414 Auditing I (ICAP – CAF-9)  
 ACC416 Auditing II (ICAP – CAF-9)  
 ACC417 Corporate Reporting  
 ACC418 Performance Measurement and Decision Making  
 ACC501 Advanced Financial Accounting  
 ACC502 Advanced Managerial Accounting

#### Communication

COM103 Functional English I (ICAP – AFC-1)  
 COM104 Functional English II (ICAP – AFC-1)  
 COM402 Business Communication (ICAP – AFC-2)

#### Economics

ECO202 Introduction to Economics & Finance I (ICAP-CAF-2)  
 ECO203 Introduction to Economics & Finance II (ICAP-CAF-2)  
 ECO204 The Pakistan Economy

#### Finance

FIN201 Introduction to Business Finance  
 FIN202 Financial Management  
 FIN511 Analysis of Financial Statements  
 FIN601 Strategic Financial Analysis and Design

#### Human Resource Management

HRM301 Human Resource Management  
 HRM502 Industrial Relations and Labour Laws

#### Management Information Systems

MIS413 Information Technology-I  
 MIS416 Information Technology-II

#### Management

MAN101 Principles of Management  
 MAN403 Entrepreneurship and Small Business Management  
 MAN411 Project Management  
 MAN416 Corporate Governance



### Social Sciences

SSC103 Behavioral Studies  
 SSC202 Environmental Studies  
 SSC401 Business Ethics

### Law

LAW105 Mercantile Law (ICAP-CAF-3)  
 LAW106 Company Law (ICAP-CAF-3)  
 LAW301 Intellectual Property, Patents, Copyrights  
 LAW400 Company Secretarial Practices  
 LAW404 Arbitration  
 LAW407 Statutory Compliance

### Language

LAN 10\* Foreign Language I

\*1 = Introduction to Arabic      \*2 = Introduction to French  
 \*5 = Introduction to Japanese      \*6 = Introduction to Italian

### Marketing

MKT301 Principles of Marketing  
 MKT404 Methods in Business Research

### Statistics

STA101 Quantitative Methods-I  
 STA102 Quantitative Methods-II

### Logistics and Supply Chain Management

SCM310 Introduction to ERP Systems

### Religious Studies

REL101 Islamic Studies

\*3 = Introduction to Spanish      \*4 = Introduction to German  
 \*7 = Introduction to Russian      \*8 = Introduction to Chinese

### Course Structure

<p><b>Semester One</b>                      Functional English I                      Quantitative Methods I                      Information Technology I                      Introduction to Economics and Finance I                      Introduction to Accounting I                      Mercantile Law</p>	<p><b>Semester Two</b>                      Introduction to Economics and Finance II                      Introduction to Accounting II                      Islamic Studies                      Quantitative Methods II                      Functional English II                      Behavioral Studies</p>
<p><b>Semester Three</b>                      Financial Accounting I                      Taxation I                      Financial Reporting I                      Company Law                      Cost and Management Accounting I                      Auditing I</p>	<p><b>Semester Four</b>                      Cost and Management Accounting II                      Financial Accounting II                      Financial Reporting II                      Auditing II                      Information Technology II                      Taxation II</p>
<p><b>Semester Five</b>                      Introduction to Business Finance                      The Pakistan Economy                      Principles of Marketing                      Business Communication                      Intellectual Property, Patents, Copyrights                      Principles of Management</p>	<p><b>Semester Six</b>                      Human Resource Management                      Financial Management                      Introduction to ERP Systems*                      Business Ethics                      Internal Auditing                      Advanced Financial Accounting  <i>*Includes Introduction to concepts of Supply Chain Management</i></p>
<p><b>Semester Seven</b>                      Company Secretarial Practices                      Project Management                      Methods in Business Research                      Advanced Managerial Accounting                      Corporate Reporting                      Analysis of Financial Statements</p>	<p><b>Semester Eight</b>  <b><i>Any six of the following:</i></b>                      Strategic Financial Analysis and Design                      Statutory Compliance                      Arbitration                      Performance Measurement and Decision Making                      Industrial Relations and Labor Laws                      Entrepreneurship and Small Business Management                      Introduction to a Foreign Language                      Corporate Governance                      Environmental Studies</p>



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## BS (HONORS) MEDIA STUDIES

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The BS (Honors) Media Studies program is designed to provide students with strong grounding in, and a broad academic base for, pursuing a professional career - institutional or entrepreneurial - in the wider field of media and film arts.

The curriculum seeks to endow students with creativity, and deep insight into the world of media and visual communication, through an array of courses in journalism, communication and social sciences, as well as practical hands-on exposure to the art and craft of filmmaking for television, as well as new media content creation. It strengthens their prospects in a world where multi-platform communication and multi-format journalism are becoming the norm.

The program has benefited tremendously from the constant and ongoing support it receives from media experts and practitioners - specialists in the field of journalism and filmmaking – who make up the bulk of the teaching faculty. This is in addition to the collaboration the department receives from media channels and establishments, media-related institutions and regulatory authorities.

The four-year program requires completion of 144 credit hours of course work, and a compulsory 6-week internship.

### Required Courses

#### Communication

COM108 English I  
COM109 English II

#### Economics

ECO106 Basic Economics

#### Islamic Studies

REL101 Islamic Studies

#### Language

LAN112 Urdu I  
LAN113 Urdu II

#### Law

LAW405 Media Law & Ethics

#### Management

MAN305 International Relations





## Media Studies

MMM301 Photo Journalism  
MMM303 Outline of Political Science  
MMM307 World Civilization & Culture  
MMM310 News Writing & Reporting  
MMM312 Introduction to Advertising & PR  
MMM314 Online Journalism  
MMM316 Sub Editing  
MMM320 Editing & Post Production  
MMM322 Current Affairs  
MMM327 Studio Production  
MMM329 Creative Writing Workshop  
MMM332 News Production/ News Anchoring  
MMM335 Magazine Production  
MMM337 Investigative Journalism (Thesis)  
MMM338 Cinematography I  
MMM344 Screenplay  
MMM354 Introduction to Sound Design  
MMM356 Ad-Film Production  
MMM360 Introduction to Photography  
MMM362 History of Filmmaking  
MMM364 Introduction to Mass Communication  
MMM366 Filmmaking – The Art & Craft II (Thesis)

## Pakistan Studies

PSC301 Pakistan Studies

## Statistics

STA100 Basic Statistical Methods

MMM302 Logic & Critical Thinking  
MMM304 Media Literacy  
MMM308 Contemporary World Media  
MMM311 Introduction to Broadcast Media  
MMM313 Theater Arts  
MMM315 Feature, Article & Column Writing  
MMM318 Economic Journalism  
MMM321 Development Communication  
MMM324 Media Management & Marketing  
MMM328 Methods in Media Research  
MMM330 Appreciation of Vernacular Literature  
MMM333 Sports Journalism  
MMM336 Human Rights & Gender Reporting  
MMM339 Cinematography II  
MMM342 Filmmaking – The Art & Craft I  
MMM351 Production Management  
MMM355 Production of Documentary  
MMM357 Sound Design II  
MMM361 Fashion Journalism  
MMM363 Introduction to Design Tools  
MMM365 Filmmaking – The Art & Craft II (Studio)  
MMM367 Digital Journalism

## Social Sciences

SSC101 Introduction to Psychology  
SSC104 Principles of Sociology  
SSC302 Important Concepts in Philosophy

## Course Structure

### Common Courses for Journalism & Production Majors:

<b>Semester One</b> English I Urdu I Introduction to Mass Communication Introduction to Psychology Principles of Sociology Introduction to Design Tools	<b>Semester Two</b> English II Urdu II Islamic Studies Introduction to Photography History of Filmmaking Media Literacy
<b>Semester Three</b> News Writing & Reporting Basic Economics Theater Arts Important Concepts in Philosophy Pakistan Studies Basic Statistical Methods	<b>Semester Four</b> International Relations Appreciation of Vernacular Literature World Civilization & Culture Studio Production Logic & Critical Thinking Creative Writing Workshop



<p><b>Semester Five</b>  Current Affairs  Cinematography I  Introduction to Advertising &amp; PR  News Production/ News Anchoring  Production Management  Editing &amp; Post-production</p>	<p><b>Semester Six</b>  Sub-Editing  Feature, Article &amp; Column Writing  Cinematography II  Economic Journalism  Methods in Media Research  Media Law &amp; Ethics</p> <p><i>Summer Internship</i></p>
<p><b>Semester Seven</b>  Human Rights &amp; Gender Reporting  Introduction to Sound Design  Production of Documentary  Filmmaking – The Art &amp; Craft I (6C)*  Development Communication  Sports Journalism</p>	<p><b>Semester Eight</b>  Ad-Film Production  Filmmaking – The Art &amp; Craft II (Studio)  Filmmaking – The Art &amp; Craft II (Thesis)  Investigative Journalism (Thesis)  Media Management and Marketing  Sound Design II  Digital Journalism  Photojournalism</p>

\*Credit Hours: 6



## B.Ed (HONORS) ELEMENTARY

This is a four-year program designed to provide opportunities to prospective teachers to carry out action research, engage in critical thinking, study contemporary problems, and accomplish field work. Moreover, the prospective teachers will visit schools for practicum and interact with the communities in order to gain insight from practical experiences. These trained teachers after intensive education, will be able to transform the teaching and learning scenario in Pakistan. HEC has announced that from 2015, four-year B.Ed. program will be implemented and the previous shorter duration program will be considered obsolete. Hence, these trained teachers will be able to benefit from this degree by getting better professional options in various educational institutions.

### Eligibility Criteria

FA/F.Sc/A Levels or equivalent with minimum 2nd Division.

### Program details

Duration:	4 years (8 semesters)
Semester duration:	16 – 18 weeks
Semesters:	8
Course load per semester	15 – 18 credit hours
Number of courses per semester	5-6 (not more than 3 lab / practical courses)

### Structure of the Scheme

Courses	Credit Hours
Compulsory Courses	25
Professional Courses	36
Foundation Courses	30
Content Courses	24-33
Teaching Practice	12
<b>Total Credit Hours</b>	<b>127 - 136</b>

### Required Courses

#### Compulsory Courses

##### Communication

COM103 Functional English I  
COM104 English II  
COM110 English III

##### Islamic Studies

REL101 Islamic Studies

##### Pakistan Studies

PSC301 Pakistan Studies

##### Mathematics

MTH112 General Mathematics

##### Computer Science

CSC114 Computer Literacy



## Foundation Courses

BED201	Child Development
BED203	General Methods of Teaching
BED205	Classroom Management
BED207	Classroom Assessment
BED209	School, Community and Teachers
BED211	Foundation of Education
BED213	Curriculum Development
BED215	Educational Psychology

## Content Courses

BED401	Urdu/Regional Languages
BED403	General Science Contents
BED405	Arts, Crafts and Calligraphy
BED407	Content course I Selected discipline I
BED409	Content course I Selected discipline II
BED411	Content course II Selected discipline I
BED413	Content course II Selected discipline II
BED415	Content course III Selected discipline I
BED417	Content course III Selected discipline II

## Course Structure

## Professional Courses

BED301	Methods of Teaching in Islamic Studies
BED303	Teaching Literacy Skills
BED305	Teaching Urdu/Regional Languages
BED307	Teaching General Science
BED309	Instructional and Communication Technology
BED310	Teaching of English
BED311	Teaching of Mathematics
BED313	Teaching of Social Studies
BED315	Contemporary Issues and Trends in Education
BED317	Comparative Education
BED319	Introduction to Guidance and Counseling
BED321	Research Methods in Education
BED323	School Management
BED325	Test Development and Evaluation
BED327	Research Project

## Teaching Practices

BED501	Teaching Practice Short term
BED503	Teaching Practice
BED505	Pedagogy I Methods of Teaching related to Specialization I
BED507	Pedagogy II Methods of Teaching related to Specialization II
BED509	Teaching Practice (Short term)
BED511	Teaching Practice Long term

<b>Semester One</b> Functional English-I (3 cr. hr) Islamic Studies/Ethics (2 cr. hr) Child Development (3 cr. hr) Urdu / Regional Languages (3 cr. hr) General Science (3 cr. hr) General Methods of Teaching (3 cr. hr)	<b>Semester Two</b> English-II (3 cr. hr) Computer Literacy (3 cr. hr) Class Room Management (3 cr. hr) General Mathematics (3 cr. hr) Pakistan Studies (2 cr. hr) Methods of Teaching Islamic Studies (3 cr. hr)	<b>Semester Three</b> Teaching Literacy Skills (3 cr. hr) Arts, Crafts and Calligraphy (3 cr. hr) Teaching of Urdu/Regional Languages (3 cr. hr) Teaching of G. Science (3 cr. hr) Instructional and Comm. Technology (ICT) in Education (2 cr. hr) Teaching Practice (Short Term) (3 cr. hr)
<b>Semester Four</b> Classroom Assessment (3 cr. hr) Teaching of English (3 cr. hr) Teaching of Mathematics (3 cr. hr) School, Community and Teacher (2+1 cr. hr) Teaching of Social Studies (3 cr. hr) Teaching Practice (3 cr. hr)	<b>Semester Five</b> English – III (3 cr. hr) Foundation of Education (3 cr. hr) Content Course – 1 (from selected discipline – I) (3 cr. hr) Content Course – 1 (from selected discipline – II) (3 cr. hr) Curriculum Development (3 cr. hr) Educational Psychology (3 cr. hr)	<b>Semester Six</b> Contemporary Issues and Trends in Education (3 cr. hr) Content Course – II (from selected discipline – I) (3 cr. hr) Content Course – II (from selected discipline – II) (3 cr. hr) Comparative Education (3 cr. hr) Introduction to Guidance and Counseling (3 cr. hr)
<b>Semester Seven</b> Content Course – III (from selected discipline – I) (3 cr. hr) Content Course – III (from selected discipline – II) (3 cr. hr) Pedagogy – I (3 cr. hr) Pedagogy – II (3 cr. hr) Research Methods in Education (3 cr. hr) Teaching Practice (Short Term) (3 cr. hr)	<b>Semester Eight</b> School Management (3 cr. hr) Test Development and Evaluation (3 cr. hr) Teaching Practice (Long Term) (6 cr. hr) Research Project (3 cr. hr)	



## MBA EDUCATIONAL MANAGEMENT FOR STUDENTS WITH 16 YEARS EDUCATION

The MBA Educational Management program provides knowledge, skills and tools required for 21st century leadership and management for educational institutions in the fast changing economy.

This MBA program is a 72 credit hours program designed for students having a minimum of 16 years of education with degrees in a wide range of disciplines such as business, commerce, engineering, law, science, medicine, arts and pharmacy. The 72 credit hours MBA program is divided into a foundation stage of 36 credit hours followed by the 36-credit hours of rigorous MBA level courses and project dealing with strategy and educational transformation. The program covers areas such as accounting, finance, marketing, economics, quantitative analysis, ethics, HRM, management and education and consists of foundational course work necessary for the higher level MBA courses.

Students can take a minimum load of 6 credit hours (two courses) or maximum of 12 credit hours (four courses) in each of the 3 semesters (Fall, Spring and Summer).

***Applicants from non-business disciplines of IoBM may avail up to 6 course exemptions from foundation stage courses equivalent to the bachelor's program courses.***

### Required Courses

#### Accounting

ACC419 Financial Accounting

#### Educational Management

EDM406 Educational Policy and Economics  
EDM415 Educational Philosophy and Ethics  
EDM419 Managing Teaching and Learning  
EDM420 Academic Writing and Seminar Skills  
EDM427 Research Methods in Education II (Qualitative)  
EDM429 Research Methods in Education I (Quantitative)  
EDM518 Evaluation and Assessment in Education  
EDM514\* Early Childhood Development  
EDM526\* Curriculum Management and Planned Change  
EDM624\* Innovations and Technology in Education  
EDM689\* Thesis Writing-Capstone Project I  
EDM690\* Thesis Writing-Capstone Project II

#### Finance

FIN408 Theory and Practice of Financial Management  
FIN603 Entrepreneurial Finance





**Human Resource Management**

HRM410 Managing Human Capital  
 HRM606\*Leadership, Ethics and Change

**Management**

MAN418 Management and Organizational Dynamics

**Marketing**

MKT402 Marketing Management  
 MKT601\* Marketing Strategies and Value Innovation

**Social Sciences**

SSC406 Psychology and Learning

**Elective Courses**

**Educational Management**

EDM650 Quality Assurance in Education  
 EDM652 Knowledge Management  
 EDM654 Lifelong Learning in Changing Contexts  
 EDM656 Teacher Education  
 EDM658 Gender Studies in Education  
 EDM660 Inclusive Education

*\*Indicates MBA level courses*

**Course Structure**

<p><b>Foundation Stage</b>  <b>Semester One</b>          Psychology and Learning          Financial Accounting          Educational Philosophy and Ethics          Academic Writing and Seminar Skills</p>	<p><b>Semester Two</b>          Managing Teaching and Learning          Theory and Practice of Management          Marketing Management          Research Methods in Education I (Quantitative)</p>
<p><b>Semester Three</b>          Research Methods in Education II (Quantitative)          Educational Policy and Economics          Managing Human Capital          Theory and Practice of Financial Management</p>	<p><b>MBA Stage</b>  <b>Semester Four</b>          Early Childhood Development          Leadership Ethics and Change          Curriculum Mgmt. and Planned Change          Evaluation and Assessment in Education</p>
<p><b>Semester Five</b>          Marketing Strategies and Value Innovations          Innovations and Technology in Education          Thesis Writing (Capstone 1)          Elective I</p>	<p><b>Semester Six</b>          Entrepreneurial Finance          Thesis Writing(Capstone 2)          Elective II          Elective III</p>

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## MBA EDUCATIONAL MANAGEMENT FOR STUDENTS WITH 14 YEARS EDUCATION

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The MBA Educational Management program provides knowledge, skills and tools required for 21st century leadership and management for educational institutions in the fast changing economy.

This MBA program is designed for students having 14 years of education with degrees in a wide range of disciplines such as business, commerce, law, science, and arts. The 108 credit hours program is divided into a foundation stage of 72 credit hours followed by the 36-credit hours of rigorous MBA level courses and a capstone project dealing with strategy and educational transformation. The program covers areas such as accounting, finance, marketing, economics, quantitative analysis, ethics, HRM, management and education management and consists of foundational course work necessary for the higher level MBA courses. The program is designed for students who have passed a two-year bachelor's degree. Students can take a minimum load of 6 credit hours (two courses) or maximum of 12 credit hours (four courses) in each of the 3 semesters (Fall, Spring and Summer).

### Required Courses

#### Accounting

ACC419 Financial Accounting

#### Communication

COM403 Interpersonal Communication Skills

COM407 English Language Development

#### Educational Management

EDM402 Applied Linguistics

EDM403 Critical Thinking and Reading

EDM406 Educational Policy and Economics

EDM413 Creativity in Education

EDM415 Educational Philosophy and Ethics

EDM417 Educational Counseling

EDM419 Managing Teaching and Learning

EDM420 Academic Writing and Seminar Skills

EDM421 Sociology of Education

EDM422 Learners and Learning Styles

EDM423 Reflective Inquiry in Education

EDM429 Research Methods in Education I (Quantitative)

EDM430 Research Methods in Education II (Qualitative)

EDM416 Comparative Education Systems

EDM518 Evaluation and Assessment in Education

EDM514\* Early Childhood Development

EDM526\* Curriculum Management and Planned Change

EDM624\* Innovations and Technology in Education

EDM689\* Thesis Writing-Capstone Project I

EDM690\* Thesis Writing-Capstone Project II

*\*Indicates MBA level courses*





**Finance**

FIN408 Theory and Practice of Financial Management  
 FIN603\* Entrepreneurial Finance

**Human Resource Management**

HRM410 Managing Human Capital  
 HRM606\* Leadership, Ethics and Change

**Management**

MAN418 Management and Organizational Dynamics

**Marketing**

MKT402 Marketing Management  
 MKT601\* Marketing Strategies and Value Innovation

**Social Sciences**

SSC406 Psychology and Learning

**Statistics**

STA403 Statistics and Mathematics

**Elective Courses**

**Educational Management**

EDM650 Quality Assurance in Education  
 EDM654 Lifelong Learning in Changing Contexts  
 EDM658 Gender Studies in Education

EDM652 Knowledge Management  
 EDM656 Teacher Education  
 EDM660 Inclusive Education

*\*Indicates MBA level courses*

**Course Structure**

<p><b>Foundation Stage</b>  <b>Semester One</b>          Applied Linguistics          Critical Thinking and Reading          English Language Development          Introduction to Psychology</p>	<p><b>Semester Two</b>          Reflective Inquiry in Education          Learners and Learning Styles          Interpersonal Communication Skills          Statistics and Mathematics</p>	<p><b>Semester Three</b>          Comparative Education Systems          Educational Counseling          Sociology in Education          Creativity in Education</p>
<p><b>Semester Four</b>          Psychology and Learning          Financial Accounting          Educational Philosophy and Ethics          Academic Writing and Seminar Skills</p>	<p><b>Semester Five</b>          Managing Teaching and Learning          Management &amp; Organizational Dynamics          Marketing Management          Research Methods in Education I          (Quantitative)</p>	<p><b>Semester Six</b>          Research Methods in Education II          (Quantitative)          Educational Policy and Economics          Managing Human Capital          Theory &amp; Practice of Financial Mgmt.</p>
<p><b>MBA Stage</b>  <b>Semester Seven</b>          Early Childhood Development          Leadership Ethics and Change          Curriculum Mgmt. and Planned Change          Evaluation and Assessment in Education</p>	<p><b>Semester Eight</b>          Marketing Strategies &amp; Value Innovations          Innovations and Technology in Education          Thesis Writing-Capstone 1          Elective I</p>	<p><b>Semester Nine</b>          Entrepreneurial Finance          Thesis Writing-Capstone 2          Elective II          Elective III</p>





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## **MSc ORGANIZATIONAL PSYCHOLOGY AND HUMAN RESOURCE MANAGEMENT FOR STUDENTS WITH 16 YEARS EDUCATION**

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The program is geared towards professionals who wish for a better understanding of the organization they work for. It is concerned with the social and psychological processes operating in organizations, and how these processes relate to organizational systems and structures.

This two-year weekend program requires successful completion of 72 credit hours of course work, including 23 courses plus a research project of 3 credit hours each spread over six semesters. Students are expected to maintain a CGPA of 3.0 and successful completion of research project for the conferment of the degree. This program combines study in psychology with courses in human resource management, workplace relations, leadership and team dynamics, and management strategy.

Students can take a minimum load of 6 credit hours (two courses) or maximum of 12 credit hours (four courses) in each of the 3 semesters (Fall, Spring and Summer).

### **Foundation Courses**

#### **Psychology**

PSY400 Introduction to Organizational Psychology

#### **Management**

MAN401 Principles of Management

#### **Human Resource Management**

HRM401 Human Resource Management

#### **Statistics**

STA410 Introduction to Behavioral Statistics

#### **Communication**

COM402 Business Communication

COM405 Organizational Consulting Skills

### **Core Courses**

#### **Psychology**

PSY402 Counseling Psychology

PSY405 Group Dynamics

PSY406 Research Methods in Organizational Psychology

PSY407 Personnel Psychology

PSY408 Consumer Psychology

PSY430 Psychological Testing-I

PSY431 Psychological Testing-II

PSY432 Behavior Modification in Industry

PSY433 Leadership and Strategic Change





### Human Resource Management

- HRM408 Human Resource Issues in Pakistan
- HRM501 Recruitment and Selection
- HRM502 Industrial Relations and Labor Laws
- HRM503 Employee Training and Development
- HRM504 Negotiation Skills and Collective Bargaining
- HRM530 Research Practicum in HRM

### Elective Courses Courses

#### Psychology

- PSY501 Work Motivation Attitude
- PSY506 Quality of Work Life
- PSY515 Projective Methods

#### Human Resource Management

- HRM531 Pay for Performance and Reward
- HRM614 Salary and Compensation
- HRM615 Leadership Studies
- HRM616 Performance Appraisal and Management

## Course Structure (Career Option I Majors Psychology)

<b>Semester One</b> Principles of Management Human Resource Management Introduction to Organizational Psychology Introduction to Behavioral Statistics	<b>Semester Two</b> Group Dynamics Organizational Consulting Skills Psychological Testing-I Human Resource Issues in Pakistan
<b>Semester Three</b> Research Methods Consumer Psychology Recruitment and Selection Industrial Relation and Labor Law	<b>Semester Four</b> Counseling Psychology Personnel Psychology Employee Training and Development Negotiation Skills and Collective Bargaining
<b>Semester Five</b> Psychological Testing-II Behavior Modification in Industry Leadership and Strategic Change Research Practicum in HRM	<b>Semester Six</b> Elective I Elective II Elective III

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## **MSc ORGANIZATIONAL PSYCHOLOGY AND HUMAN RESOURCE MANAGEMENT FOR STUDENTS WITH 14 YEARS EDUCATION**

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The program is geared towards professionals who wish for a better understanding of the organization they work for. It is concerned with the social and psychological processes operating in organizations, and how these processes relate to organizational systems and structures.

This three-year weekend program requires successful completion of 108 credit hours of course work, including 36 courses and 3 credit hours research project each spread over six semesters. Students are expected to maintain a CGPA of 3.0 and successful completion of research project for the conferment of the degree. This program combines study in psychology with courses in human resource management, workplace relations, leadership and team dynamics, and management strategy.

Students can take a minimum load of 6 credit hours (two courses) or maximum of 12 credit hours (four courses) in each of the 3 semesters (Fall, Spring and Summer).

### **Foundation Courses**

#### **Psychology**

PSY400 Introduction to Organizational Psychology

#### **Management**

MAN401 Principles of Management

MAN402 Organizational Behavior

MAN615 Corporate Social Responsibility

#### **Human Resource Management**

HRM401 Human Resource Management

#### **Marketing**

MKT401 Principles of Marketing

#### **Statistics**

STA410 Introduction to Behavioral Statistics

#### **Communication**

COM402 Business Communication

COM403 Interpersonal Communication Skills

COM405 Organizational Consulting Skills

#### **Social Sciences**

SSC104 Principles of Sociology

SSC401 Business Ethics

#### **Management Information System**

MIS401 Computer Applications





## Core Courses

### Psychology

- PSY402 Counseling Psychology
- PSY405 Group Dynamics
- PSY406 Research Methods in Organizational Psychology
- PSY407 Personnel Psychology
- PSY408 Consumer Psychology
- PSY430 Psychological Testing-I
- PSY431 Psychological Testing-II
- PSY432 Behavior Modification in Industry
- PSY433 Leadership and Strategic Change
- PSY434 Personality Theories

### Human Resource Management

- HRM408 Human Resource Issues in Pakistan
- HRM501 Recruitment and Selection
- HRM502 Industrial Relation and Labor Law
- HRM503 Employee Training and Development
- HRM504 Negotiation Skills and Collective Bargaining
- HRM505 Organizational Change & Development
- HRM506 Strategic HRM
- HRM511 Performance Appraisal
- HRM530 Research Practicum in HRM

## Elective Courses

### Psychology

- PSY501 Work Motivation Attitude
- PSY506 Quality of Work Life
- PSY515 Projective Methods

### Human Resource Management

- HRM531 Pay for Performance and Reward
- HRM614 Salary and Compensation
- HRM615 Leadership Studies
- HRM616 Performance Appraisal and Management

## Course Structure

<b>Semester One</b> Intro. to Organizational Psychology Introduction to Behavioral Statistics Principles of Sociology Computer Applications	<b>Semester Two</b> Principles of Management Principles of Marketing Personality Theories Business Ethics	<b>Semester Three</b> Human Resource Management Organizational Behavior Performance Appraisal Business Communication
<b>Semester Four</b> Corporate Social Responsibility Group Dynamics Industrial Relation and Labor Law Organizational Consulting Skills	<b>Semester Five</b> Human Resource Issues in Pakistan Psychological Testing-I Organizational Change & Development Interpersonal Communication Skills	<b>Semester Six</b> Research Methods in Org. Psychology Consumer Psychology Recruitment and Selection Strategic HRM
<b>Semester Seven</b> Counseling Psychology Personnel Psychology Employees Training and Development Negotiation Skills & Collective Barg.	<b>Semester Eight</b> Psychological Testing-II Behavior Modification in Industry Leadership & Strategic Change Research Practicum in HRM	<b>Semester Nine</b> Elective I Elective II Elective III Elective IV



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## MPhil LEADING TO PhD IN ORGANIZATIONAL PSYCHOLOGY

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The MPhil leading to PhD program in Organizational Psychology is designed specifically for the training of professional industrial-organizational psychologists. Students will receive comprehensive training in utilizing psychological knowledge for improving organizational effectiveness and employee satisfaction.

### Eligibility

Candidates with 16 years of education holding a master's degree in the relevant subject with 1st division/CGPA with at least 3 on a scale of 4 from an HEC recognized university are eligible for admission to the MPhil program at IoBM. Experience in research or teaching will be considered as an additional qualification.

### Program Structure

MPhil is a 30 credit hours program with 8 courses and one thesis of 6 credit hours. Each of the 8 courses will be of 3 credit hours. After successful completion of the course work, students are required to undertake research for the thesis under the guidance of a research supervisor assigned by IoBM.

### Course Structure

#### Semester One

- MPP601 Qualitative Research Methods in Psychology
- MPP603 Quantitative Research Methods in Psychology
- MPP605 Psychological Testing and Measurement

#### Semester Two

- MPP607 Independent Study in Organizational Psychology
- MPP609 Personnel Psychology at Workplace
- MPP611 Human Factors in Work Environment

#### Semester Three

- MPP613 Organizational Conflict & Management
- MPP615 Project Practicum in Organizational Psychology

#### Semester Four

- MPP620 MPhil Thesis (6 credit hours)

*It is mandatory for research students of MPhil and PhD programs to attend at least five sessions of the Multi-disciplinary Research Seminar Series in each semester.*



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## MS ECONOMICS

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This program is proposed for students with 16 years of education as well as for in-house BS Economics and Finance students of IoBM and those with equivalent qualifications. The students enrolled will complete one year of coursework for 30 credit hours and six credit hours of thesis writing.

### Required Courses

#### Economics

- ECO601 Microeconomics
- ECO602 Macroeconomics
- ECO603 Econometrics and Research Methods
- ECO605 Theory and Practice of Economic Policy
- ECO607 Development Economics
- ECO606 Financial Econometrics

### Elective Courses

#### Economics

- ECO706 Monetary Economics
- ECO708 Mathematical Economics
- ECO709 Industrial Economics
- ECO710 Mergers, Acquisitions and Restructuring
- ECO711 Taxation and Business Strategy
- ECO712 Trade and Globalization

Thesis writing (6 credit hours)

### Course Structure

#### Semester One

- Microeconomics
- Macroeconomics
- Econometrics and Research Methods

#### Semester Two

- Theory and Practice of Economic Policy
- Development Economics
- Financial Econometrics

#### Semester Three

- Elective I
- Elective II
- Thesis Writing (6 credit hours)

*It is mandatory for research students of MPhil and PhD programs to attend at least five sessions of the Multi-disciplinary Research Seminar Series in each semester.*



## MS/MPhil IN EDUCATION

MS/MPhil in Education is specially geared for teachers teaching at all levels in private and public sector institutions as well as administrators who have an interest in research. This is a two-year degree program completed by advanced coursework and research. Candidates can enroll for a minimum of two years and a maximum four years. The coursework is offered in the first year and the second year of candidature is devoted to thesis writing. At the end of the first year, the candidates are required to produce an extended research proposal (approximately 2500-3000 words). Upon acceptance of their research proposal, the candidates are guided to conduct research and are finally examined on the basis of thesis defense and submission of thesis of an upper limit of 15000-20000 words.

### Eligibility

- As per HEC policy 16 years of education in the relevant field of study with 3 CGPA or B-Grade
- Candidates must clear NTS test
- Candidates who do not have a teaching degree (BEd/MEd/Masters in Education) will have to opt for at least four deficiency courses as per the HEC policy

### An MPhil student must additionally complete the following requirements:

- MPhil Proposal/Synopsis Development
- MPhil Proposal/Synopsis Defense
- BASR Approval of MPhil Proposal/Synopsis
- Continuous enrollment in supervised research
- Completion of MPhil Thesis
- Selection of External Examiner by BASR
- Open defense of MPhil Thesis
- Any other HEC requirement
- Final MPhil Thesis Submission to BASR

### Course Structure

#### Core Courses

MPE604 Developing a Research Project  
MPE608 Readings in Education  
MPE610 Philosophical Foundations in Education  
MPE615 Qualitative Research Methods in Education  
MPE617 Statistical Testing and Inferences in Education  
MPE618 Policies and Education in Pakistan

#### Elective Courses

MPE702 Managing Higher Education Institutions  
MPE704 Strategic Management of Schools & Schools Systems  
MPE705 Economics of Education  
MPE706 Global Issues in Education

#### Thesis

MPE790 Research Thesis



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## PhD IN PSYCHOLOGY

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PhD in Psychology is a program that will promote scholarship, research, and service at an academic level. The doctoral program is one of the highest degrees of excellence at Institute of Business Management for faculty and candidates alike to remain current in the research literature, and to conduct socially relevant and intellectually competent research in the specialized areas.

### Eligibility

**MS/MPhil or equivalent graduates from HEC recognized institutions meeting the following criteria:**

- A minimum CGPA of 3.00 on a scale of 4.00 (or overall 60% marks) or equivalent
- A minimum of 18 years of schooling that corresponds to MS / MPhil or equivalent degree from HEC recognized institutions in a relevant discipline.
- GRE subject specific or GAT subject test conducted by the NTS, or equivalent in the relevant discipline. A minimum of 60% (percentage) marks is required
- An interview conducted by the Institute
- All other HEC stipulated requirements

### Program Requirements

**PhD requires completion of course work and dissertation/thesis. Minimum duration is 3 years and maximum is 5 years:**

- PhD course work requirements consist of six graduate level courses (18 credit hours)
- On completion of dissertation/thesis the student is awarded 30 credit hours

**A PhD student must additionally complete the following requirements:**

- Comprehensive Exam
- PhD Proposal/Synopsis Development
- PhD Proposal/Synopsis Defense
- BASR Approval of PhD Proposal/Synopsis
- Continuous enrollment in supervised research courses for meeting the full-time residency requirements
- Completion of PhD Dissertation/Thesis
- Selection of External Evaluators by BASR
- Publication of at least one paper in an ISI indexed or an HEC recognized journal or an official acceptance of the paper
- Evaluation of PhD Dissertation by two foreign faculty members from developed countries as per HEC criteria
- Dissertation/Thesis Finalization
- Open defense of PhD dissertation
- Any other HEC requirement
- Final Dissertation/Thesis Submission to BASR

### Course Structure

#### Semester One

PSS701 Methods and Issues in Advanced Qualitative Research  
PSS703 Methods and Issues in Advanced Quantitative Research

#### Semester Three

##### Elective course for Psychology

PSS709 Measurement and Assessment  
PSS710 Psychology of Personality

#### Semester Two

PSS705 Seminar in Multidisciplinary Studies  
PSS707 Independent Study

#### Semester Four to Nine

PSS850 Research Thesis





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## PHD IN EDUCATION

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The aim of PhD in Education is to promote scholarship, research, and service at an academic level. The doctoral program is one of the highest degree of excellence at the Institute of Business Management for faculty and candidates alike to remain updated in the current research literature and to conduct socially relevant and intellectually competent research in the specialized areas. This program will address research competencies with a range of courses in education.

### Eligibility

**MS/MPhil or equivalent graduates from HEC recognized institutions meeting the following criteria:**

- A minimum CGPA of 3.00 on a scale of 4.00 (or overall 60% marks) or equivalent
- A minimum of 18 years of schooling that corresponds to MS / MPhil or equivalent degree from HEC recognized institutions in a relevant discipline.
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- Evaluation of PhD Dissertation by two foreign faculty members from developed countries as per HEC criteria
- Dissertation/Thesis Finalization
- Open defense of PhD dissertation
- Any other HEC requirement
- Final Dissertation/Thesis Submission to BASR

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## Course Structure

### Core Courses

PED701 Methods and Issues in Advanced Qualitative Research  
PED702 Advanced Educational Philosophy  
PED703 Methods and Issues in Advanced Quantitative Research  
PED705 Developing and Conducting Independent Research

### Electives

PED810 Planning Developing and Evaluating Curriculum  
PED812 Educational Policies and Organizational Development  
PED814 Managing Educational Projects and Interventions  
PED820 Innovations and Pedagogies in Teacher Education

PED990 Research Thesis



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## PHD IN ECONOMICS

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The PhD in Economics focuses on imparting state of the art teaching and research skills within the broader economics discipline. Students registering for the program should have a thorough knowledge of economic theory, technical and quantitative skill, and the ability to apply these to study economic problems. These goals are achieved through teaching, workshops, research seminars, term papers and thesis writing.

### Eligibility

**MS/MPhil or equivalent graduates from HEC recognized institutions meeting the following criteria:**

- A minimum CGPA of 3.00 on a scale of 4.00 (or overall 60% marks) or equivalent
- A minimum of 18 years of schooling that corresponds to MS / M.Phil or equivalent degree from HEC recognized institutions in a relevant discipline
- GRE subject specific or GAT subject test conducted by the NTS, or equivalent in the relevant discipline. A minimum of 60% (percentage) marks is required
- Pass interview conducted by the Institute
- Meet all other HEC stipulated requirements

### Program Requirements

**PhD requires completion of course work and dissertation/thesis. Minimum duration is 3 years and maximum is 5 years:**

- PhD course work requirements consist of six graduate level courses (18 credit hours)
- On completion of dissertation/thesis the student is awarded 30 credit hours

**A PhD student must additionally complete the following requirements:**

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- PhD Proposal/Synopsis Development
- PhD Proposal/Synopsis Defense
- BASR Approval of PhD Proposal/Synopsis
- Continuous enrollment in supervised research courses for meeting the full-time residency requirements
- Completion of PhD Dissertation/Thesis
- Selection of External Evaluators by BASR
- Publication of at least one paper in an ISI indexed or an HEC recognized journal or an official acceptance of the paper
- Evaluation of PhD Dissertation by two foreign faculty members from developed countries as per HEC criteria
- Dissertation/Thesis Finalization
- Open defense of PhD dissertation
- Any other HEC requirement
- Final Dissertation/Thesis Submission to BASR





## Required Courses

- PDE701 Advanced Research Methodology
- PDE702 Advanced Applied Econometrics
- PDE703 Development Economics
- PDE704 New Dimensions in Economics and Public Policies

## Elective Courses

- PDE711 Industrial Economics
- PDE712 Public Finance
- PDE713 International Trade
- PDE714 Selected Topics in Monetary Economics
- PDE715 Selected Topics in Islamic Economics

Political Economy and Economic Policy Analysis, and (ii) Discourses on Globalization

## Course Structure

### Semester One

- Advanced Research Methodology
- Advanced Applied Econometrics

### Semester Two

- Development Economics
- New Dimensions in Economics and Public Policies

### Semester Three

- Elective I
- Elective II

### Semesters Four to Nine

- PDE850 Research Thesis

*It is mandatory for research students of MPhil and PhD programs to attend at least five sessions of the Multi-disciplinary Research Seminar Series in each semester.*

# **INTERNSHIP AND PLACEMENT PROGRAMS**

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## INTERNSHIP PROGRAM

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The Internship & Placement office of IoBM ensures that students get experience in highly competitive organizations. Their fresh ideas, unique perspectives and fundamental knowledge are important assets that can help shape the future of an organization. The Internship Program for interns is designed to provide students with the opportunity to work on meaningful assignments and gain real-world experience. Real-world experience is aligned to the courses studied by students. Such experience is of vital importance to students in two main areas:

### 1. Gain Valuable Work Experience in the Chosen Field of Interest

An internship is a great way to gain hands on work experience, develop specific skills and knowledge as well as to network with people from the students' chosen field. Moreover, employers assess the skills and abilities of prospective employees by evaluating their previous experience. Students pursue career-related opportunities prior to graduation, thereby, obtaining an edge over other candidates in the competitive job market.

### 2. Decide on Right Careers Prior to Graduation

An internship provides a more accurate picture of what individuals do in certain professions. After experiencing a particular job environment and observing what it entails, students may decide if this is the right career for them. The internship is compulsory for all MBA, BBA, and BS final year students, and has a minimum duration of six consecutive weeks. Executive students are exempted from the internship program.

#### Eligibility for Internship

MBA: Minimum CGPA = 2.8  
BBA / BS (Honors): Minimum CGPA = 2.4

Semesters of Study Completed at IoBM = Two  
Semesters of Study Completed at IoBM = Six

- MBA & BBA (Honors) students having completed the Methods in Business Research (MBR) course
- The Institute selects the organization for internship for the student
- A student has to select and write a case study on an intriguing problem faced by the organization or department where the student interns and suggest workable solutions considering the courses studied
- Students are required to explain in their report how the internship enriched their learning by identifying theories and concepts studied in class and their application in relation to their experience in the organization of internship. Reports are graded as follows:

A - Grade = 3.89 points

B - Grade = 3.33 points

Grades lower than 'B' are considered 'satisfactory' and are not awarded any marks. Interns who fail to get a passing grade are required to re-write their reports.

- Reports are required to be submitted by an intern within two weeks of completion of the internship.
- All sponsoring organizations are requested to evaluate the intern's performance on a prescribed form which is discussed with the intern so as to focus on his/her strengths and weaknesses.



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## LIST OF COMPANIES OFFERING INTERNSHIPS TO IOBM STUDENTS

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AA Packaging Industries	Aroha Labs
AAG TV	Arpatech (Pvt) Ltd.
Abbott Laboratories Pakistan Ltd.	Artistic Milliners
Abudawood Trading Company	ARY Digital Network
ACCA Pakistan	ASCO International Pvt.
Access Communication Solution	Asia Petroleum Ltd.
Adamjee Insurance	Asiatic Public Relations Network
Adcom (Pvt) Ltd.	Askari Commercial Bank Limited
AdMail Connection Magazine	Atco Laboratories (Pvt) Limited
Advance Trading Corporation	Atlas Group of Companies
ADVANS Micro Finance Bank	Atlas Honda Limited
Adys Sourcing	Atlas Lease Limited
AEG Travel Services	Atrium Mall Management
Afroze Textiles	Attock Cement Pakistan Limited
Aftab Technologies	Aurora
Agility Logistics	Automobile Corporation of Pakistan
Agro Processors & Atmospheric Gases	Avanza Solutions
AIESEC	Aziz Products
Airmen Golf Course & Recreational Park	Babson Noller Corporation
Aisha Steel Mills	Bake Parlor
AKD Investments	Banbhore Ceramic Industries
AKD Securities	Bank Al Habib Ltd.
AKD Trade	Bank Alfalah Limited
Al Baraka Bank (Pakistan) Ltd.	Bank Islami Limited
Al Ghazi Tractors Limited	Bank of Punjab
Al Karam Textiles Limited	Barclays Bank Limited
Al Meezan Investment Management Ltd.	BASF Pakistan Pvt. Limited
Al Zeb Industries	Bayer Pakistan Pvt. Limited
Al Zohaib Textile Mills	BBCL Pvt. Ltd
Alfa Engineering	Berger Paints Pakistan Limited
Algorithm	Biogenics Pakistan (Pvt.) Ltd
Ali Gohar Pharmaceuticals	Blitz Advertising Pvt. Limited
Allied Bank Pakistan Limited	BMA Capital Pvt. Limited
Allied Engineering & Services	BOC Pakistan Limited
Alpen Solutions	Bosch Pharmaceuticals (Pvt.) Ltd.
Amerli Steels Ltd.	BP Pakistan Exploration & Production
Analytical Measuring Systems Pvt. Ltd.	BR&W Pvt. Limited
Anees Hussain	Brands Image
Anjum Asim Shahid Associates Ltd.	Bridge Consultants Foundation
Anzo Chemicals	Brookes Pharmaceutical Laboratories
Apna TV	Bullseye 360
Arena	Burj Bank
Arif Habib Commodities	Burque Corporation Pvt. Ltd
Arif Habib Investments Limited	Byco Petroleum Pakistan Ltd.
Arif Habib Securities Limited	Candyland



Cargo Care  
Casual Mode Pvt. Ltd.  
Central Depository Company of Pakistan  
Chevron (Formerly Caltex)  
CIM Shipping  
Circuit Advertising  
Citi FM 89  
Citibank N.A.  
Citizen Archive Pakistan  
City School  
Clariant Pakistan Limited  
Coca-Cola Beverages Pakistan Ltd.  
Commercial Union Assurance PLC.  
Concern for Children Trust  
Continental Biscuits Limited  
Cool & Cool  
Cordoba Corporation  
Corvit Technologies  
Cox & Kings (Agents) Limited  
Creative Chaos Pvt. Ltd.  
Creative Jin  
Creativedge Communications  
Credit & Commerce Consultants  
Crescent Bank Limited  
Crescent Steel and Allied Products Ltd.  
Cres-Soft Pvt. Limited  
Crown Power Wast  
Crystalite, Inc  
Cummins Sales & Service  
Cupola Pakistan Limited  
Cybernet  
Cynamid Pakistan Limited  
Dada Dairies  
Dalda Foods Pvt. Limited  
DAMCO Pakistan (Pvt) Ltd.  
Dawlance Pvt. Limited  
Dawn Group of Newspapers  
Dawn News TV  
Dawood Hercules Corporation  
Deal Club  
dealtoday.pk  
Deflog Pvt Ltd.  
Deloitte  
Delta shipping  
Deutsche Bank A.G.  
Dewan Cement  
Dewan Mushtaq Group  
DG Harbour  
DHL Global Forwarding  
DHL Pakistan Limited  
Diamond Impex Corporation  
Dr. Sulaiman Al Habib Medical Group  
Dreamworld Resort

Dubai Islamic Bank  
Dupont Far East Inc.  
EDP Services Pvt. Limited  
Efro Tech Services  
Efroze Chemical Industries Pvt. Ltd.  
EFU Insurance  
Eli Lilly Pakistan (Pvt.) Limited  
Elixir Securities  
Emaculate Solutions  
Emirates Investment & Development, Dubai  
Empact  
English Biscuits Manufacturers Ltd.  
Engro Corp.  
ENI Pakistan Limited  
ePlanet Communication  
Etihad Airways  
ETON FINANCIAL  
Event Architects Pvt. Ltd.  
Express News  
Express Tribune  
Facilities Shipping Agency  
Far Eastern Impex (Pvt) Ltd  
Fauji Fertilizer Company Ltd.  
Fauji Foundation Securities  
Faysal Asset Management Ltd.  
Faysal Bank Limited  
Fecto Cement Ltd.  
Ferguson's Associates  
First Women Bank Ltd.  
Five by Five Communications  
Float Securities Pvt. Ltd.  
FM 107 Pvt. Limited  
FM Radio 91  
Fontanalia  
Four Season Garment  
Freedom Security  
Friends & Co  
Gatron Industries  
Genesis Direct  
Geo TV  
Gerry's Information Technology  
Gestetner Pvt. Limited  
Getz Pharma  
Ghandhara Nissan Diesel Ltd.  
Gillette Pakistan Limited  
GlaxoSmithKline Pakistan Ltd.  
Global Food Marketing  
Gloria Jeans  
GM Fashion  
Godil Cold Chain Pvt. Ltd.  
Gravity Communications  
Green Star Social Marketing  
GroupM





Gul Ahmed Textile Mills  
 H&S Pvt. Ltd.  
 Habib Bank AG Zurich  
 Habib Bank Limited  
 Habib Metropolitan Bank Limited  
 Habib Oil Mills  
 Hanif Packages  
 Harvest Topworth International  
 Hawk Advertising  
 Helium Pvt. Ltd.  
 Herbion Pakistan Limited  
 Hermain Travels  
 Higher Education Commission Pakistan  
 Hilal Confectionary Ltd.  
 Hilton Pharmaceutical Pvt. Ltd.  
 Hinopak Motors Limited  
 Hoechst Marion Roussel Pakistan  
 Home Express  
 HRS Global  
 HRS Global  
 HRS Recruiting  
 HRSI  
 HSBC Bank Middle East Ltd.  
 Hubcrete Pvt. Ltd.  
 Hum TV  
 HYACINTH  
 Hyeworth Renault Petersen Pak Pvt. Ltd.  
 I.Q. Knitwear  
 IAL Saatchi & Saatchi  
 IBEX Global  
 IBM – Pakistan  
 ICI Pakistan Limited  
 Icon Securities (Private) Ltd  
 IEC Pvt. Ltd.  
 IGI Financials  
 IGI Insurance  
 Indus Motor Company Ltd.  
 Institute of Securities Management & Research  
 Intel Pakistan Corporation  
 Interflow Communications Pvt. Ltd.  
 InterGraphics C&A Pvt. Ltd.  
 International Advertising Pvt. Limited  
 International Asset Management Co. Ltd.  
 International Brands Limited  
 Invest & Finance Securities Limited  
 Invest Capital Pvt. Ltd.  
 Ismail Hamed & Sons  
 Ismail Industries Limited  
 Ismail Iqbal Securities (Private) Limited  
 ISMAR  
 ITOCHU Corporation  
 Izhar Concrete  
 J & P Coats Pakistan Pvt. Ltd.  
 J. Walter Thompson Asiatic Pvt. Ltd.  
 Jaffer Brothers Limited  
 Jaffer Business Systems (Pvt.) Ltd.  
 Jahangir Siddiqui & Co. Ltd.  
 Jang Group  
 Javed Engineering Enterprise  
 JCR-VIS Credit Rating Company  
 Jofa International  
 Johnson & Johnson Pakistan  
 JS Bank Limited  
 JS Global  
 JS Investments Limited  
 Jubilee Life Insurance  
 JWT Pakistan  
 Kalsoft Pvt. Limited  
 Karachi Cargo Services Pvt. Ltd.  
 K-Electric (Formally KESC)  
 Karachi International Container Terminal Ltd.  
 Karachi Stock Exchange Limited  
 KARSAZ Pvt. Ltd.  
 KASB Bank Limited  
 KASB Securities Limited  
 Khadim Ali Shah Bukhari & Co.  
 Knoll Pharmaceuticals Limited  
 Kolson Pakistan  
 Kopack Shipping  
 KPMG Taseer Hadi & Co.  
 Lakson Business Solutions Ltd.  
 Lakson Group of Companies  
 Lane 12  
 Li Fung (Singapore) Pte. Limited  
 Liberty Books  
 Lisco Pakistan  
 Logicose  
 L’Oreal Pakistan  
 Lowe & Rauf Pvt. Limited  
 Lucky Cement Ltd.  
 Maaz Pharmaceutical  
 Macter Pharma  
 Maersk Pakistan Pvt. Ltd.  
 Magnus Investment Advisors Limited  
 Maison Cosulting And Solutions  
 Mamora International  
 Management Association of Pakistan  
 Manhattan Leo Burnett  
 Marina Industries  
 Marksman Advertising  
 Marriott Hotel  
 Martin Dow Pharmaceuticals (Pak) Ltd.  
 Matech Consulting and Outsourcing  
 MCB Bank Limited



MCR Pvt. Limited – Pizza Hut  
Meat One  
Meeco Asia Pacific  
Meezan Bank Ltd.  
Meher Associates Pvt. Limited  
Merck Pharmaceutical  
Merck Sharp & Dohme of Pakistan Limited  
Merit Packaging Ltd  
Meritocracy  
Metlife Alico  
MicroSoft Pakistan  
Midas Safety  
Millennium Software Pvt. Ltd.  
Mindshare Pakistan Pvt. Ltd.  
MM Group of Companies  
Mobil Askari Lubricants  
Mobilink  
MPS Securities  
Muller & Phipps Pakistan Ltd.  
Multinet Pakistan Ltd.  
Mustaqim Dyeing & Printing Industries  
Nabi Qasim Industries  
Nanosoft Technologies  
Narejo Human Resources  
Nash Advertising  
National Bank of Pakistan  
National Foods Limited  
National Industrial Parks Ltd.  
National Marketing Services  
National Refinery Ltd.  
Naveena Exports Pvt. Ltd.  
Nedo Corporation  
Nestle Pakistan  
NIB Bank Limited  
Nielsen Pakistan  
NIFT  
Nippon Paint  
Novartis Pharma Pakistan Ltd.  
Novo Nordisk Pharma  
Ocean Express Agencies  
Octara Pvt Ltd.  
Ogilvy & Mather  
Oman International Bank  
OMD Pakistan  
Opal Laboratories Pvt. Ltd  
Oratech Systems  
Orient Communications  
Orient Energy Systems  
Orix Investment Bank  
Orix Leasing Pakistan Limited  
Osaka Lighting  
OTSUKA

Oxygene  
P&O Nedlloyd  
Pacon Manufacturing  
Pak Brunei Investment Company  
Pak Greaf  
Pak Gulf Leasing Company Ltd.  
Pak MediaCom Pvt. Limited  
Pak Mercantile  
Pak Oman Asset Management Company  
Pak Oman International Bank Ltd.  
Pak Oman Microfinance Bank Limited  
Pak Qatar Family Takaful Limited  
Pak Suzuki Motors Co. Ltd.  
Pakistan Beverage Ltd.  
Pakistan Credit Rating Agency  
Pakistan Currency Exchange  
Pakistan International Airlines  
Pakistan International Container Terminal Ltd.  
Pakistan Mercantile Exchange  
Pakistan Petroleum Limited  
Pakistan Refinery Limited  
Pakistan State Oil Co. Limited  
Pakistan Steel Mill  
Pakistan Tobacco Company Limited  
Pak-Kuwait Investment Co. Ltd.  
PARCO  
Park Towers – Prime Management Services  
Parke Davis & Co. Limited  
PEL  
Pepsi Cola International Limited  
Pfizer Laboratories Limited  
Pharmatec  
PharmEvo Private Limited  
Philip Morris International  
Philips Electrical Industries Limited  
Pkstudent.com  
Popular Fabrics  
Port Qasim Authorities  
Premier Distributer  
Prestige Communications Pvt. Ltd.  
Prime Human Resource Services (Pvt) Ltd  
Procter & Gamble Pakistan Limited  
Protege Global  
Punjab Oil Mills Limited  
Qasim International. Container Terminal Ltd.  
Qatar Airways  
Qubee  
Rajby Industries  
Reckitt Benckiser Pakistan Limited  
Red Bull  
Red Communication  
Red Cut

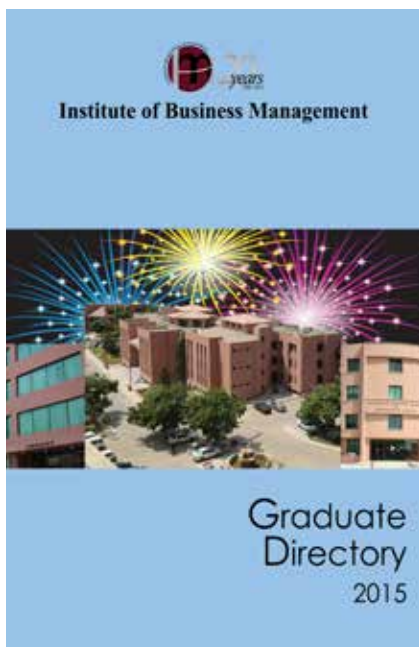


Regent Plaza Hotel  
 Relacom Pakistan  
 Reuters Limited  
 Rhone Poulenc Rorer Pakistan  
 RK Printers  
 Roche Pakistan Limited  
 Rocket Internet (Daraz.pk)  
 Ryan Agencies  
 Saleeqa  
 Sandrill  
 Sanofi-Aventis Pakistan Ltd.  
 Sapphire Textile Mills Limited  
 Sattar & Sattar Co.  
 Scentsation  
 Schneider Electric  
 Searle Pakistan Limited  
 Shadman Cotton Mills Limited  
 Shamrock Communications  
 Shan Foods  
 Sharp-Filter Pvt. Ltd.  
 Shell Pakistan Limited  
 SHELL Tameer  
 Sheraton Hotel  
 Shield Pakistan  
 Sidat Hyder  
 Siemens Pakistan Limited  
 Silchem  
 Silk Bank Ltd.  
 Sindh Bank Ltd.  
 Sindh Technical Education and Vocational Training Authority  
 Skyline  
 SMS Pakistan  
 Soneri Bank Ltd.  
 SoSafe Water Technologies  
 Spark Communication  
 Spectrum Communications  
 Standard Capital Securities  
 Standard Chartered Bank Limited  
 State Bank of Pakistan  
 Status Pro  
 Strongman Medline  
 Sui Southern Gas Company Limited  
 Summit Bank Ltd.  
 Symmetry  
 Synergy Advertising Pvt. Limited  
 Syngenta  
 Tapal Tea Pvt. Limited  
 Target Resourcing  
 Tariq Abdul Ghani & Co. Ltd.  
 Tata Best Foods  
 Taurus Securities Limited  
 TCS Pakistan Ltd.

TDAP  
 Teach For Pakistan  
 Technology Solushunz  
 Telenor Pakistan Pvt. Limited  
 Tery World Textiles  
 Tetra Pak  
 Texas Heart Institute  
 Texpo Pakistan  
 Tharparker Sugar Mills  
 The Aga Khan Health Services  
 The Aga Khan University  
 The Financial Daily  
 The Aga Khan Health Services  
 The Aga Khan University  
 The Citizens Foundation  
 The First Micro Finance Bank Ltd.  
 The Resource Group  
 THK Associates Pvt. Ltd.  
 3M Pakistan Pvt. Limited  
 360 Training Topline Securities  
 Torque  
 Toyota Motor Corporation  
 TPL Trakker  
 Tradekey Pvt, Ltd.Total Lubricants  
 Tri-Emmm Textile Products  
 U.F. Enterprises (Pvt) Ltd.  
 Ufone  
 Unicon International  
 Unilever Pakistan Limited  
 Unisys Pakistan Pvt. Limited  
 United Bank Limited  
 United Electrical Engineers Pvt. Ltd.  
 Universal Express  
 USAID  
 Usmanco International  
 VectraCom  
 Vision Direct Marketing  
 W Woodwards Pakistan Ltd.  
 Warid Telcom Pvt. Limited  
 Wavetec Pakistan (Pvt) Limited  
 Westminster & Eastern Financial. Services  
 World Wide Cargo Service  
 WorldCall  
 Wrap n Roll  
 Wyeth Pakistan Limited  
 Xcess Logistics  
 Xenith Public Relations (Pvt.) Limited  
 Yapı Kredi Invest, Istambool  
 Yunus Textile Mills Limited  
 Zafa Pharmaceutical Laboratories Ltd.  
 Zeppelin Communications  
 ZIL Limited  
 Zindagi Service Limited  
 Zong



## PLACEMENT PROGRAM



IoBM lays tremendous emphasis on its close collaboration with the government, firms, banks and leading HR consultants so as to ensure appropriate induction of its graduates into such organizations. Close linkages are maintained with CEOs and Heads of Departments in organizations so as to provide the best career prospects for graduates. Efforts are made to match the talents of students with requirements of both multinational and local organizations.

Emphasis has been placed on the requirement of career fairs and seminars. They provide a meeting ground between the corporate world and graduates with the provision of resumes to HR representatives where students are selected for jobs against their requirements immediately, or at a later stage since their personal data remains easily available with such organizations for possible employment. In career seminars, graduates are given fresh insight into the corporate world with detailed discussions on the writing of resumes and methodology in performing well during interviews.

IoBM's Internship & Placement Department provides a firm commitment to its graduates for developing careers. This begins from the point the student is inducted and continues with a life long partnership. We assist our graduates / alumni in finding their career paths. Some of the activities designed for placing students include, but are not limited to:

### 1. On Campus Recruitment Drives

The Internship & Placement Department has been able to develop strong relationships with the corporate sector by signing MoUs for both Internship & Job Placements, co-sponsoring guest lectures and seminars. As a result, companies frequently conduct on campus recruitment drives. This includes such organizations such as Unilever, P&G, ICI, GSK, Engro, etc.

### 2. Publishing Annual Graduate Directories

MBA graduates are invited to showcase their resumes in IoBM's bi-annual Graduate Directory. This publication is circulated to about 264 national and multinational companies and is an essential tool for being placed in the market. The Internship & Placement department recently conducted a survey to determine the efficacy of this document. It was found that 62% of the respondents were contacted for interviews and 69% of these were able to secure positions.

### 3. Career Counseling

Guidance and counseling is an extremely important aspect of development for young adults at IoBM. With this in mind the team in the Internship & Placement Department is constantly engaged in assisting students in the entire process of preparing for and actually finding jobs for them.



#### 4. Guest Lectures by Industry Experts

Recognizing the importance of networking and relationship management, the Department frequently invites industry professionals for lectures, conferences and corporate events. Our aim is to provide students with the opportunity to establish a strong and lasting contact base before graduation to ensure that they are able to get positions in the industry and business organizations.

#### 5. Workshops Related to Career Management

The department has recently introduced periodic in-house workshops such as interviewing techniques, resume writing, behavior patterns in organizations, etc.

#### 6. Career Fair

The department organizes a Career Fair, inviting organizations engaged in their recruitment cycle to make company presentations and answer questions from students. The department envisages this as an annual event not for only interactive sessions between students and the corporate world, but also for providing resumes for either immediate employment, in case jobs are available with the organization concerned, or resumes being kept pending by organizations for jobs whenever such an opportunity arises.

#### 7. Job Alerts via Group mail, Notices and Rozeepk.com

IoBM's Internship & Placement Department manages a database of job opportunities in the market. Students are provided opportunities through group mails, notices and an online web portal in collaboration with Rozeepk.com.



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## LIST OF COMPANIES EMPLOYING IOBM GRADUATES

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A.F. Ferguson & Co. Chartered Accountants  
A.I. MIR LLC  
Aaj TV  
AASA Consulting (Pvt) Ltd.  
Aba Ali Habib Securities  
Abacus-Global  
ABAMCO Limited  
Abbott Laboratories Pakistan Ltd.  
Abudawood Trading Company  
ACCA Pakistan  
Ace Insurance Limited  
ACM Gold Pvt. Ltd.  
Adam Motor Co. Limited  
Adamjee Life Insurance Company  
Adcom Pvt. Limited  
ADM Denim  
ADVANS Micro Finance Bank  
Aftab Associates  
Aga Khan Education Services  
Aga Khan Health Services  
Aga Khan University  
Agfa Gaveart Pakistan  
Ahmed Foods  
AIG Pakistan  
Airmen Golf Course & Recreational Park  
Aisha Steel Mills Ltd.  
Akber Ali & Sons  
AKD Commodities  
AKD Securities  
Al Marai, Saudia Arabia  
Al Meezan Investment Management Limited  
Alfalah Securities  
Ali Asghar Textile Mills Ltd.  
Ali Gohar & Co. Limited  
Allianz EFU Health Insurance Limited  
Alma Matters  
Al-Mughal Trading Corporation  
Alstom Pakistan (Pvt.) Limited  
Alternate Research Pvt. Ltd.  
Aman Foundation  
American Pacific Enterprises LLC  
AMFCO International  
Amreli Steels Limited  
Anjum Asim Shahid Associates Limited  
APL Pakistan Pvt. Ltd.  
Apna Karachi FM 107  
APTECH Computers Education  
Arif Habib Bank Limited  
Arif Habib Limited  
ARMTECH Business Solutions (Pvt.) Ltd.  
Arpatech Pvt. Ltd.  
Artal Group of Companies  
Artistic Milliners  
ARY Communications  
ARY Digital Television Network  
AsiaCare Health & Life Insurance  
Asiatic Public Relations Network Ltd.  
Askari Bank Limited  
Asktourism  
Atco Laboratories (Pvt) Limited  
Atlas Honda  
Attock Cement Pvt. Limited  
Auspak  
Automobile Corporation Pakistan  
Avanza Solutions  
Aventis Pharma Pakistan Limited  
Axis Communications  
Bandhani Group  
Bank Alfalah Limited  
Bank Al-Habib Limited  
Bank Islami Limited  
Bank of Punjab  
Barclays Bank Limited  
BASF Pakistan  
Bayer Pakistan  
BDO Ebrahim & Co. Chartered Accountants  
BenchMatrix  
Bentham Science Publishers  
Berger Paints Pakistan Limited  
Beyond Profits  
Bhoja Air (Pvt.) Limited  
Blitz Advertising (Pvt.) Limited  
Blue Communications  
BMA Capital Management Limited  
Boom Group Pakistan  
Bosch Pharmaceuticals  
Bottomline Pvt. Ltd.  
Bounty Studio  
BP Pakistan Exploration & Production  
Brand Mileage  
Brand Synario  
Breezecom Pvt. Ltd



Bridgestone Tires Pakistan Limited  
British Oxygen  
Bullseye 360  
Burj Bank Ltd.  
Business Plus  
Business Recorder  
Byco Petroleum Pakistan Ltd.  
Cadbury Pakistan Ltd.  
Calibre Vintage  
Candyland Industries Limited  
Capital Management (Pvt.) Limited  
Carbonated TV  
Celentas Digital Solutions  
Centegy Technologies (Pvt.) Ltd.  
Central Depository Company of Pakistan  
CIM Shipping  
Citi Security  
Citibank N.A.  
Citizen Archive of Pakistan  
Citizens Foundation  
Clariant Pakistan Limited  
Classic Designs  
Clicktrade  
Cloud BPO  
CM Pak Ltd.  
Coats Pakistan Pvt. Ltd.  
Coca-Cola Beverages Pakistan Ltd.  
Colgate Palmolive Pakistan Ltd.  
Collective Wizdom  
Commtel Digital  
Contact Plus  
Continental Biscuits Pvt. Limited  
Contract Advertising  
Converge Technologies Pvt Ltd.  
Creative Chaos Pvt. Ltd.  
Creative Edge Communications  
Creative Factor  
Creek Developers  
Crescent Insurance  
Crescent Steel and Allied Products Limited  
Crystal-Lite  
Cubix Labs  
Cupola Pakistan Limited  
Custom HR Solutions  
Cybernet  
Dadabhoy Investments Pvt. Ltd.  
Dadex  
Dalda Foods Pvt. Ltd.  
DAMCO Pakistan (Pvt) Ltd.  
Dawlance (Pvt.) Limited  
Dawood Hercules Corporation  
DAWN Group of Newspapers  
Deal Club

Deal Today  
Dealon  
Deloitte Pakistan  
Descon Engineering  
Deutsche Bank  
Dewan Group  
Dewan Mushtaq Trade Ltd.  
DG Harbour  
DGS Pvt. Ltd.  
DHL Global Forwarding  
DHL Pakistan Limited  
Digital Tribe  
Directing Edge  
DMK Consultancy  
Dollar Industries  
Dolmen Group  
Dot Images  
Dow Jones  
Drug Information Systems  
Dubai Islamic Bank Limited  
Duleaf  
Dupont Pakistan  
EDGE Financials  
EFU General Insurance Limited  
EFU Life Assurance Limited  
Eli Lilly Pakistan (Pvt) Ltd.  
Elixir Securities Pakistan Ltd.  
Empact  
Engage 24X7  
Engage Consulting  
English Biscuits Manufacturers Ltd.  
Engro Corp.  
ENI Pakistan Limited  
EPFirms  
Ephlux  
EPlanet Communication  
Epoxy Industries (Pvt.) Limited  
eSys Pakistan  
Etihad Airways  
Etilize Pvt. Ltd.  
Evaluation Factor (Pvt) Ltd.  
Evernew Entertainment  
Evolution Advertising  
Excelerate  
Express News  
Faysal Asset Management Ltd.  
Faysal Bank Limited  
Fidelity Insurance  
First Capital Equities Pvt. Limited  
First Women Bank Ltd.  
Fitness Republic  
Flight Connections  
Folio 3



Food Connections Pakistan  
Forex Financial Products  
Forte Pakistan Pvt. Ltd.  
Foundation Public School  
14th Street Pizza  
Freight Systems Co. Ltd.  
Friends of Literacy & Mass Education  
FYSL Trade  
Gatron Industries Ltd./Novatex Ltd.  
GEMCO Pakistan Ltd.  
General Tyre & Rubber Company Ltd.  
Genix Pharma Private Limited.  
Getz Pharma  
Ghulam Farooq Group  
Giga Group of Companies  
GlaxoSmithKline Pakistan Limited  
Global Food Marketing  
Global Securities Pvt. Ltd.  
Goodcore Technologies  
Greaves Airconditioning (Pvt) Ltd.  
Green Cherry Solutions  
Green Star Social Mkt. Pvt. Ltd.  
Gul-Ahmed Textile Mills Pvt. Ltd.  
Gumcorp Pvt. Ltd.  
Habib Bank AG Zurich  
Habib Bank Limited  
Habib Metropolitan Bank Ltd.  
Habib Oil Mills Limited  
Habib University Foundation  
Habitt  
Haleeb Foods,  
HANDS Pakistan  
Hasnain Tanveer Associates (Pvt) Ltd.  
HBL Asset Management Ltd.  
Herbion International Inc.  
Hilal Confectionary Pvt. Ltd.  
Himont Pharmaceutical Pvt. Ltd.  
Hinopak Motors Limited  
Hirelabs  
Home Express  
HRS Global  
HRS International  
HSBC Bank Middle East Ltd.  
HUBCO  
Hum TV  
Human Resource Solutions  
HURD  
IAL Satchi & Satchi  
IBEX Global  
IBL Group  
IBM Pakistan  
ICE Animation

ICI Pakistan Limited  
Icon Global  
ICS Group of Companies  
Ifrasoft Technology Limited  
IGI Financial Services  
IJARA  
imrooz.com  
Inbox Business Technology  
Indus Bank Limited  
Indus Motors Company  
Industrial & Commercial Bank of China  
Industrial Development Bank of Pakistan  
Information Technology Services  
Intel Pakistan  
Interactive Cell  
Interactive Health Solutions  
Interflow Communications Pvt. Ltd.  
International Advertising Pvt. Ltd.  
International Asset Management Company Ltd.  
INVATERRA  
Invest & Finance Securities Limited  
Invortex Technologies  
Iris Communication  
Islamic Investment Bank  
Ismail Iqbal Securities  
IT Link Online  
J. Walter Thompson Asiatic (Pvt.) Ltd.  
Jaag Broadcasting Systems Pvt Ltd.  
Jaffer Brothers Limited  
Jahangir Siddiqui & Co. Limited  
Jason Group of Companies  
JCR -VIS  
Jeem Solutions  
Johnson & Johnson Pakistan Ltd.  
Jotun  
JS Bank Limited  
JS Global Capital Limited  
JS Investment  
Junctionz  
KalSoft (Pvt.) Limited  
Karachi Deals  
Karachi International Container Terminal Ltd.  
Karachi Stock Exchange Limited  
Karachi Vocational Training Institute  
KASB Bank Limited  
KASB Capital  
KASB Funds Limited  
KASB Securities  
K-Electric (Formerly KESC)  
Khaliq Fashion  
KNYSYS  
Kopak Shipping Company





KPMG Taseer Hadi & Co.  
Khwaja Ghareeb Nawaz Trust  
KZR Associates  
Lakson Group of Companies  
Lalani & Associates  
Land O'Lakes Inc.  
Lane 12  
Lasmo Oil Pakistan Limited  
LGS Matrix  
Liberty Books  
Live Securities Pvt. Ltd.  
Lo'real Pakistan  
Logic Information's  
Logicose  
Lootlo.pk  
L'Oreal Pakistan  
Lowe & Rauf  
Lucky Cement Ltd.  
Lucky Knits  
M. Yousuf Adil Saleem & Co. Chartered Accountants  
Maersk Sealand  
Magnus Investment Advisors Ltd.  
Majsons Corporation  
MAL Pakistan Limited  
Manhattan Leo Burnet  
Manzar Pakistan  
Maple Pharmaceuticals Pvt. Ltd.  
Marie Stopes Society  
Markematics Pvt. Ltd.  
Martin Dow Pharmaceutical  
Mass Advertising Pvt. Ltd.  
Mazars  
MCB Bank Limited  
Meat One  
Media Axis  
Media Max Pvt. Limited  
Media Pulse Pvt. Limited  
Meezan Bank Ltd.  
Mehran Enterprises  
Merck Marker Pvt. Ltd.  
Merit Packaging Pvt. Ltd.  
Meritocracy  
Metlife Alico  
Metro Cash & Carry Pakistan  
Metropolitan Bank Limited  
MGH Group  
Microsoft Corporation  
Midas Safety  
Mindshare Pakistan Pvt. Limited  
Mitsubishi Corporation  
Mobil Askari Lubricants  
Mobilink

Mobitel, KSA  
Monsieur  
MS Associates  
Muller & Phipps Pakistan Pvt. Ltd.  
Multinet Pakistan Pvt. Ltd.  
Mustafa & Co. Pvt. Limited  
Nabiqasim Industries  
Najmi Bilrami Collaborative Pvt. Ltd.  
Nanosoft Technologies Pvt. Ltd.  
Narejo Human Resources  
National Bank of Pakistan  
National Clearing Company of Pakistan Ltd.  
National Commodity Exchange  
National Foods Limited  
National Fullerton Asset Management Ltd.  
National Industrial Parks Ltd. (NIP)  
National Insurance Company  
National Investment Trust  
National Marketing Services  
Naveena Export Pvt. Limited  
Nedo Corporation  
Nestle Pakistan  
Net Space Systems  
New Era Industries  
New Jubilee Insurance Co. Limited  
Next Degree  
Next Generation Innovations  
NIB Bank Ltd.  
Nielsen Pakistan  
Nike Pakistan Limited  
Novartis Pharma Pakistan Limited  
OBS Group  
Oman National Electronics, Dubai  
OMD Pakistan  
OMV Pakistan Exploration  
Oratech Systems Pvt. Limited  
Orient Public Relations  
Orix Investment Bank Pakistan Ltd.  
Orix Leasing Pakistan Limited  
Oxford University Press  
Oxygene Pakistan  
P&O Nedlloyd  
Packages Limited  
Pak Mediacom Pvt. Limited  
Pak-Arab Refinery Limited  
Pakistan Institute of Corp  
Pakistan Institute of Corporate Governance  
Pakistan Petroleum Ltd.  
Pakistan Refinery Ltd.  
Pakistan Services Limited  
Pakistan State Oil Company Ltd.  
Pakistan Telecommunication Co. Ltd.



Pakistan Television Corporation  
Pakistan Tobacco Company (British American Tobacco)  
Pakistan Vehicle Engineering (Pvt) Ltd.  
Pak-Kuwait Investment Co. Ltd.  
Pak-Petrochemical  
Pak-Suzuki Motors Co. Limited  
Parke Davis & Co. Limited  
Pastel Communications  
Path Group of Companies  
PCI Group  
Pearl Packages  
Pegasus Consultancy (Pvt.) Ltd.  
Pfizer Laboratories Limited  
Pharmatec  
Philip Morris International  
Philips Electrical Co. of Pakistan  
PICIC  
PIRANA Group  
Pixarch  
Pizza Hut – MCR (Pvt) Ltd.  
Pizza Next - MFC Pvt. Ltd.  
Plastech Products (Pvt.) Ltd.  
Polaris  
Premier Systems Pvt. Ltd.  
Prestige Communications Ltd.  
Prestige Grey  
Price Solution Pvt. Ltd.  
Prime HR  
Procter & Gamble  
Promotech Media Solution (Pvt) Ltd.  
Protege Global  
Qineqt  
Qubee  
Rain Bargain  
Reckitt Benckiser Pakistan Ltd.  
Red Tape  
Reveal Pakistan  
Rhone Poulenc Rorer Pakistan Ltd.  
Rising Technologies  
Robotics Labs  
Roche Pharmaceuticals Limited  
Rocket Internet  
Rohi International Pvt. Ltd.  
Roshan Media  
S13 - Systems Innovations Pvt. Ltd.  
Sach International  
Sagacious Business Consultancy  
Salsoft Technologies Pvt. Ltd  
Samba Bank Ltd.  
Sanofi Aventis Pakistan Ltd.  
Sapphire Textile Mills Limited  
SBT Japan

Schneider Electric  
School of Leadership  
SCT Group  
Searle Pharmaceuticals  
Service Sales Co.  
Shabbir Tiles & Ceramics Ltd.  
Shafi-Reso Chemicals  
Shaheen Airlines  
Shajar Capital  
Shamrock  
Shan Foods Pvt. Ltd.  
Shangrila Pvt. Ltd.  
Sharaf Shipping Agency  
Shell Pakistan Limited  
SibiSoft Inc.  
Sidad Hyder Morshed Associates Private Limited  
Siemens Pakistan Engineering Co. Limited  
Signium International  
Sindh Education Foundation  
Singer Pakistan Limited  
SKF Pakistan Pvt. Ltd  
Snack Bites Company  
So Safe Pakistan  
Social Sell  
Socially Global  
Solutionicks  
Soorty Enterprises  
Spark Communication  
SSG Consulting  
Stancos Pvt. Limited  
Standard Chartered Bank Limited  
Starcom Pakistan  
Starcrest Communications  
State Bank of Pakistan  
Statuspro Inc.  
STEP Consultants  
Stitchers International  
Stork Prints Pakistan  
Streebo  
Strongman Medline  
Sufi Brothers  
Summit Bank Limited  
Sun Consultants  
Sun Enterprises  
Sun Systems  
Super Trading Inc.  
Symbios.pk  
Synapse Consulting  
Sysnet Pakistan Pvt. Ltd.  
Systems Limited  
Talent Optimizers  
Tameer Micro Finance Bank Ltd.  
Tapal Tea Pvt. Ltd.




Tata Textile Mills Ltd.  
Taurus Securities Ltd.  
TBH Employment and Consulting Services  
TCS (Pvt.) Limited  
Teach for Pakistan  
Teamants  
Teamz International  
TeleCard Ltd.  
Telenor Pakistan Limited  
TenPearls  
The Bank of Khyber  
The Express Tribune  
The First Micro Finance Bank Ltd.  
The Learning Organisation  
The Leatger Grandeur  
The Recruiters  
The Snack Bites Company  
Thinkline  
Third Eye Managed Services  
3M Pakistan Pvt. Limited  
360 Training  
Time & Vision Advertising  
Times Consultant (Pvt) Ltd.  
TIPU Associates  
TNI - Worldwide Partners Inc.  
Top Boss  
Total Lubricants  
Touchpoint (Pvt) Ltd.  
Toyota Indus Motor Company  
TPL Trakker Limited  
TPS  
TradeKey  
Transit HR Consulting  
Transworld Associates  
Travel Mate  
Travel Solutions  
Travelport  
Triple E Pvt. Limited  
TV One - Airwaves Media Pvt. Ltd.  
UBL Fund Manager  
UBL Insurers  
Ufone  
Uniferoz  
Unilever Pakistan Limited  
Unique Pakistan  
Unisys Pakistan Pvt. Limited  
United Assets Management Co. Ltd.  
United Bank Limited  
United Consultants Pvt. Limited  
United Energy Pakistan Ltd.

United Marine Agencies  
United Registrar of Systems Limited  
United Sales Pvt. Limited  
Universal Brush Ware Pvt. Ltd.  
Urbanite  
US Consulate, Karachi  
USAID Pakistan  
Versa Canada Inc.  
Visa International (Asia Pacific) Ltd.  
Vision Express  
Ward Howell International  
Warid Telecommunication  
Waterlink Group of Companies  
Wavetec Pvt. Ltd.  
Weekend World Marketing Limited  
Westminster & Eastern Financial Services Ltd.  
Winstar Pvt. Ltd.  
World Tel  
World Wildlife Fund for Nature Pakistan  
WorldCall Broadband Limited  
Wrap n Roll  
WWF Pakistan  
Xenith Public Relations (Pvt.) Ltd.  
Younus Brothers Group  
Yunus Textile Mills Ltd.  
ZAP Infotech Inc.  
ZEPCOM  
ZH Technologies Inc.  
ZIL Limited  
Zishan Engineers Pvt. Ltd  
Zong  
ZRG International





  
Institute of Business Management  
Karachi, Pakistan



# ENTREPRENEURSHIP & MANAGEMENT EXCELLENCE CENTER

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## ENTREPRENEURSHIP & MANAGEMENT EXCELLENCE CENTER (EMEC)

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The Office of Research, Innovation & Commercialization (ORIC)/EMEC supports IoBM's vision of lifelong learning, as well as its long term goal of seeking AACSB's accreditation which believes in innovation, engagement and impact. ORIC/EMEC works as a bridging unit between the university and public, private as well as international not for profit sector to engage its faculty, staff and students by commercializing IoBM's initiatives.

### ORIC/EMEC Mission

Synonymous with IoBM's mission of lifelong learning, the work of ORIC is dedicated towards building the capacity of faculty, staff and management and utilize such capacity to work on the consultancy and training projects of the corporate, private, not for profit and public sector of the country. Under the aegis of ORIC and its capacity, IoBM works on the ventures as follows:

1. Research Consultancy
2. Capacity Building Training Consultancy for NPOs
3. Proposal Writing Capacity Building for IoBM faculty and students
4. Open enrolment training programs for the corporate sector as well as IoBM staff and faculty
5. Tailor made training programs for the corporate sector as well as IoBM staff and faculty



### International Union for Conservation of Nature (IUCN) Project

IoBM executed a research project "Valuation of Mangroves in PQA Indus Delta: An Econometric Approach" awarded by International Union for Conservation of Nature (IUCN). This project was done under the Mangroves for Future", initiative by IUCN.

### UNDP Research Project

A social attitude survey research project with the title "Tolerance on Factory Floors" is being executed by IoBM. This research project is awarded by United Nations Development Programme (UNDP).

### USAID Project

A project awarded by Aurat Foundation (AF) under the initiative of Gender Equity Program (GEP) is being executed at IoBM with a title "Training of the sub-grantees in project cycle management, financial management, gender sensitization, women friendly laws, GEP specific reporting and documentation and introducing fund raising techniques".



## NPO Management Course

In order to enhance the capacity of Not for Profit Organizations in Pakistan and to bridge the gap between citizens and government to promote good governance, The United States Agency for International Development (USAID) for grant making awarded a three year, \$ 45 million contract under the aegis of The Citizen's Voice Project (CVP). This project is being undertaken by a consortium of the Trust for Democratic Education & Accountability (TDFEA), The Asia Foundation (TAF), and Grant Thornton - Amjum Asim Shahid Rehman (GT-AASR).

ORIC / EMEC conducts NPO (Not for Profit Organization) Management Course training and since October 2012 to date EMEC has conducted 12 NPO Management Course trainings and has build the capacity of more than sixty participants of thirty different NPO's across the country. NPO Management Course is a seven day residential training program comprising five (5) compulsory and two (2) optional courses. The participants are trained in Strategic Planning, Financial Management, Monitoring & Evaluation, Compliance, Project Management, Proposal Writing, Leadership, Public Outreach, Human Resources and Admin & Procurement.



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## Activities at EMEC

- Developing Aligned, Engaged and Innovative Organizations Workshop, February, 2015
- Emerging Trends in Talent Management, HR Diploma Module, February, 2015
- Certified Supply Chain Analyst (CSCA) Program, February, 2015
- Mathematics Colloquium on 'Big Data Analytics', March, 2015
- Managing for Development Results, March, 2015
- Certified Demand Driven Planner (CDDP) Program, March, 2015
- 5th International Conference on Business Management, March, 2015
- Certified Supply Chain Manager (CSCM) Program, April, 2015
- Orientation of IFC , April, 2015
- Certified Supply Chain Analyst (CSCA) Program, May, 2015
- Aptitude Assessment Program, July-August, 2015
- Certified Supply Chain Manager (CSCM) Program, August, 2015
- Creating your Distribution Strategy, August, 2015
- Conference on Entrepreneurial Engineering & Energy Self-Sufficiency, August, 2015
- Certified Supply Chain Analyst (CSCA) Program, October, 2015
- Certified Supply Chain Manager (CSCM) Program, November, 2015
- International Conference on Women in Development, November, 2015
- Certified Supply Chain Analyst (CSCA) Program, December, 2015
- International Conference on Experiential Learning, April, 2016





## Karachi Council on Foreign Relations (KCFR) & China Institute of Contemporary International Relations (CICIR) delegates Visit to IoBM

Members of Karachi Council on Foreign Relations with a four-member delegation from China Institute of Contemporary International Relations (CICIR) visited Institute of Business Management on Sunday, March 22, 2015 to discuss the benefits of the China-Pakistan Economic Corridor.

The meeting was hosted by Mr. Talib Karim Syed, Rector, IoBM and Corporate Member of KCFR.

### IFC-IoBM Partnership

Business Edge, IFC has recently collaborated with the Institute of Business Management (IoBM) to offer courses specially for SMEs. Business Edge, an innovation of IFC, is a world-class proprietary training solution designed to improve management capacity and business performance. Business Edge has been used to train hundreds of thousands of individuals globally. Impact studies show that Business Edge has significant impact on workplace performance, real-world application, employability, bankability, revenues, investment, and job support.

List of courses offered in this regard belong to the following categories:

- Marketing Management
- Financial Management & Accounting
- Personal Productivity Skills
- Human Resource Management
- Tourism and Hotel Management
- General & Operations Management



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## **Pakistan Business Review (PBR)**

Pakistan Business Review (PBR) is the Institute of Business Management (IoBM's) multidisciplinary journal in continuous publication since April 1999. It is Pakistan's first refereed academic business research quarterly. PBR is an HEC approved 'X' category journal. It is abstracted and indexed by the American Economic Association in the ECONLIT and the Journal of Economic Literature, USA. It is supervised by an International Advisory Board of Business Academics from national and international organizations such as University of Malaya, International Burch University, University of Brescia, University of Rostock, University of Kelaniya, University of Karachi, University of Malaga, Columbia University, University of Chittagong, Kathmandu University, etc. are also represented on the board. All full-time faculty members at IoBM contribute research papers on a regular basis. Pakistan Business Review is in its fifteenth year of continuous publication.

## **Pakistan Journal of Engineering, Technology & Science (PJETS)**

In 2010, the College of Computer Science & Information Systems (CCSIS) was asked to add value in its programs and come up with innovative ideas. The faculty of CCSIS, after few brainstorming sessions decided to launch a new journal to publish original research in the fields of Science and Engineering. CCSIS started working on this project and started a bi-annual, peer reviewed, journal by the name PJETS (Pakistan Journal of Engineering, Technology & Science). PJETS is published in June and December of each year. Editorial Board consists of two groups, Editorial Advisory Board (EAB) and Editorial Review Board (ERB). ERB consists of scholars with good academic background and proven research interest from reputed institutes. Many ERB members are associated with universities/institutes abroad, e.g. Malaysia, US, Canada, UAE, and Oman. The mission of this journal is to promote innovative ideas and original research in the fields of Science and Engineering. This journal aims at publishing authentic research papers to create a culture of innovation and scientific development. In 2013, the HEC recognized PJETS and placed it in Z-category.

## **Journal of Education and Educational Development (JoEED)**

The Journal of Education and Educational Development (JoEED) is a bi-annual peer reviewed journal published by the Department of Education, Institute of Business Management. It publishes local, national, and international research papers: empirical researches, action researches, case studies, research briefs, critical reviews, debates, and book reviews focused on interdisciplinary themes of education and educational development. The aim of this journal is to publish original and unpublished contributions that focus on both theoretical and applied research studies in education and related disciplines, offering diversity and a variety to its readers. The journal in each issue through publishing difference articles, case studies, book reviews, and critical reviews intends to present its audience with interdisciplinary themes on education and educational development.

## **External Research**

Consultancy work has been undertaken for the Federation of Pakistan Chambers of Commerce and Industry, the Aga Khan Education Service, Karachi, the Institute of Bankers in Pakistan, Deloitte, Touche International Chartered Accountants, the United Nations Industrial Development Organization, Vienna, SBP, Doha Bank FPCCI, TDAP, UNDP and the Government of Sindh. Research papers from IoBM are regularly presented at the annual meetings of the Pakistan Society for Development Economics, Islamabad.

## **Online Accessibility**

IoBM subscribes to the Business Collection of JSTOR, an online access to a vast collection of business academic journals. It allows access to 46 multidisciplinary and discipline specified collections. In addition, the HEC has allowed us online access to almost 5000 research journals. These publications carry theoretical and applied research findings in fields such as Accounting, Business, Computing, Economics, Engineering, Finance, Law, Management, Marketing, etc. The fast internet link of IoBM provides an easy access to download articles and research reports. Students are encouraged to avail the browsing facility available on the campus. The faculty is also encouraged to use these research journals, give assignments and group discussion exercises based upon the articles of specific fields.

## **PERN2**

IoBM is now connected with Pakistan Education & Research Network (PERN2) which is a high speed dedicated National Research & Education Network (NREN) for the universities/institutes and other academic sectors of Pakistan. This will provide students, faculty members and researchers a fully integrated and dedicated communication infrastructure using advanced Information & Communication Technologies. This NREN is being established to achieve true collaborative research, knowledge & resource sharing and distance learning. PERN2 is also aimed to have connectivity to other NREN(s) of the world including APAN (Asia), Internet2 (USA), GEANT2 (Europe), etc.



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## QUALITY ENHANCEMENT CELL (QEC)

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QEC is an independent department at IoBM established in 2008 under the directive of Higher Education Commission (HEC) and is headed by a Director. The purpose of QEC is to implement the guidelines provided by the HEC. It is also involved in planning, guiding and monitoring quality assessment and enhancement activities.

QEC has been successfully functioning over the last seven years with an excellent record and from its existence was able to contribute to the implementation of qualitative and quantitative data of several academic programs, on the basis of which HEC awarded ranking of QEC. QEC has the honor of scoring 99% in 2014. Earlier ratings varied from 85 to 96 %, on yearly basis.

QEC monitors plagiarism policy provided by HEC and serves as a focal point for the implementation of HEC quality criteria. All research papers and assignments are checked by software on plagiarism and reported to HEC on regular basis.

QEC is rated very highly by the Asia Pacific Quality Network (APQN). It has received best Internal Quality Assurance Award from APQN, in its conference held in Taiwan in 2013. APQN has recognized post graduate diploma of Quality Assurance in tertiary education to be conducted to locally and internationally.

QEC is responsible for setting up Standard Application and Products (SAP) university alliance linkages with an Australian University with the help of German experts and it is among the few institutions in the world which is providing SAP training to its students in the area of Supply Chain, Human Capital Management, Finance and Accounting, etc.

IoBM, in coordination with QEC, was able to get accreditation by NBEAC for its BBA and MBA programs, accreditation by Pakistan Engineering Council (PEC) for its BS-Industrial Engineering and Electrical Engineering programs, and is assisting acquiring AACSB accreditation.

QEC is also responsible for developing policy, procedure and its revisions. HEC utilizes the services of QEC in assessment of Institutional Performance Evaluation of other HEI's on regular basis. QEC is also conducting workshop in areas of quality and in preparation of Self Assessment report of the program of other institution.

**INSTITUTE  
OF BUSINESS  
MANAGEMENT**



# **ADMINISTRATIVE AND ACADEMIC REQUIREMENTS**

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## COMPREHENSIVE EXAMINATION

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After completion of their MBA program all students are required to pass a comprehensive examination conducted by the Institute. The comprehensive examination provides students an opportunity to integrate, synthesize and apply the various aspects of academic achievements and overall work done in their chosen majors and the core courses studied during the MBA. Preparation for the comprehensive examination would develop a broader understanding of the significance of the major chosen by the students within the framework of their overall educational experience.

### Structure

The comprehensive examination is of 3 hours duration divided equally into three segments consisting of three case studies of one hour duration each.

The case studies/questions are related to all majors available to MBA students.

1. To pass the comprehensive examination, a student must get satisfactory grades in one of his/her major and one in non-major. The examination is to be conducted thrice a year in the months of January, May and September. Students will be charged Rs. 5,000 as comprehensive examination fee. Passing the comprehensive examination is a mandatory requirement for obtaining the MBA degree.
2. Students are allowed a maximum of two attempts to qualify for the comprehensive examination. A third attempt may be availed only after the Dean's permission. The comprehensive examination is taken only after the student has completed all course requirements and attained a CGPA of at least 3.0 in his/her program.
3. A refresher course will be arranged by EMEC in the month of August for students who will appear in comprehensive exam of September, and will be conducted by faculty from within IOBM or hired from outside. Students will be charged a nominal fee for attending the refresher course.



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## PROCEDURE FOR SUBMITTING MS, MPhil & PhD THESIS

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### MS / MPhil Thesis

- Candidates must pass NTS (50% or more marks in General Exam) or equivalent test taken by IoBM / GRE
- Candidates must pass 08 courses (24 credit hours) with a minimum CGPA of 3.0. D grades will not be considered
- Qualified candidates will inform M.Phil program coordinator/ HoD to decide on a specialized area for research
- Candidates to suggest supervisor as per relevant area of interest
- BASR decision to be shared with the candidate and supervisor in writing
- Candidates to submit thesis on a CD for plagiarism (19% acceptable) check to the program BASR Office (Reference section to be excluded from thesis)
- After Plagiarism check, candidates will submit four copies of final thesis to the BASR
- BASR will approve the examiners' names: 2 for Thesis Evaluation and 1 for Thesis Defense (equal number of alternative names will also be shared with the BASR) which will be provided by the supervisor
- Reports from the examiners will be directed to the respective Deans.
- Dean to submit the report to BASR for recommendations (if any)
- Final copy of the thesis to be submitted to BASR for thesis defense
- Supervisor, coordinator, respective Dean, external examiner, relevant department faculty will form the thesis defense committee.
- Candidates will defend the thesis through powerpoint presentation
- Viva report to be submitted to the respective dean
- Dean to forward the examiner's report to BASR for the final approval of degree
- The Rector will confirm the award of the degree

### PhD Thesis / Dissertation

*For prescribed forms and details, refer to PhD manual for students*

- Candidates must pass NTS (60% or more marks in subject exam) or equivalent test i.e. GRE or by IoBM
- Candidates must pass 06 courses (18 credit hours) with a minimum CGPA of 3.0. D grades will not be considered
- Qualified candidates will inform PhD program coordinator/HoD to decide on a specialized area for research
- Candidate to suggest supervisor as per relevant area of interest
- BASR decision to be shared with the candidate and supervisor in writing
- Candidates to submit thesis on a CD for plagiarism (19% acceptable) check to the BASR Office (Reference section to be excluded)
- After Plagiarism check, candidates submit four copies of final thesis to the BASR Office
- BASR will approve the examiners' names: Two international thesis evaluators and one national evaluator (equal number of alternative names will also be shared with the BASR committee members) which will be provided by the supervisor
- Reports from the examiners will be directed to the respective deans
- Dean to submit the report to BASR for recommendations (if any)
- Final copy of the thesis to be submitted to BASR for thesis defense.
- Supervisor, coordinator, respective dean, external examiners, relevant department faculty will form the thesis defense committee.
- Candidates will defend the thesis through powerpoint presentation
- Examiners report to be submitted to the respective dean
- Dean to forward the examiner's report to BASR for final approval of degree
- The Rector will confirm the award of the degree

## TEACHING AND LEARNING AT IOBM

IoBM has been, and continues to aim at harnessing the best researched and the most widely implemented method of dissemination of information to support excellence in teaching, learning and research. Multifaceted teaching strategies at IoBM include experiential learning, cooperative learning, directed class discussions and activities in critical thinking.

- Experiential learning methodology enables industry engagement through “learning by doing” approach. Adoption of the experiential learning in all programs is a strategic initiative of IoBM.
- The case method of instruction continues to be a significant classroom teaching strategy at IoBM so as to integrate best practices with management theory.
- Field based learning encourages students to complement their conceptual knowledge with off-campus learning experiences that deepen their understanding of business issues.
- Research based assignments under the supervision of trained faculty aim to hone the research skills of students and maximize participant-centered learning experiences by exploring specific topic of interest related to real business situations.
- Specially-designed class rooms reinforce instruction through multimedia technology.
- Understanding being the purpose of instruction, the process of assessment at IoBM is more than just evaluation. It is a substantive contribution to learning that aim to identify gaps in student learning. IoBM's approach to learning is rooted deeply in assessment that fosters understandings and is more than an end-of -the-semester test. It informs students and faculty about what students currently understand and how to proceed with subsequent teaching and learning.



### Performance Evaluation and Standards

The performance of students is constantly evaluated through surprise quizzes, hourly examinations, assignments throughout the semester, submission of term reports, presentations and final examinations at the end of the semester. The grades awarded are as follows:

Grade	Marks	Grade Points
A+	96-100	4.00
A	91-95	3.89
A-	87-90	3.78
B+	84-86	3.67
B	79-83	3.33
B-	74-78	3.00
C+	68-73	2.75
C	65-67	2.67
C-	62-64	2.50
D	60-61	1.75
F	<60	0.00

Grade points are assigned to the given grades for calculation of the cumulative Grade Point Average (CGPA).



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## 'I' Grade

The grade of 'I' (incomplete) may be recorded to indicate that the requirements of a course have been substantially completed, but for a legitimate reason, a small component of work (final examination) remains to be completed and the record of the student justifies the expectation that he or she will obtain a passing grade upon completion. The instructor should be notified of the reason for the non-completion of work in order to ascertain the legitimacy of that reason and in turn to grant an incomplete grade.

In order to complete "I" grade, students must appear in the final examination in the following semester. Failure to do so will result in an 'F' grade. The incomplete grade is not counted in the computation of the CGPA for the semester in which the incomplete grade was permitted. The instructor assigning an incomplete grade files with the Dean a signed form indicating the reason for the incomplete grade. For detail visit the link: <http://www.examination.iobm.co/>

## Weightage

A student can apply for Weight-age for a course after satisfying the following criteria.

If he/she misses any of the two hourly exams for a course due to a genuine reason such as, serious illness/death in immediate family or important official assignment may apply for Weight-age within a week from the date of missed hourly paper, after submitting sufficient documentary evidence in support of his/her request. Weight-age applicability will be determined on the basis of at least 60 percent marks secured in final exam of the course. No request for weight-age will be entertained after one week of the date of the paper.

For detail visit the link: <http://www.examination.iobm.co/>

## Rechecking (Scrutiny) of Final Exam Script

After the final exam results have been posted, a student can apply for rechecking of his answer script of final exam or term project if he/she has certain doubt in marking of the said answer script/term project by his faculty member.

For further detail visit the link: <http://www.examination.iobm.co/>

## Leave for Absences

A student shall apply for leave for his/her absence from class in advance duly supported with concrete evidence, for approval of Rector.

Following tables shows the approved absences for a course during a semester.

Regular Semester:	Approved Absences:
Weekdays	4 days
Weekend	2 days

Summer Semester:	
Weekdays (Crash)	3 days
Weekend	2 days

The above absences are allowed on account of serious illness or emergencies and after the approval of Rector.

If a student accumulates more than the approved number of absences in a course, he/she will automatically be awarded an "F" grade in that particular course.

A student will not be eligible to apply for weightage or "I" grade in case the absences exceed the allowed limit.

In case of a severe condition student may apply for condoning of excess absences supported with concrete evidence to Academics Officer, who will forward the application along with evidence and attendance record duly verified by him, to Rector for approval. After Rector's approval, the student will have to sign an attendance undertaking. For detail visit the link:

<http://www.examination.iobm.co/>



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## DISCIPLINE

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IoBM stands out among other universities for its special emphasis on maintaining good order and discipline among its students. It reserves the right to prescribe such regulations from time to time that may be considered expedient for effectively maintaining the highest standards. The regulations set out below are IoBM's General Regulations for discipline.

### **The General Regulations provide that: No student of IoBM shall**

1. disrupt the activities and functions of the Institute;
2. damage any property of the Institute or of any faculty member, visitor or an employee of the Institute or knowingly misappropriate such property;
3. forge or falsify any certificate/degree issued by IoBM or knowingly make false statements concerning standing or results obtained in examinations;
4. engage in violent, indecent, disorderly, threatening, or offensive behavior or language;
5. engage in the harassment/disrespect of any faculty member, peer, visitor, employee of the Institute;
6. exhibit behavior that is inappropriate in terms of the norms and cultural values of the Institute and society in general;
7. engage in any political activity while enrolled at IoBM;
8. disrespect/disregard any guidelines/instructions prescribed by faculty and management of the Institute;
9. assist or encourage directly or indirectly any person to act in breach of the above mentioned regulations.

### **No student of IoBM shall breach any regulation**

- a) relating to the use of the libraries or the information and communication technology facilities at IoBM;
- b) relating to conduct in examinations;
- c) assist or encourage directly or indirectly any person or persons to act in breach of above mentioned regulations.



## The Disciplinary Committee

The Disciplinary Committee, IoBM, comprises a Chairman, Executive Director Administration, Academic Heads of Departments, Controller of Examination, and such other members notified by IoBM. If the Disciplinary Committee is satisfied that a student is guilty of breach of conduct it may:

1. impose a fine of such amount as it thinks fit;
2. order the student to pay compensation to any person or body suffering injury, damage, or loss as a result of the student's conduct;
3. make an order banning the student from specified premises or facilities for a certain period or on such terms as it thinks fit;
4. rusticate the student for such period as it thinks fit;
5. expel the student;
6. ask the parents of the student to give an undertaking that henceforth their wards will not get involved in any activity warranting disciplinary action and should any such incident occur, the Disciplinary Committee reserves the right to expel him/her permanently from the Institute without even asking him/her to appear before the Committee for the consideration of his/her case.

If the Disciplinary Committee is satisfied that a student has committed a breach of the disciplinary regulations relating to plagiarism it may:

- (i) exclude any part of the work submitted from assessment;
- (ii) award no mark / reduce or disregard any piece of work;
- (iii) permit a student to re-sit an examination or resubmit a piece of work on such conditions as it thinks fit.

### Appeal / Review of the decision:

The review of the decision taken by the committee shall rest with the President, IoBM.



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## ATTENDANCE POLICY



Ensure 100% attendance for each course. 20% absence is permissible, only in case of illness, or emergencies. These have to be approved by the Management. Approval is contingent upon the evidence provided. 20% means that a student is allowed a maximum of four approved absences in a course during a regular semester and two in a course offered on weekends. If a student accumulates more than the allowed number of absences, he/she will automatically be awarded an 'F' grade in that particular course.

In case of a severe condition student may apply for condoning of excess absences supported with concrete evidence to Academics Officer, who will forward the application along with evidence and attendance record duly verified by him, to Rector for approval. After Rector's approval the student will have to sign an attendance undertaking. For detail visit the link: <http://www.examination.iobm.co/>

## DRESS CODE POLICY



Appropriate dressing enhance the personality and contributes to successful nonverbal communication in the workplace.

IoBM expects its students to reflect its values & standards in every way, and especially in the way they dress and conduct themselves. This will enable them to make a positive impression and project a professional image wherever they go.

In order to achieve the above stated objectives, the following guidelines must be strictly observed:

- All clothing worn by students should be well laundered.
- Clothes should be inoffensive in terms of cuts and style, or by way of messages printed on them.
- Female students may only wear jeans provided their tops are of mid-thigh length. They should also be modest and avoid transparent materials and short lengths for sleeves and trousers/shalwars.
- Only light make up jewelry and perfume is permitted.
- Male students are only allowed full length trousers and jeans. For footwear, they must wear dress shoes, moccasins, joggers or sandals with back straps.
- Male students should maintain proper haircuts and refrain piercing their ears and faces.

No variation or violation in all of the above will be permitted and students doing so will be marked absent in their respective classes.



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## EXAMINATION NORMS

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Each semester has two hourly exams (6th & 11th week) & one final exam in the 15th week. Marks distribution is conveyed to the students at the beginning of the semester which traditionally is 15 marks for each hourly and 40 marks for the final exam. 30 marks are assigned for quizzes and assignments. In some cases, there might be a slight variation if the concerned faculty so desires.

IOBM, in its pursuit of excellence, believes in providing a congenial atmosphere to the students during all exams in order to get them to perform at their optimum level. However, there are certain norms which the students are expected to be aware of and observe both in letter and spirit. These norms are:

- Impersonation may lead to permanent expulsion from the Institute.
- Cell phones are strictly prohibited in the exam hall/ room. Defying this rule may result in confiscation or a fine of Rs. 1000/=.
- Valid college ID card is mandatory for entry to the exam room/hall. There is absolutely no relaxation in this rule.
- Punctuality is most important at all times. Students are expected to check their exam location and be seated at least 10 minutes prior to the exam time. Late comers will be made to wait for 5 minutes in case of hourlies and 15 minutes in the final exam before they are allowed entry. Students arriving late for more than 15 minutes will not be allowed to appear in the exam.
- As per Institute's policy all question papers are to be returned along with the answer scripts.
- Students are required to bring their own stationary and calculators as no leading borrowing is permitted during examination.
- Programmable calculators or any other kind of electronic devices are strictly prohibited inside the exam area.
- Indiscipline in the exam hall/room will not be tolerated. Such cases are to be reported to the controller of examinations immediately for appropriate action.
- Possession of any written material related to the subject or communication with their fellow students will result in disciplinary action through the decision of the Disciplinary committee.

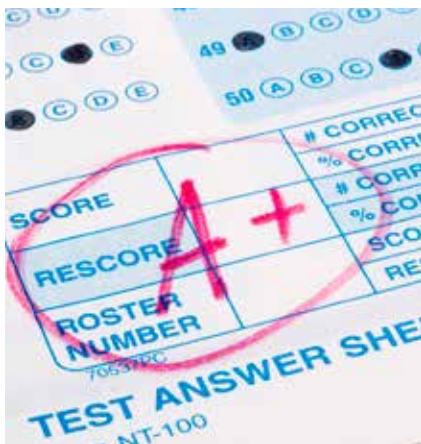
### Mid-Term Policy

Students are required to take two mid-terms and one final examination. There would be no N-1 given to a student. All students must take both the mid-terms, as the aggregate of these would be included in the final grade. The Institute does not exempt students from completing course requirements on the medical grounds nor is leave granted for any personal reasons. This is to ensure the market credibility of the Institute's teaching programs and degrees.

### Policy for Course Repetition

Student failing a course twice will not be allowed to register for a third attempt. If it is a compulsory course, a second failure will lead to failure in the degree and withdrawal from the Institute.





## Grade Improvement

Institute provides an opportunity to the students for improvement of CGPA if it is below 2.5 in undergraduate and 3.0 in Graduate program. Student wishing to improve his grade in any course is eligible to reappear in that course with exemption in attendance provided he has secured at least C- in that course in undergraduate and C in graduate program. Only courses for which grades C, D or F are received may be repeated for credit. Only one repetition is permitted, unless authorized in writing by the Dean. On the repetition of a course, the credit hours are applied towards a degree only once.

BBA (Honors) and BS students must maintain a minimum CGPA of 2.0 on a cumulative basis in order to maintain good standing. Any deficiency should be made up in the following semester; otherwise, the concerned student may be dropped from the rolls of the College. A CGPA of 2.5 is required for the conferment of the degree.

MBA and MPhil students are expected to maintain a CGPA of 2.5 to remain in good standing. Any deficiency should be made up in the following semester; otherwise the concerned student may be dropped from the rolls of the College. The cumulative GPA should be 3.0 in order to receive the degree. MBA and MS students are required to repeat those courses in which they receive F and D grades. For further detail visit the link: <http://www.examination.iobm.co/>

## Umrah Leave

Dates of Hourly and Final exam are being announced in the catalogue well in advance for subsequent semesters . Students should not plan their personal events including Umrah during these dates. Weightage requests will not be entertained for missing hourly or final exam on such pretext.

Umrah leave of two weeks (four absences) for weekdays and (two absences) for weekend are allowable for a course on production of sufficient evidence, and are subject to the approval by the Rector. Total absences, however, should not exceed the allowed absence.

## Hajj Leave

Hajj leave of three weeks (six absences) for weekdays and (three absences) for weekend are allowable for a course on production of sufficient evidence, and are subject to the approval by the Rector.

## Below Good Standing Policy

As per Institute of Business Management (IoBM) Policy, admission will be cancelled on the following grounds:

- Bachelor's students scoring a CGPA below 2.00 for two consecutive semesters and Summer Crash in an academic year
- Master's (Regular Program) students scoring a CGPA below 2.5 for two consecutive semesters and Summer Crash in an academic year
- Master's Weekend and Evening Program students scoring a CGPA below 2.5 for three consecutive semesters in an academic year (which includes three regular semesters)

Please note that if you have a below good standing CGPA, you cannot take semester gap/s unless approved by ED / Registrar.



## Academic Dishonesty

To maintain credibility and uphold its reputation, the Institute has certain procedures to deal with academic dishonesty which are uniform and should be respected by all. Violations of academic integrity include:

- Unauthorized assistance during an examination
- Falsification or invention of data
- Unauthorized collaboration on an academic exercise
- Plagiarism

## Definition of Plagiarism

Students are required to submit original work. Papers and/or projects submitted as part of a group effort must be clearly identified, with the team members specifically acknowledged. Ideas, data, direct quotations, paraphrasing, or any other indirect incorporation of the work of others must be clearly referenced to avoid plagiarism. Examples of plagiarism include:

- Direct quotation or paraphrasing from published sources that are not properly acknowledged;
- The use of other persons or services to prepare work that is submitted as one's own;
- The use of previously submitted papers or work, written by other students or individuals;
- Misappropriation of research materials;
- Any unauthorized access to an instructor's file or computer account;
- Any other serious violations of academic or moral integrity as established by the instructors of the Institute;
- Conduct during examinations.

Cheating is unacceptable. Examples of cheating are:

- Any written or oral communication among students during an examination
- Providing information about the content of an examination
- Impersonation by another student during an examination
- Using cell phones, programmable calculators or any other kind of electronic devices during an examination
- Using cheat sheet during an examination
- Material written on palm, hand or any other part of the body



*IoBM is a no smoking campus. Any violation of this rule can lead to serious consequences. The penalty for this can amount to the extent of cancellation of registration.*







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## ADMISSION REQUIREMENTS

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Admission to IoBM is on a highly competitive basis, and only those who compete successfully on merit are selected for admission. They come from a variety of backgrounds. After joining IoBM, students continue to pursue their studies with a high level of competitiveness aimed at professional development. The admission criteria for the Institute's academic programs are described below:

### Eligibility for entrance to Bachelor's Programs:

The admission for Bachelor's Programs would be based on any one of the following:

- A Higher Secondary School (HSC) Certificate with at least \*50% marks awarded by a recognized Provincial Intermediate Board
- 3 A-Levels with a minimum of \*two Cs, preferably in business related subjects, excluding General Paper and Urdu or an American High School Diploma with CGPA 2.5 or equivalent
- Recognized Overseas Equivalence Diploma
- Any other qualification if an authority has issued an equivalence certificate
- IBCC equivalence will be required for A-Level and other foreign qualifications

#### In addition:

- Atleast 5C's in O-Level exam or minimum 50% marks in SSC or equivalent
- Success in aptitude test and interview conducted by IoBM

*\*Subject to revision by the IoBM Management*

### Eligibility for entrance to Engineering Programs:

The admission for Engineering Programs would be based on any one of the following:

- A Higher Secondary School (HSC) Certificate with at least \*60% marks awarded by a recognized Provincial Intermediate Board
- IBCC equivalence certificate will be required for A-Levels, American High School Diploma with CGPA 2.5 or any other qualifications
- Any other qualification if an authority has issued an equivalence certificate.

#### In addition:

- Success in aptitude test and interview conducted by IoBM

*\*Subject to revision by the IoBM Management*



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## Eligibility for entrance to two year Master's Programs:

The admission for Master's Programs would be based on any one of the following:

- A four year Bachelor's degree in Arts, Science, Law, Commerce, Engineering, Medicine, Pharmacy or any other degree with high second division or equivalent from HEC/Provincial Government approved Institutes/Colleges/Universities in Pakistan.
- A final qualification examination of a professional body recognized by the Higher Education Commissions of Pakistan, for example, ACMA, CA, ACCA
- Four years overseas bachelor's degree or equivalent recognized by HEC
- Students with 2/3-year Bachelor's degree are eligible for MBA (3-year) program.

### In addition:

- Minimum 50 % marks in overall academic career or 5C's in O-Level and 2C's in A-level exam excluding General Paper and Urdu or equivalent
- Success in aptitude test and interview conducted by IoBM

*\*Eligibility criteria is subject to revision by the IoBM Management.*

## Eligibility for entrance to two year MBA (Executive) Programs:

The admission for MBA Executive Program would be based on any one of the following:

- A four year Bachelor's degree in Arts, Science, Law, Commerce, Engineering, Medicine, Pharmacy or any other degree with high second division or equivalent from HEC/Provincial Government approved Institutes/Colleges/Universities in Pakistan
- A final qualification examination of a professional body recognized by the Higher Education Commissions of Pakistan, for example, ACMA, CA, ACCA
- Four years overseas bachelor's degree or equivalent recognized by HEC
- Students with 2/3-year Bachelor's degree are eligible for MBA (3-year) program

### In addition:

- One-year work experience (for MBA Executive)
- Minimum 50 % marks in last qualification
- Success in aptitude test and interview conducted by IoBM

*\*Eligibility criteria is subject to revision by the IoBM Management*

## Eligibility for entrance to MS/MPhil Program:

It is based on any one of the following:

- Sixteen years of education in relevant field with high second division or equivalent from HEC recognized Institutes/Universities in Pakistan  
**OR**
- Four years overseas bachelor's degree or equivalent recognized by HEC

### In addition:

- Minimum 50 % marks in overall academic career or 5C's in O-Level and 2C's in A-level exam excluding General Paper and Urdu or equivalent
- Success in aptitude test and interview conducted by IoBM
- Candidates must pass NTS (50% or more marks in General Exam) or equivalent test i.e. GRE or by IoBM





### Admission Requirements for PhD Programs:

- Candidate having 18 years of education from an HEC recognized university is eligible to apply. For admission into the PhD minimum CGPA 3.0 on scale of 4 or First Division in MPhil/MS/Equivalent degree is required
- Students with HEC recognized MBA have to do at least four pre-requisite courses (HEC equivalency required)

#### In addition:

- Success in aptitude test and interview conducted by IoBM
- Candidates must pass NTS (60% or more marks in subject exam) or equivalent test i.e. GRE or by IoBM

### Transfer of Credits

Students desiring credit transfer in a specific degree program will be required to submit application along with their transcripts and course outlines/descriptions.

The equivalence committee will examine such cases and decide accordingly, keeping in view the following:

- All requests must be for same level of program. Courses completed in Bachelor's program cannot be considered for Master's program
- Courses of two semesters can be accepted from highly reputed and HEC recognized institutes of Pakistan and abroad. However, each case will be reviewed separately and the decision will be taken considering the grades and the reasons for transfer

### Re-admission Policy

Students who stop attending classes at the Institute, for any reason, without informing the concerned authorities about their absence for more than one semester, their admission shall be struck off and candidates would be required to go through the admission process afresh in case they want to register for courses in future.

#### The procedure for rejoining:

Admissions can be deferred for maximum of two semesters with justification and approval of Executive Director Admissions. Any relaxation not beyond two years is subject to approval of Executive Director Admissions.

Students who complete their Bachelor from IoBM are eligible to register for MBA. However, if Security Deposit has been withdrawn, candidates may reapply for admission.

Students dropped due to below good standing (for Master's program below 2.5 CGPA and for Bachelor's below 2 CGPA) may also apply for re-admission.



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## SCHOLARSHIPS AND FINANCIAL ASSISTANCE PROGRAMS

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### Internal

IoBM has established a financial assistance fund for students who are unable to afford the financial costs associated with an academic program. Assistantships and financial assistance are provided to students on merit and need basis. Currently about 25% of the students are receiving some form of financial aid.

### External

Following external financial assistance are being provided to students:

- HEC - Japanese Scholarships
- HEC - French Scholarships
- Endowment Fund - Education Department, GOS
- IoBM Endowment Fund
- Shahjehan Karim & Family Endowment Fund
- Janmohammad Dawood Trust
- Tabba Foundation
- Endowment Fund - Shan Foods
- Sui Southern Gas Company Ltd. Scholarships

### Scholarships are also available on reciprocal basis to:

- Bilkent University, Turkey
- International Burch University, Bosnia
- University of Florence, Italy
- Vytautas Magnus University, Lithuania
- Hanyang University, South Korea
- Guilin University of Technology, China
- Erfurt University, Germany



## FEE STRUCTURE\*



IoBM operates on a self-financing basis as a non-profit institution. All students are required to pay a one-time CAUTION MONEY of Rs. 15,000.00 which is refundable only as per the policy.

The fee structure for various degree programs, per semester, is as follows:

	Registration Fee	Tuition Fee* (per course)	Tuition Fee Full Load**	Total Fee* (per semester)
All Bachelor's Programs	10,000.00	13,900.00	83,400.00	93,400.00
All Master's (Regular) Programs	10,000.00	15,000.00	90,000.00	100,000.00
All Master's (Executive & Weekend) Programs	7,000.00	15,000.00	60,000.00	67,000.00

\* Subject to change

\*\* Six courses for regular, four courses for weekend / evening programs and three courses for MS/Phil or PhD programs

Summer session fee is charged on the basis of courses taken. Convocation fee of Rs. 12,500.00 is charged on completion of the degree program, inclusive of degree charges of Rs. 4,000.00. MBA executive and weekend students, planning to take less than a full load, would be charged registration and tuition accordingly. However, caution money will remain the same.

Post Graduate Programs	Registration Fee (1-2 Courses)	Tuition Fee Per Course	Thesis Fee	External Examiner Fee	Viva Voce Exam Fee	Supervisors Fee	Foreign Examiner Fee
MS / MPhil Programs	3,500.00	11,500.00	23,000.00	10,000.00	5,000.00	25,000.00	-
PhD Programs	5,000.00	12,500.00	50,000.00	20,000.00	10,000.00	125,000.00	65,000.00

The registration duration of thesis is one year (3 consecutive semesters) after 3rd semester. Students will be required to get themselves re-registered in thesis by paying registration fee and one course fee for the subsequent semesters.



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## Fee Refund Policy

### Caution Money

- Students after completion of their respective program are eligible to claim refund of caution money within one year from the date of convocation. The caution money is subject to forfeiture if it is not claimed within stipulated time.
- Any amount receivable from student for whatsoever reason will be deducted from the amount due to student on account of caution money.
- In cases other than above, caution money is non refundable and non transferable.

### Tuition Fees

1. Tuition fees of courses dropped with in due date(without penalty) will be transferred to next semester or on written request of the student, duly approved by the competent authority, may be relocated to her/his sibling's account of an on board student.
2. Tuition Fees for courses dropped after due date (with penalty) will be forfeited.
3. Tuition fees of on board students is refundable if a student quits or completes his/her program, provided that the student has not attended any classes.

### Registration Fee

Registration fees paid is non refundable and non transferable.

### Fresh Entrants

If fresh entrants decide to withdraw from the Institute after getting admission, the tuition fees paid will be refunded as per Higher Education Commission(HEC) refund policy as outlined hereunder, provided that the application submitted is duly acknowledged by an authorized officer of the Institute.

%age of Tuition Fee	Timeline for Semester System
Full (100%) Fee Refund	up to 7th day of commencement of classes
Half (50%) Fee Refund	From 8th-15th day of commencement of classes
No Fee (%) Refund	From 16th day of commencement of classes

### Provisional Admission

Students whose results of last required qualification is awaited are provisionally admitted provided they qualify in written test as well as interview. If such a student admitted fails to meet the admission criteria after declaration of last required results, he/she will be refunded tuition fee if Application for Refund is submitted within seven days of declaration of results/grades along with a copy of result/grade. Failure to timely submit the refund application will result in forfeiture of tuition fees.

### Deferment of Admission-Fresh Entrants

1. On the written request of a candidate for whatsoever reason the Institute defers the admission of the candidate till the next semester, tuition fee will be carried forward to the next semester. If a candidate later decides not to join, the fees so paid shall be forfeited.
2. If any candidate is allowed for a second attempt to improve his/her grade/percentage of his/her required qualification in order to qualify for the admission, he/she may do so on signing of an Affidavit duly notarized. If the candidate fails in the second attempt or does not avail the opportunity of second attempt, the fees so paid shall be forfeited.
3. A candidate will remain a candidate until he is allowed to register on completion of formalities.

### Dispute

In case of any dispute/dis agreement regarding interpretation of any clause of the Refund Policy, the decision of the Management would be final and binding.





OFFICE OF  
REGISTRATION



# ORGANIZATION



## Board of Governors

The Board of Governors exercises the powers to hold, control and administer the property, funds and the resources of the Institute. It also approves the Annual Report, Plan of Work, Statements of Accounts and the Annual Budget Estimates as recommended by the Executive Council. It is also responsible for ensuring effectiveness of the Institute's operations and continuity and preservation of its autonomy.

**Members of the Board of Governors (listed on Page 10)**

## Executive Council

The Executive Council is responsible for formulating and approving the principles, policies and plans governing the activities and operations of the Institute so as to facilitate teaching and other academic work. It can appoint faculty, researchers and officers on the recommendation of the Selection Board. It can also create new components of the Institute such as faculties/departments/college, and constitute standing committees, subcommittees, councils, and other administrative or academic advisory bodies, if necessary. It can undertake initiatives to ensure efficient and effective management and functioning of the Institute. It proposes plans of work for the approval of the Board of Governors.



## Members of the Executive Council

- Mr. Basheer Janmohammad, Chairman
- Mr. Shahjehan S. Karim
- A Judge of Sindh High Court
- Chairman Higher Education Commission
- Secretary, Education and Literacy Department, Government of Sindh
- Mr. Muhammad Ali Tabba
- Mr. Salahuddin Qureshi
- Mr. Masood Hashmi
- Mr. Talib Syed Karim
- Deans of respective Colleges
- Mr. M. W. Jahangir, Secretary

## Academic Council

The Academic Council is responsible for:

- Advising the Executive Council on academic matters
- Regulating the conduct of teaching, research, publications and examinations
- Regulating the admission of students to courses of studies and examinations at the Institute
- Regulating the conduct and discipline of the students of the Institute
- Regulating award of financial assistance, exhibitions, medals and prizes
- Formulating courses of study, syllabi and outlines of all examinations conducted by the Institute

## External Members of the Council:

- Mr. Mazhar ul Haq Siddiqui
- Ms. Rukhsana Asghar



## Board of Advanced Studies and Research

IoBM has a Board of Studies which reports to the Academic Council. It supervises teaching research and academic discipline. It has three sub-committees on curriculum, resources and discipline. External members on the Board of Studies are:

### External Members of the Board:

- Mr. Tasneem Ahmed Siddiqui
- Dr. Abuzar Wajidi

## Board of Studies

The following departments exist in the Institute:

### College of Business Management (CBM)

Communication, Management, Marketing, Human Resource Management, Health & Hospital Management, Accounting and Finance, Environment & Energy Management, Risk Management, Industrial Management, Advertising & Media Management and MPhil Business Management

### College of Computer Science and Information Systems (CCSIS)

Mathematics and Statistics, Computer Science & MIS and Actuarial Science

### College of Economics and Social Development (CESD)

Economics, Commercial and Professional Studies, Media Studies, Education, Policy & Area Studies, Business Psychology, Social Sciences and Organizational Psychology

### College of Engineering and Sciences (CES)

Electronics & Telecommunication

HoDs report to the Dean and the academic work of each department is governed by a departmental board of studies consisting of both internal and external members.

## Foundation for Higher Education

Foundation for Higher Education was established in 1994 under the Societies Registration Act, 1860 as a non-profit institution committed to the provision of quality education in Pakistan. IoBM is the first educational institution established by the Foundation. Following are the members of the Foundation:

- Mr. Shahjehan S. Karim, President
- Mr. Sani Ahmad
- Dr. Mehtab Syed Karim
- Dr. Mussarrat Hassan
- Mr. Mohsin Furqan
- Mrs. Sabina Mohsin
- Mr. Talib S. Karim
- Dr. Ahmer S. Karim
- Mr. Mehboob Syed Karim
- Mr. Nabhan Shah Karim
- Mr. M. W. Jahangir, Secretary





# FACULTY

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## Rector IoBM & Executive Director, Corporate Affairs & EMEC



**Talib S. Karim**, Rector & Executive Director, Corporate Affairs and Entrepreneurship & Management Excellence Center, holds a Bachelor's degree in Systems Engineering and a Master's degree in Economics with specialization in International Trade, both from the University of Arizona, USA. He has worked for a financial institution for ten years before joining the Institute full time in 1997. He has also taught Economics at the University of Arizona, USA and IoBM. He also attended the Oxford Advanced Management & Leadership Program at Oxford University. He is an Executive Council member of the Management Association of Pakistan and the President of Marketing Association of Pakistan and represents the Institute in various Associations nationally and internationally.

## College of Business Management (CBM)

### The Dean



**Prof. Dr. Irfan Hyder**, Dean CBM and CES, holds a PhD and MS from University of Texas at Austin, USA. In addition, he holds an MBA from IBA and BE-Electronic from DCET/NED. He has a wide experience in academic leadership, consultancy, entrepreneurial ventures, trainings, teaching, research, in the design and implementation of innovative programs and as a motivational speaker. He provides consultancy for entrepreneurial and personal visions, students/parental counseling and education. In his career spanning over 18 years, he has worked in leadership positions at various organizations. He was deputy director at IBA and Dean and VP of PAF-KIET. He has extensive industry consultancy experience for private and public sector organizations such as Oxford University Press, Trade Development Board (EPB), Pakistan Ordnance Factories, Pakistan Steel, Ministry of Science and Technology, etc. His entrepreneurial ventures include E-Patterns Software Solutions, Ahsan Memorial (AEF) & L2L Academy.

### Advisor



**Dr. Ahmer S. Karim**, Advisor, College of Computer Science and Information Systems (CCSIS), has a PhD and a Master's degree from Arizona State University, USA, preceded by Bachelor of Science in Finance and MIS from the University of Arizona, USA. He has over nine years of teaching experience at the University of San Diego, USA. He has published in Decision Sciences, Information and Management and also other academic conference proceedings. Dr. Karim has also published several academic books on Information Systems.

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## Accounting and Finance

**Dr. Muhammad Mahmud**, Senior Fellow and Head of Department. Dr. Mahmud served Institute of Business Administration (IBA), Karachi for twenty-four years in various capabilities (teaching, research and administrative). Dr. Mahmud has MBA degree from the IBA Karachi and PhD degree in Business Administration from the University of Malaya, Kuala Lumpur, Malaysia. His main area of interest is finance. He has published more than 24 articles in reputed local and International Journals. Serving at KASBIT he organized many seminars and workshops for students and faculty members. The Institute of Bankers of Pakistan for participating in research essay competition awarded him third prize in 2002 and fourth prize in 2003.



**H. Jamal Zubairi**, Associate Professor of Accounting and Finance, holds a BE degree from Dawood College of Engineering & Technology and MBA from IBA, Karachi. He also holds a banking diploma (DAIBP) from the Institute of Bankers of Pakistan. He possesses over 30 years of professional experience, mainly as a development banker with the National Development Finance Corporation and has also worked for other leading financial institutions such as ORIX Leasing. He has taught core as well as elective courses in Accounting and Finance for over 15 years, both as visiting and full time faculty. His research interests are in the areas of Banking, Risk Management and Corporate Finance. He has presented research papers at various international conferences and has also co-authored a book 'Financial Management in Pakistan' which was published by the Oxford University Press, Pakistan in the year 2005.



**Sharique Ayubi**, Associate Professor of Finance and Accounting. He holds a Master in Business Administration (MBA) from IBA, Karachi and another Master's degree in Economics from the University of Karachi. He also holds a Banking Diploma from the Institute of Bankers, Karachi. Currently, he is enrolled in the MS/PhD program. His experience in industry has been in National Development Finance Corporation (NDFC), where he worked for 14 years. He has been teaching courses in Finance, Accounting and Management for over 12 years at various universities and business schools. His research interests are Corporate Governance; Regulation of Banking and Securities Markets; and Comparative Management.



**Naseem Akhtar**, Associate Professor, Finance and Accounting, is an MBA from IBA (gold medalist) and BE Mechanical from NED. He has working experience of 28 years. His last appointment was with Rousch (Pakistan) Power Limited as a Chief Executive Officer. Prior to that, he worked as an Assistant Vice President, NDFC. He was also the Company Commander-Captain in Pak Army for 3 years.



**Syed Maqbool ur Rehman**, Assistant Professor in Accounting and Finance, is an investment banker as well as an educationist with an MBA from IBA. He has also received a diploma in banking from the Institute of Bankers in Pakistan. He has worked with reputed financial institutions for 18 years in operational areas in senior management positions. He has been teaching since 1989 at various business schools. His research interests include Risk Management, Compliance of IAS by local industry, Corporate Governance and Financial Markets.





**Tauseef A. Qureshi**, Assistant Professor in Finance, holds an MBA from the Institute of Business Administration. He has a unique blend of industry and teaching experience and has held senior management positions in Pakistan, USA and Canada.



**Mehboob Moosa**, Assistant Professor, Accounting, is a fellow member of ICMAP. He has also qualified CA final group-II. His 30 years' experience includes working with national and multinational companies like BOC (Pakistan) Ltd., Al-Futtaim Engineering, Dubai, Habib Group, World Group of Companies (Automobiles), Liberty Textiles, etc. as well as audit firms like KPMG Taseer Hadi, Sidaat Hyder, Rahim Jan and educational institutions of UK and Pakistani education streams.



**Samina Riaz**, Assistant Professor in Accounting, holds an MBA in Finance from Bahria University. Her research interests are in the areas of Banking and Financial Accounting and also presented research papers in the national and international conferences and intends to pursue PhD in the same.



**Kamran Rabbani**, Senior Lecturer, Finance and Accounting, is an MBA in Finance. He has working experience of 20 years mainly in the banking sector, where he trained Saudi Bankers in the area of small and medium enterprise financing. He has 4 years of teaching experience as a visiting faculty.



**Tazeen Arsalan**, Senior Lecturer in Accounting and Finance, holds a BBA (Hons) and MBA degree from the Institute of Business Management. She has completed her MPhil in Business Management and aims to pursue her PhD in Finance. She has six-year professional experience first in a leasing company and second in a consultancy firm where she was looking after women entrepreneurial cell and trainings for SMEs. During her corporate experience she represented Pakistan in Indonesia and UAE. She did several projects with JICA, JETRO, IPO and Islamic Chambers. She has been teaching Finance and Accounting courses since 2007, She took Senior Lecturer position in 2011 at Institute of Business Management where along with her teaching activities she was also given the responsibilities of BBA Program co-ordinator. She is faculty advisor of IoBM's Finance Society. Her research interests are in financial institutions and markets.



**Misbah Iqbal**, Senior Lecturer Accounting and Finance, holds a BBA (Hons) and MBA degree from the Institute of Business Management and is currently pursuing her MPhil in Business Management to be followed by a PhD in Finance. She has been teaching Finance and Accounting courses since 11 years, with around 3-year professional experience as an Investment Analyst (covering the Cement, Tractors, FMCG and Automobile sectors) and has been quoted on various national and international magazines for such. Involved in the USAID's and TAF's program on Training NPO personnel, she has conducted various trainings for such. Her research papers have been published in the Pakistan Business Review and presented in the International Sindh Conference'12. Her research interests are behavior of Capital Markets, Financial Management techniques, evolution of Shariah Financing and Development & History of Sindh.





**Muhammad Asim Khan**, Senior Lecturer in Accounting and Finance, received his MBA from Karachi University Business School, M.Com from University of Karachi and currently pursuing MPhil leading to PhD program. He has served Siemens Pakistan, Shaheen Air International and Aga Khan Education Service Pakistan in Commercial, corporate planning and education management capacities for more than fourteen years. He had also been associated with several prestigious institutions as a visiting faculty member for ten years. His areas of interest include management accounting practices and diversifying learning strategies.



**Najeha A. Bela**, Lecturer, Accounting & Finance, holds a BBA and MBA in finance from University of Karachi, and has a teaching experience of one year. She is currently pursuing MPhil in Business Management from CBM, and has research interests in contemporary accounting and finance



## Communication

**Fareeda Ibad**, Associate Professor and Senior Fellow, Communication Skills and Languages, holds an MPhil degree in Education from the Institute of Business Management, Karachi and a Master's degree from the University of the Punjab, Lahore in English. Her professional experience of 42 years includes teaching English and Communication to adult learners in diversified contexts. She has worked at the Pakistan American Cultural Center in the capacity of language teacher, Officer-in-charge, teacher trainer and curriculum coordinator. She has also worked at the British Council in the capacity of IELTS examiner and trainer, and ICFE examiner. Her communication teaching experience of 21 years includes teaching at both BBA and MBA levels. Her additional training experience is in the field of testing in ELT and professional and academic writing. She is on the Editorial Review Board of International Journal of Education and Culture (IJEC), Untested Ideas Research Center, Niagara, N.Y, USA and also Journal of Education and Educational Development, Institute of Business Management (IoBM). Her research interests lie in the areas of Communication and Education. She has worked in the areas of curriculum development, soft skills development, teacher training in pedagogy, business communication, and as an ELT trainer. Currently, she is working on her PhD degree in Education.



**Muhammad Asif Khan**, Assistant Professor, Communication, is an MA in English Literature and Linguistics from the University of Karachi and MBA from IoBM and MPhil from Iqra University. He has a rich experience of teaching English and communication related subjects to various categories of students ranging from intermediate and A-Levels to BBA and MBA. His areas of interest include TESL, Business Communication and Interpersonal Skills. He is also a contributor to the Pakistan Business Review (PBR), where his interviews with prominent personalities of the corporate world are published.



**Aliya Sikandar**, Assistant Professor, Department of Communication, holds a Master's degree in TESOL from the Institute of Education, University of London, UK, and a Master's degree in English Literature from the University of Karachi. She also has an RSA certificate in Teaching of English (COTE) from University of Cambridge. She has worked for the Aga Khan University for almost 24 years before joining the Institute full time in September, 2013. Currently, Ms Sikandar is engaged in teaching Business Communication and, Academic English courses. Her areas of interest are Business Communication, Critical Discourse Analysis, Scholarly Writing and Spoken Discourse.





**Muhammad Irfan Sheikh**, Assistant Professor in Communication, earned his Master's degree in English Literature and Linguistics from the National University of Modern Languages (NUML). He completed his Bachelor of Commerce from the University of Karachi, Bachelor of Education from Hamdard University and 'Training to Teach English for Specific Purposes' (TTESP) from the Aga Khan University. He is a member of PARE (Pakistan Association for Research in Education) and SPELT (Society of Pakistan English Language Teachers). He is an MPhil fellow and is currently working on his research thesis. He has developed a website "Webell" for ELT and research purposes.



**Shumaila Omar**, Senior Lecturer of Communication and CELTA qualified teacher and a trainer, holds double masters in English Literature and Linguistics from Karachi University and MPhil (Social Sciences) from Hamdard University. She has a diverse and rich teaching experience of 6 years in Academic English and Business Communication. She taught at NED and Karachi University prior to working at IOBM. In addition to teaching, she held workshops in ELT across UAE Universities and was working part-time at Collegiate American school, Dubai. Shumaila has also attended courses related to Leadership and Management at Dubai Men's College, Dubai. She is a member of TESOL (Teaching English to Speakers of Other Languages) Arabia and Al-Noor Training Centre for Children With special Needs.



**Farhan Uddin Raja**, Senior Lecturer, Department of communication, is currently pursuing an MPhil degree in English Linguistics from University of Karachi and has already submitted his thesis. He holds a Master's degree in English Linguistics from the University of Karachi as well. His interests include teaching, training and research and has contributed few research articles to HEC recognized journals. He has been associated to both public and private sector universities of high repute for more than 5 years. He is also a professional trainer and has trained numerous executives from different sectors.



**Syed Muhammad Sajid Siraj**, Senior Lecturer, Department of Communication, holds a Master's degree in English Linguistics from University of Karachi and currently enrolled in MS Applied Linguistics program at NED University of Engineering and Technology. He has also earned CELTA certification from University of Cambridge and ESP certification from Aga Khan University. He has worked locally and internationally at different reputable organization as a teacher, lecturer, trainer in ESL, ESP and EAP contexts. He is an active member of Society of Pakistan English Language Teachers (SPELT) and Cambridge English UK. He has presented at International EFL conference and has been associated with British Council programs.



**Rana Naeem Akhtar**, Senior Lecturer and PhD Scholar, Department of Communication, holds an MPhil degree in Education (ELT) from Iqra University, Karachi. He did his MA in English Linguistics & Literature from the National University of Modern Languages, Islamabad in 2009. Currently he is pursuing his PhD in Education from the Institute of Business Management. He has been associated with University of Karachi, CIBES, AKHSS and other Private sector universities as a faculty member from 2010 to 2014. He has a rich experience of teaching English, Communication and Education subjects to the students ranging from intermediate to Post Graduate Level. He is a professional trainer and has conducted numerous workshops and has conducted Teachers Training programs at various schools and Institutes. He is also invited as a public speaker by the NGOs and Private Educational Sector. He has produced six research studies in the domains of Language, Communication and Education. His areas of interest include Linguistics, Literature, Interpersonal Skills, Business Communication, Educational Psychology & Philosophy, Education Research and Training and Development.



**Akhlaq Ghouri**, Senior Lecturer in Communication, holds Master's degree in International Relations from Karachi University and completed his MPhil course work at ASCE Karachi. He has done his two years Diploma in French Language from University of Karachi. He also obtained DELF-Diplôme d'études en langue française from République Française Ministère de l'Éducation Nationale. He has vast experience of teaching French language. His areas of interest include Communication Skill and playing table tennis. In the near future he plans to pursue his MPhil and PhD in Applied Linguistics.



**Mehvish Saleem**, Lecturer, Communication Skills, holds a Master's degree in English Linguistics from the University of Karachi. She is pursuing her PhD from UK. Her professional experience includes teaching English and Communication for over 6 years at various public and private sector universities. She has been associated with NUCES-FAST, University of Karachi, Iqra University, Institute of Cost and Management Accountants of Pakistan and Federal Urdu University. She has worked as a support teacher trainer for EDLINKS-USAID for English Language Proficiency Enhancement Refresher Program in Sindh and Baluchistan. She is a member of IATEFL (International Association of Teachers of English as a Foreign Language) and SPELT (Society for Pakistan English Language Teachers). She was a visiting postgraduate at the University of Warwick. Her research interest includes teaching English in large classes/'difficult circumstances', second language anxiety, and practitioner research.



**Ishtiaq Ahmed Kolachi**, Lecturer in Communication, is MA in English Literature and Bachelor in Education (BEd) from Shah Abdul Latif University Khairpur. He has also done his Diploma in Linguistics from National University of Modern Languages. He has vast experience of teaching English language, Communication Skills and Business English. His areas of interest include TESL, Business Communication and Teachers' Training Programs. In the near future he plans to pursue his MPhil in the area of Education.



**Pir Muhammad**, Lecturer, Communication Skills, holds a master degree in Arabic and Islamic Studies from the University of Karachi, a Master's degree in English Literature and Applied Linguistics from the National University of Modern Languages (NUML). He completed his Dars-e-Nizami (Aalim-e-Deen) course of eight years and one year specialization course in Islamic Jurisprudence from Jamia Darul Uloom Karachi. He is an MPhil fellow and is currently working on his research thesis. He is also a student of PGD in Islamic Banking And Finance at CIE Karachi. He had been teaching at IoBM as a visiting faculty since 2012 before joining the institute as a full time faculty.



## Environment and Energy Management

**Dr. Shahid Amjad**, is a Professor and Head of the Department, Environment & Energy Management and Industrial Management. He has a PhD from School of Ocean Sciences, University of Wales, UK. His MS is from the University of Oslo Norway in Benthic Ecology. He has completed courses in Management of R&D Institutes from University of New South Wales, Australia. He has been associated with the National Institute of Oceanography as Director General and with various top universities of Pakistan as Acting Vice Chancellor and Professor. He has also been associated as a visiting faculty with NED and the University of Karachi since 2005.



**Dr. Abdulrauf Farooqi**, is a Professor with 30 years post-doctorate experience in teaching, research & development, and humanitarian assistance, 2005-2011, Dr. Abdulrauf Farooqi has held the positions of Professor and Chairman of the Department of Environmental Science at Allama Iqbal Open University and International Islamic University (IIU) Islamabad, as appointed by the HEC. He provided seasoned leadership and academic expertise to direct and advance academic research, training, and quality educational programs in Environmental Sciences, Agricultural Sciences, and Youth Studies. Dr. Farooqi holds 22 years of extensive field experience with the World Bank and the United Nations High Commissioner for Refugees (UNHCR) in leading through a collaborative international effort to protect and assist refugees.



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## Health and Hospital Management



**Dr. Asima Faisal**, Head of the Department, Health & Hospital Management Program at IoBM holds an MBBS, in addition to Health and Hospital Management and MPhil from IoBM. She has served Dow University of Health Sciences (DUHS) in capacities, i.e., as Director Media & Marketing and later as Director Programs for the Institute of Health Management within the same University. She is also a Member of the subject Committee for pharmaceutical representative and assessment from the National Testing Service. She has been a counselor for the British High Commission to universities in the United Kingdom for pursuing avenues of internationalization of Higher education. She has also been associated with Sind Education Foundation where she arranged Health Camps and Health Trainings of teachers (TOTs) all over. She has been actively involved in CSR activities like free Health camps, Flood relief activities and conducting on various medical and health management issues of the society. In South City Hospital, she served as Manager Administration for more than 5 years and at present, she is doing consultancies for health education in GlaxoSmithKline, for their Continuing Medical Education programs (CME) all over Pakistan. Having such a rich experience in multidisciplinary fields of Health Management and education. She is currently pursuing her PhD at IoBM.



**Dr. Humeira Jawed Abidi**, Senior Lecturer in Health and Hospital Management, holds an MBA (Health Management) from IoBM and MBBS from Sindh Medical College. She has worked in the Clinical Trial Unit of the Aga Khan University Hospital and GlaxoSmithKline in the area of Product Management. She is also the former President of CBM Society of Health Managers (CSHM). Dr. Humeira plans to enrich her academia by enrolling in a PhD program.

## Management and HRM



**Abdul Qadir Molvi**, Associate Professor and Head of Department of Management, has specialized in sales management training, marketing and strategy for corporate clients. He has earned a professional diploma in International Trade and Commerce from UC Berkeley, (USA), MBA (IBA), and BSc from the University of Karachi. He has over 33 years marketing experience of pharmaceutical and consumer products with leading MNCs. He was elected to the Council of the Marketing Association of Pakistan (1996-98) and served as its Vice President in 1998. He has also been invited to lecture on international marketing to the classes of Brand Management 1999 at Fullerton College, California, USA.



**Dr. Aamir Firoz shamsi**, Associate Professor at CBM, is a seasonal academician, researcher, trainer and consultant. He did his PhD in Management Science from Hamdard University, Karachi. Before this he did MS from SZABIST and earned gold Medal from Karachi University. He is HEC Registered Supervisor and Referee Panel Member in four local and international peer reviewed journals. He has 20 publications on his credentials in both local and international journals. His fields of research are management, HRM, corporate performance management and Balanced Scorecard.



**Dr. Fazal Anwer Khalidi**, Assistant Professor of Management, has 24 years of consultancy and senior management experience with multinational pharmaceutical companies. He has also been associated with leading business schools of Karachi as adjunct faculty. His qualifications include MSc Marketing from Salford University, UK; MBA from IBA; and MBBS from Dow Medical College. He was awarded a Chevening Scholarship by the British Council to pursue a Master's program at Salford University. He has also attended an executive development program at the Thunderbird School of Global Management, Arizona, USA.



**Javaid Ahmed** is Sr. Fellow Strategy and Marketing and has been Chairperson of the departments of Marketing and Management-HRD at CBM from 2003 to 2015. He is a (IFC) Certified Board Director, FCMI-Fellow of the Chartered Management Institute (UK), FCIM-Fellow of the Chartered Institute of Marketing (UK), Member of Mensa and a UK Chartered Engineer. He has a MBA with Distinction from Lancaster University Management School where his empirical research was awarded 1st prize by the now Chartered Management Institute, and a BSc Engineering from King's College, London. He brings to academia over 28 years of a successful top management career with the multinational health care industry including over a decade in Switzerland, Malaysia and the Philippines. He is the recipient of the 2013 Faculty Excellence Award of the International Association of Universities Presidents and has served on the Jury of the Prime Ministers' Corporate Award of Excellence. Javaid is case research active in competitive strategy and value innovation, has supervised CBM's MPhil research and taught the pre-doctoral course on strategy and governance at IoBM. He has written two research based dissertations, published nineteen papers and cases and delivered twenty one selected professional presentations and workshops. Javaid says he is a facilitator, not a teacher nor an entertainer. A great believer in collaborative learning, his sessions engage participants in reflection and action leading to practical knowledge and skills.



**Shagufta Raffi Ghauri**, Assistant Professor in Management and HR, holds MPhil degree in Business Management from Institute of Business Management and is currently pursuing her PhD in Business Management. She has worked with different business university and has been associated with the Institute since past nine years, teaching Management courses and has been involved with curriculum development and training manuals. Her research interest areas are Organization Behavior, Job satisfaction, Contemporary issues in Management; Leadership styles, Motivation and Creativity, and has several research publications and conference presentations. She is also the faculty advisor of Strategic Human Resource Society at IoBM and has been organizing Zenith Leadership & Development Conference on yearly basis since the last six years.



**Shiraz Ahmed**, is a Senior Lecturer in department of HRM and holds MPhil in Management. He has received training from master trainers from the UK, Africa and Pakistan. He has been trained by foreign faculty of the British Council for their Global Leadership Development Program. He is also a British Council Trained Management Trainer and a Certified HR Professional as well. He has spoken and facilitated sessions to local and foreign diplomats including British Foreign Minister, British High Commissioner, Global CEO and Regional Directors. Managers from junior to senior positions including Head of Departments and Directors have attended his workshops. People from Nokia, Siemens, RBS, Shell, Wal-Mart, Emirates Airline, ICI, Haier, Engro, Coca Cola, AC-Nelson, B Braun, Bayer, Mobilink, Byco, Descon engineering, Toyota Indus Motors and many more have benefited from his workshops. He has been visiting faculty in leading business schools.



**Erum Zahoor Zaidi**, Senior Lecturer, Human Resource Management holds an MS in Management Sciences and MBA (Marketing) from SZABIST Karachi. She has delivered lectures on Entrepreneurship Development, Operations Management, Information and Business Management, Experiential Marketing and Business Research Methods at the leading Universities in Karachi. She has worked with Injaz Pakistan to develop the entrepreneurship program in DHA Suffa University. She has organized seminars on entrepreneurship development and personal management as well as executive development in various universities.



**Omar Javaid**, Senior Lecturer, Management has a BE in Industrial & Manufacturing Engineering from NED University, Executive MBA from IoBM with majors in Marketing and MS in Management Sciences from KIET. Mr. Javaid has a total of 11 years experience of working in corporate, non-profit and education sector. His core competence is mentoring new startups and ventures; during previous five years he has helped 100s of students in their entrepreneurial ambitions. He has been empowering students to setup micro businesses for poor unemployed folks, and has successfully initiated around 450 such projects during his academic career up till now.





**Afshan Rauf**, Senior Lecturer Management and HRM, holds a Master’s Degree from Edge Hill University, UK in HRM and Master’s in Economics from Karachi University. She has worked for diversified industries both local and abroad mainly FMCG, Telecom, Brokerage and Retail for almost 8 years both in Customer Services and HR. She became Academician by choice since 2014 and is currently pursuing her Doctorate from Iqra University.



**Juveria Baig**, Lecturer in Human Resource Management has more than 6 years of diversified experience in the areas of Project Management, Recruitment, Training, Coaching and Mentoring and Performance Management. Her education includes B.Sc(Hons) from Textile Institute of Pakistan, MBA from Hamdard University and Masters in Human Resource Management from University of New South Wales, Sydney, Australia. After working with a Swiss Multinational and USAID, Juveria turned her focus towards academia and taught at her alma mater in Sydney, Australia. She is very seriously committed to a career in research, learning & development and teaching. Her research focus remains in the areas of Knowledge Management and Workforce Development.



**Saba Gulzar**, Lecturer in Human Resource Management, holds MS degree in Human Resource Management from PAF-KIET Karachi. She has 8 years of teaching, research and consultancy experience in different Organizations of Karachi; apart from all, she holds experience of multiple managerial positions in academics. Her area of interest includes Academics, Training, Coaching, Leadership, Business Education, Research, and Organizational Development. Her main focus is research work and development of innovative tools to increase the efficiency of Human Resource professionals in various industries.

## Marketing



**Mohammad Ekhlaque Ahmed**, Assistant Professor, Head of Department and Lead Capstone Course Projects. He holds a Master’s degree in Business Administration from Institute of Business Administration, Karachi. He has over 30 years of working experience in the Corporate Sector at various Senior Management positions in both multinational and local companies. He worked for Philips, Osram, Dadabhoj Cement and Rajby Industries before joining IoBM as permanent faculty. Besides basic marketing courses like Marketing Management, Principles of Marketing, Sales Management he has also been teaching Strategic Marketing Planning, Marketing Strategies and Value Innovation, Distribution and Channel Management. Currently he is pursuing his MPhil in Business Management from IoBM. Ekhlaque is also a corporate trainer in the field of Marketing & Management. He has been instrumental in bridging the gap between the academia and the corporate world by implementing experiential learning course programs at IoBM.



**Kausar Saeed**, Associate Professor, Marketing, possesses over 28 years of diversified experience of corporate, academic, entrepreneurial and developmental sector. She has served in various organizations at different positions including Aga Khan Foundation, Interflow Communications and Gtz (Deutsche Gesellschaft für Internationale Zusammenarbeit – a German NGO). Kausar teaches various courses of marketing and management at undergraduate, graduate and executive level. She is an experienced academician, researcher and consultant in the field marketing and management. She has presented her research papers in several International Conferences and has the credit of several published papers. Currently, she is pursuing her PhD degree in the area of Management Sciences.



**Saeed-ur-Rehman**, Senior Fellow, Marketing, holds an MA in Political Science from the University of Karachi. His experience in Sales as a senior manager and executive is spread over a period of 34 years. His association with highly reputed multinationals such as Cyanamid and Gillette has honed his management, leadership, and communication skills. He has also been involved in conducting sales training on a national platform.



**Saadiah Said**, Assistant Professor has an MBA degree from IBA, Karachi. She has over 30 years of Academic, Marketing and market research experience, having worked in organizations like Johnson and Johnson and as Executive Director for Aftab Associates. She has also worked as a marketing consultant for Ferozsons Laboratories, Pakistan Ltd and Shazeb Industries. In addition, she has been actively involved in marketing management training programs for various organizations and has undertaken several market research projects at a national level.



**Dr. Syed Amir Saeed**, Assistant Professor, Marketing, has completed his PhD in Marketing from Institute of Management Sciences, Peshawar. He has done his MBA from University of Peshawar. Subsequently he joined Gulf Ship Chandlers Dubai, where he was responsible for managing marketing activities and supplies to United Arab Shipping Corporations. He secured his MPhil in Marketing, and has executed multiple research projects in collaboration with Gallup Pakistan. Clients for those projects include World Bank and British Council. He has also provided advertising consultancy services to different national and multinational brands.



**Amber Raza**, Senior Lecturer, Marketing holds an MPhil and MBA (IoBM) and is currently enrolled in IoBM's PhD (Business Management) program. She has worked with AKESP in the field of Education Research in Pakistan, and was part of the team that developed evaluating and monitoring instruments for the project QUAID (Quality Advancement through Institutional Development). She has 10 years of teaching experience at University level; supporting, 100 plus, students in their research projects which were based on diverse topics with focus on Management and Marketing.



**Fareen Razzak**, Senior Lecturer, Marketing, has done her MBA from IBA and is currently pursuing her MPhil from IoBM. She teaches Consumer Behavior, Brand Management and Marketing Management. She has a corporate experience in Colgate Palmolive and Candy Land, related to Brand Management. She is also the founding partner in an entrepreneurial venture called Rashk Fashions, a designer brand which sold premium designer wear in various high end multi -designer stores in Dubai, Toronto, Bangladesh and Chicago with branches in Karachi including Brand just Pret, The Designers, Shabis and Labels.



**Muhammad Adnan Bashir**, PhD Research Fellow, Marketing. He holds MPhil, MBA degrees in Business Administration from Iqra University and BSc (Hons) & MSc degrees in Microbiology from University of Karachi. He has a work experience of both multinational and national pharmaceutical companies. He has worked for GlaxoSmithKline, Atco Laboratories and Novartis Pharma Pakistan.



**Muhammad Tabish**, PhD Research Fellow, Marketing, holds an MBA in Marketing and Finance from MA Jinnah University. He has five years of academic and professional experience. He is currently pursuing his PhD in Management Sciences from IoBM. Research area includes Consumer Behavior and Brand Management.



**Noman Mahmood**, Research Fellow and Faculty. He has done his MBA from PAF KIET and is currently pursuing PhD Business Management from IoBM He started working as an O-level Faculty at The City School and Visiting Faculty at PAF-KIET where he taught Social Advocacy and Current Affairs. He has also worked at Manhattan Communications. Research interests include Entrepreneurial Marketing, Social Entrepreneurship, Work-Life Balance, Creativity and Innovation.



**Marium Mateen Khan**, Research Assistant and Marketing faculty, has done her MBA from PAF KIET and is currently enrolled in the PhD (Business Management) program at IoBM. She has two years of research experience. She started working in academia as a Subject Coordinator and teacher at APSAC (Army Public School and College). She has also worked at Askari Bank Ltd. and Metaphor Consultancy. She has freelance working experience of academic and creative writing. Research interests include Design Thinking, Neuromarketing, Creativity and Innovation,



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## College of Computer Science and Information Systems (CCSIS)

### The Dean



**Dr. Ejaz Ahmed**, Dean of Computer Science Department, has done his PhD in Statistics from the University of Strathclyde, Glasgow, UK and MSc in Statistics from the University of Karachi. He has published many research articles in renowned international journals. He has over 27 years of teaching experience at the University of Karachi and IBA.

### Computer Science and MIS



**Dr. Abu Turab Alam**, Senior Fellow with the rank of Professor of Computer Science, joined the Institute in January, 2004 and is currently teaching courses in Artificial Intelligence, Automata Theory, Natural Language Processing (NLP), Discrete Mathematics and Management Information Systems. His research interest is in Requirements Engineering and elicitation of software requirements for Software Development using NLP techniques. He has a vast experience of research and teaching in various organizations. At NED University, he has worked as a Systems Manager and improved its infrastructure.



**Syed Farhan Mazhar**, Assistant Professor in Computer Science, is a professional educator with over 10 years diverse experience in education and professional industry including national and international organizations; some of them are: NED University, Concordia University College, Canada, Capital Health, Edmonton, Canada. He received his M.Eng degree in Software Engineering and Intelligent system from University of Alberta, Edmonton Canada. He also possesses M.Sc in Applied Physics with specialization in electronics from University of Karachi, and has also completed his M.Phil course work from Department of ISPA, University of Karachi. His areas of interest are Software Engineering, Semantic Web, Data Mining, ERP, Database Management System and Project Management. He has also completed his international certification of Oracle (OCP 8/8i/9i/10g and 10g Linux certificate).



**Adeel Ansari** - Assistant Professor, holds a BSc(Hons) in Computing with First Class Honors from Staffordshire University, in the United Kingdom, Masters in Business Administration in Management Information Sciences and MS in Software Engineering from Karachi Institute of Economics & Technology. He is completing his PhD in Information Technology, from Universiti Teknologi PETRONAS, Malaysia. He holds a diverse work experience, from an Application Developer at Siemens Pakistan for one year, as a Assistant Quality Assurance Manager for two years (for Consumer Credit Card products) and Assistant Policy Manager (for Consumer Personal Loan products) at Habib Bank Limited. He has worked as an Associate Consultant in the IT Assurance and Advisory at A. F. Ferguson & Co, a member firm of PriceWaterhouse Coopers, UK. He has taught programming languages and software development related subjects for three years at Mehran University of Engineering and Technology, Jamshoro and another three years at the Universiti Teknologi PETRONAS, Malaysia. He has also presented research papers at various International and national conferences and also has publications in high impact factor, IEEE and Springer journals. His area of expertise are in programming languages, web & software development and mathematics.





**Engr. Muhammad Asghar Khan**, Senior Lecturer, has a Master's degree in Network and e-business centered computing from University of Reading (UK), Master of Business Administration and Master of HRM from Australian Catholic University (Aus), MS in Computer Software Engineering from NUST and BS Computer Engineering from Sir Syed University. He has seven years of teaching and industrial experience of various national and international organizations. His areas of interest are Cyber Security; Open Source ERP and IS Audit. Mr. Khan is a member of many professional bodies such as Pakistan Engineering Council, Australian Endeavour Network, ISACA and Australian Human Resources Institute.



**Sheikh Muhammad Ali**, Senior Lecturer in Statistics, earned his MSc in Statistics from the University of Karachi. He has been involved in research and teaching in Mathematics and Statistics. He has almost eighteen years of teaching experience at various institutes. His areas of interest are Quantitative Analysis for Business and Management, Statistical Inference, Advanced Quantitative Methods, College Algebra, and Calculus for Business Decisions.



**Khalid Bin Muhammad**, Senior Lecturer Computer Science, has a degree of Bachelor of Engineering from NED University of Engineering & Technology and is a member of Pakistan Engineering Council. He also possesses a Master's in Computer Science from University of Karachi and an MBA in Banking & Finance from MA Jinnah University with first class first position. He has proficiency in Programming Languages specially Object Oriented Programming, Computer Graphics, Engineering Drawings, Computer Aided Designing, Multimedia Technologies, Relational Database Management Systems and Finance related courses. He has a mix of over thirteen years of experience working in industry including Dawlance (Pvt) Ltd and Pakistan Petroleum Ltd and also served as Manager IT.



**Najmus Saher Shah**, Senior Lecturer in Computer Science, holds an MCS degree and BSc (Honors) in Economics from the University of Karachi and has secured 2nd position in the department. She has three years of teaching experience.



**Muhammad Waqar Khan** is Senior Lecturer Computer Science, has a degree of Bachelor of Engineering from NED University of Engineering & Technology and a member of Pakistan Engineering Council. He also possesses a Master's in Computer Science from University of Karachi and Post Graduate Diploma in Computer and Information Sciences from Karachi University. He is doing Master's in Engineering from Usman Institute of Technology, Hamdard University. He has proficiency in Data Communication and Networking, Digital Communication, Programming Languages, System Analysis and Designing, Information Management System, E-Commerce, Mobile Communication System, Satellite Communication, Signal Processing, Relational Database Management Systems and communication networking related courses.



**Asim Iftikhar**, Senior Lecturer in Computer Science, holds a Master's degree in Computer Science and is currently enrolled in MS program leading to PhD. He has also done Microsoft Certified Professional Systems Engineer (MCSE). He has eight years of teaching experience in computer related courses. His areas of interest include Digital Communications, E-commerce & Web Development and Graphics Designing.



**Sobia Younus**, Senior Lecturer, Computer Science, holds an MSC in pure Mathematics and BSC Honors in Mathematics from the University of Karachi. She is currently enrolled in an MS program leading to PhD Mathematics from KU. She has two international publications in the International Journal of Applied Mathematics and Mechanics, India. She has also taught at NUST as visiting faculty.





**Mohammed Ather Akhlaq**, Lecturer, Computer Science has done his MPhil in Management Information Systems from IoBM. He has also received Mater of Computer Science degree from IoBM. Currently he is focusing on research work and international publications and pursuing his PhD from UK. His research is mainly focused on information communication technologies.



**Syed Mubashir Ali**, Lecturer of Computer Science and MIS holds a Bachelor's degree in Computer Engineering from FAST-NUCES Karachi and a Master's degree in Information Technology from SZABIST Dubai. Currently pursuing his PhD in Computer Science from IoBM Karachi. Prior to joining IoBM as a full time lecturer, he worked as an IT Administrator and Computer Teacher at American International School Dubai. He has published 10 research papers in various national and international conferences and journals. His research interests are in the areas of Information Technology Standards, Electronic Commerce, Big Data, Ubiquitous Computing, Internet of Things and Gamification.



**Azam Hashmi**, Lecturer holds Master's Degree in Statistics from Karachi University and Master's Degree in Business Administration from Institute of Business Administration. He has passed ISO 9000 Lead Auditor Course conducted by British Standard Institution. He has attended six-week management training program at Ashridge Management College, England. Prior to joining IoBM in 2002 he was working at a public sector Management Training and Development Institution. He has over 30 years experience in teaching training and management consulting services. Presently he is teaching Statistics and Mathematics courses to BBA (H) and MBA students.



**Rabab Naqvi**, Lecturer holds a Master's degree in Computer Science from University of Karachi. She has one year of teaching experience in computer related courses. Her areas of interest include Data Base Management System, Digital Computing & Artificial Intelligence.

## Mathematics and Statistics



**Dr. Syed Iftikhar Ali**, Senior Fellow with the rank of Professor, holds MS and PhD from England. He has a vast teaching experience and has worked for SUPARCO, University of Benghazi (Libya), FAST Institute of Computer Science (Karachi) and Yanbu Industrial College, Saudi Arabia. He is a chartered Physicist and Member of Institute of Physics (London). His main interests are in the areas of Mathematics, Physics and Numerical Analysis.



**Dr. Massarrat Ali Khan**, Senior Fellow with the rank of Associate Professor holds MSc in Statistics majoring Operations Research from the University of Karachi, MBA from IBA and PhD from Hamdard University. He possesses 16 years professional experience in private sector industries in Pakistan and abroad in which he worked with companies such as Philips Electric Company of Pakistan, Al-Futtaim Group of Companies, Juma Al Majid Establishment in UAE and NMC(National Management Consultant) Pakistan. He also has more than 19 years teaching experience in different universities and colleges. He taught at IBA, Hamdard University, ICMAP, Bahria University, CAMS, Textile Institute of Pakistan and has been associated with IoBM for 14 years as visiting faculty before joining the Institute on a permanent basis. He has conducted several marketing research and business development studies in Pakistan and abroad. His areas of interests are Operations Research for Management, Operations and Production Management, Quantitative Analysis for Business and Management, Statistical Inference and Mathematics.



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**Laiq Muhammad Khan**, Senior Fellow, Statistics, holds an MSc in Statistics from the University of Karachi. He has over 35 years experience of teaching Statistics. His research interests are Statistical Modeling and Inferential Statistics. He has published research work in many national journals. He has taught as visiting faculty at FAST, Institute of Computer Science for the period 1995-2001. He has been associated with IOBM as visiting faculty since August, 2000.



**Dr. Tajuddin Islamuddin** is an Associate Professor at IOBM since September 2014. He received his PhD in Statistics from University of Windsor, Canada in 1984. He has taught for about 8 years in University of Karachi and IBA and over 30 years outside Pakistan. He received number of merit scholarships throughout his academic career. He has number of publications in reputed international journals and has developed a new measure of skewness. He has refereed a number of papers for the well known international journals.



**Dr. Muhammad Danish**, Assistant Professor, Mathematics Khan holds BS in Computer Science from Petroman Training Institute, MSc in Mathematics from Federal Urdu University and PhD from Lahore University of Management Sciences. He has taught at Lahore University of Management Sciences, Lahore School of Economics and University of Punjab prior to joining IOBM. Dr. Danish has several publications in leading international journals.



**Wajahat Ali**, Senior Lecturer in Mathematics, has an MSc from the University of Karachi. He has been involved in research and teaching in Mathematics and Statistics.



**Rizwan Ahmed**, Senior Lecturer in Mathematics and Statistics, has done his MSc in Statistics and MPA (Finance) from the University of Karachi. He has also done his MAS (Applied Economics) from Applied Economics Research Center, University of Karachi. He has six years of teaching experience at various institutes. His areas of interest are Quantitative Analysis for Business and Management, Statistical Inference, Macroeconomics, Mathematical Economics and Business Finance.



**Hina Samreen**, Senior Lecturer in Mathematics holds an MSc in Applied Mathematics and Master's in Applied Economics from the University of Karachi. She has been actively involved in research related work and assisted Pakistan Institute of Education and Research in the development and preparation of various policy papers in labor management and allied subjects.





**Sumaira Khan**, Lecturer in Mathematics department has completed her MSc. in Applied Mathematics from Karachi University. Enrolled in MPhil leading to PhD program in Operational Research from Karachi University. She has taught at NUST and Iqra University. She is the member of Review committee for the First National Conference on Islam and Scientific Research held at FAST-NUCES.



**Attra Ali**, Lecturer Mathematics, has done MSc in Mathematics from Federal Urdu University (got 3 gold medals, for departmental position, science faculty position and being the highest achiever of the university). BSc (Hons) in Mathematics from Federal Urdu University, she has recently joined IoBM from Fall 2015 as Lecturer Mathematics, after having taught for 2 years in NUST Karachi campus. In addition, she has completed Educational Development course from PNS BAHADUR and actively attended many workshops related to teaching and education.

## Logistics and Supply Chain Management



**Muhammad Moin Uddin Ali Khan**, Senior Fellow & Head of Supply Chain Management has BSc and BE degrees from University of Karachi and MS in Engineering from University of Missouri, USA. He has been trained in fields of Operations Management, Quality Assurance, Environmental Management, Supply Chain Management and Technology Management from USA, Japan, UK, South Korea, Sweden, Russia, Brazil and Australia. He has been associated with the industry and education for over 34 years. He is certified lead Auditor ISO 9000 QMS and is actively involved in developing Quality Enhancement activities at IoBM in close coordination with the HEC of Pakistan. His research publications are in the areas of advanced materials and has been guest speaker at American and Malaysian Universities.



**Kashif Shafiq**, Assistant Professor in Supply chain and logistics Management holds a master's degree in supply chain and logistics management from university of Warwick, United Kingdom. He holds MBA degree from Institute of Business Management. He has got international industrial experience in the field of supply chain of more than eight years and has been a certified supply chain trainer in Europe and Pakistan for the last five years



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## Actuarial Science and Risk Management

**Dr. S. M. Aqil Burney** is Professor at College of Computer Science and Information Systems and heading AS & RM Dept. He hold MSc (Statistics), MPhil (Risk Theory and Insurance -Statistics) from University of Karachi (UoK) and PhD (Mathematics) from Strathclyde University, Glasgow-UK along with many courses in Population Studies of UN and Computing. He has taught for more than 45 years at UoK and extensively delivered lectures at other institutions and universities of Pakistan and abroad. He also holds extensive experience of academic management and organization as Provost, HoD Computer Science for 10 years, Registrar, Project Director Development. of Computer Science and Institute of Information technology and founding Director of Main Communication Network of University of Karachi. Dr. Aqil Burney was Meritorious Professor and Head at Dept of Computer Science, University of Karachi, prior to joining IOBM. He has published more than 140 research papers and 7 books nationally and internationally in ICT, Mathematics, Statistics and Computer Science. He has supervised more than 12 PhD and 5 MS/M.Phil in Mathematics/Computer Science/Statistics as approved HEC Supervisor. Dr Aqil Burney has more than 496 citation on his research work and frequently delivers invited lectures on ICT/CS/ASRM and Data Science. Dr. Aqil Burney is Chairman(elect) National ICT Committee for Standard PSQCA- Ministry of Science & technology Govt. of Pakistan and member National Computing Education Accreditation Council (NCEAC)at HEC , Member IEEE(USA), Member ACM(USA) and was Fellow Royal Statistical Society UK) for 30 years or so.



**Fakhir Musharaf**, Assistant Professor holds a Master's in Business Administration in Finance from the University of Leicester, UK. His PhD in Risk Management from Edinburgh Napier University UK is in process. He has working experience of 24 years and has worked as an Assistant Manager, Accounts in Cotton Export Corporation and Central Depository Company. He was Manager, Finance and Corporate Affairs in Soorty Enterprises. During his PhD, he also worked with Worech International, UK as a Consultant.



**Sohail Ahmed Khan**, Assistant Professor holds MS in Finance (specialization: Financial Mathematics) from Germany and also holds MSc. in Applied Mathematics from University of Karachi. He has worked for five years at P3 Communication GmbH and LogicaCMG GmbH & Co. KG in Germany. He has also served as cooperative lecturer at the department of computer science, University of Karachi. His research interests encompass Computational Finance, Application of Methods from Financial Mathematics in Insurance, Interest Rate Modeling.



**Steve James**, Assistant Professor in Actuarial Sciences & Risk Management, joined the Institute in August, 2013. He holds MS degree in Financial Mathematics from Technical University Kaiserslautern, Germany. He has more than 5 years of teaching experience at PAF KIET. He has also worked at Daimler (Germany).



**Ahsan Malik** is a lecturer in the Actuarial Sciences and Risk Management Department. He has done his undergraduate degree in Economics from Cardiff University, UK and more recently the Masters in Risk Management & Financial Engineering from Imperial College London. He has a diverse experience in the financial industry both in Pakistan and abroad. He frequently consults with many corporations and banks on Financial Planning and Research. He is currently pursuing his MPhil in Economics in Australia.



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## College of Engineering and Sciences (CES)

### The Dean

**Prof. Dr. Irfan Hyder**, (See Profile on Page No. 182).

### Electrical Engineering & Telecommunication Management



**Seema Ansari** is the Head of Electrical Engineering Department at the Institute of Business Management, Karachi. She is a PhD scholar in Telecommunication Engineering at the University of Malaga, Spain. She did her MS-CS / Telecommunication from University of Missouri Kansas City, USA and B.E. in Electronics from NED-University of Engineering & Technology. Her research includes publications in JCR Impact factor journals, international journals & Conferences and book chapters. She contributed chapters in books titled: “Wireless Sensor Networks and Energy Efficiency: Protocols, Routing and Management” and “Handbook of Research on Trends and Future Directions in Big Data and Web Intelligence,” both published by IGI GLOBAL, USA in Jan. 2011 and 2015 respectively. She is associated with the R & D research groups, TIC102 and TIC128, ETSI Telecommunication, University of Malaga Spain. Her research area is Underwater Communications, Analytical Analysis of MAC protocols for Underwater Acoustic Wireless Sensor Networks.



**Dr. Muhammad Farhan**, Assistant Professor Electrical Engineering Department, received his PhD and MSc degrees with distinction in Signal and Image Processing in 2014 and 2010, respectively, from Tampere University of Technology, Tampere, Finland. He obtained his B.E. Electronic Engineering from NED University of Engineering and Technology in 2006. During 2009-2014, he worked as Researcher and Lecturer in Department of Signal Processing, Tampere University of Technology. He has also worked as Assistant Manager at SUPARCO during 2007-2008. He has published several articles in high quality international scientific journals and conference proceedings. He also participated and presented in International conferences and summer schools. In recognition of his research work during Ph.D., Nokia Foundation awarded him research scholarship. His research interests include signal and image processing, biomedical image analysis, systems biology, machine learning, pattern recognition and embedded systems.



**Osama Mahfooz**, Junior Lecturer, Electrical Engineering, holds an MBA degree in Telecommunication Management from the Institute of Business Management and BE degree in Electronics from the PAF-Karachi Institute of Economics & Technology. He has completed a CCNA Exploration certification from Aptech. He also has four research publications in journal of CCSIS, IoBM recognized by HEC that is PJETS (Pakistan Journal of Engineering Technology & Science).



**Radha Mohanlal**, is currently associated with Institute of Business Management where she is faculty in Electrical Engineering Department. She holds a ME degree in Telecommunications from NED University of Engineering and Technology. Her research projects include: AODV Ad-Hoc Routing Protocols using remote access to a real test bed environment to perform real- time simulations and analysis. Her research interests are in the fields of Computer and Communication Networks, Networking Protocols, Information Theory as well as Wireless and Mobile Communications. She has also contributed a chapter on Importance of Big Data in “Handbook of Research on Trends and Future Directions in Big Data and Web Intelligence”. She recently published a research paper on “Radio Resource allocation techniques for downlink transmission in LTE-Advanced Cellular Networks” in the 4th International Conference on Electrical, Computer, Mechanical and Mechatronics Engineering (ICE2016).



## Industrial Engineering

**Dr. Shahid Amjad**, is a Professor and Head of the Department, Industrial Management.  
(See Profile on Page No. 187)

**Dr. Mohammad Irshad Khan**, Senior Fellow of Industrial Engineering with the rank of Professor, holds a PhD degree in Chemical Engineering and a Postgraduate Diploma from University of Bradford, UK. He has over 30 years experience of Industry and Management and is a registered consultant of the Islamic Development Bank, Jeddah and SMEDA, Pakistan. He is a professional member of Institute of Industrial Engineers, USA.



**Mukhtar Ahmed**, Senior Fellow, Industrial Engineering, has MS (Mechanical Engineering) from the University of Southern California, Los Angeles, USA and BE (Mechanical Engineering) from NED. He has teaching experience of almost 23 years and started his teaching career with NED where his last appointment was as Associate Professor. He also went to Zimbabwe, Harare Polytechnic as Lecturer. He has 4 years working experience with Roti Corporation of Pakistan as Deputy Manager, Technical.



**Fahad Bin Abdullah**, Lecturer Industrial Engineering, Holds an MSC From University of South Bank- London. He has speacialized in Mechanical Engineering Management, Robotics and Simulations, Advanced Materials and Advance Human Machine Designing. He Holds a BE Mechanical Engineering Degree from NED University. He has the Project Coordination and Maintenance Engineering experience mainly related to field of Mechanical Engineering & Management.



**Falak Shad Memon**, Lecturer Industrial Engineering, holds an MBA degree from Institute of Business Management She has done BE (Industrial & Manufacturing) from NEDUET. She also has six years of industrial experience as a head of production and purchase department. She is a certified ISO lead auditor and posseses expertise on SAP in PP, MM and CO module.



**Saima Yaqoob**, Lab Engineer / Assistant Lecturer, holds a BE degree in Industrial & Manufacturing from NEDUET, securing 9th position among the graduating batch of hundred and twenty students. She has two years of professional experience with Multinational Organization "YKK Pakistan Pvt Ltd" & one year of teaching experience with Hamdard University. She is currently enrolled in ME Industrial Management in NEDUET.



**Safa Sattar**, Junior Lecturer/Lab. Engineer, holds BE and ME degree in Industrial & Manufacturing Engineering from NEDUET, securing 3rd position. Her areas of interest include Supply Chain Management, Production & Operations Management and Lean Manufacturing. She intends to pursue PhD in the field of Engineering Management. She is a member of Pakistan Engineering Council.



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## College of Economics and Social Development (CESD)

### The Dean



**Dr. Mohammad Ali Shamim**, Dean of College of Economics & Social Development, has a PhD in Civil Engineering from the University of Paris, France and an MBA from INSEAD, Fontainebleu, France. He has over 45 years experience of working in different organizations, to name a few, the Islamic Development Bank, Jeddah, the IFC and the World Bank. His geographical work exposure spans North America, Europe, Africa and Asia. In addition, he has taught in a business school. His last assignment was working as the Managing Director & Chief Executive of a cement plant project.

### Commercial and Professional Studies



**Sartaj Qasim**, Head of the Department of Commercial and Professional Studies. is a qualified Chartered Management Accountant (FCMA) from England. He is a Fellow Member of the Chartered Institute of Logistics and Transport (FCILT, U.K). He did his MBA from the Institute of Business Administration, Karachi, in 1979 and was awarded the MBA Gold Medal and BSc (Hons.) in Mathematics First Class with Distinction from Karachi University.. He is currently enrolled as a candidate for MPhil (Business Management) at the IoBM. He had over thirty years of experience in international aviation financial management prior to joining IoBM in 2011. He has been posted in the Netherlands and Saudi Arabia as Head of Finance. He has travelled extensively to several countries in Europe, North America, Asia and Africa on official assignments. He holds several airline industry qualifications from IATA including the IATA/UFTAA International Travel Consultant Diploma. His area of research is airline service quality. He has conducted several training courses in airline finance and accounting for middle and senior management levels.



**Abdul Jabbar Kasim**, Senior Fellow, Commercial and Professional Studies, brings a rich blend of corporate, professional and academic experience. Besides heading listed leasing companies as a CEO and member board he has taken seats as nominee director on various Corporate Boards. He obtained his BCom from University of Karachi and went to IBA Karachi to earn his BBA (Hons) and MBA degrees. His main emphasis during the last several years is on Corporate Governance and Best Business Practices and Corporate Affairs. His articles on the said subject appear in the Daily Dawn and Business Recorder. He joined IoBM as a full time faculty in October 2011.



**M. Rashid Jamil**, Senior Fellow, Commercial and Professional studies did his MBA from the Institute of Business Administration, Karachi, in 1975. He has almost thirty years of experience in international aviation financial management. He was permanently posted as Finance Manager at Manila the Philippines. Has traveled widely concerning official assignments in Europe, America and Asia. Besides educational qualifications, he holds a Diploma in Cargo Proration from Geneva, Switzerland. In addition to aviation finance is experienced in financial analysis of different projects in public and private sectors. He has been teaching several courses in airline finance and accounting and has been a visiting faculty at IoBM since 2015, joined as Senior Fellow Commercial and Professional studies on January 12 2016.





## Economics

**Dr. Shahida Wizarat**, Director Research, Chief Editor PBR and Head of the Department, Economics and an MS/PhD Coordinator, is an independent economist and has been involved in research, teaching and administration. Her areas of interest are industrial economics focusing on industrial productivity, its determinants; concentration and profitability; development economic issues; economic policies; debt and its management. She is the author of forty five research papers and articles published in journals of international repute in Pakistan and abroad. She has organized, attended and read papers at several international and national conferences. She earned an MA in Economics from Vanderbilt University, USA and her PhD in Economics from the University of East Anglia, Norwich, England. She has served as the Editor of the Pakistan Journal of Applied Economics and Director of the Applied Economics Research Center, University of Karachi. She has also served on the Board of Directors of the Karachi Stock Exchange. She is also on advisory boards and research councils of several organizations and universities.



**Muhammad Ajaz Rasheed**, Assistant Professor in Economics, earned his MPhil in Economics from the Institute of Business Management, an MAS (Applied Economics) from Applied Economics Research Center (University of Karachi) and MSc (Statistics) from the University of Karachi. He has 20 years professional and teaching experience in the area of Statistics, Economics and Computer Science. He has taught at the University of Karachi and University of Balochistan. He has worked with Social Policy and Development Center as a researcher. His research primarily focuses on Macro-Economic Modeling and Monetary Economics. He has published research papers in national and international journals. He has also contributed to the Sindh Economic Survey. He has been a member of FPCCI's standing committee on research and development from July 2005 to June 2007.



**Mirza Aqeel Baig**, Assistant Professor in Economics has an MPhil in Economics from the Institute of Business Management, MAS in Applied Economics from AERC, University of Karachi and a Master's degree in International Relations. He has over ten years teaching experience at various business institutions. His research interests are in the areas of Monetary Economics and Macro Economics. His research papers have been published in PBR and journals of the Statistics Department of the University of Karachi. He has also contributed papers in the Sindh Economic Survey and the 2nd international Sindh Conference at IoBM.



**Ch. Sohail Ahmed**, Senior Lecturer, holds an MSc (Statistics) from KU, MPA from IBA, and MAS (Economics) from Applied Economics Research Center, Karachi. He also holds PGD (Computer Science) from the University of Karachi. His research primarily focuses on International Trade and Econometrics. He is pursuing his MPhil Degree in the area of International Trade. He has served for 18 years of at various public and private academic institutions.



**Muhammad Zubair**, Lecturer in Economics, holds Master's degree in Economics & Finance from the University of Karachi. He has also secured his post graduate diploma in Economics & Finance and BA (HONS) with Economics and statistics From University of Karachi. He is also enrolled in MPhil at IoBM. He has experience of four years of Broadcasting with Radio Pakistan in the capacity of Business anchor and reporter covering economic policy and stock market etc. He is contributing regularly his article on economic issues in renowned newspaper Express Tribune for two years.



**Sadia Mansoor**, Lecturer in Economics, holds MAS Economics from the Applied Economics Research Center (AERC) and MSc Economics from the Quaid e Azam University(QAU), Islamabad. She has been working with IoBM for last one and a half year. She has also worked for two years as Lecturer and Economist in different private academic Institutions. She is currently doing her MS Economics from IoBM and her area of interest and research is Financial Economics. She did her MSc thesis on Determinants of Suicide in Pakistan which had been first ever empirical study in Pakistan.





**Qazi Muhammad Adnan Hye**, Research Fellow, Economics, has MPhil (Economics) from Applied Economics Research Centre (AERC), University of Karachi. He also has MAS (Economics) from AERC and Master in Economics from Islamia University of Bahawalpur. He has 34 publications to his credit out of which 31 are international and 3 are local publications.



**Irfan Lal**, Research Fellow in Economics is currently enrolled in MPhil Program at IoBM. He has done MAS from Applied Economics Research Centre, University of Karachi and Master's (Economics) University of Karachi.



**Sabeen Anwar**, Lecturer, holds MAS (Applied Economics) from Applied Economics Research Center (University of Karachi) and MSc (Hons) from the University of Karachi. She has four international publications. Her MPhil (Economics) is in progress from IoBM.



**Zia Ullah**, Lecturer holds Master in Applied Sciences (MAS Economics) from the Applied Economics Research Center University of Karachi and MSc in Economics from Quaid-i-Azam University Islamabad. His research areas include International Economics and Macroeconomics.

## Education



**Dr. Nasreen Hussain** HOD, Senior Fellow and HoD Education with the rank of Professor, holds a PhD in Education. She has 34 years of diverse teaching, research, and national as well as international consultancy experience. She also holds the position of the Editor in Chief for the Journal of Education and Educational Development (JoEED) which is published biannually by the Department of Education. She has edited books as well as written academic articles and book chapters. She has received British Council, Hornby Trust, USIS, USAID, HEC and AKU awards to pursue her academic and research projects and she is also the External Moderator for the University of Cambridge. Her interest is in educational research methods with a special focus on qualitative research, continuing professional development, curriculum design, and material development.



**Dr. Muhammad Yousuf Sharjeel**, Associate Professor Education, holds a PhD in Measurement & Evaluation from Hamdard University. He was awarded three gold medals for his Bachelor, Master and MPhil degrees in education and social sciences. He also holds professional certifications from Bradford and Cambridge Universities, UK. He has conducted several professional HEC & NTS workshops on training of trainers and faculty development programmes across Pakistan. He has been awarded the professional teaching license by the Ministry of Education, U.A.E. Besides, he has conducted seminars and workshops for many public sector universities including agencies. He has presented his research papers at many national and international conferences.



**Dr. Shahida Mohiuddin**, Assistant Professor of Education Department has 37 years of experience, holds PhD in Education. She has also done MA in Psychology. She conducts workshops and sessions for teacher educators and adult learners in Pakistan and abroad. Her research interest is in early childhood development, educational psychology and globalization studies. She has presented her research papers in various national and international conferences and the proceedings have been published in journals. Her practice of Early Childhood Development 0-3 years was selected by the Asia Pacific Regional Network for Early Childhood as best practices of Asia Pacific.



**Dr. Muhammad Abid Ali**, Assistant Professor in Education, earned his Doctorate in Education Administration from International Islamic University Malaysia, and MBA in Human Resource Management and Finance from Pakistan Institute of Management. He has 30 years of administrative experience at higher management levels. He is qualified lead auditor ISO quality systems. Dr. Ali is initiator and founder member of two educational research institutes and is actively pursuing the cause of education reforms at different platforms. His areas of specialization are designing and development of education on Iqbal's educational thought and philosophy.



**Dr. Samra Javed**, Assistant Professor, Education and Manager, Entrepreneurship & Management Excellence Center (EMEC) & Head of the Office of Research, Innovation and Research is a PhD in Education and, is mainly responsible for training and consultancy projects at IoBM. In addition, she is a trainer in curriculum development & experiential Learning, interpersonal skills & Communication Skills, British Council's approved IELTS' Master Trainer & English Language Teachers' Trainer. She has been involved in research on various aspects of teaching and learning. Master in English and MPhil in Social Sciences, she has also been a trainer in teacher education for various schools and colleges as well as English Language Proficiency Program by the USAID, Proposal Writing by Citizen's Voice project-USAID and has conducted in house sessions in Communications Skills for Ten Pearls Pvt, Pakistan Oil Refinery Pearls Pvt. and EFU Life Assurance Ltd.



**Sarwat Nauman**, Senior Lecturer in Education, holds an MA in English Literature from the University of Karachi. She has successfully completed her MPhil in Education and in now a PhD scholar at the Education Department, IoBM. She has a teaching experience of 11 years and has been associated with Greenwich University and Defence Authority College for Women. She also holds the position of the sub-editor for the Journal of Education and Educational Development which is published biannually by Department of Education, College of Economics and Social Development, Institute of Business Management.



**Samer Iqbal**, is a Junior Lecturer and Coordinator, Journal of Education and Educational Development (JoEED), in the Education Department, IoBM. She earned MBA in Educational Management from IoBM and Masters from the University of Karachi. She is currently pursuing MPhil in Education from IoBM. She has been involved with different educational projects, especially with the British Council and Intel Education Program as a master trainer. She has been awarded Intel Education Award and secured 2nd position in overall Sindh. She has been awarded as the Best Teacher, Best Coordinator and the Most Active Teacher in different educational settings. She has research interests in ICT in education, marketing education services, and management.



## Center for Policy and Area Studies

**Dr. Talat A. Wizarat**, Professor and HoD, Center for Policy and Area Studies holds PhD Degree from University of Karachi and Master's in Government and International Studies from the University of South Carolina where she went on Fulbright Hayes Scholarship 1977 – 78 her first Masters in International Relations is from the University of Karachi. She served as Professor at the Department of International Relations at KU and at the Department of Social Sciences and Liberal Arts at IBA Karachi. Dr. Wizarat has been part of several track-II channels including Nimrana Dialogue of which she was a regular member for several years She has contributed over thirty research articles to renowned journals, has also contributed chapters to books and edited two books on Middle East and South Asia. She is regularly invited to evaluate research papers for various journals She is also invited as guest speaker by various TV and radio Channels, She has also been invited by NIM and various other staff colleges and other centers of higher education. Her areas of interest include track-II diplomacy, conflict Resolution and crises Management, South Asia, Middle East and Political geography.





**Dr. Ghazala Aleem**, Assistant Professor, PhD in Islamic Studies from Karachi University, is a certified Arabic teacher and has completed Masters in Islamic Studies and Arabic, and B.Ed from Karachi University and DHMS in Homeopathic Medical System. She has also worked as faculty of medicine at Hamdard University. In addition, she has taught at several other places before joining IoBM. Moreover, she has also worked as a freelance journalist with Daily Jang and other magazines.



**Dr. Sahib Khan Channa**, Senior Fellow, has Bachelor of Arts, Bachelor of Law, Master of Arts and Doctorate degrees from the University of Sindh and Post-Doctorate in Political Science from the Arkansas State University, USA. He has over 40 years of administrative, teaching and research experience, having served as Professor and Principal of some prestigious colleges of Karachi, besides holding various senior level positions in the Education Department, Government of Sindh. Recognized as a prominent historian/writer of Sindh by literary circles within the country and abroad, Prof. Channa has contributed a number of research articles to renowned research journals published by different departments/institutes of Sindh University. He has been a member of the Senate, Syndicate and Selection Board of the University of Karachi, also a member of the Senate of almost all the public universities of Sindh as well as member of the Board of Governors of all the Boards of Intermediate and Secondary Education in Sindh. Western, Central and South Asian political and strategic studies are his main research interests.



**Urfi Khalid**, Senior Fellow in Pakistan Studies, holds an MA in Physical and Political Geography from the University of Punjab, Lahore. Prior to her current assignment, she was associated with Institute of Business Management as visiting faculty since 1997. She was teaching at various levels in international institutions in the Middle East before joining IoBM. Her research focus is on gender issues in the economic development of Pakistan. Her research paper has been published in Pakistan Business Review, April 2011. She presented her paper on Gender Issues of Pakistan Textile Industry at the seminar on “EU Trade Concessions to the Textile Industry of Pakistan” held at IoBM. She has attended various conferences and seminars held at Karachi University and IoBM.



**Gulrukhsar Mujahid**, Lecturer in Center for Policy and Area Studies holds a Bachelor's degree in Political Science from Lahore University of Management Sciences (LUMS) and a Masters degree in Middle East Politics from School of Oriental and African Studies (SOAS, University of London). Her primary research interests lie in politics of resistance and different kinds of war/conflict.

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## Business Psychology

**Dr. Nadia Ayub**, Head & Associate Professor of Department of Business Psychology earned a Doctor of Philosophy in Psychology from the University of Karachi. She is currently doing her Postdoctoral Fellowship at School of Psychology, University of Queensland, Australia. She is HEC approved PhD Supervisor and supervising number of MPhil & PhD thesis at IoBM. Her research focuses on identity issues in adolescents, organizational issues, family and marriages, and Psychometrics. She has published more than 20 journal articles, presented research papers at Harvard University in 2012 & 2013 and around the world, served on the editorial boards of International Journal of Psychological Studies, Journal of Pakistan Psychological Association, and Pakistan Business Review. She has worked on research project on Community Health Sciences at the Aga Khan University and Hospital. She is the member of HEC National Curriculum Revision Committee of Psychology. She is recipient of Group Study Exchange Program Fellowship 2011 for Pennsylvania, USA, hosted by the Rotary Foundation International. She received International Education Faculty Achievement Award from the International Association of University Presidents for 2014 and HEC Best University Teacher Award for 2011. She has visited Caucasus University, Tbilisi, Georgia in 2014 on Leadership Development for Higher Education Reform (LEADHER) project funded by International Association of University Presidents.



**Dr. Linah Askari**, Associate Professor Psychology, Department of Business Psychology is a psychologist with vast academic and professional experience of behavioral, organizational, clinical and business psychology spanning over 18 years. She holds a PhD in Psychology from the University of Karachi and was awarded gold medals both in MSc Psychology and Post Magistral Diploma in Clinical Psychology from the University of Karachi. She is a recipient of 'Star Laureate Award' in 2006 from 'Who's Who in Pakistan'. She has introduced the latest 'Attitudinize Psychotherapy' recognized internationally through paper presentations at conferences and research publications. She is also the co-editor of Handbook of Counseling and Psychotherapy in an International Context.



**Dr. Syed Shameem Ejaz** is a PhD in Psychology. He has been practicing Psychology for more than 18 years as psychotherapist, researcher, and educator in and outside Pakistan. He was the only member of QRCA-USA from Pakistan in 90's. He wrote books on research writing and diversity. Dr. Ejaz is a professional software designer; it defines his personal research interest well i.e., artificial intelligence and emotional machines. He has designed several psychological and analytical software. He likes to write about person-environment integration, issues, and reform.



**Tehezzeb Sakina Amir**, Senior Lecturer, Business Psychology Department, holds MPhil degree in Organizational Psychology from University of Karachi. She has worked as a visiting faculty member in one of the private universities of Karachi for six years. In addition to this, she has almost ten years corporate working experience in the fields of Human Resource Management and Marketing/Advertising in various organizations.



**Falak Zehra Mohsin**, Lecturer, Department of Business Psychology, holds an MPhil degree in Organizational Psychology from the Institute of Business Management. She has previously worked as visiting faculty in one of the private universities of Karachi. Her research interests focus on areas such as Psychometric Testing, Social Psychology, Family, Marriages and Relationship Dynamics, Educational Psychology, Personality, Gender Roles, Gender Perspective, Interpersonal Psychology, Socio-Cultural Psychology, and Media Psychology. Her research has been published internationally as well in the Japanese Psychological Research. Additionally, she was part of the organizing committee for the Third Annual Conference on Industrial and Organizational Psychology: Better Organizations through collaboration in Education, Research and Practice. She has worked as a counselor in some clinical organizations as well as at underprivileged schools and continues to be associated with different welfare programs in the society.



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## Islamic Studies / Philosophy Unit



**Asad Shahzad**, Assistant Professor in Philosophy Unit, has earned his MA in English Literature from the University of Karachi. He has received intensive training from SPELT under Cambridge University and taught at several educational institutions before joining IoBM. He writes for different newspapers on religious, political and social issues. He has presented several papers at national conferences on the topics of Unique Equilibrium of Free-Will and Determinism in Rumi's writings and "The Impact of Fantastic Advertisement of Consumer Goods on the Mental Health of Society". His paper "Iqbal's Idealist Critique of Hawking's Materialist Concept of Time" was published in *Iqbal Review*, April 2008 issue; and "Incoherences in Konrad Lorenz's Concept of Aggression" in *PBR*. Currently, he is involved in research in the area of the philosophy of globalization.

## Media Studies



**Ejaz Wasay** joined IoBM as Senior Fellow Marketing in January 1, 2011. A year later, he was appointed Head of the Department of Media Studies, a position he has held since, in addition to his teaching role in Marketing. He has over 37 years of industry experience in Marketing, Corporate Communications and Advertising, having worked for local companies and MNCs such as UBL, Orient McCann, Lever Brothers (now Unilever), Glaxo, Philips and Gillette. With Gillette over he held senior positions in Pakistan, Brazil and the Middle-East. He was last based in Dubai – UAE, as Marketing Manager Middle East. He has led two major research projects during his tenure at IoBM: a Consumer Perception Study for Indus Motor Company (IMC), and MRII for USAID. He has been Council Member of MAP (Marketing Association of Pakistan) for over 15 years, and its President in 2005. He has been writing for *Aurora* and *Marketing Review* over 20 years and has been a Jury Member of PAS Awards since its inception.



**Dr. Erum Hafeez Aslam**, Assistant Professor, Media Studies, holds a PhD degree in Mass Communication with specialization in Social and Cultural Dynamics of Media from the University of Karachi, Pakistan. Before Joining the Institute (IoBM) in August 2014, she headed Corporate Communications and Public Affairs Department at the Institute of Business Administration (IBA) Karachi for more than six years. She was also engaged as faculty media studies in the Social Sciences Department of IBA Karachi for two years. She has worked in the Dawn Group of Newspapers and MNJ Advertising as an editor and concept writer respectively in the beginning of her career.



**Sabeen Jamil**, Lecturer, Media Studies, holds an M.A in Mass Communication from University of Karachi and is pursuing MBA in Advertising and Media Management from IoBM. She has worked as a journalist at a leading English language newspaper and has been contributing for leading newspapers and magazines including *The News*, *Dawn*, *Express Tribune* and *Newsline* for three years now. She was associated with a private university as a faculty before she joined IoBM in September 2011.



## VISITING FACULTY AT INSTITUTE OF BUSINESS MANAGEMENT (IoBM)

Abdul Ahad MBA from IoBM	Dr. Abdul Rahim Afaki PhD in Philosophy KU MA Philosophy from KU	Hamza Khalil MBA Sind University MA (Economics) Sind University PhD In progress from Preston
Adnan Azam MBA (LUMS) BS Computer Engineering	Dr. Farah Ahmed MSBE (Biostatistics and Epidemiology) DCPS (equivalent to M.Phil)	Hamza Nizam Kazi MBA from IoBM
Afzal Shahabuddin MBA from IBA	Dr. Hassan Danish Masters of Public Health (MPH) Epidemiology from Texas A&M Health Science Center, USA, MBBS from Dow	Harish Chander MBA from IoBM
Ajmal Khan MPhil Education, Iqra University MA English Linguistics and Literature	Dr. Mehboob Ul Hassan Bukhari PhD from Karachi University, MA Philosophy	Haseen Bano MPhil (Islamiyat) Urdu University, MA (IR) , University of Karachi
Alenah Younus MCom in Finance from KU	Dr. Nuzhat Khan PhD in Analytical Chemistry from University of Sindh	Humayun Zafar MA (I.R.) Karachi University, BCom Middlesex School UK
Amber Saleem MBA from IBA	Dr. Qazi Afaq Ahmed PhD Human Resource	Iqbal A Khan MSc Computer Science, Quaid-e-Azam University, Islamabad
Amir Ahmed Khan Mphil MS SZABIST, MBA Bahria	Dr. Samina Kidwai PhD and M.Phil in Marine Biology, MSc in Marine and Fisheries Sciences and Zoology and MBA in HRM from IoBM 40 Pucblications in Account	Kamal Quraishi MBA, MPhil, B. Pharm
Anwer Malik MBA from IBA, MS from Dacca, LLM, SM Law College	Dr. Talha Shahid MBA in Pharmaceutical Business Adminsi- tration in 2010 from Bahria University	Kashif Rasool MBA, Marketing from IBA, PGD Marketing
Arif Ashraf Ali Joint Masters (MA Marketing with Man- agement) from Middlesex University	Faiza Hammad MSc (Supply Chain) from University of Warwick	Khalid Siraj MBA from Alkhair University and SHRM - Senior Certified Professional
Arsalan Hussain MBA from IoBM	Farhan Iqbal MPhil (Industrial Org and HRM) from IoBM and MBA from IoBM	Maham Durrani LLM from George Washington University
Aslam Dossa Chartered Accountant (ICAP)	Farooq Sheikh MBA (Finance) from IBA	Maria Kamran Masters of Development Economics from the Queensland University.
Assad Nawaz Gondal MBA from Imperial College of Business Studies, Lahore	Gohar Alam Siddiqui MBA	Mehreen Kausar Azam MEM (Industrial) from NED, BE from NED UET
Danish Gazdar ACCA Member UK, B.Com from University of Karachi		
Danish Rais Khan Bachelor in Commerce from KU		



Mohammad Ali Shah MBA , Forman Christian College Univesity, Lahore	Sabin Agha Master of International Relations, University of Karachi, BA from PECHS Girls College	Shoaib Rizvi Cleared 7 papers of SOA. CFA, Level 1, MBA from IoBM, BS Actuarial Science and Risk Management
Momiza Bawany LLM from Law College and Law Teaching and Legal Research Skills	Sameen Wasif MBA from SZABIST	Shujaat Saleem PhD Fellow (Islamic Banking and Finance), University of Karachi, MS PAF-KIET
Rais Ahmed MBA (Finance) from KU	Sanam Azeem MPhil, Management Sciences	Sohail Sawani MBA, C.A. Inter
Muhammad Asadullah MCom, KU	Sarah Irfan MBA from IoBM	Subul Naqvi MBA from IBA
Muhammad Shahbaz Khan MS (Statistics and Soft Computing) in IoBM. MS (Statistics) from University of Karachi.	Shah Saleem MBA from IBA, Master of Science from University of Karachi	Syed Ahmed Subhan VEE (Validation for Actuarial Science) from USA equivalent to Masters and BS Actuarial Science from IoBM
Mukhtar Ahmed Khan MBA from The Pakistan American Institute of Management Sciences	Shahida Kazi MA Journalism, KU	Syed Asif Raza MPhil (Applied Economics) from AERC, University of Karachi.
Nadia Aftab MBA from SZABIST	Shahzad Zuberi MBA from Szabist, TESOL Certificate from ETON Institute	Syed Mohsin Iqbal Master's in Mass Communication from University of Karachi
Nawaz Ahmed MS Management Sciences from SZABIST	Shahzaib Aijaz MBA from KSBL	Syed Qaiser Hussain MA in Linguistics and Literature and a member of SPELT
Rafia Ayub MS in Science, MBA, Islamic Finance	Shazia Baig MBA (Finance) from IBA	Syed Sajjad Ahmed MBA from IBA
Raja Rab Nawaz Enrolled in PhD Marketing from Malaysia. Post Graduate from IBA	Shazia Hashmi MBA from IoBM	Syed Sarwar Kazim MSc Statistics from KU and MBA from IBA
Romana Parvez Akhtar MPhil (Industrial Org and HRM) from IoBM and MSc from IoBM	Shazia Hassan MBA from International University, Diploma after completing a two year course in Children's writing from the Institute of Children's Literature, Connecticut, USA	Syed Shahzad Raza PhD in Mathematics (course work com- pleted) from USA. MA in Mathematics from University at Albany, USA
Saad Hassan MBA from IBA and Master's in Economics from Karachi University	Shelina Bhamani Enrolled in PhD (Education), MPhil from IoBM	Syeda Dur-e-Afshan Ali MBA from IoBM
Sabah Ibrahim MBA from IoBM, CFA Level 1 cleared	Shoaib Khan Chartered Fellow- FCIPD from UK	Taha Saleem MBA (Finance and Risk Management)
Sabera Suleman MS Management Sciences	MPA from UK	



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Taimur Sikander  
BA (International Studies), Texas (USA)

Tajdar Hashmani  
MBA from IoBM, BBA from IoBM

Tanveer Ishrat  
Master's of Arts in Organisational  
Psychology from University of Karachi,  
M.Phil (HRM) expected to complete

Tarique Aslam Qureshi  
MBA from IoBM

Umair Saeed  
MBA from San Diego, Singapore and  
MBA from Hamdard

Usman Ali  
PhD (Iqra Scholar) degree will be  
conferred, MPhil from Iqra

Zafer Mehdi  
M.Phil course work completed from IoBM,  
MPA from University of Karachi

Zain ul Abydeen Khandwani  
MBA from IoBM

Zebunisa Burki  
MSc Politics and Communication from LSE,  
LLB from University of Punjab

Zeeshan ul Haq  
Associate Member of ICSP, ACCA and MBA  
from Hamdard University

Zunair Hussain Khan  
MBA from IoBM



**ADMINISTRATION  
&  
MANAGEMENT EXCELLENCE CENTER**

# ADMINISTRATION

## ADMINISTRATION



The administrative staff of IoBM is highly skilled and qualified to perform multifarious tasks, vital for the smooth running of the Institute. The administration implements the policies formulated by the Governing Board and the Academic Council. It is responsible for organizing academic programs, ensuring student progress, providing adequate support facilities to the faculty and students, and liaison with business and industry to arrange internships, ensure career development and placement of students on the completion of their degree. It is also responsible for the organization and supervision of examinations.

### Members of the Administration



**Mr. Shahjehan S. Karim**, President, Institute of Business Management has worked in the Civil Service of Pakistan for over 37 years, holding a number of senior positions with the Government of Pakistan and the Government of Sindh. He has also worked with the United Nations Organization as an International Civil Servant for almost a decade. He is a graduate of the University of Arizona, USA and also studied Public Administration at Cambridge University, UK; Transportation Management at the University of British Columbia, Canada and is a fellow of the Economic Development Institute of the World Bank. Mr. Karim is the Founder President of the Foundation for Higher Education and the Institute of Business Management.



**Sabina Mohsin**

Executive Director

Administration, Admissions and Finance

BBA, University of Arizona, USA

MS, US International University, Nairobi, Kenya



**Manzoor Hussain Bhutto**  
Advisor to President  
MA, Economics



**Dr. Akhlaq Ahmed**  
Advisor to President  
PhD (Exeter University, England)



**Muhammad Waziruddin Jahangir**  
Senior Manager & HoD, Corporate Affairs  
B.Com, (Sindh University)  
CA Finalist, (ICAP)



**Dr. Khalid Amin**  
Senior Manager & HoD Alumni,  
Placement & International Cooperation  
PhD in Business Administration





**Muhammad Misbahuddin**  
Senior Manager & HoD  
HR & Administration  
MBA, LLB



**Aslam Kurban Ali**  
Senior Manager & HoD, Finance  
ACMA



**Syed Ajaz Ahmed**  
Senior Manager &  
Controller of Examinations  
Fellow Member of CMA



**Parvez Jamil**  
Manager, Public Relations  
MA



**Syed Aley Ahmed**  
Manager, Projects  
BE Civil, FIE, PE



**Maj (R) Arif Sultan**  
Manager Purchase  
Graduate of PMA Kakul



**Dr. Samra Javed**  
Manager EMEC &  
Assistant Professor, Education  
PhD Education



**Syed Adnan Faisal**  
Senior Assistant Manager-II &  
HoD Maintenance  
BE, Electrical Engineering, P.E



**Malik Barolia**  
Senior Assistant Manager-II  
Accounts & HR  
MBA, ACMA-II



**Asim Farooq**  
Senior Assistant Manager-II & HoD  
Information Technology  
BCS



**Muhammad Haneef**  
Senior Assistant Manager-II  
Corporate Affairs  
BBA, CA Finalist (ICAP)



**Imdad Ali Mugheri**  
Senior Assistant Manager-I &  
HoD Admissions  
MBA, LLB



**Lt. Cdr. (R) Sartaj Hussain**  
Senior Assistant Manager-I  
Security  
BA



**Abdul Khaliq**  
Assistant Manager-I, Alumni,  
Placement & International Cooperation  
MBA



**Muhammad Adnan**  
Assistant Manager-I  
Information Technology  
MBA, MIS



**Shaikh Muhammad Sharif Nasir**  
Senior Assistant Librarian  
MLIS



**Nadeem Ahmed Khan**  
Assistant Manager-II, Internal Audit  
MBA, CIMA Finalist (England)  
Chartered/Corporate Secretary FCIS  
(Pak/England)



**Dr. Capt. Agha Iqbal Ahmed**  
Medical Advisor & Incharge, SAC  
MBBS, Liaqat Medical College  
Hyderabad



**Fesal Bin Naseem**  
Senior Assistant  
Controller of Examinations  
MS IT, MS Applied Physics



**Abdullah Lakhani**  
Assistant Manager-I  
Information Technology  
MBA, MIS



<b>Masood Hasan</b> Senior Accountant-II MBA	<b>Mohammad Arif Shaikh</b> Senior Maintenance Officer-II Diploma of Associate Engineering	<b>Muhammad Hassan Sayeed</b> Senior Officer-II, Admissions & Finance MBA, Finance
<b>Humayun Rashid</b> Senior Sports Officer-II MSC, MA & B.Ed	<b>Mehmood Ahmad</b> Senior Accountant-II B.Com	<b>Abdul Sajid Khan</b> Oracle Database Administrator, IT MCS, MBA
<b>Mohammad Masood Khan</b> Senior Officer, Inventory Control & HR BSC	<b>Munawar Ahmed</b> Admin Coordinator BA	<b>Abid Ali</b> Senior Accountant-I CA (Intermediate)
<b>Barira Amin</b> Senior Officer, HR MSC, MBA	<b>Muhammad Kamran</b> Senior Examination Officer MCS	<b>Muhammad Saad Asif</b> Senior Officer-I, Placement & Alumni MSC
<b>Rashid Iqbal</b> Senior Maintenance Officer-II B.Tech Electrical	<b>Ameer Ali</b> Assistant Librarian MLIS	<b>Muhammad Omar Iftikhar</b> Senior Officer-I MBA
<b>Syed Mustafa Hussain</b> Academics Officer-II MA	<b>Farooq Ahmed</b> Executive Secretary, (Officer-II) President BA	<b>Ghulam Dastagir</b> Executive Secretary, Dean Office BA
<b>Muhammad Zahid</b> Accounts Officer-II ACCA	<b>Muhammad Asim</b> Accounts Officer-II ACCA	<b>Rashid Aqeel</b> Internal Audit Officer-II CA Finalist (ICAP)
<b>Midhat Nadeem</b> Officer-II, EMEC MBA	<b>Hafiz Humayun Baig</b> Officer, Registrar's Office MA	<b>Naeem Mirza</b> Assistant Librarian (Officer) MLIS
<b>Mobina Ahmed</b> Officer-I, Admissions MBA	<b>Samiullah Khan</b> HR Officer BA	<b>Bismah Mirza</b> Officer, EMEC MBA
<b>Nabhan Shah Karim</b> Coordinator Media Science Bachelor of Arts, (USA)	<b>Saba Raza</b> PS Techno-Functional Officer, IT BE, CS (NED)	<b>Sarah Asghar</b> Officer, International Cooperation & Student Counselor MBA
<b>Saadia Karim</b> Webmaster/Programmer MS	<b>Azmatullah Khan</b> Officer HVAC Diploma of Associate Engineering	<b>Dr. Azeem Rauf</b> Officer, Health & Hospital Management MBBS
<b>Zohaib Ian</b> HR Officer MBA	<b>Asim Ahmed Khan Yousofi</b> Assistant Officer-II B.Com	<b>Asif Hasnain</b> Senior Officer, Purchase B.Com

# **COURSE DESCRIPTIONS**

## COURSE DESCRIPTIONS

The courses offered by the Institute, covering a wide range of fields, are especially designed to help students gain an insight into the subject matter. The contents of the courses not only cover an international perspective of the concept taught but also place a special emphasis on the local/national content.

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- Please note that this list is subject to change. Details of courses, including information about the course activities and scheduling are distributed by the faculty at the time of registration.
- Students should ensure that they complete the pre-requisite courses before opting for advanced level courses.





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## Accounting

### **ACC101 Introduction to Financial Accounting**

This course is aimed at people with no or limited prior knowledge and provides an understanding of how financial statements are prepared for various types of organizations. The principles of financial accounting course focuses on the record-keeping and financial statement preparation process.

### **ACC102/103 Introduction to Financial Accounting I & II**

The objective of these courses is to enable students to understand fundamentals of accounting theory and apply it to basic financial accounting.

### **ACC201 Intermediate Financial Accounting**

This course covers all aspects of corporate accounting, analysis of financial statements and specialized accounting for leases, construction contracts, inflation and taxation.

Pre-requisite: ACC 101

### **ACC202/204 Taxation I & II**

The aim of these courses is to develop basic knowledge and understanding in the core areas of income tax and its chargeability as envisaged in the Income Tax Ordinance 2001 and the Income Tax Rules 2002 (relevant to the syllabus).

Pre-requisite: ACC 102/103

### **ACC203/304 Financial Accounting I & II**

These courses are designed to provide understanding of accounting methods, and procedures as followed by business organizations. These cover the accounting process of classification, summarization, presentation in the light of International Accounting and Financial Reporting Standards.

Pre-requisite: ACC 102/103

### **ACC301 Cost Accounting**

The course is designed to equip students with cost accounting concepts related to job order costing, process costing and standard costing with emphasis on cost determination and control.

Pre-requisite: ACC 201

### **ACC302 Accounting and Financial Information Systems**

This course provides an understanding of computer based accounting and hands on training of application of accounting package.

Pre-requisite: ACC 201, CSC 203

### **ACC303/306 Financial Reporting I & II**

To provide candidates with an understanding of the fundamentals of accounting theory and basic financial accounting with particular reference to international pronouncements.

Pre-requisites: ACC 102/103

### **ACC305/415 Cost Accounting I & II**

These courses are designed to provide students an understanding of the importance of the role of cost accounting in planning and controlling the wide range of organizational and manufacturing cost.

Pre-requisite: ACC 102/103

### **ACC320 Cost and Management Accounting**

The course is designed to make students familiarize with product costing systems, including job order costing, process costing, joint products and by-products.

Pre-requisite: ACC201

### **ACC401 Introduction to Managerial and Cost Accounting**

he course is designed to make students familiarize with product costing systems, including job order costing, process costing, joint products and by-products.

Pre-requisite: ACC419

### **ACC405 Internal Auditing and EDP Accounting**

This course covers the understanding and application of internal auditing tools and techniques and information system for management of risk and security system.

Pre-requisite: ACC102/103/201

### **ACC410 Management Accounting**

This course deals with the performance evaluation, decision making and control aspects of business. It creates an understanding of cost concepts, principles, tools and techniques of management accounting for performance measurement, operational and investment decisions and cost controls.

Pre-requisite: ACC301

### **ACC414/416 Auditing I & II**

The purpose of these courses is to give students theoretical and to a limited extent, technical knowledge and skills of auditing and review of historical financial information. It will provide a foundation for acquiring intensive knowledge required for professional competence.

Pre-requisite: ACC 102/103

### **ACC417 Corporate Reporting**

This is an advanced course in the field of Financial Accounting. The course includes preparation of financial statements, consolidated accounts and their disclosures; accounting for investment in subsidiaries and associated undertakings; reporting on investments in joint ventures.

Pre-requisite: ACC 203/304

### **ACC418 Performance Measurement and Decision Making**

The main aims of this course is understanding of cost accounting in relation to management functions, application of financial information for control purposes; development and interpretation of data for decision making techniques of performance appraisal and operational research.

Pre-requisite: ACC 203/304/305/415



### **ACC419 Financial Accounting**

This is an introductory financial accounting course which will introduce and enable students to examine and understand the accounting concepts, the accounting model, analysis process leading to the preparation and presentation of financial statements of a Sole Proprietorship firm as well as a Corporation, in accordance with Generally Accepted Accounting Principles. Furthermore it would enlighten the students to understand in detail, the accounting for all current and fixed assets (tangible and intangible), current and long term liabilities, and equity structures of proprietorships and corporations.

### **ACC501/601 Advanced Financial Accounting**

The course will enable students to understand and learn accounting aspects of topics in partnership, head office/branch relationship, installment sales, business combinations, foreign currency translation and bankruptcy and liquidation.

Pre-requisite: ACC203/201/304/419

### **ACC502/602 Advanced Managerial Accounting**

This course covers the use of accounting data for managerial decision, control and planning purposes and provides in-depth analysis of various techniques and methods used by managers.

Prerequisite: ACC305/401/410/415

### **ACC503 Taxation**

Tax law is studied with a special emphasis on what constitutes taxable income and allowable deductions for individual tax payers. The course also includes a comprehensive coverage and treatment of taxes as related to business profits.

Pre-requisite: ACC 201

### **ACC505/603 Auditing**

This course covers the understanding of audit techniques, rules, principles and procedure and their application in the audit of financial statements, relevant records and source documents.

Pre-requisite: ACC201/419

### **ACC506/604 Analysis of Financial Statements**

The course begins by describing accounting standards of USA and international accounting standards with a special focus on developing students' capability to standardize various companies' financial statements.

Pre-requisite: ACC 419/501, FIN202

## **Advertising**

### **ADV401 Principles of Advertising**

The course provides working knowledge of advertising while giving an insight into various tools used for advertising to sell goods and services. The students will analyze the current issues facing the business of advertising and the environment in which it operates.

### **ADV402 Advertising Management**

The course Investigates the nature & scope of advertising and its place within marketing strategy decisions and society. The students will learn the methods of planning, preparing, placing and evaluating an advertising message in the applicable media.

Pre-requisite: ADV401, MKT401

### **ADV403 International Advertising and Promotions**

An intensive analysis of theoretical concepts and the practice of international advertising. The course also covers environmental considerations in international advertising, planning and execution of advertising worldwide, and the role of media in the debate surrounding standardization versus localization of worldwide advertising campaigns for consumer/industrial products and services.

Pre-requisite: MKT 401/509/532 ADV401/402

### **ADV406 Advertising Strategy**

A study of the theoretical foundations and the process of developing advertising and promotional strategy; methods of utilizing research data for developing and evaluating advertising strategy.

Pre-requisite: ADV401/402/405, MKT401/509

### **ADV407 Creative Production**

The course gives an insight into the competing factors of "brilliant instinct" as opposed to the disciplines of the marketing process; the diligence of research & its interpretation; strategic thinking & an understanding of positioning and brand identity, the considerations for cost effectiveness and the necessity for teamwork.

Pre-requisite: ADV401/402/405/406, MKT509

### **ADV408 Client Management**

The course will provide opportunities to practice advertising management by analyzing and discussing situations that arise in the course of advertising management and create future advertisers who have good command over strategic thinking, creative analysis and client management.

Pre-requisite: ADV401/402, MKT509/527

### **ADV409 Advertising Campaign**

A presentation of the skills, necessary to design, implement and manage advertising campaigns, with an emphasis on planning and decision making procedures applied to specific advertising problems.

### **ADV501 Creative Management**

The course provides an understanding of the purpose and process of developing creative work in an advertising agency and all relevant issues in the creative process from brief to market success.

Pre-requisite: ADV401/402



### **ADV504 Advertising Management and Strategy**

The course is designed to give students an appreciation of the critical role that strategy plays in advertising. The need for adopting a strategic perspective, in the contemporary context, and carrying it through the creative process, media planning, campaign implementation and monitoring of results shall be discussed.

Pre-requisite: MAN401, MKT532

### **ADV505 Creative Planning and Development**

The course will help the students generate fresh, unique and appropriate ideas that can be used in advertising and learn tactics to improve on advertising campaigns including developing central selling points and creating a brand image. The course will give an insight into the steps involved in the process of creativity.

### **ADV506 Media Performance and Product Development**

This course teaches the students about developing an entirely new media outlet, be it print or electronic. This course also teaches students to track the effectiveness, importance and challenges for media managers through case studies that encourage students to apply the text matter to contemporary issues.

## **Actuarial Science**

### **ARM501 Stochastic Process/Modeling**

The aim of the course is to acquaint students with the use of probability theory to study models of phenomena with a degree of unpredictability about them, such as queues and population growth. Discrete and continuous time Markov chains, Poisson processes, random walks, branching processes, first passage Probability generating functions.

Pre-requisite: STA205

### **ARM601/602 Models of Financial Economics I & II**

This course aims to provide the complete understanding of pricing of various types of options, Modelling of stock prices, Binominal Tree distribution, Risk neutral Pricing, Brownian Motion, Interest rate Modelling. MFE is the compulsory exam (paper-III) for the Associate Actuaries exam conducting by Society of Actuaries (SOA)USA.

Pre-requisite: ARM601/FIN509

## **Communication**

### **COM100 Foundation English**

The objective of this course is to prepare students to cope with university education. It mainly aims at bridging the gap between school and university education.

### **COM102 Business Communication I**

This course provides students with the fundamentals of effective writing which can be applied in other courses, and in any correspondence required of them in their future occupations. Students will be able to create business messages for specific purposes and for solving real life business communication problems.

Pre-requisite: COM 101

### **COM103 Functional English I**

The objective of this course is to ensure that students select, use and apply the functional skills of reading writing and comprehending in a range of purposeful situations. It will provide compelling learning experiences so that students engage more profoundly in what they are learning and internalize the skills they are developing.

### **COM104 Functional English II**

This course has been designed to enhance the students' understanding and use of writing skills in English. It will provide compelling learning experiences so that students engage more profoundly with what they are learning and internalize the skills they are developing. The course introduces the elements of critical reading, building on a clear understanding of thoughts processes.

### **COM105 Business Communication and Behavioral Studies I**

This course is designed to give students an understanding of behavior of individuals and groups in all types of organizations and as to how organizations to achieve their goals.

### **COM106 Business Communication and Behavioral Studies II**

This course aims to create awareness of the current norms and conventions of written business communication among students. It teaches students how to plan, organize and write correct and effective business documents for use in today's global business environment.

### **COM107 Academic English**

This course has been designed to enhance the students' understanding and use of writing and critical reading skills thereby inculcating a maturity of thought appropriate to students' needs in the freshman year. It examines the relationship between critical reading, critical thinking and analysis of issues from multiple perspectives.

### **COM108 English I**

This course has been designed to enhance the students' understanding and use of writing skills in English based on critical reading, thereby inculcating a maturity of thought appropriate to students in their freshmen year. The course aims at developing critical thinking processes by readings in various genres and styles of literary writing.



### **COM109 English II**

The course aims to introduce different genres of English literature to media students. The course focuses on helping students identify and appreciate features of creative writing through readings in contemporary English literature.

### **COM202 Business and Professional Speech**

The course applies the theories and principles of informative and persuasive business speech. Students learn to apply these skills in public speaking, meetings, interviewing, and group interaction. The course also aims at developing arguments to persuade with logic and reason in business related issues.

Pre-requisite: COM 107/203/205

### **COM203 Methods in Business Writing**

The course aims at developing business writing skills in order to produce effective letters, memos, job resumes, and short reports. It develops tools for critical thinking to improve business communication and decision-making.

Pre-requisite: COM 101

### **COM205 Persuasive and Analytical Writing for Business Communication**

This course helps students build advanced business writing skills in the form of reports, proposals and formal research reports. The course focuses on analyzing elements of inductive and deductive reasoning through logical arguments to solve business related problems.

### **COM209 Communication Skills**

The main objectives of the course are to help learners improve in all four skills of the English language, utilize them in catering to their immediate academic needs accurately, and integrate the language learned in their field of specialization successfully.

### **COM402 Business Communication**

The course incorporates the principles of business writing and their application through letters, memos, and minutes of meetings. It also develops skills in writing long and short reports and proposals.

### **COM403 Interpersonal Communication Skills**

This advanced course focuses on developing group communication and negotiation skills. The course also teaches students to identify barriers to critical thinking and enables them to analyze the complexity of business issues from multiple perspectives.

Pre-requisite: COM 202

### **COM405 Organizational Consulting Skills**

This course is primarily designed for the practitioner who provides services to agencies, professionals, or organizations. The purpose of the course is to provide an understanding of the process of organizational consultation.

### **COM407 English Language Development**

The aim of English Language Development is the acquisition of the English language skills of comprehension, listening, speaking, reading and writing. Each student will receive English Language Development instruction designed to increase communicative competence and academic instruction in English in other courses of MBA in Education Management.

### **COM410 Digital Business Communication**

This course aims to develop students' proficiency based on the requirements of today's technologically enhanced workplace. It builds on the overall communication skills acquired by students in terms of structure, reasoning, building arguments and graphics, and aims to apply them in a digital media environment. Students will therefore learn to design and develop content for websites, Facebook, Instagram and other platforms, culminating in a complete digital campaign.

## **Computer Engineering**

### **CME102 Fundamental of Computing**

This course is designed to provide the computer and programming foundation for all computer science and engineering students. The language used in this course C++. Topics include: introduction to computers, computer programs, and C++, semantics and syntax, data types and variables, assignments.

### **CME104 Computer Programming and Problem Solving**

The course includes the basic concepts of object-oriented programming, functions, classes, linked list, procedures, Data Abstraction, Inheritance and Polymorphism, Filing Concept, Data Retrieval and saving into Binary and Text files.

Pre-requisite: CME102

### **CME200 Computer Aided Engineering Design**

Introduction to computer-aided design tools including AutoCAD, OrCAD, MATLAB, Lab VIEW, and PCAD. Provides an understanding of computer-aided drafting principles and practices, and provide knowledge of engineering drawing fundamentals using AutoCAD.

Pre-requisite: ELE202

### **CME203 Data Structures & Algorithms**

Data types, Array, Records, Set structure, Abstract data types, Sequential allocation, Linked allocation. Stacks (sequential as well as linked Implementation) Queues. (Sequential as well as linked implementation), Linked Lists, Traversal, Insertion, Deletion, Doubly linked lists, Root Node, Terminal Node, Branch Node, Level of a Node, Degree of a node, Binary tree, Tree traversal, (In-order/Pre-order/post-order traversal).

### **CME205 Microcontroller and Microprocessor Systems**

Introduction to microprocessor and microcontrollers, basic concepts, control unit, internal registers, ALU of an 8-bit or 16-bit microprocessor, timing and sequencing, peripherals And interfacing, memory and I/O synchronization, waitstate, hardware single stepping, memory speed requirements, logic levels, loading and buffering.

Pre-requisite: ELE201

### **CME301 Computer Communication and Networks**

To help the students gain an understanding of the terminology and standards in modern day computer networks. To make the students understand communication basics, networking and network technologies.

Pre-requisite: TCE201



#### **CME414 Digital Image Processing**

This course emphasizes general principles of image processing, rather than specific applications. The topics covered are as image sampling and quantization, color, point operations, segmentation, morphological image processing, linear image filtering and correlation, image transforms, Eigenimages, multiresolution image processing, wavelets, noise reduction and restoration, feature extraction and recognition tasks, and image registration.

Pre-requisite: TCE404

### **Computer Science**

#### **CSC105/402 Data Structure and Algorithms Design**

The course covers object oriented design, static and dynamic data structures (strings, stacks, queries, binary trees), recursion, searching and sorting.

#### **CSC111 Introduction to Information and Communication Technology (ICT)**

Introduction to computers, types, generation, units, methods of computing, algorithm development and number systems, flow of control, basic number codes, overview of computer systems, using computer software.

#### **CSC112 Object Oriented Programming**

The course includes the basic concepts of object-oriented programming, functions, classes, linked list, procedures, Data Abstraction, Inheritance and Polymorphism, Filing Concept, Data Retrieval and saving into Binary and Text files.

#### **CSC113 Programming Fundamentals**

The course enables students to develop short programs using conditional statements and loops and functions, structure, linked list and file processing. Students are required to complete a project at the end of the course using C language.

#### **CSC205 Computer Architecture & Organizations**

The course involves a study of information set architecture, processor performance and design, data path, control (hardware, micro programmed), pipelining, I/O memory organization with cache virtual memory.

#### **CSC208 Network Programming Framework**

This course presents an overview of the technology, architecture and software used by the systems of network connected computers. The course will cover data transmission, local area network architecture, network protocols, internet working, distributed systems, security, and World Wide Web technology. Students will write programs that run concurrently on multiple computers.

#### **CSC217 Digital Logic Design**

The course covers an introduction to switching logic and combination circuits, minimization techniques, Karnaugh Map and Quin McCluskey methods, Half Adders & Full Adders, Combination Circuits using MSI AND LSI Components and an introduction to Micro Programming.

#### **CSC218 Operating Systems**

Topics of the course include software organization, translation, linkage, loading and executing, control programs for batch processing, time sharing and real time application, accounting, communication between programs units, multiprogramming and multiprocessing system, etc.

Prerequisite: CSC105, CSC205

#### **CSC220 Introduction to Database Systems**

This course develops an understanding of a database software package developed for microcomputer applications. Topics include how to design implement, and access a database.

#### **CSC213 Computer Communication & Network**

Synchronous and asynchronous communications, Modes of transmission ASCII codes and data stream with parity, Guided Transmission Media (Twisted Pair, Coaxial Cable and Optical Fibre), Wireless (terrestrial and satellite). Line Configurations, Null Modem, Data Link Control, Flow Control Techniques, Stop & Wait, Sliding Window, Error control techniques, reverse error detection techniques (parity, CRC), switched networks (circuit switched, message switched and packet switched), Broadcast n, Packet Radio Networks, Network Topologies, LAN Architecture, LAN System & Network Standards, Ethernet and Fast Ethernet (CSMA/CD), Token Ring And FDDI etc.,

#### **CSC222 Computer Organization and Assembly Language**

Digital computer organization, machine language, instruction execution, addressing techniques, digital representation of data symbolic coding and assembly system; macros; conditional assembly; I/O control subroutine linkage.

#### **CSC303 Computer Graphics**

This course discusses the introduction to computer graphics hardware, algorithms, and software. The topics include: line generators, affine transformations, line and polygon clipping, splines, interactive techniques, perspective projection, solid modeling, hidden surface algorithms, lighting models, shading, and animation. Substantial programming experience is required.

Pre-requisite: CSC203

#### **CSC305 System Analysis & Design**

This course provides study of structured techniques in data processing applications, objectives, investigation, system models, design effectiveness, procedures, etc. Physical models, data models, project dictionary and project management tools and techniques are also covered as part of the course.

Prerequisite: CSC102, CSC109

#### **CSC309 Microprocessor and Applications**

The course discusses the structure of Microprocessor, Bit slices and 8/16/32 bit microprocessors, processor architecture, registers, index and stack pointers, address modes, I/O interface adapters, interface devices, system clock, clock phase and bit rates, memory read-write and read only, memory mapping of I/O interrupts, handling of interrupts, direct memory access methodologies.

Pre-requisite: CSC201, CSC205



### **CSC315 Theory of Automata and Formal Language**

Automata and formal language, regular expressions, Turing machines, recursive functions, formal languages, non-deterministic automata and push down automata are the contents of this course.

Pre-requisite: MTH201

### **CSC317 Introduction to Software Engineering**

This course intends to develop skills to move from personal software development methodologies to professional standards and practices. This course will help students to create programs that interact with their environment and human users according to standard professional norms. The course also intends to develop effective software testing skills, write code conforming to the API standards, to identify and evaluate trade-offs in design and implementation decisions for systems of an intermediate size. The course also will help students to read and write programs in Java using advanced features and to extend model of computation.

### **CSC318 Design and Analysis of Algorithm**

This course teaches techniques for the design and analysis of efficient algorithms, emphasizing methods useful in practice. Topics covered include: sorting; search trees, heaps, and hashing; divide-and-conquer; dynamic programming; amortized analysis; graph algorithms; shortest paths; network flow; computational geometry; number-theoretic algorithms; polynomial and matrix calculations; caching; and parallel computing.

### **CSC320 Human Computer Interaction**

It provides an introduction to human-computer interface design and evaluation, with an emphasis on graphical user interfaces for software products. It covers design principles and theory, usability engineering methods, and selected basic research in the areas of human factors and human cognition, hands-on application of learned principles using, NET or other languages.

Pre-requisite: CSC305, CSC203

### **CSC345 Digital Image Processing**

The course includes digital image fundamentals, image sampling & quantization problems, image modeling & geometry, image translation, rotation, convolution, FFT & DCT, Walsh transform, histogram modification, edge linking & boundary detection, image compression techniques.

Prerequisite: CSC303

### **CSC410 Data Communication & Networking**

The course focuses on Data Communications and network management overview, review of computer network technology, standards, models, and language.

Prerequisite: CSC202, CSC304

### **CSC411 Compiler Construction**

The course discusses the structure of compilers, Lexical analysis, syntax analysis, semantic analysis, abstract interpretation, Tree: pattern matching and parsing and code generation.

Pre-requisite: CSC301

### **CSC422 Parallel Computing**

The course includes the introduction to parallel computing, a review of parallel hardware, library-based and language-based approaches to parallel computing and basic concepts of parallel computing.

Pre-requisite: CSC435

### **CSC425 Advanced Operating Systems**

This course covers many advanced topics in operating system design and implementation such as operating systems structuring, multi-threading and synchronization in detail and then moves on to systems issues in parallel and distributed computing systems.

Pre-requisite: CSC304.

### **CSC430 Decision Support Systems**

An introduction to the analysis, design, and application of information systems used in the direct support of management decision making. This includes not only comprehending key ideas, concepts and facts, and the ability to restate them in different terms, but extends to the ability to evaluate, assess and choose among alternative concepts and ideas, to relate and reconcile among them, and apply them to new situations.

Pre-requisite: CSC305

### **CSC434/563 Software Quality Assurance**

This course extends Software Engineering concepts to focus upon quality, from the perspective of the software, user, customer, and support staff. Topics included are software quality practices, user friendly systems design, modularity and structure, requirements coverage, systems architecture, designing from test maintainability, and an overview of languages and their fit toward various target applications.

Pre-requisite: CSC422

### **CSC 435/574 Distributed Systems**

The aim of this course is to provide students with an understanding of the principles, techniques, and practice in the design and implementation of distributed systems, with a particular focus on infrastructure software.

Pre-requisite: CSC204, CSC427

### **CSC436 Business Process Re-Engineering**

The course covers the concepts of business process re-engineering: guidelines, planning phase, redesign phase, transition phase, implementation phase. Total quality management (TQM) techniques, How TQM and Re-engineering are different, Desktop computing and LANs, how re-engineering improves an organization's efficiency; the ISO 9000 and TQM, Achieving TQM and the ISO 9000 directives.

Pre-requisite: CSC305



### **CSC443 Mobile Computing**

The course includes Mobile Information Device Profile (MIDP 2.0) programming using J2ME (de facto standard for mobile devices) to supplement the introduction to wireless Internet (WAN, LAN and PAN) covered in the classes. By the end of this course, students will have acquired a deep understanding of various wireless programming concepts and APIs and developed extensive knowledge that you can use to develop sophisticated MIDP applications.

Pre-requisite: CSC410, CSC414, CSC425

### **CSC444 Electronic Commerce**

This course emphasizes organizational issues related to electronic commerce such as business models for B2B or B2C e-commerce, technology infrastructure, electronic payment mechanisms, information privacy, and competitive advantage.

Pre-requisite: CSC102

### **CSC445 Network Security**

Cryptology and simple cryptosystems; conventional encryption techniques; stream and block ciphers; DES; Block Ciphers; The Advanced Encryption Standard; confidentiality & message authentication: hash functions are the contents of the course.

Pre-requisite: CSC208

### **CSC448 Digital Signal Processing**

One- and N-dimensional signals and systems, sampling theorem, discrete-time fourier transform, discrete fourier transform, fast Fourier transform, z-transforms: stability and minimum phase signals/systems, linear filtering of signal: time domain: difference equations and convolution, impulse invariance, etc. are the contents of the course.

Pre-requisite: CSC313, CSC410

### **CSC451 Telecommunication Systems**

The course includes introduction to media, bandwidth and noise. Twisted pair (UTP, STP), coaxial cables (types and specifications), optical fibres (types and losses), introduction to optical sources and detectors. Microwave links, satellite communication and infrared links, etc.

Pre-requisite: CSC410

### **CSC461/462 Project I and II**

The aim of this project is to bridge the gap between the academic study and training needed by industry and businesses. Students are initiated to work under close faculty supervision, on real-world problems of sufficient magnitude. Project implementation and documentation are the main concerns.

Pre-requisite: CSC414, CSC305

### **CSC510 Wireless Communication**

The course discusses the historic development of wireless communication, communication satellites and its systems, satellite frequency bands, satellite multiple access formats, brief treatment of modulation, encoding, decoding, satellite channels, protocols, application of satellite in data in computer communication.

Pre-requisite: CSC410

### **CSC465 Data Warehousing**

This course provides an introduction to data warehouse design. Topics in data modeling, database design and database access are reviewed. Issues in data warehouse planning, design, implementation and administration are discussed in a seminar format.

Pre-requisite: CSC204

### **CSC541 Advanced Research Methodology**

Students will be given an in-depth analysis to the research methods used in the study of organizations and especially in the study of computer science issues. The course will cover the quantitative and qualitative research processes, which includes sampling techniques, measurement and measurement testing, generalizability and a practical seminar relating to questionnaire construction and data gathering and management.

### **CSC543 Advanced Computer Architecture**

Design and evaluation of modern uni-processor computing systems, evaluation methodology/metrics and caveats, instruction set design, advanced pipelining, instruction level parallelism, prediction-based techniques, alternative architectures (VLIW, Vector and SIMD), memory hierarchy design and I/O. Case studies.

### **CSC545 Decision Theory**

The course combines approaches to decision theory. It is intended for advanced undergraduates and graduates students in computer science. The course will cover basic decision theory, also known as "rational choice theory"; the limitations and problems with this theory, both as it applies to computers and to human agents.

### **CSC548 Advanced Analysis of Algorithm**

Introduction to advanced techniques for designing and analyzing algorithms, including asymptotic notations, divide-and-conquer algorithms and recurrences, greedy algorithms, data structures, dynamic programming, graph algorithms and randomized algorithms.

### **CSC561 Advanced Software Engineering**

System development using formal techniques, algebraic specification, abstract model specification, verification: proof systems, proof techniques, proof obligations, design: data refinement, operation refinement, design decomposition, software reliability and metrics, macro models: productivity, effort, defect reliability modeling, simple model, markove modeling, parameter estimation, comparison of models.

### **CSC562 Object Oriented Software Engineering**

This short course with UML, Java, and Eclipse will expose students to the basics of object-oriented software engineering, including object-oriented analysis and design using UML (Unified Modeling Language), object-oriented programming using Java, all within the Eclipse environment. Laboratory sessions will equip participants with practical experience in object-oriented design, programming, and testing.

### **CSC563 Software Quality Assurance**

This course provides an intermediate QA and Test. Students will acquire a thorough skill set for their respective roles in a QA or test team environment. They will also learn both the theoretical concepts of this matured discipline and the unique experiences and innovative practices from Microsoft.



#### **CSC564 Software Requirement Engineering**

The Requirements Elicitation Process: Joint Application Design, Prototyping, Requirements Inspections, Quality Function Deployment, Scenarios. Organizing and Analyzing the problem. Software Behavior Specification: State-oriented, Function-oriented, Object-oriented. Formal Methods, etc.

#### **CSC565 Software Testing Strategies**

The course introduces the major concepts of software testing and develops technical proficiency in test case design and test plan development to covers techniques and tools for software requirements to support testing and test plan development. It presents software testing activities and products within the context of the software development cycle and addresses the role of inspections, walk-through's and reviews in support of software testing.

#### **CSC571 Advanced Database Management Systems**

This course begins with a study of advanced relational theory, followed by the SQL Application Programming Interface (API) standards. Students will also study Data Warehousing, OLTP and OLAP integration, and database distributed architectures.

#### **CSC573 Data Mining**

The objective of this course is to serve as an introduction to the techniques, tools and applications of data mining (DM). Also covered is the relationship between DM and other fields such as artificial intelligence, Knowledge Discovery for Databases (KDD), data warehousing and Online Analytical Processing (OLAP). By the end of the course, students should be able to learn any commercial DM tools easily and apply DM techniques to a variety of research and application projects.

#### **CSC574 Distributed Systems**

This course aims to provide students with a deeper understanding of distributed systems. In particular, we focus 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.

#### **CSC575 Parallel and Distributed Computing**

Parallel and distributed systems. Speedup and Amdahl's Law, Hardware architectures: multiprocessors (shared memory), networks of workstations (distributed memory), clusters (latest variation). Software architectures: threads and shared memory, processes and message passing, Distributed Shared Memory (DSM), Distributed Shared Data (DSD), etc.

#### **CSC576 Parallel and Distributed Algorithms**

The topics to be covered are parallel/distributed algorithms, coarse-grain parallel algorithms and applications, parallel scientific computation, interconnection networks, parallel and distributed computing on network of workstations, scheduling, languages and compiler techniques for parallel programming and theory of parallel/distributed computing.

#### **CSC578 Communications and Information Policy**

This course provides an introduction to the technology and policy context of public communications networks, through critical discussion of current issues in communications policy and their historical roots. The course focuses on underlying rationales and models for government involvement and the complex dynamics introduced by co-evolving technologies, industry structure, and public policy objectives.

#### **CSC467 Neural Networks**

Basic Characteristics: The Processing Element; The Magic of the Transfer Function, Weight Adjustment Basics; Network Learning Types; Network Architectures, Comparison to Traditional Methods, Using Neural Networks with Data, Generalization, Validation and Sample Neural Networks Applications; Pattern Recognition Applications; Image Understanding NN's; Spacecraft Structure Neuro control.

#### **CSC582 Pattern Recognition**

This course will introduce the fundamentals of statistical pattern recognition with examples from several application areas. Techniques for handling multidimensional data of various types and scales along with algorithms for clustering and classifying data will be explained. This is an advanced level course suited for graduate students in Computer Science and Engineering.

#### **CSC466 Fuzzy Systems**

Comparison of conventional and fuzzy logic. Fuzzy set theory, fuzzy logic, approximate reasoning and fuzzy logic control system. Concept of artificial neural networks. Single layer networks, multilayer network, supervised and unsupervised networks. Applications of neural networks in control systems, sensor processing and communications. Fuzzy neural integrated systems.





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## Data Science

### BDS101 Introduction to Data Science

Data science history and context, technology landscape commerce and research are being transformed by data-driven discovery and prediction. The Introduction to Data Science class will survey the foundational topics in data science, namely: Data Manipulation , Data Analysis with Statistics and Machine Learning , Data Communication with Information Visualization , Data at Scale -- Working with Big Data. Tour the basic techniques of data science, including both SQL and NoSQL solutions for massive data management (e.g., MapReduce and contemporaries), algorithms for data mining (e.g., clustering and association rule mining), and basic statistical modeling (e.g., linear and non-linear regression).

### BDS201 Business Process Analysis

This course introduces concepts of business process modeling using the Business Process Model and Notation (BPMN) industry standard. Participants will learn the elements of process models and their precise meaning. Cover business processes within organizations and also interacting processes involving several organizations, i.e., investigate process orchestrations and process choreographies. Will also look at techniques to analyze business processes from a formal perspective.

### BDS401 Data Visualization

Learn how to transform information from a format efficient for computation into a format efficient for human perception, cognition, and communication. Explore elements of computer graphics, human-computer interaction, perceptual psychology, and design in addition to data processing and computation.

### BDS402 Big Data Concept and Techniques

Big data is data that, by virtue of its velocity, volume, or variety (the three Vs), cannot be easily stored or analyzed with traditional methods. Spreadsheets and relational databases just don't cut it with big data. In this course, all methods that do work, introducing all the techniques and concepts involved in capturing, storing, manipulating, and analyzing big data, including data mining and predictive analytics. It explains big data's relationship to data science, statistics, and programing; its uses in marketing, scientific research, and tools like Amazon's recommendation engine; and the ethical issues that lie behind its use.

### BDS403 Big Data & Analytics

This course is related to advanced tools used to wrangle and analyze big data. In this course you will be guided in basic approaches to querying and exploring data using higher level tools built on top of a Hadoop Platform. Will be able to identify the kinds of analysis one can get of big data and how to interpret these results.

### BDS404 Machine Learning

This course provides a broad introduction to machine learning, data mining, and statistical pattern recognition. Supervised learning (parametric/non-parametric algorithms, support vector machines, kernels, neural networks). Unsupervised learning (clustering, dimensionality reduction, recommender systems, deep learning). Best practices in machine learning (bias/variance theory; innovation process in machine learning and AI). The course will also draw from numerous case studies and applications, to apply learning algorithms to building smart robots (perception, control), text understanding (web search, anti-spam), computer vision, medical informatics, audio, database mining, and other areas.

## Economics

### ECO101 Principles of Microeconomics

The course focuses on the introduction to consumer behavior and the theory of the firm. Topics include the production, possibility frontier, the demand behavior of households, the supply behavior of business firms, the theory of costs, and an introduction to market structure and welfare economics.

### ECO102 Principles of Macroeconomics

This course analyzes the determinants of aggregate economic activity. The main areas studied are the monetary and banking system, the composition and fluctuations of national income, and inflation, all as influenced by monetary fiscal and exchange rate policies. There is a special emphasis on the Pakistan government's economic policies, financing the budget deficit, structural adjustment program (SAP), and privatization policies.

### ECO103/105 Intermediate Micro and Macroeconomics

The objective of this course is twofold: first is to extend the students' understanding of microeconomic theory and to introduce the use of mathematical and graphic models of macroeconomic process.

### ECO104/401 Micro and Macroeconomics

The course analyzes the study of the working of a country's economy in an international setting. It examines the interaction of households, business firms, government and the rest of the world in resource, product and financial business fluctuations, inflation, unemployment and monetary and fiscal policies, with a special emphasis on the Pakistan government's economic policies, financing the budget deficit, structural adjustment program (SAP) and privatization policies.

### ECO106 Basic Economics

This course is an introduction to the basic economic concepts. It will include both microeconomics and macroeconomics, and the economics of Pakistan.



### **ECO202/203 Introduction to Economics and Finance I & II**

The objective of these courses is to enable candidates to equip themselves with the main economic concepts and their uses and relevance in economic analysis. The course aims to serve an introduction to the economic environment of trade, industry and banking as well as to methods of analysis relevant to the study of financial decisions.

### **ECO204 The Pakistan Economy**

This course focuses on the structural change of employment, investment and external trade in Pakistan's economy since 1947. It gives an insight into the GDP growth of various sectors encompassing expenditure and production.

### **ECO205 Economic Development of Sindh**

This course highlights Sindh's share in Pakistan's economy. It also encompasses the development strategy of the government of Sindh and its fiscal policy. It strives to compare Sindh and the gulf economy and focuses on the demographics, environment and the economy of Karachi.

### **ECO207 Game Theory**

The course introduces the main concepts and tools of game theory. Ideas such as dominance, backward induction, Nash equilibrium, evolutionary stability, commitment, credibility, asymmetric information, adverse selection and signaling are discussed and applied to games played in class and to examples drawn from economics, politics and elsewhere.

### **ECO301 Managerial Economics**

The course aims to serve an introduction to optimization techniques and their application on the market behavior in terms of demand and supply, market equilibrium and forecasting market parameters.

Pre-requisite: ECO 101, ECO 102

### **ECO302 International Trade**

International Trade is primarily concerned with trade flows between nations and the resulting monetary flows that occur between nations. In this course students are exposed to theories that explain the current flow of trade, various commercial policies, foreign exchange markets, balance of payments, and macroeconomic policies that deal with various types of imbalances in the balance of payments of countries.

Pre-requisite: ECO 103/105

### **ECO303 Financial Economics**

Financial Economics introduces students to the process of investment in financial markets, both at a practical and theoretical level. This course discusses various types of financial instruments in common use and the economic theories that explain how they are priced.

Pre-requisite: ECO 102

### **ECO304 Introduction to Econometrics**

The course focuses on the role and uses of statistical inference in economic research; problem of spanning gap from an economic model to its statistical counterpart; measurement problems and their solutions arising from statistical model and nature of the data; limitations and interpretation of results of economic measurement from statistical techniques.

Pre-requisite: STA301

### **ECO305 Topics in Microeconomics**

This course focuses on market structure and the economics of information. The course aims to make candidates comfortable enough with this area of microeconomics theory so that candidates can read applied papers in one's areas of application and use theoretical models appropriately in research.

Pre-requisite: ECO 103/105

### **ECO306 Topics in Macroeconomics**

The course aims to provide an introduction to macroeconomic analysis. Long-run growth, business cycles, trade, and fiscal & monetary policies are analyzed using dynamic general equilibrium models. Classical, Keynesian and new classical models are used to examine inflation, unemployment, the open economy, and analysis of fiscal, monetary and exchange rate policies.

Pre-requisite: ECO 305

### **ECO307 Monetary Theory and Policy**

The course is a study of the theoretical and empirical work in money demand, money supply, money multiplier, output effect of monetary policies, alternative techniques of monetary policy formulation and implementation, multi-asset financial markets, and inflation.

Pre-requisite: ECO 103/105

### **ECO308 Capital Investment Economic Analysis**

The course aims to offer an analysis of economic merits of alternatives including interest and income tax consideration. Risk and sensitivity exploration techniques and an introduction to analytical techniques for multiple objectives or criteria.

### **ECO402 Pakistan Economic Policy**

The course is an overview of structural change in the Pakistan economy 1947-2008. The topics include GDP in terms of production sectors and expenditure; structure of employment, investment and external trade; macroeconomic policies, planning (five years and ADP), fiscal policy, monetary policy, balance of payments policy, exchange rate policy, microeconomic policy, agricultural policy, industrial policy, labour policy, social sectors, poverty and income distribution.

Pre-requisite: ECO 101/201



#### **ECO403 Macroeconomics**

The course is a study of the operation of a country's economy in an international setting examining the interaction of households, business firms, government and the rest of the world in resource, product and financial business fluctuations, inflation, unemployment and monetary and fiscal policies, with special emphasis on the Pakistan government's economic policies, financing the budget deficit, structural adjustment program (SAP), and privatization policies.

#### **ECO404 Micro and Managerial Economics**

The course aims to provide an introduction to optimization techniques and their application on the market behavior in terms of demand and supply, market equilibrium, forecasting market parameters and application on business models; elasticity and risk, methods to calculate risk, risk analysis and capital budgeting and five approaches to competitive structure.

Pre-requisite: STA 403

#### **ECO405 Seminar in Economic Policy**

The course includes growth and structural change in the Pakistan economy, fiscal, monetary and exchange rate policies, the corporate sector, trade policy, foreign investment, structural adjustment. The role of the World Bank and International Monetary Fund (IMF), discussion on regional economic cooperation. Strategies in multinational corporations and issues in the international transfer of the technology are also discussed.

Pre-requisite: ECO 403, ECO 404

#### **ECO406 Money and Banking**

The course describes the monetary systems, financial markets, national income components and their relationship to business activity. Study of structure, regulation and performance of the banking industry.

Pre-requisite: ECO 401

#### **ECO408 Applied Financial Economics**

The course will describe the categories, within which financially important variables exist, and develop ways to encapsulate them using simple statistics drawn from the study of simple probability distributions. It will develop graphical tools to analyze market movements, financial history and models which every person interested in finance must know.

Pre-requisite: ECO401

#### **ECO409 Business Economics**

This course covers the core economics that will be needed as a business student. Business economics is the application of economic theory and methodology to decision making problems within various organizational settings such as a firm or a government agency. The emphasis in this course will be on demand/supply analysis and estimation, production and cost analysis under different market conditions, forecasting and decision making under uncertainty. Students taking this course are expected to relate and analyse what they observe around them in terms of economic development and growth. It also gives them an excellent grounding to take sensible business decisions.

#### **ECO414 Islamic Economics**

This course provides basic knowledge of the principles of Islamic economics and the Islamic economic system, developing skills necessary to appreciate an alternative to a commonly familiar approach of interpreting the economic behavior of men and women in the society, and helping the students probe liberally outside the frontiers of familiar forms of capitalist and socialist systems.

#### **ECO416 Growth Theories**

The key learning goal associated with this course is to equip students with the necessary tools for analyzing the sources of economic growth and trends in productivity. Students will gain an understanding of why living standards vary across countries and over time. This course will also enable them to evaluate the impact of government policy on growth and create an awareness of current debate in growth policy.

#### **ECO418 Resource and Environmental Economics**

This course is designed to give students a solid understanding of the application of economic models to manage resources subject to environmental policy. It deals with the exploitation of exhaustible, renewable and environmental resources and the public policy issues that arise in seeking their efficient use. It also examines problems of environmental degradation and natural area conservation, with a focus on alternative policy tools and evaluation procedures available to governments to moderate pollution and other forms of environmental damage.

#### **ECO501 Microeconomics**

Theory of the firm; market imperfections and failures with special reference to public goods, externalities, taxes and subsidies; Duality in consumption and production; general equilibrium, linear and non-linear models, fixed coefficient technology, contract curve and production possibility frontier; aggregation issues, decision-making under uncertainty, expected utility theory, competitive equilibrium; welfare analysis in a partial and general equilibrium setting; the Stolper-Samuelson theorem; the Rybczynski theorem; Walrasian competitive adjustment mechanism; Pareto optimality and game theory.

#### **ECO502 Macroeconomics**

The course will cover long-run and short-run macroeconomics; aggregate demand and national income accounts; saving and finance; investment and financial markets; investment and monetary policy; central bank and macroeconomic policy; money supply and interest rate transmission mechanisms; fiscal policy; discretionary fiscal policy; expectations, inflation, and interest rates; foreign exchange markets and foreign trade and international balance.

#### **ECO503 Econometrics and Research Methods**

literature reviews and data sources; overall design of a research project; equation misspecification, omitted variables, errors in variables, measurement error, simultaneous equation bias; instrumental variables; dynamic single equation models; static, dynamic and equilibrium-correction models; causality and endogeneity; co-integration tests, Johansen's estimator; generalized linear models; random effect models and diagnostic testing.



### **ECO505 Theory and Practice of Economic Policy**

The basic aim of this course is to analyze the international aspects of development policy pursued by developing countries, using the tools of open economy macroeconomics as well as international trade theory and policy to investigate issues of concern to policy-makers in developing countries.

### **ECO506 Monetary Economics**

The course will focus on monetary issues. The principal aim will be to identify the major intellectual developments in monetary economics over the past two centuries. The course will help students examine key ideas, concepts and theories that have shaped the historical evolution of the subject with special emphasis placed on key articles in the literature. Major monetary schools, new classical Keynesian, stake flow consistency approached will be evaluated.

### **ECO507 Development Economics**

This course will offer a brief overview of selected topics in development economics. Following a general introduction to the subject and to the data the course will focus on long-term processes of productivity growth and structural transformation. This will be followed by a critical presentation of the, still rapidly growing, literature on cross-country growth comparisons (Barro regressions). The last part of the course deals with modern economic growth and globalization.

### **ECO510 Mathematical Economics**

The course includes study of mathematical concepts and tools such as functions, matrices and higher-order derivatives in cases of single and multiple independent variables. Emphasis is on the application of optimization, both with and without constraints, and introductory integral for understanding relationships of various economic variables and concepts, such as the relationship of aggregate, average and marginal functions. Other topics covered analyze market equilibria, impact of taxation and input-output models.

### **ECO601 Theory of Economic and Social Policy**

The areas that the course covers are: moral and ethical foundations of economic and social policy, the role of state in policy making, economic policy; various economic systems including a) market-oriented economy, capitalism; liberalism, b) marxism, socialism including economic theory of socialism, and c) keynes and social democratic policies; an appraisal of contemporary social democratic regimes is included as well. The course also closely focuses on development policy including theoretical foundations.

## **Educational Management**

### **EDM402 Applied Linguistics**

This course addresses grammatical aspects of language such as syntax, semantics, and pragmatics and changes that have taken place in language over time.

### **EDM403 Critical Thinking and Reading**

This course introduces participants to critical reading as a process of analyzing and evaluating the context and purpose of written texts by focusing on the four basic methods of critical thinking: analysis, interpretation, evaluation, and synthesis.

### **EDM406 Educational Policy and Economics**

This course introduces empirical and legal research in education policy issues at the local and state levels by facilitating communication between education leaders and policymakers in the ever changing global economy.

### **EDM413 Creativity in Education**

This course provides participants with the conceptual and practical understanding of various components of classroom and school management.

### **EDM415 Educational Philosophy and Ethics**

This course focuses on aspects related to the learning process, the study of learning outcomes, student attributes, and instructional processes directly related to classroom and educational institutions.

### **EDM417 Educational Counseling**

The course integrates issues of educational, pedagogical and organizational counseling in relation to the contemporary school situation. The focus is on work of school counseling centers, such as counseling in the sphere of educational behavioral problems and students' career growth.

### **EDM419 Managing Teaching and Learning**

This course explores teaching methods and strategies; teaching and learning styles; classroom management; testing, and their application to a range of classroom contexts.

### **EDM420 Academic Writing and Seminar Skills**

This course develops participants' English writing skills along with basic understanding of APA (6th edition) writing style. It also aims to equip the participants with editing and proof reading strategies to help them refine their written drafts.

### **EDM421 Sociology of Education**

The course takes an expanded view of education and focuses on learners within both community and educational institution settings. It attends to the complex interrelations between schooling and the social, cultural, historical, political, and economic contexts within which learning institutions operate.

### **EDM422 Learners and Learning Styles**

This course orients participants with learners' psychology and their learning styles by providing in depth understanding of various learner centered approaches.



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**EDM423 Reflective Inquiry in Education**

This course introduces the concept of reflective inquiry in teaching. It brings together essential perspectives of researchers, practitioners and theoreticians about reflective inquiry.

**EDM526 Curriculum Management and Planned Change**

This course covers concepts, processes, and principles of curriculum planning, development, and evaluation. This helps the participants to develop their performance competencies needed to engage in curriculum planning and decision-making as an administrator, a supervisor or a teacher.

**EDM427 Research Methods in Education II (Qualitative)**

This course introduces qualitative research methods as they are applied in education. The primary purpose of the course is to develop awareness in the participants and facilitate the ability to carry out small scale qualitative research in their own professional settings.

**EDM429 Research Methods in Education I (Quantitative)**

The course focuses on the process of defining research problems, the logic of research design, and a limited number of techniques for measurement. It also addresses the problems of research design and sampling. Through the use of SPSS, students learn to analyze quantitative data.

**EDM416 Comparative study of Education Systems**

In this course participants understand the commonalities, differences, and connections between global and comparative education, and the meaning and significance of globalization for both fields. One distinctive characteristic of the course is the service learning element, i.e., practical experience in educational institutions with focus on issues of change juxtaposing nationalism and globalism.

**EDM514 Early Childhood Development**

This course orients participants with the basic concepts of early childhood education and development. It helps them to explore and analyze various models in place.

**EDM518 Evaluation and Assessment in Education**

This course focuses on the use of tests as an instructional as well as an administrative tool, teacher attitudes towards testing, and teacher competency with regard to testing. The course helps participants use testing as an important tool in the process of teaching and learning.

**EDM526 Curriculum Management and Planned Change**

This course covers concepts, processes, and principles of curriculum planning, development, and evaluation. This helps the participants to develop their performance competencies needed to engage in curriculum planning and decision-making as an administrator, a supervisor or a teacher.

**EDM624 Innovations and Technology in Education**

This course provides the participants with hands-on practice of understanding the appropriate use of technology in the milieu of education. Moreover, it helps participants to plan, design, integrate and evaluate technology for educational program development by using webinars, moodles, blogs etc.

**EDM689 Thesis Writing-Capstone 1**

This course makes participants undergo the whole process of completing a research project starting from brain storming to writing a comprehensive research report. The course is practical with hands-on activities to contribute to the overall aim of the course.

**EDM690 Thesis Writing-Capstone 2**

The participants are given guidance and readings to conduct a research project of approximately 6000-8000 words in their own work environment. The project is likely to be based on the investigation of a management issue leading to recommendations for improvement and action.

**EDM650 Quality Assurance in Education**

This course is based on the theoretical framework of quality control management as a model of modern management and its potential application in the educational field.

**EDM652 Knowledge Management**

This course introduces a range of organizational practices specifically to identify, create, represent, distribute and adopt insights and experiences. It focuses on application of knowledge management processes and student alumni services.

**EDM654 Lifelong Learning in Changing Contexts**

This course analyses the competing understandings and practices of lifelong learning against a background of rapid social, cultural, and organizational changes. A debate around the impact of globalization is central to the analysis of lifelong learning.

**EDM656 Teacher Education**

This course introduces participants to the best practices in teacher education and professional development. It focuses on relevant theories, current issues, and present-day practices in teacher development. It also focuses on pre-service and in-service teacher education models.

**EDM658 Gender Studies in Education**

This course addresses the nature of gender inequalities in education. Apart from the injustice inherent in all gender stereotyping, gender differences in education can also negatively affect economic growth and social inclusion, which is what this course focuses upon.

**EDM660 Inclusive Education**

Inclusive Education provides teachers with basic training in special education. The course reflects contemporary practice in the field and positions graduates at the forefront of current thinking while retaining a broad-based focus on the traditional scope of preparation in special education.



## Electrical Power System Engineering

### EPE101 Linear Circuit Analysis

The course introduces electrical engineering, basic circuit and systems concepts, and mathematical models of components, Kirchhoff's laws, resistors, sources, capacitors, inductors, and operational amplifiers, solutions of first and second order linear differential equations associated with basic circuit forms.

### EPE200 Electrical Network Analysis

Current and voltage transients, RLC circuits with DC and AC excitation, resonant circuit: series and parallel resonance in AC circuit, Q-Factor, mutual inductance and transformers, introduction to phasor representation of alternating voltage and current, single-phase circuit analysis, star-delta transformation for DC and AC circuits, poly-phase generators, phase sequence, vector diagrams for balance and unbalanced three phase networks, power in three phase circuits. Pre-requisite: GSC103, EPE101

### EPE302 Electrical Machines

To understand the magnetic field and the reluctance of magnetic materials and air. Voltage-current characteristics and voltage regulation of generator. Torque speed characteristics and speed regulation of DC motors. To introduce the fundamentals of ac machine. Detailed operating principles of ac machines including induction motor, synchronous motors, alternators and Transformers.

Pre-requisite: EPE200, TCE204

## Electronic Engineering

### ELE200 Electronic Devices and Circuits

Transistors Modeling Techniques, Hybrid Equivalent Model, BJT Small Signal Analysis, AC Equivalent Circuits, FETs and MOSFETs construction and operation, FET Small Signal Analysis, AC Equivalent Circuits, Cascaded Systems and Compound Configurations, Differential pair of BJTs and MOSFET, Definition and amplifier types Class A, B, C and D amplifiers their operations and circuits Distortion and power considerations

Pre-requisite: GSC103

### ELE201 Digital Logic Design

Introduce the concepts and tools for the design of digital electronic circuits. Basic concepts to design digital hardware consisting of both combinational and sequential logic circuits, number systems, Boolean algebra, logic gates, combinational logic design, sequential circuits and logic design, memory and simple programmable logic devices (SPLDs).

Pre-requisite: ELE200

### ELE202 Electronic Workshop Practices

To develop practical skills in the use of workshop tools and equipment. Introduction to various technical facilities in the workshop including mechanical and electrical equipment.

Pre-requisite: CME102

### ELE370 Instrumentation & Measurements

Introduces the concepts, methods and instruments for the measurement of electrical and non-electrical quantities.

Pre-requisite: EPE200, ELE200

### ELE403 Embedded Systems Design

Trends and challenges in embedded system design, The Microcontroller Architecture, Assembly Language programming, Addressing modes and Instruction Set, I/O Ports programming, TIMER and SERIAL and PARALLEL port programming, Interrupts, interfacing, A/D and D/A conversion. Interfacing and Application using PWM.

Pre-requisite: CME205, ELE201

### ELE415 Opto-Electronic

Nature of light, basic laws of light, optical fiber, types of optical fiber, fiber material, fabrication and components, Planar waveguides and applications, laser principle, operation, characterization and classes of lasers. optical transmitter, semiconductor light sources, light emitting diodes, semiconductor laser diodes (SLDs), Link Budget Analysis, optical receivers, wavelength division multiplexing (WDM), FDM versus benefits of WDM, dense wavelength division multiplexing and optical networks..

Pre-requisite: ELE200

### ELE417 Industrial Electronic

Introduction to power electronics; solid-state devices used in power electronics: power diode, power BJT, power MOSFET, SCR, GTO, IGBT, TRIAC, DIAC, Industrial Drives : DC Drive, AC Drive. Stepper Motor Drive. Transducers : Force and Pressure Measuring Transducers, Linear Variable Differential Transformer, Speed and Position Transducers, Semiconductor Photoelectric and Temperature Transducers, Hall Effect Transducers/Sensors. Programmable Logic Controller.

Pre-requisite: ELE200

### ELE419 Linear Control Systems

This course is aimed to build a comprehensive foundation in the analysis and design of control systems using classical and modern techniques.

Pre-requisite: TCE205

### ELE420 Power Electronics

Introduction to power electronics; solid-state devices used in power electronics: power diode, power BJT, power MOSFET, SCR, GTO, IGBT, TRIAC, DIAC; semi-controlled, fully-controlled and uncontrolled rectifiers: single-phase and three-phase, six-pulse, twelve-pulse and twenty-four pulse rectifiers; single-phase and three-phase inverters; pulse-width-modulated (PWM) inverters; UPS; types of converters; switched mode power supplies, AC and DC motor drives

Pre-requisite: ELE200

### ELE422 VLSI Design

Teach VLSI system design including system specification, verification, and fabrication.

Pre-requisite: ELE302



### **ELE423 Digital Control Systems**

Basics of digital control, theory of sampling, sampled data systems, discrete signals and sampling, difference equation, discrete transfer functions, z transform analysis, frequency response methods, state equations, time-discrete representation of time-continuous systems, discrete control algorithms, design methods of digital controllers, stability of digital control systems, discrete equivalents for continuous controllers, pulse transfer functions of feedback systems, digital-to-analog conversion, digital filtering of systems.

### **ELE428 Digital Electronics**

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, A/D and D/A converters, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

Pre-requisite: ELE419

### **ELE429 Introduction to Nanotechnology**

Introduction, Nano scale phenomena, nanoparticles, carbon nanostructures, nanowires, nanostructured materials, self-assembly, surface probe microscopy, other Nano scale characterization, nanolithography, Nano scale devices and systems, applications of nanotechnology.

Pre-requisite: ELE422

### **ELE430 Solid-State Device**

Solid-state device is an electronic device in which electricity flows through solid semiconductor crystals (silicon, gallium arsenide, and germanium) rather than through vacuum tubes. The first solid-state device was the "cat's whisker" in 1906 in which a fine wire was moved across a solid crystal to detect a radio signal. Transistors made of one or more semiconductors are at the heart of modern solid-state devices in the case of integrated circuits, millions of transistors can be involved.

### **ELE432 Wireless Power Transmission**

Wireless power transmission is the transmission of electrical power from a power source to a consuming device without using discrete manmade conductors. It is a generic term that refers to a number of different power transmission technologies that use time-varying electromagnetic fields. Wireless transmission is useful to power electrical devices in cases where interconnecting wires are inconvenient, hazardous, or are not possible.

### **ELE450 Senior Design Project I**

To give students a chance for enhancing their Technical capabilities by implementing their theoretical & practical knowledge in the field of Research & Development. (For Semester VII).

### **ELE451 Senior Design Project II**

To give students a chance for enhancing their Technical capabilities by implementing their theoretical & practical knowledge in the field of Research & Development. (For Semester VIII).

## **Engineering**

### **ENG101 Workshop Practice**

The course is focused on practical learning experiences. Students will develop their skills with materials/components, tools, machines/equipment and related technology. The course will also include workshop safety, project planning and design, reading working drawings and surface finishing.

### **ENG102 Engineering Mechanics**

The course discusses static of particles, kinematics of particles, kinetics of particles, rigid bodies, equilibrium of rigid bodies, kinematics of rigid bodies, plan motion of rigid bodies, friction and analysis of structures.

Pre-requisite: MTH 202

### **ENG103 Engineering Drawing**

This course extensively covers the drawing equipment and the use of instruments, basic drafting techniques and standards, freehand sketching of machine and engine components, concepts of working drawings of component parts of machines and engines, etc.

### **ENG105 Basic Industrial Engineering**

This course is designed to introduce the fundamental concepts of industrial engineering and give answers to the very first questions that are usually asked by the prospective industrial engineering students. The course surveys both the traditional and modern topics of industrial engineering, providing a historical as well as an academic perspective of the whole profession.

### **ENG108 Introduction to Thermo-Fluids**

To introduce basics of thermodynamic properties, laws of thermodynamics and their application to power and refrigeration cycles. Introduction of basic modes of heat transfer. Formulation of basic equations for Fluid Engineering problems. To determine the friction energy loss for various pipes/ducts geometries and fluid engineering applications. Introduction of hydraulic machinery.

### **ENG109 Industrial Chemistry**

The course aims to introduce student to the general concepts of chemical engineering by laying the foundation to establish material and energy balances of chemical processes. Fundamental knowledge of stoichiometry and chemical equilibrium is applied to simple combustion and separation processes.

### **ENG201 Design of Machine Elements**

The course content includes the choice of material, component design, shaft design and shafting, gear design, introduction to design of simple machine elements, governors and gyroscopes, design of springs and design/selection components.

Pre-requisite: ENG 101/102



### **ENG202 Production System Design**

The course focuses on the structure and operation of production planning, scheduling and control systems; emphasis on system structure, capacity planning, master production scheduling, shop loading and supply chain; investigation of current trends, cellular manufacturing, group tech, flexible manufacturing systems and introduction to robot anatomy.

Pre-requisite: ENG 201

### **ENG203 Engineering Economics**

The course includes the economic environment, cost concepts and analysis, time value of money, depreciation and depletion, comparing alternatives; production concepts and mathematical models and capital financing and budgeting.

Pre-requisite: ECO 104

### **ENG204 Plant Engineering**

The course content comprises thermal power plants, steam generators and turbines, air-conditioning and ventilation, pumps and compressors, etc.

### **ENG 206 Manufacturing Process**

The course is designed to focus on analytical study and design of manufacturing engineering with emphasis on manufacturing and processes; the interaction of design, materials, and processing, laboratory instruction and hands-on experience in metrology, machining, process planning, economic justification, current manufacturing methodologies and expendable and non-expendable casting processes.

### **ENG209 CAD/CAM Application**

The course focuses on modular software development for interactive CAD. The topics include human interface for interactive design, programming structure for modular entity creation, storing and retrieving object data, utilizing peripheral input and output devices, attribute regulation and control, and software transfer and documentation specifications.

Pre-requisite: MIS 001/104

### **ENG216 Reliability Analysis**

The course introduces the system reliability, focuses on analysis of deterministic, probabilistic and stochastic reliability models. The topics covered include coherent structures, minimum path representations, computing system reliability, systems with associated components, bounds on system reliability, classes of life distributions, optimal management of systems by replacement and preventive maintenance.

Pre-requisite: STA204

### **ENG217 Materials Engineering**

To familiarize the students with various industrial materials, their applications, properties and structural changes during manufacturing processes.

Pre-requisite: GSC101 / ENG101

### **ENG218 Metrology & Statistical Quality Control**

The course exposes the students to the principles of measurement, gauges and modern quality concepts and their practical use, the basic statistical & probability techniques and their usages in quality applications.

Pre-requisite: STA204

### **ENG219 Industrial Maintenance and Safety**

To up keep the plant and machines by removing every type of trouble and providing safe atmosphere in the organization to improve productivity and to enhance the efficiency and economy of the organization. Importance of plant maintenance, factors influencing the maintenance.

Pre-requisite: ENG206

### **ENG220 Mechanics of Materials**

Simple tension, compression and shear, biaxial tension and compression, torsion, stress of beams, analysis of plane stress and strain. Deflection of beams, mechanical properties of materials.

Pre-requisite: ENG217

### **ENG300 Electrical Technology and Instrumentation**

The course focuses on an index study of electrical technology and instrumentation. The course content includes electricity fundamentals and basic laws, A.C. fundamentals, electric machines fundamentals and measuring instruments.

### **ENG302 Industrial Maintenance**

This course is designed to develop an understanding about Industrial maintenance. It includes basic considerations for industrial maintenance, maintenance management and replacement analysis.

Pre-requisite: ENG 301

### **ENG303 Production Planning and Control**

The course is designed to provide the basics of production planning and control with the need of modern manufacturing organizations in mind. The topics covered in the first course are: production and operations strategy, subjective and objective forecasting -such as Delphi method, trend-based methods, and methods for seasonal series, deterministic inventory planning and control, etc.

Pre-requisite: MAN 304

### **ENG304 Automation and Robotics**

The course focuses on the general principles of operation and programming of automated systems, automated assembly, automated manufacturing, and inspection systems. Control of automated manufacturing, industrial logic systems and programmable logic controllers, etc. are also a part of the course.

Pre-requisite: MIS 001/104

### **ENG305 Work Study and Methods Engineering**

This course is designed to teach the fundamentals of Work Study and Methods Engineering, which are both used for the examination of human and human work in all their contexts. Work Study topics includes: methods study, charting techniques, time study, workplace design principles, job evaluation and compensation.





### **ENG306 Basic Machine Design**

The course focuses on normal design procedure, strength & properties, metallurgical aspects, choice of materials, component design, gear design, design of springs, design/selection of screw, bolts, rivets and other joining components and power screws.

### **ENG307 / PHY209 Basic Electronics**

The course is designed to understand and troubleshoot electrical and electronic circuits found in modern applications of technology.

### **ENG310 Computer Simulations**

The course enables the students to become proficient in simulation model building and use of computer simulation as problem solving technique. Hands-on experience on computer simulation using any suitable software.

Pre-requisite: MIS104

### **ENG401 Computer Integrated Manufacturing (CIM)**

The course is designed to help students to define computer integrated manufacturing (CIM), use manufacturer's reference manuals to determine the system's normal operating characteristics, set-up, program, and troubleshoot a system. The course provides them an opportunity to study the integration of robots, CNC, CAD/CAM, databases, and automated systems into the manufacturing environment.

Pre-requisite: ENG 209

### **ENG402 Manufacturing Strategies**

This course deals with strategic implications of alternative methods of product cost measurement. The discussions will primarily be case-based and will cover cost measurement issues in both conventional and modern manufacturing environments.

Pre-requisite: ENG 207

### **ENG403 Human Factor Engineering**

The course focuses on the analysis and design of work systems considering human capabilities and limitations, human anatomy and physiology, and occupational safety and health, an emphasis on understanding how human factor should be considered in design processes to maximize system effectiveness and safety.

Pre-requisite: HRM 301

### **ENG404 Tool Design**

Tool designing is a division of manufacturing or industrial engineering. This course includes lab work where jigs, fixtures, molds, and dies will be designed, built and operated. It also involves both theoretical and practical tooling design and experimentation, lab work, reporting and class discussion.

Pre-requisite: ENG 209

### **ENG405 Environmental Impact Assessment and Management**

The goal of the course is to promote an understanding of how environmental impact assessment is conducted and used as a valuable tool in the engineering project management decision-making process.

### **ENG408 Facilities Planning**

The course includes fundamentals in developing efficient layouts for single-story and multi-story production and service facilities, manual procedures and micro-computer based layout algorithms; algorithms to determine the optimum locations of facilities and special considerations for multi-period and dynamic layout problems.

### **ENG410/601 Maintenance Management**

This course is designed to help students gain a perspective regarding the maintenance of buildings, industries, and facilities management. Administrative tools and methodology specific to maintenance activities are introduced. Students learn how to manage finance, equipment, materials, and personnel to carry out maintenance functions.

### **ENG412/602 Manufacturing Processes & Systems**

The course includes manufacturing processes and systems, defines role of manufacturing in a world-class organization by improving operational processes. This is done by identifying internal and external customers in the manufacturing cycle, reducing lead-in time in production of quality products and services, integrating supply chain & by understanding working and benefits of CNC machines and automated processes.

### **ENG501/603 Technology Management**

This course examines external environmental factors essential to manage organizations involved in new technologies. It considers the adoption of technologies and innovative processes. The students develop skills in acquiring and interpreting information about the external environment to facilitate technology management. The course analyzes the issues associated with resource management for a technology-based firm. This includes manufacturing technologies, information technologies, work force and materials.

### **ENG604 Enterprise Asset Management and Financial Analysis**

The course focuses on the strategic and financial life cycle of enterprise assets covering all the stages including planning, commissioning, maintenance, asset financial analysis, disposal and replacement. Tools and techniques used for the analysis, planning, monitoring and evaluation of the financial feasibility of the assets during the life cycle.



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## Entrepreneurship

### ENT507 Affordable Design and Entrepreneurship

The course focuses on creating entrepreneurial solutions for solving economic needs for lower segments of the society. The course runs as a virtual firm where students will work on distributed teams to develop social ventures by engaging with partner organizations, prioritizing programs and pursuing goals while deploying modest amounts of seed capital.

### ENT508 Getting to Market: Commercializing Your Idea

The course exposes student entrepreneurs to some of the best innovations in the industry. The course entails the strategies for guerilla marketing, market research and product development processes, pricing, etc. Students will be trained to use variety of tools and techniques to address the challenges faced in initial development phase of the business.

### ENT509 Building and Managing Start-Up Teams

This course is expected to provide participants with a solid understanding of how to overcome key challenges by addressing four critical themes: organizational architecture, leadership and motivation, team building, and negotiation in entrepreneurial settings. The course revolves around challenges faced by the company in knowing what type of human resource to recruit, how to recruit and how to retain and develop the human asset.

### ENT510 Raising Capital Via Crowd Funding Venture Capital, Angel Funding And Debt

Raising capital for your entrepreneurial venture is a unique hands-on course which addresses key questions that challenge all entrepreneurs: how much money can and should be raised; when should it be raised and from whom; what is a reasonable valuation of the company; and how should funding be structured? The course comprehensively explores the financial tools needed by an entrepreneur in funding his or her own business.

### ENT511 Managing A Growing Business

This course helps participants explore the critical framework required to build effective processes involving all key business functions in a startup. The course addresses issues of particular importance to rapidly growing companies including: getting the right people and systems in place, managing with limited resources, cash flow planning, leadership and delegation, professional zing the business, turning around a troubled business, establishing and communicating culture, and creating a vision to drive the organization toward the future.

### ENT512 Startup Growth Strategies

This course aims to help participants apply the tools and techniques to develop appropriate action plans to address strategic growth challenges. The structure of the course will facilitate the students to analyze and evolve an appropriate structured approach to undertake them effectively.

## Environment and Energy Management

### EEM401 Environmental Issues and Management

What is environment? What is pollution? Classification of pollution, nature of pollutants, who is responsible for pollution? Effect of pollution, how to prevent and manage them? Health impact, environmental policy and its compliance, environmental protection agency role and its responsibilities, industries and citizens responsibilities towards pollution prevention, analytical methods for measurement of selected parameters of NEQS, case studies and plant visits will be part of this course.

### EEM402/603 Air and Noise Pollution Management

Definitions and types of pollutions, causes, sources and effects of air pollution, particulate matters, measurement of air pollutants and particulate matters, green houses gases, global warming, causes, sources and effects, ozone depletion, acid rain, causes, sources and effects, air pollution prevention and control, strategies/methodology compliance of NEQS standards for air pollutants, nature of noise, propagation of noise in air, noise characterization, sources of noise, effect of noise pollution, health impact of noise pollution, noise measuring techniques and methodology, etc. will be covered in this course.

### EEM403 Energy Sources and Management

The course will cover basic concept of energy, forms of energy, fundamental of renewable/non-renewable energy sources, energy and environment renewable energy sources, energy scenario in Pakistan, renewable energy potential in Pakistan, basic heat transfer mechanism, etc. Students will learn about the best practices in these areas, includes case studies and visit to plants.

### EEM404 Industrial and Municipal Waste Management

The course will cover waste classification, sources, characteristics, generation, onsite handling and storage, collection, transfer, recycling and disposal techniques of solid and hazardous waste. It also covers history of waste disposal, dumping, and burning, land filling, composting and incinerating techniques as well as various methods for the treatment of liquid effluents from municipalities and industries.

Pre-requisite: EEM401

### EEM405 Renewable Energy

The course will cover a brief history of energy, reasons of shortage and load shedding, fuel problems for energy, alternative fuels and its problems, power from wind, its environmental impact, costs and economics of alternative fuels, energy from bio-mass and solid waste its problems and environmental impact, etc.

Pre-requisite: EEM403



#### **EEM406/604 Coastal Environment and Management**

Products of direct economic value such as fish, hydrocarbons, minerals, diesel water, etc., products of natural system (intangible), supply of rich nutrients to support productivity, nursery and breeding grounds of fish and shellfish, mangrove ecosystem, coast-dependent activities such as coastal aquaculture, marine transport and shipping, beach related activities, ports and harbor, etc. will be part of this course.

#### **EEM407 Green Technology and Energy Analysis**

This course is multidisciplinary and examines Environmental Management Systems (EMS), including their planning and organization. The course also studies how businesses can manage their interactions with the environment in a systematic strategic management approach. Since awareness of environmental issues has increased the need for product eco-compatibility. Students will learn a new methodological approach to design for the environment.

#### **EEM408/614 Safety, Health and Environmental Management**

The course is based on OSHA 18000 and is designed for students to understand the concept of EHS management, its importance and principles, hazards and risks at work place, causes and solutions, importance of EHS in industries, purpose and policy, developing safety policy, EHS auditing and inspections, safety training and employee's motivation and involvement, Plant visit is part of the course.

#### **EEM409/615 Risk and Disaster Management**

This course is designed to enable students to develop management skills to operate and understand the complex techniques and key concepts of disaster and risk management pertaining to floods, earthquakes, etc. Students will develop critical evaluation and the application of key elements of business planning and the management of risk and disaster.

#### **EEM410 Environmental Impact Assessment (EIA)**

The course is designed to provide a critical overview of the theory and practice of EIA as per international standard to those students who need to understand pollution impacts on the environment and how to do its assessment. EIA is one of the major requirements of environmental regulations and the course would cover the impact of development on environment.

#### **EEM411 Environmental Rules, Laws and Regulations**

The course provides students various regulations of environmental laws of Pakistan and international practices, theory and enforcement problems, including policy making, analysis of policy, needs of environmental law, implementation of legislations, etc.

#### **EEM412 Research and Survey Methodology**

The course is designed for those students who are new comers to research and who may have barrier with regard to the research methods and having difficulties in writing thesis or a research project report. The course will give students a sound knowledge of research methodology which is essential for writing thesis, research project conceptualization, elements of a research proposal and formulation of research design.

#### **EEM501/605 Climatic Changes and its Impact**

Climate change is today's most pressing issue, receiving international attention from political leaders, media, corporations and the general public. Students will learn about strategic frameworks for assessing the impact of climatic changes on markets and customer demand.

#### **EEM502/606 Natural Resources Management**

Students will learn qualities of ecosystems and critically review environmental issues such as climate change, water shortage and forest preservation, etc. The course includes social-ecological system concepts, ecosystem based management, global and regional governance through multilateral agreements, sustainable development, poverty versus environment.

#### **EEM503/607 Hospital Waste Management**

The course covers the general awareness of the health and environmental risks resulting from poor care of hospital waste management practices. It will provide the knowledge about handling, disposal and effect of infections hazardous health care waste, including hospital waste disposal problems and solutions. The course focuses on proper planning and organized approach necessary to improve the system for hospital waste management.

#### **EEM504/608 Solid and Hazardous Waste Management**

The basic goal of this course is to manage community and industrial waste in a manner that meets public health and environmental concerns and public desires to reuse and recycle waste materials. The students will learn how to manage solid and hazardous waste properly and efficiently. The course covers different modern methods of waste disposal, composting and incinerating etc.

#### **EEM505/609 Energy Audit**

This course covers the need for energy consumption, monitoring, designing and starting energy consumption control program, energy accounting, targeting and reporting, energy audit process, preparations, facility inspections, audit procedure and action plan, audit report, recommendations, implementation and follow ups of energy conservation schemes, understanding energy bills, electric rate structure, natural gas rate schedule, steam and chilled water rate, cost of water and waste water, monthly energy bill analysis, actions to reduce electricity utility costs.

#### **EEM506/610 Energy Conservation**

The course will cover areas of energy consumption and conservation, conservation scheme, and implementation, major areas of energy conservation, lighting, components of lighting system, lamp types, luminaries and types, maintenance of the lighting system and schedule, luminaries dirt depreciation factor, re-lamping strategies, spot replacement and group re-lamping strategies and costs, lighting survey, measuring light levels, regulatory/safety issues, lighting safety issues, energy policy Act 1992.



### **EEM507/611 Energy Planning**

The course will cover energy economics and planning, energy economics, the nature and cause of the energy problems, demand side and supply side issues, commercial and traditional energy determinants externalities, policy issues, pricing and distribution policies, energy balances formulation and execution, natural energy statistics, definitions, of primary, secondary, delivered and useful energy, problems of interpolation and comparison of energy statistics, rural energy planning, pattern of energy demand and supply, socio-economic aspects of energy utilization, survey methods, identifying potential solutions, project planning, monitoring and execution, financial evaluation projects, project analysis and financial appraisal, discounted cash flow, time preference discount rates inflation and interested rates, project evaluation in term of present values and internal.

### **EEM508/612 Environmental Ethics**

The course focuses on the understanding of the natural environment and human relationship to it. The course provides strong coverage of major ethical theories such as moral, relativism, ethical egoism and discussion about the tragedy of the commons, etc.

### **EEM509/613 Public Awareness for Environment and Energy Sector**

This course will focus on the importance, scope and application of the public relation and public information as regard to environment and energy in the private and public sectors, the local, regional, national and international levels.

### **EEM510 Economics of Energy Management**

This course examines the economics of markets for various energy sources (such as oil, coal, natural gas, and electricity), and their interactions with each other and with the rest of the economy. We will look at how energy markets have historically developed and why they have been subject to extensive government intervention. We will analyze the effects of traditional policy measures such as price controls and regulation; and we will examine current policy issues arising from the relationships among energy use, economic growth, and the environment (carbon storage and the policy measures). The course will also look at energy demand and supply analysis, efficiency measures as well as current issues both local and international. The course is designed both for students interested in energy economics specifically, and for those interested in applied economics as well as oil and gas sector in general.

### **EEM601 Environmental Management and Green Technology**

The world is facing increasing environmental and climatic threats which are posing severe scientific, social and economic challenges to the human race. These challenges include: the depletion of natural resources, the loss of diversity and the need to develop new forms of energy generation whilst efficiently utilizing existing energy sources. Tackling these environmental problems and establishing a sustainable environment requires the adoption of appropriate policies and managerial strategies. The interdisciplinary nature of this course provides a broad understanding of environmental problems. The course aims to provide basic managerial and generic skills for a career in the environmental sustainability sector.

Pre-requisite: EEM401

### **EEM602 Green Marketing Strategy: A Challenge for a New Era**

The course is designed to introduce a framework for Green marketing management in light of the socio-economic, cultural and legislative changes related to environmental sustainability. The course provides an overview of concepts and techniques as they relate to marketing opportunities, marketing strategies and communicating effective marketing programs within the context of sustainability. Students will be challenged to critically analyze marketing strategies, plans and decisions. The students will also analyze the social shift that makes green marketing a key aspect of business strategy in light of the changing environmental scenario.

Pre-requisite: EEM401

### **EEM701 Methods and Issues in Advanced Qualitative Research**

The course focuses on developing a working knowledge of a range of qualitative methods, methodological approaches, and theoretical framework of research to enable the participants to conduct qualitative research within the social sciences. Through lectures and seminars, current methodological issues are analyzed and discussed. The participants will conduct an empirical investigation designed to evaluate the usefulness of a research method that they select. The research method itself should thus be the focus of inquiry. Academic writing skills will be developed to enable participants to write effective academic papers.

### **EEM702 Methods and Issues in Advanced Quantitative Research**

The primary goal of the course is to help participants to develop a conceptual background and practical skills needed to critically evaluate statistics and to conduct statistical analyses of empirical data independently (e.g., independent study projects, etc.). This course will also introduce computer applications for data analysis, including construction of data files, SPSS for data analysis, and development of an analysis plan. In addition, participants are expected to learn how to document and communicate the results of the analysis efficiently. APA writing style will be introduced to enable participants to write their thesis.

### **EEM703 Current Advancement and trends in Environment, and Energy Management**

The student will be required to undertake course work that fulfills the requirement of current advancement and trends in environmental science and policy. The breadth requirement may be fulfilled by using a wide spectrum of environmentally related courses, including areas such as economics, law, and management, Environmental management and sustainable development of resources, linking green economy with social development. The course evaluates social well being, and economic prosperity. Economic evaluation of environmental impacts, and environmental and social assessments, concepts and methodologies are introduced. Topics include sustainability and management of resources. Socioeconomic developments and Sustainable Management of ecologically sensitive areas, Communities etc.

#### **EEM704 Independent Study in Environment and Renewable Energy Management**

This course will provide space to the participants coming from different scientific disciplines to propose a research topic in their field of interest. The research work should be completed within one semester for publication preferably in an impact factor journal. For independent study, the participants will be provided a suitable adjunct faculty member of the university, who is able to facilitate in completing the process of research and publication. This independent study course will be different from the main Ph.D. research study and will be beneficial for the candidate in providing them with experience to pursue their major work of investigations, providing an exposure to plan, conduct and publish a small scale research project in their area of interest.

#### **EEM801 Advance Environmental Toxicology & Epidemiology**

The course will help develop concepts of adverse toxic effects of environmental chemicals and biological solid/liquid effluents from natural and anthropological sources present in air, water and soil on human and other living organisms. It will examine the overall toxicological and epidemiological management approaches and learn to maintain a balanced approach and balanced public expenditure on environmental health (preventive health) and curative health. The course will expand understanding of percepts that the environmental diseases do not necessarily occur at random and without reason and require taking proactive preventive approaches.

#### **EEM802 Advanced Pollution Control Technologies and Mitigation Options**

Advanced pollution control technologies are of concern from two overlapping but distinct point of view of human health and the health of aquatic ecosystems. The course is designed to develop understanding of environmental quality and its control technologies vis-a viz advanced pollution control technologies and mitigation options in environmental profession. It will entail understanding about different types of pollution, including properties, industrial production, uses, environmental releases, fate, health impacts and mitigation options. Pollution categorization into air, water and soil pollution, organic/inorganic pollutants, pesticides and other toxicants.

#### **EEM803 Advances in Green Technology Mechanism**

Green technology being relatively new field is mushrooming its growth in length and breadth exponentially. The course is designed to understand the conceptual development of greening technical strategy, branding/communicating strategy and overall management systems. The course will provide in-depth understanding of what is unfolding green agenda means to all aspect of technologies. The green initiatives benefit from the newer green economic landscape and reap advantage of being a trend setter in the development of continuously improved environmental friendly concepts and technologies and consequently help in introducing of new/improved national/international legislation of improved productivity and profitability.

#### **EEM804 Disaster Risk Management and Mitigation Strategies**

There is growing national and international concern at the rising frequency and severity of natural hazards and disasters, in part due to factors related to climate change, there is increased impetus in many countries to put in place policy, legal, technical, financial and institutional measures that will reduce the destructive effects on the lives and livelihoods of individuals and communities.

#### **EEM805 Trade and Environment**

The objective of Trade & Environment course is to raise awareness on the linkages between trade, the environment and sustainable development, to promote greater dialogue between trade and environment policy makers. WTO, Introduction to environmental economics. Impact of trade on the environment, Impact of environmental regulation on trade, CBD and the Biosafety Protocol, CITES. Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal.

#### **EEM806 Sustainability and Conservation of Major Ecosystems**

The course introduces the concept and practice of sustainable development (SD). It examines the environmental, economic, and social dimensions of SD by focusing on changing patterns of consumption, production, and distribution of resources. Evaluation of resources. Tropical, Temperate and Polar Ecoregions. Forest, Mountains, deserts, riverine, rangeland areas. Understanding world's oceans and their environments.

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## Finance and Banking

### **FIN201 Introduction to Business Finance**

The course explains the basic concepts of time value of money, valuation of current assets, financial forecasting and planning, ratio analysis and common size statements, and capital budgeting techniques. Pre-requisite: ACC102/103/201

### **FIN202 Financial Management**

This course covers the basics of finance like fundamentals of financial management, discounted cash flows, capital budgeting techniques, leverage, capital structure determination, etc. Pre-requisite: FIN201

### **FIN301 Financial Institutions**

The course provides an analysis of the working and interaction among various types of financial institutions, financial markets and the economy. The topics include policies of financial institutions, interest rate structure and the security and mortgage markets. Pre-requisite: FIN 201

### **FIN305 Internet Banking and EPS**

In this course, students will study topics which include: e-commerce, e-business, digital commerce, B2B, B2C, internet advertising, internet auctions, internet banking, internet marketing. Case studies that give students great experiential knowledge to be effective in the market will also be a part of the course. Pre-requisite: FIN201

### **FIN403 Islamic Banking and Finance**

The course covers the operations and role of banking institutions in an economy. The different types of financial institutions, local as well as multilateral, and their distinct functions are reviewed. The course also covers the concepts of Islamic banking and similarities and conflicts between Islamic and conventional banking. The requirements to be met by Sharia compliant financial instruments and established Islamic financial instruments (e.g., Musharika, Modarba, Morabaha, leasing etc.) are also covered. Pre-requisite: ECO 401 FIN202/408

### **FIN406 Financial Econometrics**

This course provides an intensive introduction of basic principles of econometric analysis that may help students understand finance theories and their empirical applications. In addition, it also equips students with appropriate statistical techniques for doing applied financial research. The emphasis will be on developing and applying regression-based techniques in both cross-sectional and time-series contexts. Their usefulness will also be examined in the light of financial studies. Pre-requisite: ECO304, FIN408/501

### **FIN408 Theory and Practice of Financial Management**

The objective of the course is to introduce fundamental concepts underlying financial management. The main concepts examined include financial planning & forecasting financial statements, time value of money, bond and stock valuation, cost of capital, and capital budgeting. Students will be able to understand the specific techniques and decision rules that are used to help maximize the value of the firm. Another objective is to provide the student with the tools to understand and solve the basic financial problems confronting business today.

### **FIN501 Advanced Financial Management**

The objective of this course is to introduce the basic asset valuation models, risk management system, ways to acquire and allocate funds in the most economical and profitable manner, concepts and principles governing investment decisions, etc. Pre-requisite: FIN 408

### **FIN502 Strategic Financial Management**

Giving a review of the fundamentals of financial management, this course enables students to understand the various areas of decision-making in the broad field of financial management in a non-financial sector company. Hence, this course focuses on the dynamics of the entire financial management process, emphasizing the skills to take risk-return profile decisions for the business in the presence of a myriad of complexities. Pre-requisite: FIN 202/404

### **FIN503 Corporate Finance**

This course covers the valuation of corporate liabilities and other securities under uncertainty. The capital asset pricing model is presented and is compared with more recent theories of asset pricing such as, the arbitrage pricing theory and the option pricing model. Pre-requisite: FIN202/408

### **FIN504 International Finance**

The course deals with the factors affecting currency values and the forecasting of future currency prices; describes foreign exchange products, markets, and participants and examines foreign currency exposure from a corporate point of view. Pre-requisite: FIN 202/408

### **FIN505 Treasury and Fund Management**

The course equips students with generic, technical, computational, analytical, critical and evaluative skills relevant to financial management and the commercial bank treasury department function; the role of State Bank of Pakistan with close reference to money and capital markets. Pre-requisite: FIN202/408

### **FIN506 Investment Banking and Security Analysis**

This course enables the students to recognize the ways to select securities and to act prudently with respect to diversification and management of fund for investment. It contains topics like valuation, sale and purchase of companies, assets management theory, mutual funds management and security analysis. Pre-requisite: FIN202/408



### **FIN507 Portfolio Management**

The course covers the application of portfolio theory to investment decisions and performance evaluation to cover both the fundamentals of investment theory and the most recent developments in academic research involving the practical implementation and analysis of modern portfolio strategies.

Pre-requisite: FIN202/408

### **FIN508 Risk Management**

This course explores various aspects of management of risk associated with operating multinational enterprise and emphasizes on evaluating and hedging financial risks (fixed-income, equity, commodity, and foreign exchange risk exposures).

Pre-requisite: FIN202/408

### **FIN509 Financial Derivatives**

The course covers a wide range of financial derivatives, including forwards, futures, swaps and options. The working of various derivative markets and the pricing of derivatives are discussed. The course also covers trading/investment strategies that involve these derivatives.

Pre-requisite: FIN202/408

### **FIN510 Investment Analysis**

The course includes alternative investment theories and decision making under differing uncertainties and constraints. Formulation of objectives and strategies, development of conceptual managerial perspectives for investment environment and security analysis will also be covered in this course.

Pre-requisite: FIN 202/408

### **FIN511 Analysis of Financial Statements**

The course begins by describing accounting standards of USA and international accounting standards with special focus on developing students' capability to standardize various companies' financial statements.

Pre-requisite: FIN 202/408/501

### **FIN512 Money and Capital Markets**

This course covers the fundamentals of money and capital markets, like market instruments and mechanisms and various risk management techniques.

Pre-requisite: FIN 202/408

### **FIN513/608 Project Appraisal**

The course teaches formulation of projects and financial projections into the future. Balance sheet, profit and loss accounts and cash flows are prepared for future years depending on the need and nature of the projects. Economic analysis like internal economic rate of return, Bruno's ratio and the economic rate of return are also described. The course equips students with the understanding of nuances of consortium and syndicate finances.

Pre-requisite: FIN202/408/601

### **FIN514 Asset Liability Management**

The course gives an insight into the traditional functions of Asset Liability Management (ALM). It gives a comprehensive review of ALM hedging techniques that encompass all assets and liabilities of financial institutions. Regulatory environment prevailing in the Pakistani financial market and how the State Bank of Pakistan and the Securities and Exchange Commission are regulating financial institutions in Pakistan is also discussed in this course.

Pre-requisite: FIN 202/408

### **FIN515 Foreign Trade and Banking**

The course aims at discussing the technicalities of foreign trade covering basic concept, difference between local and foreign trade and documentary requirements of banks.

Pre-requisite: FIN 202/408

### **FIN517 Theory and Practice of Finance**

The course will cover overview of risk and return, stochastic dominance, portfolio theory, mean variance decision model, other statistical methods, efficient markets, skewness, limits of arbitrage, attention, corruption, political connections, corporate governance and the role of the government, financial econometrics, market microstructure, informational efficient markets, managerial behavior, agency cost and capital structure, etc.

Pre-requisite: FIN 202/408/501/601

### **FIN518 Current Issues in Islamic Finance**

The course covers the history of Islamic Banking, market perceptions & performance of Islamic finance industry, analysis on Islamic interest free banking, current economical system & its problems, comparison of capitalism & socialism and philosophy of Islamic economical system. This course gives an in depth study of sources of sharia, ijthad, riba & its types, commercial interest, usury, simple & compound interests, markup, profit, gharar and gambling.

Pre-requisite: FIN 202/408/501/601

### **FIN519 Industrial and Financial Economics**

This course provides a basis in the neoclassical theory of finance that underlies other finance courses. This course is primarily concerned with static, i.e., one period, theories of finance. This course will convey more conceptual understanding of finance than exercise complicated mathematical derivations. It starts with examining the data and then develops basic finance theory to explain the data.

Pre-requisite: FIN 202/408

### **FIN520 Financial Risk Management**

This course deals with the theoretical and practical approaches to effective financial management. Planning, analyzing and controlling investment and short and long term financing are examined for decision-making purposes. Emphasis is placed on the application of risk, the methods in today's business environment and related industries. Topics include: Capital budgeting, risk and diversification, asset liability management, financial derivatives and financial engineering, swaps, options and financial future.

Pre-requisite: FIN202/408



### **FIN521 International Financial Management**

Students taking this elective course should expect to learn the nature and purposes of financial management in the international context. They will gain skills in international investment and financing techniques and in exchange risk management, including accounting and taxation aspects. They will learn, through hands-on case studies and simulations, how to judge the riskiness of a currency from a firm's perspective, and how to measure and manage the company's exposure to exchange rate and international interest rate risks.

Pre-requisite: FIN202/408

### **FIN601 Strategic Financial Analysis and Design**

The objective of this course is to enhance the candidate's conceptual financial management knowledge and its modern application practices with focus on real world business finance decision making scenarios. The course attempts to develop strategic decision making abilities by aligning theory and practical evidence.

Pre-requisite: FIN202/408

### **FIN602 Behavioral Finance**

Initially field of finance was based on efficient market hypothesis stating that investors and managers are rational participants and prices are efficient. However the last decade negated this paradigm to be the only feature to describe actual financial markets. Researches prove that mistakes in financial decisions are at times caused by biasness of the decision maker. The course examines the psychological influence of investor behavior while making investing decisions.

Pre-requisite: FIN601

### **FIN603 Entrepreneurial Finance**

This course is intended for students who wish to enhance their skills and knowledge in those financial areas of business that lead to successful entrepreneurship and/or small business management. The focus will be on those financial issues and decisions of particular concern to sole proprietors, partnerships and family-owned businesses. This will also include the financial aspects of the relationship between the firm and financial institutions.

Pre-requisite: FIN202/404

### **FIN605 Financial Modeling for Investment Decisions**

Financial modeling course enhance the skills required to test different scenarios leading to company's future growth. The course will enable the students in identifying company's key value drivers and would also help them in developing spreadsheet valuation models. The course also shed light on evaluation of financial returns and their relationship with resource constraints.

Pre-requisite: FIN202/404

### **FIN606 SME & Micro Financing**

This course is designed for students willing to become entrepreneurs or considering working in banks, NGOs, and multinational donor agencies. After the course, they will be able to develop and put into practice analytical skills, tools and techniques used in appraising and taking financing decisions. The course also explores the best practices and paradigms in design and management of MSMEs.

Pre-requisite: FIN202/404

### **FIN610 International Islamic Finance Standards**

This course is designed to provide the students an understanding of AAOIFI standards and the key accounting issues that they are trying to address. Through a review of the twenty-three (23) AAOIFI Standards delegates will gain an understanding of how this provides a picture of the financial health and Sharia'a compliance of the institution? Some key differences to International Accounting Standards (IAS) will also be highlighted to enable counterparty credit risk comparisons to be undertaken.

### **FIN611 Islamic Capital Market**

This course is designed to enable participants to acquire a working knowledge of the principles driving Islamic Capital Market (ICM). This course covers the concepts and principles of Islamic Finance, and to distinguish the differences between Conventional and Islamic Finance, exploring the concepts of Riba', Gharar and gambling in Islamic Finance. As recognize the Islamic Finance as an alternative form of investment that acquire knowledge of regulatory framework governing Islamic Banking, Takaful and Islamic Capital Market (ICM) activities.

### **FIN613 Financial Modeling for Investment Decisions**

Financial modeling course enhance the skills required to test different scenarios leading to company's future growth. The course will enable the students in identifying company's key value drivers and would also help them in developing spreadsheet valuation models. The course also shed light on evaluation of financial returns and their relationship with resource constraints.

Pre-requisite: FIN202/601





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## Finance and Risk Management

### FRM201/401 Principles of Risk Management

This course aims to introduce students to the rationale, principles, process and major tools of risk management. A holistic/integrated view of risk management is adopted throughout the course. Covered topics include the concept of risk, risk theory, risk measurement, corporate risks and the rationales of corporate risk management, risk management organization and process, and some major tools of risk management. A lot of the course content reflects the latest developments & industry practices in the discipline of risk management.

Pre-requisite: MAN401 / STA402

### FRM202 Life and Other Contingencies

Survival distributions and life tables. Construction of mortality, sickness, multiple decrement and other similar tables for graduated data. Determination of the probability and monetary functions based on mortality, sickness, multiple decrement and other similar rates. Values for premiums for single life annuities and assurances. Determination of policy values, surrender values and paid-up policy values.

Pre-requisite: MTH211

### FRM204 Enterprise Risk Management

This course is designed to provide information to actuaries who do not yet regularly practice in enterprise risk management (ERM), but want to know more about it to help expand existing skills or meet professional development requirements. The course content is designed to be introductory, and provides less hard-core mathematics and more conceptual understanding and learning. ERM has been a hot topic for several years and the Society of Actuaries and its members have worked with other actuarial organizations around the world to develop best practices and share them within the actuarial community.

Pre-requisite: FRM201

### FRM206 Institutional Investments

The course will start by reviewing basic investment practice, with a discussion about the differentiating institutional features of markets, instruments and benchmarks around the world. It will focus on investment theory, by reviewing the benefits of adding international securities to a domestic portfolio and the key elements of an investment program, starting with the definition of a philosophy and continuing with the construction of a process for managing international equity portfolios.

Pre-requisite: FIN507

### FRM302/402 Computational Methods in Risk

A historical perspective of market risk measurement, including the Markowitz, CAPM, and APT models; investigation of the value-at-risk approach and its variants and extensions, and a survey of other methods for evaluating risk, including multivariate methods for evaluating portfolios requiring copula tools.

Pre-requisite: MTH210, MTH410

### FRM304/404 Risk Financing Techniques

The Risk Financing course explores the selection, implementation and monitoring of risk financing techniques — ways in which an organization can obtain funds to pay for accidental losses which strike it. Topics include risk financing objectives, various types of risk financing plans, insurance as a risk financing technique, capital market products for risk financing, forecasting accidental losses and risk financing needs, accounting and income tax aspects of risk management, and allocating risk management costs.

Pre-requisite: FRM302/402

### FRM403 Introduction to Financial Risk Management

This course covers the principles of financial risk management and financial engineering from the perspective of non-financial corporations. The first part of the course discusses how to measure risks and risk exposures, why firms should or should not hedge, and how to hedge basic exposures. You will also learn how to manage foreign exchange rate risk, interest rate risk, commodity price risk and credit risk. The second part of the course demonstrates how financial engineering, i.e., the issuance of complex financial securities, can increase shareholder value.

Pre-requisite: FRM401

### FRM405 Advanced Financial Risk Management

This course is tailored to provide financial risk professionals with the necessary groundwork required to become a financial risk specialist including the latest standards that represent best practice. The course is essential for any person currently in or planning to enter careers in the financial sector, retail banking, investment & merchant banking, asset management, corporate finance, risk analytics and strategic consultancy.

Pre-requisite: FRM403

### FRM503 Corporate Risk Management

This course provides an introduction to modern methods of risk management. Lectures cover risk metrics, measurement and estimation of extreme risks, management and control of risk exposures, and monitoring of risk positions. The impact of risk management tools, such as derivative securities will be examined. Issues pertaining to the efficiency of communication architectures within the firm will be discussed. Regulatory constraints and their impact on risk management will be assessed.

### FRM504 Theory of Risk and Insurance

Nature of economic risk and its effect on allocation of resources. Preferences among risky prospects: expected utility theory and the theory of risk aversion. Subjective versus objective probabilities. Market allocation of risk and the role of insurance markets under complete information. Insurance under asymmetric information, moral hazard, and adverse selection.



#### **FRM505 Risk Management in Corporate Treasury**

The role of the treasurer has grown from the traditional financial risk management role to one with a much wider remit. This module aims to explore the theoretical and practical issues in the discipline of treasury risk management as applied to listed non-bank corporate. The subject matter will be of interest to potential corporate treasurers, and to those in banks who require an insight into what major corporate customers require from banks.

#### **FRM506 Financial Regulation and Supervision**

The area of financial regulation has been even demanding after financial turmoil of 2008 and another looming financial crisis given the instability of global financial institutions. The aim of the course is to build knowledge and skills among the students to produce quality risk management professionals who can add value to the existing regulatory framework of the country while help commercial banks at the same time with implementation and compliance of the regulatory requirements.

#### **FRM508 Financial Markets Issues and Crisis**

The financial markets have gone leveraged manifold during the last decade. This increased leverage with complex structured products demands in-depth understanding of the issues in financial markets. The course is aimed to produce professionals with clear understanding of structured products and issues with them. Development of financial markets, anticipating a financial crisis and taking necessary steps to avoid one are key elements of this course.

#### **FRM510 Energy Risk Management**

Today, that industry is still growing. Through organizations such as the Professional Risk Managers' International Association we can see its growth every day. This course aimed to understand the risk in trading strategies in Oil risk developed into gas risk, and now on a global scale. Electric power risk management was the next market to develop. The weather derivatives markets followed that. Threatening larger than all these markets is the global environmental financial risk management market for emissions trading.

#### **FRM512 International Risk & Financial Reporting**

This course is designed in two parts. Part one containing the Risk Reporting standards prevailing in the current International market. Risk Reporting is currently gaining high importance in the financial markets and become vital after the financial crisis. Basel banking risk reporting standards are also discussed. In part two student will get the understanding on International Reporting standards (IAS). International Reporting Standards regulated by Financial Accounting Standard Board (FASB).

#### **FRM513 Project Risk Management**

This course provides the background reason for existence of the project finance to understand the mechanism of financial market to provide the capital on large scale projects.

#### **FRM514 Takaful & Risk Management In Islamic Products**

This course covers risk management issues for Islamic financial products and services, considering all of their unique characteristics that are underlined by the Shariah principles and law. In addition to what conventional finance is providing, Islamic banks are providing specific financial products (contracts) which make them perform as investors, instead of only as creditors.

#### **FRM516 International Financial Reporting & Standards**

This course aims to provide wider understanding of International Financial Reporting Standards. This course discusses the issues and problems of financial reporting both, either in general or through the specific regulatory requirements of the International Accounting Issues.

#### **FRM517 Property Risk Management**

Insurance company operations and management, including statutory accounting principles, financial management, underwriting, claims and reinsurance. Discussion of commercial property coverages and risk management techniques, including basic property insurance, consequential loss coverage, fidelity and surety bonding and crime coverage.

#### **FRM518 Management of Insurance Institutions**

This course applies principles of economics and finance to the management of and creation of value in the insurance enterprise. Course topics encompass: 1) the theory of the firm as applied to the insurance enterprise; 2) the operational risk management of insurance institutions as a class of financial institutions; 3) the industrial organization of insurance markets within an integrated financial services industry; and 4) principal insurance business functions with an emphasis on significant issues and innovative strategies.

### **General Sciences**

#### **GSC101 Physics**

The course aims to cover vector review, Coulomb's law, electric fields, Gauss's law, electric potential, capacitors and dielectrics, d.c. circuits, Kirchoff law, RC and RL Circuits, magnetic fields, Ampere's and Farady's laws, energy stored in electric and magnetic fields, Biot and Savart law, electromagnetic oscillations, a.c in resistive, inductive and capacitive, elements.

#### **GSC103 Applied Physics**

Electrostatics: Coulomb's law, electric field and potential, capacitance, dielectrics. Electrodynamics: Magnetic field and force, sources of magnetic field, electromagnetic induction, inductance. Solid-state physics: Crystal lattices, unit cells, energy bands, allowed and forbidden states, conductors, semiconductors, insulators. Semiconductors: Composition, purity, n- and p-type materials, carrier properties and distribution. Carrier action: Diffusion, drift, generation, recombination.



## Health Management

### **MHM401/529 Introduction to Health Policy, Planning and Management**

This course provides students with an overview of the health system in Pakistan and introduces them to the concepts of public health and the basis of public health programs in the country. The course also covers the planning methodologies and role of health planners within the health care sector. Concepts and techniques of health planning as applied to community and institutional health systems are analyzed.

### **MHM402/530 Quantitative Analysis**

The course includes introductory as well as advanced study of stochastic and quantitative analytical tools and concepts which can be used to compute vital statistical rates applicable to problems in public health. Topics such as regression analysis, anova, chi-square are also discussed.

### **MHM403/531 Health Management Information Systems**

Applications of computer technology for designing management information system for health care institutions. Topics include data collection, reporting and transmission, file design, record structure, report formats, processing requirements, medical records and statistical audit. Principles of managing the acquisition and development of health management information system are also discussed.

### **MHM404/532 Research and Survey Methodology**

This course is designed to familiarize students with basic concepts surrounding surveys. It intends to expose students to the various components, techniques and methods of developing survey instruments and modes of survey conduction. It defines the basic concepts of research methodology and designing of sample survey, including data presentation through tables and graphs.

Pre-requisite: MHM 401

### **MHM501/623 Pharmaceutical Branding**

This course emphasizes on the expressional area of promotion and capitalizes on the functional area as well. Students will be able to launch new brands, create strategy for brand equity with long-term sustainability, handle multi-brand portfolios and conduct evaluation of brands.

Pre-requisite: MKT401

### **MHM503/605 Financial Management of Health Services**

The course exposes students to basic financial ratios and a general understanding of financial statements and some productivity, tracking systems and measurements typically utilized in health care organizations.

Pre-requisite: FIN401

### **MHM504/601 Strategic Management of Health Services**

The content of the course is developed around several health care trends including restructuring, innovation of health care delivery and finance and an increased emphasis on performance. It addresses basic theory, strategic plan development, organizational analysis and specific appropriate analytical techniques, implementation strategies and case studies.

Pre-requisite: MAN418, MHM401/529

### **MHM505/606 Concepts of Primary Health Care**

The course familiarizes students with the basic concepts surrounding primary health care. It aims to provide the basic conceptual understanding of public health problems pertaining to the availability, accessibility and affordability of primary health care services.

Pre-requisite: MHM 401/529

### **MHM507/607 Introduction to Epidemiology**

The course includes definitions, principles and factors related to the manifestation of infectious and non-infectious diseases, including tracing their sources, modes of survey conduction, controlling spread and initiating measures to prevent recurrences.

Pre-requisite: MHM401/529, MHM402/530, MHM404/532

### **MHM508/608 Pharmaceutical Marketing & Quality Assurance**

This course examines the nature of pharmaceutical industrial market and analyses of customer procurement strategy, product policy, pricing, distributing strategy and sales force management strategy.

Pre-requisite: MKT402 / MHM405

### **MHM509/609 Marketing of Health Services**

The course aims to familiarize the students with methods most commonly used in marketing of health services. It focuses on the critical links between health service marketing as it relates to customers, competitors, market segmentation and definition of target markets.

Pre-requisite: MKT402

### **MHM511/610 Population and Health**

The course studies the impact of population growth on the health of the populace and its effect on the health care delivery system.

### **MHM514/611 Environmental Health Assessment and Management**

The objective of this course is to study the impact of environmental pollution and degradation on the health of populace. It provides theoretical instructions with a focus on environmental health assessment and knowledge of managing environmental health problems.

Pre-requisite: MHM401 /529

### **MHM602 Health Service Delivery & Operation Management**

The course addresses major functions and issues surrounding supervision of hospitals and pharmaceutical establishments relationships/differences between line and staff functions. Likert Scale, Peter Principle, McGregor's Theory X and Y are also discussed.

Pre-requisite: MAN401 / 529



#### **MHM517 / BPR601/602 Capstone Project I and II**

A Capstone Project course of 6 credit hours is a supervised research, which applies curricular concepts and skills to the problems in an organizational setting.

Pre-requisite: MHM402/530, MHM404/532

#### **MHM518/613 Regulatory Affairs at Healthcare Industry**

Healthcare is a highly regulated industry and the course provides an insight into the important laws and regulations controlling business in the healthcare sector. Upon completion of the course, students will be well versed with drug laws, good manufacturing practices, and laws governing operation of blood banks, breast feeding ordinance, 2002, and environmental concerns.

Pre-requisite: MHM401/529, MHM602

#### **MHM520/614 Product Management**

This course focuses on creating and managing product and brand portfolios in pharmaceutical industry for long-term profitability, as established and mature products and brands are critical to an organization's financial stability and strategic posture. Students will apply strategic frameworks for managing mature products for profitability, transferring existing competencies to new products and evolving market opportunities of a product portfolio.

Pre-requisites: MAN418 / MHM602

#### **MHM521/615 Pharmaceutical Sales Management**

This course enables the students to develop analytical and managerial skills for estimating sales potential, forecasting sales, manning territories and controlling sales force in the pharmaceutical sector. Furthermore the students will learn to apply these concepts for solving problems, through case studies, training and motivational exercises.

Pre-requisites: MAN418

#### **MHM522/616 Project Management of Health Services**

In this course, students will be able to learn planning for quality, performing quality assurance activities, and closing project contracts keeping in view ethics, professional knowledge, stakeholder's interests and cultural diversities. By the end of the course, students will be proficient in organizing and executing complex healthcare projects using techniques of project management software tools.

Pre-requisites: MAN 418, MIS 401

#### **MHM524/619 Healthcare Human Resource Management**

This course aims to provide students with a solid grounding in the fundamentals of human resource management and labor relations concepts and practices in health care. It also looks into the role of HR and its strategy in underpinning organizational viability and its potential to contribute to competitive advantage in the health care industry. The course is especially tailor made to suit the complexity and diversity management of policies and strategies of the human resource working in health care.

Pre-requisites: MAN418 / HRM410 / MHM401/529

#### **MHM526/604 Healthcare Leadership**

This course introduces the basic principles of leadership and direction for those who are interested in supervision and management of health programs. The course content explores difference theories of Leadership with examples in the health care industry. The teaching methodology will inculcate the aptitude of entrepreneurial roles and risk taking in leadership.

Pre-requisites: MHM401/529

#### **MHM527/621 Supply Chain and Production Management in Pharmaceutical Industry**

This course is an introduction to the supply chain concept and will explore the management of supply chains to improve an organization's overall efficiency in the pharmaceutical industry. Other concepts included are the definitions, identification procedures, and an overview of methods, processes, and systems that are used in the operation of supply chains to improve performance.

Pre-requisites: MAN401 / MHM405

#### **MHM528/622 Quality Management in Health Care**

Quality Management in Health Care prepares managers and health care professionals to plan, develop and implement successful continuous quality improvement/management programs in the health care industry. Graduates enhance their ability to move into integrated delivery of quality health care services that are accountable to clients of the health care system. In addition the graduates learn to manage and lead quality improvement and analyze information related to quality improvement, risk management and utilization, apply problem-solving skills to analyze problems and determine appropriate personnel and structures to solve quality problems and facilitate organizational change.

Pre-requisites: MAN418, MHM401/529

#### **MHM529 Health Psychology**

This course provides an overview about the health psychology and behavioral factors (workload, diet, exercise, substance use, medical condition, sleep and family issues etc.) that contribute to sickness or wellness of health. This course will enable students in recognizing the commonly prevailing psychological and social issues like depression, anxiety, confusion, chronic illness and social phobia and it will also help them in examining the behavior change strategies that can aid in improving the health habits.

Pre-requisite: MHM410/529



### **MHM535 Business and Health Economics**

This course will help students in understanding the current economic status of Pakistan Healthcare industry from global perspective. Topics include scarcity of medical resource, medical products and health industry financial fluctuations, inflation, health budget financing deficit and incentives allowing for any differences peculiar to health.

### **MHM602 Health Service Delivery and Operation Management**

This course will introduce student about the operational issues encountered in Hospital setting. The course will enhance multi managerial skills of students like supply chain management, inventory management, project management, human resource management and quality management etc. The course will also help student in managing the location and layout strategies, improving the productivity, reducing the conflicts and enhancing the reliability of the Hospital.

Pre-requisite: MAN418 / MHM410/529

### **MHM603 Health Ethics, Law and Jurisprudence**

This course highlights about the concept of ethical, legal and medical regulations of various Health industries of Pakistan. The course has cover various topics related to rights of patients, rules and regulations of health organizations physicians malpractices, work's compensation, certificate of death, etc. The course enables students to implement legal, ethical and medical knowledge into real life practices.

Pre-requisite: MAN418

### **MHM617 Seminar in Health Policy Management**

This is a multidisciplinary course focusing on all aspects of health care policy management including organizational strategies and practical and emerging trends relating to successful health care organizations around the world. It will cover policy, rationale and practices related to business of successful organizations laying special emphasis of latest and emerging trends. It would involve case studies of selected business issues such as globalization of strategy role of multinationals and internationalization, collaborative and competitive advantage strategy formulation and its implementation.

### **MHM618 Health Communications**

This is a homogenous mix of verbal and written communication related to the health care industry. Health communication is the study of how health information is generated and disseminated and how that information affects individuals, community groups, institutions and public policy. The field includes the study of secular communication, as well as the strategic communication of evidence-based health information to professional and non-professional audiences. The course covers practical experiential learning models of communication in hospitals, NGOs, pharmaceuticals, media etc. using innovative learning techniques and direct interaction with health care personnel.

## **Human Resource Management**

### **HRM301/401 Human Resource Management**

The course includes a wealth of conventional wisdom related to traditional human resource management challenges of recruitment and placement, training and development, compensation and labor relations. In addition, contemporary management challenges related to such issues as the strategic role of HRM & global HRM are included. Overall, the course is carefully crafted to present traditional HR management concepts, important contemporary HR management issues and insights so as to ensure organizational success.

Pre-requisite: MAN 301/302/401/402

### **HRM400 Foundation of Human Resource Management**

This course is a study of approaches and theories of human resource management; an overview of the human resource profession, including emerging trends, professional roles and professional competencies.

### **HRM405 Research Methods in HRM**

This course focuses on description, analysis and application of research methods for HRM professionals, studied in the context of key business and organizational decision-making processes.

Pre-requisite: STA 400, HRM 400, MAN 402

### **HRM407 Seminar in Human Resource Management**

This course focuses on discussions of current theory and research in human resource management and related topics. It is based on high quality contemporary research, case studies, discussion forums and available literature on human resource function as it relates to the overall strategy of the company. This course provides students the opportunity to apply knowledge acquired in prerequisite courses to resolve real-life workplace issues.

### **HRM408 Human Resource Issues in Pakistan**

This course focuses on five key issues that present the greatest opportunities and challenges for HR professionals today and examines their implications in Pakistan. The course explores ways to realign HR and to explain the professional competencies needed to play a leadership role in realizing organizational change; examines the opportunities and benefits of planning for and managing a diverse workforce.

### **HRM409 Management of Excellence & Innovation in Organization**

This course aims to enhance students' understanding of innovation processes in the organization and how to manage such processes effectively. It introduces the key concepts, models, and techniques of innovation and organizational change management. Particular areas of emphasis will be the nature of innovation, innovation process, innovation typologies, changes in the external environment and drivers for change, models of organizational innovation and change, individual and group creativity, factors associated with innovation, practices for developing innovative organizations, organizational culture and transformational leadership.



#### **HRM410 Managing Human Capital**

The course moves the discourse from managing humans as resources to managing them as capital. Challenges of recruitment and placement, training and development, compensation, career planning, organizational growth are viewed as investment rather than as costs. In addition, contemporary management challenges related to leadership and strategic role of human capital in innovation and competitiveness.

#### **HRM501/607 Recruitment and Selection**

This course offers an understanding of effective techniques of the recruitment and selection process. It equips students with generic, technical, analytical and evaluative skills relevant to recruitment and selection. The course encompasses an in-depth knowledge of the entire recruitment process, right from the planning of staff requirement to designing of the job descriptions and advertisements, interviewing and testing applicants till the final selection and job offer. It encapsulates relevant information about the candidate through effective methodologies applied in the interviewing procedure.

Pre-requisite: HRM 301/401/402

#### **HRM502/608 Industrial Relations and Labor Laws**

The course deals with relationship issues arising from interaction between parties in the workplace. It develops an understanding of the principles & philosophy of industrial relations; labor-management relationship and labor administration; industrial relations attitudes and approaches; development and objectives of trade unions; their federations; employers' associations, collective agreements; trade & consideration and process of collective bargaining.

Pre-requisite: HRM 301/401/402

#### **HRM503/609 Employee Training and Development**

The course emphasizes the changing role of training as a tool in giving organizations a competitive advantage in the highly competitive business environment. It covers a broad understanding of strategic training models, need assessment techniques, learning theories and program design evaluation. Traditional training methods, use of new technologies in training and interactive training.

Pre-requisite: HRM 301/401/402

#### **HRM504/610 Negotiation Skills**

Explains the principles of exchange and develops confidence and skills to conduct negotiations and achieve a mutually acceptable outcome. It covers the method of negotiation developed by the Harvard negotiating project, known as Principled Method of Negotiation. The course covers the whole process of negotiations and collective bargaining in the context of business labor laws, industrial relations and practices; from preparation to closing a deal and includes essential guidelines for devising a negotiation strategy; how to reach consensus; what to do when negotiation breaks down and how to make use of a third party to break deadlock and resolve conflict.

Pre-requisite: HRM 301/401/402

#### **HRM505/611 Organizational Change and Development**

The course will help students gain insight into Behavioral Science techniques and practices to help corporate managers and practitioners to formulate and implement changes that promote organizational effectiveness and efficiency and improve quality of life and environment.

#### **HRM506/612 Strategic HRM**

The course provides an in-depth understanding of how the major components of the HR practice fit in with each other in order to develop a "high-performance working environment". This course will give first hand experience about the hidden traps that hinder HR-effectiveness in real life situations and what options does an organization has to avoid these traps.

Pre-requisite: HRM 301/401/402

#### **HRM507/613 Public Relations and Event Management**

The course focuses on public relations as management process in business, government and society; decision-making constraints, use of authority, power play of social, political, economic, technological, and moral issues in decision-making and the limitation and abuse of authority.

Pre-requisite: HRM 301/401/402

#### **HRM508/614 Salary and Compensation**

The course analyzes compensation strategies and practices from the perspective of the industry as well as an individual. It addresses the flexibility propositions in a compensation package which enables a company to adapt to the changing environment.

Pre-requisite: HRM 301/401/402

#### **HRM509/615 Leadership Studies**

This course is designed to cope with the rapid change which the world has been undergoing for the past five decades; more stringent and varying demands are being placed on management leadership for the growth of their organizations, if not for their actual survival.

Pre-requisite: HRM 301/401/402

#### **HRM510 Personnel Development**

This course extends training in the area of performance appraisals and is an integral part of Human Resource Development (HRD). It highlights the procedures for assessment of training needs, employee feedback and counseling, career planning and growth, and ways to enable companies to fulfill the intrinsic needs of its employees.

Pre-requisite: HRM 301/401/402

#### **HRM511/616 Performance Appraisal and Management**

The success of an organization depends on its results, which are achieved by its employees. Unless organizations select, develop & retain the best talent, they cannot succeed. Organizations plan, coordinate and review the activities of employees so as to achieve the desired results. The purpose of this course is to understand the links between human resource planning, performance and compensation.

Pre-requisite: HRM 301/401/402



### **HRM517 Personnel Management & Industrial Relations**

This course aims to cover the theoretical foundations and empirical practice of HRM and IR. It provides students exposure to a wide variety of organizational practices; to manage and develop employees, ensure their welfare and understand changing employment legislation essential to business survival. This course enables students to develop practical skills in the subject area to equip them for a career in HR/IR.

### **HRM530 Research Practicum in HRM**

The practicum prepares students to practice industrial/organizational psychology with the understanding of organizational cultures critical to effective professional practice in the workplace. Independent work under the direction of faculty advisor topics includes assessing, analyzing, or appraising performance, aptitudes, skills, preferences, needs, or personality factors required for job/task analysis, personnel recruitment, selection and placement, or performance evaluation.

### **HRM531 Pay for Performance & Reward**

This course familiarizes students with the concepts of performance management within the wider context of human resource management. It provides students with an understanding of the reward management process which includes pay survey, job evaluation, and the design of pay structure. The concept of equal opportunity in compensation and performance management will be emphasized throughout the course.

### **HRM532 Performance Management**

This course develops the theoretical and practical skills necessary to plan, monitor, measure, motivate, and improve performance. Students learn how to define and develop individual and organization- level performance indicators, align individual and organizational performance goals and objectives, measure and track performance, diagnose performance deficiencies, and develop and implement group and individually tailored performance improvement systems.

### **HRM606 Leadership, Ethics and Change**

Changes in business environment and the technologies create challenges in motivating and leading the employees and other stakeholders in the face of uncertain future. This course will enable the students to develop visions, orientation, skills, personality, and ethical values that will enable them to assume leadership roles in transforming national and multinational organizations and managing change resistance. Ethical and responsible leadership is necessary in championing entrepreneurial and entrepreneurial ventures in the emerging areas of humanoid robotics, genetics and neuroscience related biological ventures.

## **Islamic Banking and Finance**

### **ISF601 Economics for Islamic Finance**

This course aims to provide a basic knowledge regarding the development of Islamic theory and finance and aiming to enhance the student's knowledge in economics of Islamic finance. It refers to all the relevant information available in Quran and Surrah as well as related economics and finance theories.

Pre-requisite: FIN202/601

### **ISF602 Islamic Banking Practices**

The course will explore the fundamental concepts relating to Shariah principles and Islamic banking. The course explains the operations of Islamic banking and institutions while discussing its regulatory and legal aspects.

Pre-requisite: FIN202/601

### **ISF603 Accounting for Islamic Finance**

This course revolves around the accounting concepts in Islamic and conventional banking by a detailed comparative analysis between AAOIFI (Accounting and Auditing Organization for Islamic Financial Institutions) and IFRS (International Financial Reporting Standards). This will be followed by a comparative analysis of Islamic Financial Institutions in order to understand the financial statement and notes to financial statements relevant to Islamic finance transactions.

Pre-requisite: FIN202/601

### **ISF604 Islamic Financial Services Marketing**

This course discusses the fundamental concepts of marketing and relates it to the Shariah principles by elaborating various instruments of marketing Islamic financial services to ensure ethical selling and promotion, such as strategic planning, pricing strategy, marketing mix and distribution channels, etc.

Pre-requisite: FIN202/601

### **ISF605 International Islamic Finance Standards**

This course is designed to provide the students an understanding of AAOIFI standards and the key accounting issues that they are trying to address. Through a review of the twenty-three (23) AAOIFI Standards students will gain an understanding of how this provides a picture of the financial health and Shariah compliance of the institution. Some key differences to International Accounting Standards (IAS) will also be highlighted to enable counterparty credit risk comparisons to be undertaken.

Pre-requisite: FIN202/601

### **ISF606 Islamic Capital Market**

This course is designed to enable participants to acquire a working knowledge of the principles driving Islamic Capital Market (ICM). The course covers the concepts and principles of Islamic Finance, and to the differences between conventional and Islamic Finance, exploring the concepts of Riba', Gharar and gambling in Islamic Finance. Islamic Finance is considered as an alternative form of investment that acquires knowledge of regulatory framework governing Islamic Banking, Takaful and Islamic Capital Market (ICM) activities.

Pre-requisite: FIN202/601



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## Languages

### **LAN101 Introduction to Arabic**

This course is designed for those who do not have any prior knowledge of this language. It enables students to carry out basic conversation in Arabic. Students are prepared in a manner that they can put the message across. This course is designed to bring about awareness about the business taking place between Pakistan and the Arab countries.

### **LAN102 Introduction to French**

This course is designed for those who do not have any prior knowledge of the language. It enables students to carry out basic conversation in French. Students are prepared in a manner that they can put the message across. This course is designed to bring about awareness about the business taking place between Pakistan and France.

### **LAN103 Introduction to Spanish**

This is an introductory course in Spanish. It is structured for those who have no prior knowledge of the Spanish language. It starts from the basics and brings the students to a level at which they can develop phrases and understand spoken Spanish.

### **LAN104 Introduction to German**

This is an introductory course in German language. It is structured for those who have no prior knowledge of the German language. It starts from the basics and brings students to a level at which they can develop phrases and understand spoken German.

### **LAN105 Introduction to Japanese**

This is an introductory course in the Japanese language. It is structured for those who have no prior knowledge of the Japanese language. It starts from basics and brings students to a level at which they can develop phrases and understand spoken Japanese.

### **LAN106 Introduction to Italian**

This is an introductory course in Italian. It is structured for those who have no prior knowledge of the Italian language. It starts from basics and brings the students to a level at which they can develop phrases and understand spoken Italian.

### **LAN107 Introduction to Russian**

Introductory course structured for beginners. Students will learn basic grammar, pronunciation and dialogue interaction so as to develop phrases and understand spoken language.

### **LAN108 Introduction to Chinese**

This course is designed for those who do not have any prior knowledge of this language. It enables students to carry out basic conversation in Chinese. Students are prepared in a manner that they can put the message across. This course is designed to bring about awareness about the business taking place between Pakistan and the Chinese countries.

### **LAN112 Urdu I**

Urdu I is a foundation level course meant to stimulate students' curiosity in a language that serves as the primary vehicle of communication in the country's journalistic environment. Focused first on strengthening structural elements of grammar and composition, the course helps develop vocabulary and writing skills, through reading of short essays, poems, and articles of general interest.

### **LAN113 Urdu II**

Urdu II is geared to enhance the students' language competency by introducing them to classical and contemporary literature, in some measure, and encouraging structured discussion and debate in class. Writing exercises alternate reading of text that gets more extensive and challenging as the semester progresses.

Pre-requisite: LAN112

### **LAN201 Intermediate Arabic**

This course is designed for those who have basic knowledge of the language and are able to make simple conversation. It further enables students to converse in Arabic on a higher level for specific dealing purposes. This course is designed to give general knowledge of how to communicate in different environments in Arabic. It prepares students in a manner that they can deal with different situations while traveling and corresponding with Arabic natives by letter or e-mail. The main objective of this course is to bring students to a level where they can communicate well and deal with different situations in basic business Arabic.

Pre-requisite: LAN 101

### **LAN202 Intermediate French**

This course is designed for those who have basic knowledge of the language and are able to make simple conversation. It further enables students to converse in French on a higher level for specific dealing purposes. This course is designed to give general knowledge of how to communicate in different environments in French. It prepares students in a manner that they can deal with different situations while traveling and corresponding with French natives by letter or e-mail. The main objective of this course is to bring students to a level where they can communicate well and deal with different situations in basic business French.

Pre-requisite: LAN 102

### **LAN203 Intermediate Spanish**

This course is for those who have a basic understanding and command of the Spanish language. It is oriented towards advanced sentence structuring and composition while improving one's speech style.

Pre-requisite: LAN 103

### **LAN204 Intermediate German**

This is an advanced course for those who know the basics of the German language. It teaches advanced sentence structuring and composition while improving one's speech style.

Pre-requisite: LAN 104





### **LAN205 Intermediate Japanese**

This course is for those who have a basic understanding and command of Japanese language. It is oriented towards advanced sentence structuring and composition while improving one's speech style.

Pre-requisite: LAN 105

### **LAN206 Intermediate Italian**

This course is for those who have basic understanding and command of the Italian language. It is oriented towards advanced sentence structuring and composition while improving one's speech style.

Pre-requisite: LAN106

### **LAN207 Intermediate Russian**

The course is oriented towards advanced sentence structuring and composition while improving dialogue interaction.

Pre-requisite: LAN107

### **LAN208 Intermediate Chinese**

This course is designed for those who have basic knowledge of the language and are able to make simple conversation. It further enables students to converse in Chinese on a higher level for specific dealing purposes. This course is designed to give general knowledge of how to communicate in different environments in Chinese. It prepares students in a manner that they can deal with different situations while traveling and corresponding with Chinese natives by letter or e-mail. The main objective of this course is to bring students to a level where they can communicate well and deal with different situations in basic business Chinese.

Pre-requisite: LAN108

### **LAN401 Functional Urdu**

The course will give an insight into the basics of Urdu language. Students will be able to shape language to communicate effectively, while applying appropriate conventions of language usage and grammar. The course will also focus on vocabulary and reading, writing and speaking skills.

## **Law**

### **LAW101/102 Mercantile Law I & II**

The courses aim to enable the students to develop a professional approach towards matters connected with Mercantile Law in the performance of their duties as chartered accountants.

### **LAW103/104 Company Law I & II**

These courses provide candidates with knowledge of the Companies Ordinance, 1984, and helps them to develop an understanding of their application to corporate and other business environment, excluding advanced topics such as provisions relating to arbitration, arrangements and reconstruction, prevention of oppression and mismanagement, winding up, etc.

Pre-requisite: ACC102

### **LAW301 Intellectual Property, Patents, Copyrights**

This course emphasizes on patents and copyrights and a briefer look at trade secrets and trademarks. Current issues relating to information technologies and business methods will be highlighted. The seminar has no prerequisites, and is designed for both graduate students and undergraduates.

### **LAW400 Company Secretarial Practices**

This course introduces participants to the duties and responsibilities of the corporate secretary in organizations. Students will explore the role and functions of the corporate secretary and the application of best practice in the conduct of meetings and in ensuring compliance with legal and regulatory requirements.

### **LAW401 Business Law**

The course provides study of law relating to commercial associations/entities. The topics includes an introduction to the concepts and sources of laws; different aspects of contract laws, the selected parts of partnership laws, sale of goods laws etc.

### **LAW402 Corporate Law**

The aim of the course is to provide knowledge about the practical aspects in the areas of the Companies Ordinance, 1984, e.g., incorporating/registering different types of companies, raising finances, managing company meetings; powers, duties & responsibilities of directors.

Pre-requisite: ACC101 / 402

### **LAW403 Business & Insurance Law**

The legal environment should be an exciting, contemporary, and interesting. This course includes new statutes, regulations, and cases, as well as the most recent developments in cyber, Insurance Law, and Takaful regulations. Course today explicitly addresses the Schools of Business's (AACSB's) broad array of curriculum requirements.

### **LAW404 Arbitration**

The course consists of a theoretical and a practical component. It is a skills-orientated course, designed specifically not only to expose students to the practical skills required during arbitration but also to provide a theoretical context for such skills.

### **LAW405 Media Law and Business Ethics**

This course is based on interaction between media and the public sphere and examines the way moral criteria have been used to underpin the legitimate ethics of journalistic practice. It aims to develop a new framework, which can take an account of the way in which information is produced and distributed in the new environment.

Pre-requisite: MMM438

### **LAW406 Professional Ethics and Legal Issues**

This course addresses the legal and ethical issues in organizations from a multicultural perspective. The emphasis is on the study of multiple perspectives on an issue, analysis and problem solving strategies to create policy and sustain practices that conform to the spirit of ethics codes in its applicability both domestically and globally.



#### **LAW407 Statutory Compliance**

This course provides advanced investigation skills to implement effective management systems to monitor statutory compliance, identify breaches and enforce compliance. This course is designed for those personnel who have a role in monitoring and enforcing legislation or other statutory obligations on the public or private sector.

#### **LAW409 Corporate and Business Law**

Course not only helps students develop a thorough understanding of the legal environment of business, but also enhances their ability to engage in critical thinking and ethical analysis, and ultimately survive in an increasingly competitive global environment.

### **Management**

#### **MAN101/301/401 Principles of Management**

The purpose of this course is to prepare students to be managers. The course includes a wealth of conventional wisdom related to traditional management challenges of planning, organizing, leading and controlling. In addition, the contemporary management challenges related to such issues as people, quality, diversity, ethics and the global environment are included.

#### **MAN201 Personal Management**

The importance of self-management is stressed for productive results. Topics include time management, stress and conflict handling. Development of emotional maturity is discussed and interpersonal skills are developed through transactional analysis.

Pre-requisite: MAN 101/301/401

#### **MAN302/402 Organizational Behavior**

Organizational behavior is a study of how people behave as individuals, in groups and how groups behave as parts of organizations. An effective organization is the one that understands and manages optimum levels of these three types of behavior.

Pre-requisite: MAN 101/301/401

#### **MAN303/406 Production and Operations Management**

The course will provide a student-oriented presentation of the subject. It will reflect current production and operations management practices and techniques. An integrated approach featuring management process, resource conversion and concepts, models, and behavior applications within the production/operations function will be followed.

Pre-requisite: MAN 101/301/401, STA 202, MTH 103

#### **MAN305 International Relations**

This course aims at providing basic knowledge of international relations. In this course, the key theoretical concepts and terms of the field will be discussed such as level of analysis of international relations, theory and theory building, important actors in the international arena and the world system, and relations between states.

Pre-requisite: MAN 201

#### **MAN307 Entrepreneurial Leadership and Motivation**

The course aims at inspiring students to become successful entrepreneurs and attain leadership in their respective fields of endeavor. The course involves extensive interactions with startup and renowned entrepreneurs for inspiring passion and enabling “mentorship” for the conception, identification, and implementation of entrepreneurial personality and projects.

#### **MAN308 Social Advocacy and Community Service**

The course objective is to contribute to the development of the society and to enable social entrepreneurship for issues afflicting the society. The course covers practical hands on projects involving students helping the community through experiential learning projects and would involve setting up of the micro-businesses for the needy families and establishment and support of organizations involved in social work.

#### **MAN321 Organizational Behavior & HRM**

This management area focuses on (1) individual, group, and organizational attributes and behavior to describe and explain the functioning and structuring of work organizations, and (2) the practical aspects of human resource management. Students seeking managerial careers in any business function can valuably learn about leadership, motivation, morale, performance, teams, organizational culture, and organizational design.

#### **MAN403 Entrepreneurship & Small Business Management**

To provide an understanding of the person and the process of creating and growing a new venture, this course introduces the entrepreneurial perspective and focuses on all the elements in the entrepreneurial process that are part of creating a new venture. It introduces a new venture through alternative sources of capital in financing.

Pre-requisite: MAN 101/301/401, MKT 302/402, FIN 202

#### **MAN404 Operations Research and Management**

The course aims to enhance the capability of decision-making through application of modern methods of mathematical science to complex problems.

Pre-requisite: MKT 303, MAN 303

#### **MAN405 Strategic Management**

The course is intended to be a challenging and exciting capstone course for a graduate business school curriculum. It is the first course about strategy and its implementation. Students will be exposed to the state of the art of strategy analysis, formulation, implementation and control.

Pre-requisite: MKT 302/402, MAN 301/401, 302/402, HRM /401/402

#### **MAN407 Organizational Management**

This course is a study of the entire process of management. It gives an insight into the development of managerial skills for effective running of business operations. Along with the in-depth knowledge of the functions of management it serves as a basis for understanding motivation techniques for human resource which is critical for synergies in business.



#### **MAN408 Analysis of Pakistani Industries**

Students get a micro and a macro environmental exposure and understanding of the various issues facing the industry. This course also aims at benchmarking the various functional processes so as to achieve organizational excellence.

Pre-requisite: MAN 302, HRM 301, ECO 402

#### **MAN410 Introduction to Industrial Management**

The course introduces industrial management operation system & includes objectives; entrepreneurship, project identification, evaluation, project & operation cost, productivity, breakeven analysis, process management, operations strategy, competitive strategy framework for competitor analysis, structural analysis of industry, total quality management, capacity planning & facility location, inventory management, supply chain management, project management, project control and technology management..

#### **MAN411/611 Project Management**

The course covers project initiation, discovery and analysis, time and cost estimates, project planning, network diagram, critical path, recourse management plan, project execution, monitoring and managing, project control, project closure plan, managing operation transfer plan.

#### **MAN413/615 Corporate Social Responsibility**

CSR is the commitment of businesses to contribute to sustainable economic development by working with employees, their families, the local community and society at large to improve their lives in ways that are good for business and for development.

Pre-requisite: MAN 401

#### **MAN415 Entrepreneurial Leadership and Motivation**

The Course aims at aspiring students to become successful entrepreneurs and attain leadership in their respective fields of endeavours. By enabling them to overcome their fear and problems of start-up businesses the Course involves presentations by renowned entrepreneurs to arouse passion and provide "mentorship" for successful implementation of entrepreneurial projects.

#### **MAN416/613 Corporate Governance**

Corporate Governance is the system by which business corporations are directed and controlled. The Corporate Governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, such as the board, managers, shareholders and other stakeholders and spells out the rules and procedures for making decisions on corporate affairs.

Pre-requisite: MAN 401

#### **MAN417 Services Management**

This course focuses on service industries such as dealing with intangibility and inseparability. It also examines the problems faced by professional, not-for-profit, social and financial services marketers.

#### **MAN418 Management and Organizational Dynamics**

This course provides a higher level exposure to the management process and organizational behavior from a social science and behavioral perspective. Emphasis is on the analysis and understanding of individual and group behavior in organizations with special attention to managerial and policy implications. Students will study organizational processes both theoretically and in an experiential environment through exercises, case-studies and the experiential-learning projects.

Pre-requisite: MAN 401

#### **MAN501 Total Quality Management**

This course revolves around the customer satisfaction model and deals with the areas of benchmarking, ISO-9000 (quality management systems), ISO-14000 (environmental quality systems), statistical process control, customer satisfaction approaches/models (management tools). There is special emphasis on research project & case studies in this course.

Pre-requisite: MAN 101/301/401, MAN 303

#### **MAN502 Business Process Re-engineering**

This course is designed to develop an understanding about organizing, managing & improving the ongoing process & systems essential for sustained growth of the organization.

Pre-requisite: MAN 101/301/401, MAN 303

#### **MAN503 Supply Chain Management**

This course covers essentials of Supply Chain Management and is divided into foundations of SCM, enabling concepts, the requirement process, strategic sourcing, strategic cost management relationship management and world class supply chain management.

Pre-requisite: MAN 101/301/401, MKT 301/401

#### **MAN504 Business Balanced Scorecard**

This course is a set of measures that provide a comprehensive business overview. It includes not only measures that track past actions, but also those that drive future performance. In this course, students will build the skills to create a strategy map and a Balanced Scorecard for an organization.

#### **MAN507 Business Etiquette**

The course deals with the ingredients necessary for career growth, apart from technical competence, e.g., protocol in the office, personal grooming and dress, relationship with colleagues and customers, etc.

#### **MAN508/614 Comparative Management**

This course exposes students to the different work-related values and norms prevalent in various countries of the world. The main aim of this course is to expose students to different cultural mindsets and the effective leadership styles which have been developed in different parts of the world.



### **MAN509 Logistics and Inventory Control**

The course is based on analysis and designing of domestic and international logistics systems. Topics include transportation, warehousing, inventory control, materials handling and packaging, and plant and warehouse locations. The course may serve as preparation for the American Society of Transportation and Logistics Certification examination in logistics systems management.

Pre-requisite: MAN 304

### **MAN510 Management Infrastructure**

This course is a study of the entire process of management. It gives an insight into the development of managerial skills for effective running of business operations. Along with the in-depth knowledge of the function of management it serves as a basis for understanding the motivation techniques for human resource which is critical for synergies in business.

### **MAN601 Advanced Qualitative Research**

This course introduces students to issues involved in developing appropriate research strategies for investigation business and organizational issues and concerns. Extensive literature review, presentation and research article summaries constitute its essential part. Quantitative research techniques are discussed at a higher level and software such as SPSS, MINITAB and EVIEWS are used to analyze secondary data.

### **MAN602 Survey of Current Research Literature in Management**

The course provides a review of management research literature under the supervision of PhD faculty. It provides an opportunity to analyze quality research published in different professional journals in the field of Management. The course concentrates on organizational behavior, business policy, human resource management, behavioral sciences.

### **MAN603 Technology, Innovation and Strategy**

The Course covers the evolving technological trends and their impact on current and future business strategies, operations and environment. These new challenges require innovation and creative strategies to successfully lead through the transformation.

### **MAN604 Management Strategies and Emerging Organizations**

The course aims to equip students in the art and science of conceiving, developing and implementing management strategies to attain and retain business advantage particularly in the emerging organizations. As organizations become global and increase their reach through internet and mobile technologies, they are undergoing transformation of their assumptions regarding reporting structures, lines of communications, and management of their resources.

### **MAN605 Seminar in Business Policy**

Business Policy is a multidisciplinary Capstone Course which focuses on all aspects of business including organizational strategies and practical and emerging trends relating to successful organizations around the world. It will cover policy, rationale and practices relating to business of successful organizations with particular emphasis on latest and emerging trends.

### **MAN606 Business Analytics for Decision Making**

Business Analytics refers to the ways enterprises use data to gain insights and make better decisions. This course will develop students' skills in the use of Big Data to develop business insights and predictive capabilities, using machine learning, data mining and forecasting techniques, as well as optimization techniques to make business sense from corporate databases and internet data from corporate websites, social networks and other data sources.

### **MAN608 Technology, Operations and Innovation**

Technological trends are modifying and challenging business operations and production of value as well as business interactions with customers and society. These challenges require innovation and technologies to make the organizations nimble and efficient. As manufacturing moves towards nano-technologies and atomic level production, the production processes would change. Information explosion at an exponential rate is creating challenges of business analytics in understanding and managing the changing world. Neuron level technologies are posing challenges in managing perception and control of human beings.

## **Management Information Systems**

### **MIS001 Introduction to Computers**

The course is an overview of computers, understanding the machines, binary (bits and bytes), different goals, different machines and their sizes, history of computers and parts of computers.

### **MIS102 Computer Concepts**

The course provides an overview of computers, understanding the machines, binary (bits and bytes), different goals, different machines and their size, history of computers and parts of computers. Problem solving techniques using computers, flow charting and algorithm design, processing methods and programs, types of computer languages, types of computer software an introduction to operating systems is also part of the course.

### **MIS103 Computer Applications I**

The course is a study of microcomputer applications software, including operating systems, word processing, presentation graphics, spreadsheet, and implementation of solutions using appropriate applications software.

Pre-requisite: MIS 102

### **MIS104 Computer Programming and Graphics**

This is the first course in computer programming for engineers, involving an extensive development of programming skills required in engineering disciplines, the concepts of source and object programs, compilation, data and program distinction.

### **MIS106 Computer Applications in Business**

The course is a study of microcomputer applications software, including operating systems, word processing, presentation graphics, spreadsheet, and implementation of solution using appropriate application software. The course helps to develop integrated business microcomputer based applications.



**MIS201 Computer Applications II**

The course helps to develop integrated business microcomputer-based applications. It emphasizes on design principles of transaction processing, management reporting, decision support, and executive support.

Pre-requisite: MIS 103

**MIS303 Information Systems Auditing and Management**

The course provides fundamental concepts related to an information systems audit and management. Principles and practices related to secure operation of existing information technology. Information security management and accountability, development of internal control objectives and framework. Management, Security, Control of Information Systems: Break-downs, vulnerability, hazards. Physical, application, networks, access controls. Role of Internal, External and IT auditors, risk Based Auditing, Internal Controls, SW Controls and their Evaluations, Technology Controls, Information Security and Evaluation, Business Continuity Planning and Evaluation.

**MIS305 Customer Relation Management Systems**

This course examines customer relationship management (CRM) as a key strategic process within organizations with special emphasis on systems generating and capturing the data, linking them to various activities and enabling a one window resolution of all customer related issues and concerns. CRM is defined as the overall process of building and maintaining profitable customer relationships by delivering value and satisfaction to the customer. Focusing on process, strategy and technology, this course leads students from understanding the fundamentals of CRM through the implementation of CRM systems and analysis of customer data.

**MIS401 Computer Applications**

The course is a study of information technology used in business information systems, including input, processing, storage and retrieval, output hardware and software, including operating systems and management reporting, decision support, and executive support systems. It emphasizes on microcomputer applications software, including operating system, word processing, presentation graphics, spreadsheet, database software, design principles of transaction processing and executive support systems.

**MIS402 Computer Concepts and Applications**

This course has been designed for students to learn basic concepts of Management Information Systems, components and types of MIS, relationship between information technology and MIS; information about software, their types and application, hardware components of a computer system; devices attached to a computer, use of internet, e-mail and e-commerce.

**MIS403 Web Authoring**

The course provides an introduction to IIS, internet architecture, creating simple web document, HTML, DHTML, linking web pages together, advanced formatting options, adding images to web document, CGI forms, etc.

Pre-requisite: MIS 401, MIS 402, MKT 301/401

**MIS407 Programming in JAVA**

Introduction to object oriented methods, fundamental programming structure in JAVA, GUIs, applets, application, script programming, JAVA database connectivity, JAVA beans, etc.

Pre-requisite: MIS 401, MIS 404

**MIS408 Web Page Development and Adobe Photoshop**

The course includes an introduction to World Wide Web, hypertext and browser; basic HTML and WWW linking web page together; creating simple web documents, advanced formatting options, adding tables to web pages, adding images to web documents; working with URLs, using external media and plug-ins, linked windows and frames; uploading web pages on internet server, CGI and forms, image maps and dynamic documents.

**MIS409 Computer Applications and MIS**

This course has been designed to teach basic concepts of Management Information Systems, components and types of MIS, relationship between information technology and MIS, information about software, their types and application, hardware components of a computer system; devices attached to a computer and the use of internet, e-mail and e-commerce.

**MIS411 Graphics and Animation**

This is a practical course which aims to make the student familiar with the use of software to produce different types of graphics and animation in their films and presentations.

**MIS404 Computer Programming Language**

The course includes computer cultural impact, its history and uses the essential features of computers and computing systems, problem analysis, development of basic algorithms, introduction to a high level language with general applications, digital computer organization, machine language, instruction execution, addressing techniques, digital representation of data symbolic coding and assembly system, macros, conditional assembly; I/O control subroutine linkage, system and utility programs.

Pre-requisite: MIS 401

**MIS405 Computer Applications - E-Business**

The course provides Understanding of e-Business models and their influence on the supply chain structure Knowledge of standards and basic technologies of e-business IT solutions Ability to design B2B-solutions. Introduction into B2B-concepts.

**MIS406 Operations Research**

The course focuses on the nature of operations research, formulating problems and objective analysis, types of problems, risk situation, sequential decisions models, linear programming model, graphical method, simplex method, etc.

Pre-requisite: MIS 401



#### **MIS413 Information Technology I**

The objective of this course is to provide students with adequate knowledge of computer hardware and software; important elements and concepts of information systems; basic principles of computer programming and computer software application. It also gives an insight in the IT Security and controls; focuses on practical experience on performing various general procedures and the use of standard packages.

#### **MIS416 Information Technology II**

The course will advance students' IT knowledge and also allow them to expand into new areas. It offers students the opportunity to study new and emerging areas of advanced information technology (IT). Students will have a sound theoretical and practical basis for beginning or continuing a professional IT career.

Pre-requisite: MIS413

#### **MIS501 Information Systems Management**

The course covers information systems planning techniques, information systems portfolio analysis and management control and auditing techniques related to information systems. In addition, it focuses on organizing and managing international information systems.

Pre-requisite: MIS 103/401

#### **MIS502 Electronic Commerce**

The course covers information systems that provide services to multiple organizations linking many buyers and sellers electronically. The topics include telecommunications, electronic data interchange, and doing business on the internet. It emphasizes international information policy issues affecting electronic commerce.

Pre-requisite: MIS 103, MIS 201, MIS 401

#### **MIS503 System Analysis and Design**

The course focuses on the methodologies and software tools in analyzing business processes. Topics include business re-engineering and information systems cost-benefit concepts; total quality management concepts; systems-building methods, including the system life cycle, prototypes, and end-user development techniques.

Pre-requisite: MIS 103, MIS 201, MIS 401

#### **MIS504 Oracle/ Developer 2000**

The course teaches design, implementation and management of relational database systems. The basic topics such as creation of tables, indexes, constraints (referential integrity), views and querying data and advanced topics such as rollback segments, parallel processing options and triggers are covered in the course.

Pre-requisite: MIS 103, MIS 201, MIS 401

#### **MIS505 Software Engineering**

The course introduces the architectural make up of some well-known operating systems (from micro to mini to mainframe systems). It also introduces different programming techniques using fifth-generation languages such as C++ to visual basic.

Pre-requisite: MIS 103, MIS 201, MIS 401

#### **MIS506 Data Communication and Networking**

This course is designed to teach from the very basic to advanced network design methodologies and modern trends in data communications. Design and implementation of windows NT server 4.0 covering topics such as installation of user accounts, groups, domains and trust relationships, sharing of drives, directories and files are taught. It also covers network protocols, such as NetBeui, IPX/SPX and TCP/IP and communication protocols.

Pre-requisite: MIS 103, MIS 201, MIS 401

#### **MIS507 Relational Database Management Systems**

The course includes continuation of data structure covering file structures & databases, random, indexed sequential inverted & multi-list file structures, concept of data models, data security and data integrity, etc.

Pre-requisite: MIS 103, MIS 201, MIS 401

#### **MIS508 Programming in C++**

The course includes the basic concepts of object oriented programming, functions, classes, linked list and procedures.

Pre-requisite: MIS 103, MIS 201, MIS 401

#### **MIS509 Software Project Management**

The course emphasizes the use of Computer-Aided Software Engineering (CASE) tools and object-oriented design and programming; configuration management and simulated project management; examination of software design issues and techniques. It includes a survey of design representation and a comparison of design methods; planning, scheduling and control of projects including cost estimating techniques; network analysis, time analysis, CPM and PERT, resource allocation, constraining & leveling; review of commercially available software and the use of PC based project management package.

Pre-requisite: MIS 401, MIS 406, MIS 505

#### **MIS510 Object Oriented Systems Analysis and Design Elective**

The course introduces an object-oriented and web-based software focusing upon the object model describing classes, their relationships to other objects, and their attributes and operations.

Pre-requisite: MIS 407, MIS 503

#### **MIS511 E-Commerce, Web Design and Graphic Design**

The course introduces students to the multi-disciplinary field of electronic commerce; basic e-commerce concepts; a review of relevant internet technologies; LANS, internet, DNS, web browsers, HTML, HTTP, databases, server architectures; commerce workflow models, business models for e-commerce, the value chain, roles and functional architectures; protocol architectures, issues of compatibility portability, transaction processing: database integrity, transaction processing (local key cryptosystem, internet security and security applications for e-commerce.

Pre-requisite: MIS401



### **MIS521 Record Management**

This course particularly caters to the needs of management responsibilities; IT professionals and perspective on some of the unique issues facing the management of IT professionals. Organization Leaders often set the tone and establish the benchmarks for success. In this course, the focus is on developing a successful leadership style that facilitates team-building, collaboration, and a corporate culture that promotes success. Different decision-making techniques will be explored in the context of successful leadership styles.

Pre-requisite: MIS102/MIS401/MIS402

### **MIS522 Business Information Systems**

The course provides strategic views of information systems in modern business as well as the opportunity to examine and build IS solutions. It also provides ample opportunities to gain practical programming skills necessary for successfully developing business applications using modern development technologies and methodologies which constitute the core of this course.

Pre-requisite: MIS102/MIS401/MIS402

### **MIS523 Decision Systems**

The course helps to gain an insight into different decision levels and practical problems of organizations. The course emphasizes the study of decision theory, decision systems development and enabling technologies. The course includes the application and critical evaluation of methods and technologies in the decision-making path in current business scenarios.

Pre-requisite: MIS522

### **MIS524 Decision Support Systems**

This course provides a review of the literature in the area of decision support systems (DSS) and DSS frameworks, the process of decision-making and issues involved in the design, implementation and evaluation of DSS. Additional topics include data mining, user interfaces, knowledge-based DSS, and research directions in DSS; the design and implementation of a DSS prototype.

Pre-requisite: MIS523

### **MIS525 Enterprise Systems**

This course examines enterprise systems from the perspectives of Information systems and operations management. It examines cross-functional integrated computer-based information systems, commonly referred to as Enterprise Resource Planning (ERP) systems, designed to support an organization's information needs and operations. Common business processes, re-engineering/change management, and enterprise reference models are introduced from a holistic perspective. The course considers issues associated with the selection, analysis, design, implementation, and configuration of such enterprise systems. It investigates how such systems implement transaction processing, management information, and decision support across an organization's various business processes. Strategic issues relating to success/failure and human aspects will also be introduced.

Pre-requisite: MIS501

### **MIS526 Introduction to ERP Systems**

This is a hands-on intensive implementation course exploring latest trends in off-the-shelf ERP packages like Oracle Applications or SAP. Overview of the reach of the ERP modules such as ordering and sales, inventory and material management, procurement, project management, manufacturing planning and control, finance, costing, business intelligence, maintenance, HR, etc. The course would involve an in-depth study of parameters, options, customizations and tuning features available in selected ERP modules. Business requirements, implementation methodologies and distinctive features would be analyzed. Hands-on application of ERP concepts in a real-life scenario would be studied.

Pre-requisite: MIS525

### **MIS527 Information Security**

The course presents technical arrangements for making information systems more secure. The process starts with defining the proper security requirements that are usually stated as a data security policy. Other topics include: identification and authentication, access control, security kernel, physical security, eavesdropping, hardware security, system software security, encryption techniques, public key infrastructure, security protocols and handling subversive software.

Pre-requisite: MIS506

### **MIS528 Advanced Information Security**

The course addresses concerns regarding confidentiality, privacy and the volatility of information resulting from the use of information technology. It emphasizes such managerial security issues as system security and controls, legal and ethical issues arising from protecting computer files both from a Pakistan and world perspective, disaster recovery and contingency planning and other tools used for protecting information system resources.

Pre-requisite: MIS527

### **MIS530 Information Systems Research**

The course provides an opportunity for a substantive review of research in the discipline of information systems as the essential part. Behavioral, strategic and social issues relating to the design, implementation and impact of information technology applications will also be studied.

Pre-requisite: MIS501, MKT404

### **MIS532 New Perspectives on Organizations and Information Systems**

The course investigates the major issues facing organizations in adopting, implementing and using information systems for competitive advantage. It also provides an opportunity to explore a set of critical issues from both an academic and practical perspective. The topics include strategic information systems, e-commerce, knowledge management, the emergence of the business process, ERP implementation, virtual teams and global IT, IS and developing countries, etc.

Pre-requisite: MIS522, MIS525



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## Marketing

### **MKT301/401 Principles of Marketing**

This course is an introduction to the language and issues of marketing. The course focuses on basic marketing concepts, the role of marketing in the organization, and the role of marketing in society. Topics include market segmentation, product development, promotion, distribution, and pricing.

### **MKT302/402 Marketing Management**

This is an intermediate level marketing course that incorporates a mix of lecture and case study approaches, rounding it off with a term- project aimed at understanding the practice of marketing management in the real business world.

Pre-requisite: MKT 301/401

### **MKT403 Sales Management**

This course enlightens students on how organizations' sales goals can be met in an effective & efficient manner through planning, staffing, training, leading & controlling organizational resources. The course teaches students to prepare sales plans and forecasting, territory planning, and time management among other topics.

Pre-requisite: MKT302/402

### **MKT404 Methods in Business Research**

Objective of this course is to introduce students with fundamental business research process and to provide them with the necessary skills in designing and conducting basic quantitative and qualitative research which can be applied to practical problems encountered in a business organization.

Pre-requisite: MKT302/402, STA 202/403/404

### **MKT405/619 Marketing Research**

An Applied Orientation takes a unique functional and marketing approach that illustrates the interaction between marketing research decisions and marketing management decisions. This course is comprehensive, practical and presents a balanced coverage of both qualitative and quantitative material around marketing research.

Pre-requisite: MKT302/402, STA 202/403/404

### **MKT501 Strategic Marketing and Planning**

This course will provide a general understanding of the strategic marketing process, its relationship with the corporate strategy and the particular role of market driven strategies. It will provide an understanding of the concept of market orientation and role of distinctive capabilities to deliver value to different product-markets.

Pre-requisite: MKT 302/402

### **MKT506/616 International Marketing**

This course analyses opportunities, distinctive characteristics and emerging trends in foreign markets; explores alternative methods and strategies for entering foreign markets; organizational planning and control taking into consideration the impact of social, cultural and economic factors.

Pre-requisite: MKT 302/402

### **MKT507 Services Marketing**

This course focuses on the unique challenges of marketing for delivering quality services to customers. It covers attraction, retention, and building of strong customer relationships through quality services. The course is equally applicable to organizations whose core product is service (e.g., banks, hotels, hospitals, educational institutions, professional services, telecommunication etc.) and to organizations that depend on service excellence for competitive advantage (e.g., high technology manufacturers, automotive, industrial products, etc.).

Pre-requisite: MKT 302/402

### **MKT508 Personal Selling**

This course focuses on the theoretical and practical techniques used in selling goods and services in a B2B as well as in a B2C environment. Emphasis is given to developing practical skills in presenting goods and services to prospective buyers. Attention is devoted to the art of persuasion as a life-skill and to the need to develop professional relationships in business. The importance of the sales professional in the business community and the need for ethical behavior is emphasized. The overriding sales philosophy is relationship focused and the customer approach is consultative.

Pre-requisite: MKT 302/402

### **MKT509 Consumer Behavior**

The course begins with providing an orientation on the concept of consumer behavior and its evolution with changing times with a focus on emerging segmentation and targeting. The course further aims at describing and analyzing how consumers make decisions and identify how the featured organization used insights about the consumer decision-making process and decision-making units to design a marketing program.

Pre-requisite: MKT 302/402, MKT404

### **MKT510 Direct and Digital Marketing**

This course gives an insight into the nature and purpose of direct marketing and how companies can use the various promotional tools to gain a competitive edge over competitors. It differentiates various elements of communication mix and explains where they are used to access targeted consumers.

Pre-requisite: MKT 302/402

### **MKT511/615 Brand Management**

MKT511/615 Brand Management

This course is designed to introduce the concept of brands, brand equity, brand identities, the value of brand as an asset and how they deliver value to all the stakeholders.

Pre-requisite: MKT 302/402





### **MKT513 Media Planning**

This course teaches techniques which are used by marketers to sell media as well as methods employed to convince advertisers of how their applications can be used to obtain optimum results. Often this takes the form of presentations to advertisers and could include the preparation of a media plan for each campaign to help clients.

Pre-requisite: MKT302/402

### **MKT519/613 Marketing of Financial Services**

The growth and diversification of the financial services market has led to increasing competition for customers and the constant creation of new products. Significant regulatory developments, impact of technology and new entrants from the global arena with challenge of retaining an ever so mobile consumer has a profound impact on competition in the sector hence the role of marketing is of creating and sustaining a competitive advantage.

Pre-requisite: MKT302/402

### **MKT520 Merchandising and Sales Promotion**

The course aims to touch upon a frequently overlooked facet of marketing; visual marketing and the role it plays in sales promotion. The course will explore the definition and use of visual merchandising with an emphasis on local companies and then move on to the role it plays in sales promotion.

Pre-requisite: MKT302/402

### **MKT521/612 Distribution and Channel Management**

Channel Management is a vital element of marketing models. This course has been designed to prepare students with a framework as well as operational plan for the execution of a successful distribution strategies related to multi-national and national companies, keeping in view the key elements of Pakistani markets.

Pre-requisite: MKT302/402

### **MKT526 Public Relations and Event Management**

Public relations is increasingly being recognized as an important business function. Accordingly, this course prepares students to acquire a full understanding of the function of public relations in a complex, social, economic and political environment. This course will also familiarize the students with the processes, tools and techniques required for effective public relations.

Pre-requisite: MKT 302/402

### **MKT527 Integrated Marketing Communication**

The objective of this course is to provide students with an understanding of integrated marketing communication from a conceptual point of view as well as its practical application in business organizations. It will focus on essential concepts such as the impact of communication and buying behavior, the role of promotional activities and tools, as well as provide insight into more advanced concepts and guiding principles of value-based IMC planning.

Pre-requisite: COM402, MKT401

### **MKT531 Retail Management**

This course provides a good understanding of the concepts, strategies and trends associated with a retail operation in the marketplace. It explores the current retail environment and key retail management strategies, retail merchandising, advertising, promotion and other important elements.

Pre-requisite: MKT302/402

### **MKT532 Principles of Advertising**

This course is designed to provide a fundamental understanding of advertising, with a sharp focus on the creative process. It will introduce students to the structure and functioning of different areas in a typical advertising agency viz. Strategic Planning, Client Service, Creative and Media Planning, and their role in servicing their clients' needs.

Pre-requisite: MKT 302/402

### **MKT534 Marketing for Social Impact**

This course aims to develop students' knowledge and skills in the application of traditional marketing concepts to social issues and related behaviors. The course enables students to consider the nature of social marketing as well as the theoretical foundations that underpin the social marketing discipline. In particular, the course provides an opportunity to understand theory and its application via communication and behavioral change strategies to achieve positive social change.

Pre-requisite: MKT302/402

### **MKT535/624 New Product Management**

The objective of this course is to familiarize students with applications of relatively recent new product planning techniques. The course will emphasize the use of market research data and marketing models for new product management. The main topics to be covered in this course are product positioning, market segmentation, market share estimation, product packaging, advertising, testing, pricing, brand name selection, brand equity, and global product planning

Pre-requisite: MKT302/402

### **MKT601 Marketing Strategies and Value Innovation**

This course examines different marketing led strategies to develop and grow a business. It explores the links between the business strategy and marketing strategies keeping in view the concepts Value Innovation in particular.

Pre-requisite: MKT302/402

### **MKT602 Marketing Analytics**

The aim of this course is to prepare future managers who appreciate the importance of competitive advantages leveraged by analytics, understand the existence of the tools, the advantages and limitations of each tool; apply these tools, interpret the input and communicate the output from these tools and models, and apply them to assist business decisions.

Pre-requisite: MKT302/402, MKT404



### **MKT608 Small Business Marketing**

The course is specially designed to help small businesses with limited resources to develop effective and competitive marketing programs. Students will learn to position a small business by designing and executing innovative marketing strategies covering product, pricing, channel and communication aspects.

Pre-requisite: MKT302/402

### **MKT618 Advertising Management & Strategy**

The objective of this advanced level course is to develop an appreciation of advertising from a strategic perspective, and the processes involved in developing, evaluating and managing effective advertising campaigns. Students will be exposed to the tools and techniques of contemporary advertising, and their application using examples of local and international campaigns. Case study analyses, as well as assignments and a term project will round off the semester's work.

### **MKT620 Competitive Strategies**

This course illuminates the dynamics of companies in competition and offers a process for planning and executing marketing strategies to compete in a rapidly changing marketplace. It will also enable marketers to make decisions that account for competitors' likely responses.

Pre-requisite: MKT302/402

### **MKT621 Marketing Strategies for Emerging Economies**

The focus of this course is to encourage the students to study the institutions of emerging economies that are relevant for managers. Analyze opportunities presented by emerging economies. Analyze the additional marketing challenges which necessitate a different marketing mix and a more aggressive business approach.

Pre-requisite: MKT302/402

### **MKT620 Marketing Strategies for Bottom of the Pyramid (BOP)**

Currently companies are facing saturated markets with limited growth potential and a highly competitive business landscape. A growing number of companies are now viewing the base of the pyramid as one of the most exciting market opportunities of the early part of the new millennium.

Pre-requisite: MKT302/402

### **MKT623 Pharmaceutical Marketing & Quality Assurance**

This course examines the nature of pharmaceutical industry and analyses customer procurement strategy, product policy, pricing, distributing strategy and sales force management strategy.

Pre-requisite: MKT302/402

### **MKT625 Business to Business Marketing**

This course includes the nature of B2B market, analysis of customer procurement strategy, product policy, pricing, distribution strategy, sales force management and key account selling strategy.

Pre-requisite: MKT 302/402

## **Mathematics**

### **MTH101 College Algebra**

The course is a review of exponents, equations and inequalities, function notation, composition and inverse, linear, quadric, polynomial, exponential and logarithmic functions and their graphs.

### **MTH102 Pre-Calculus**

The course helps student to learn basic mathematics like algebra, factorization, geometry and trigonometry, introduction to functions and matrices.

### **MTH103 Calculus for Business Decisions**

The course includes the concepts and business application of functions, differential and integral calculus, optimization methodology, transformation and assignment model.

Pre-requisite: MTH 101

### **MTH104 Calculus I**

This course is designed to develop the topics of differential and integral calculus. It covers functions, limits, continuity, derivatives and its applications including linear differentials, optimization problems, L'Hospital's rule and the mean value theorem, integrals and techniques of integration, the fundamental theorem of calculus.

### **MTH105 Calculus II**

This course is a continuation of Calculus I, covering definite integrals, Riemann integral, area between curves, arc length of curves, volume of surface of revolutions, parametric equations and polar coordinates, proper and improper integrals, infinite sequences and series, test for convergence, power series and Taylor series with remainder.

### **MTH107 Calculus and Analytical Geometry**

The course includes functions, limit, derivatives, integral calculus with applications, vector algebra, vector calculus, introduction to analytical geometry, straight line in R<sup>3</sup>, planes, cylindrical and spherical coordinates, surfaces, cylinders and spherical trigonometry.

### **MTH109 Applied Calculus**

Introduction to functions, introduction to limit, derivatives and their applications, integral calculus with applications, vector algebra, vector calculus, introduction to analytical geometry, straight line in R<sup>3</sup>, planes, cylindrical and spherical coordinates, surfaces, cylinders and cones, spheres, spherical trigonometry.

### **MTH202 Engineering Mathematics**

The course covers vector algebra, dot & cross product, gradient, divergence & curl, functions limits, derivative, slope & rate of change, techniques of differentiations, higher derivatives, maxima/minima, optimization, integration techniques, matrices, solution of system of equations, fourier series, sequences & their convergence.

### **MTH203 Introduction to Formal Mathematics**

This course aims to bridge the gap between school and university mathematics, by beginning with some rather concrete techniques where the emphasis is on calculation, and gradually moving towards abstraction and proof.

#### **MTH204 Linear Algebra**

This course covers, algebra of matrices, determinants, system of linear equations, vector space, subspace, basis, dimension, row space, column space, null space, rank and nullity, inner product spaces, orthonormal basis, change of basis, orthogonal matrices, eigenvalues and eigenvectors, diagonalization, Euclidean vector space, linear transformation, general linear transformations, kernel and Range.

Pre-requisite: MTH107

#### **MTH205 Financial Mathematics**

Considering the problem of derivatives pricing in finance the necessary tools from probability theory and stochastic processes will be introduced in the course. The first part presents the main objects of interest from finance in the context of discrete models. Discrete probability spaces will be reviewed and fundamental results on Martingale theory will also be discussed including the optimal stopping problem applied to American options. The second part helps to move from discrete to continuous models.

Pre-requisite: STA 301

#### **MTH206 Multivariate Analysis**

This course is designed to provide an integrated, in-depth, but applied approach to multivariate data analysis and linear statistical models in behavioral science research. The topics will include regression analysis, univariate and multivariate ANOVA and ANCOVA, disarmament analysis, logistic regression, canonical co-relation analysis. Principal components, will also be covered.

Pre-requisite: MTH 204

#### **MTH207 Stochastic Models and Math. Finance**

The course is an introduction to mathematical modeling, analysis, and solution procedures applicable to uncertain (stochastic) production systems, including probability theory and stochastic processes.

Pre-requisite: MTH 205

#### **MTH208 Differential Equations and Complex Variables**

Solution of first order ODEs, Second and Higher order Linear ODEs, System of DEs, Homogeneous linear systems, Series Solution of ODE. PDEs methods with applications and complex numbers,

Pre-requisite: MTH 202

#### **MTH209/409 Financial Mathematics I**

The measurement of interest, Solution of problems in interest, Basic annuities, More general annuities, Amortization schedules and sinking funds.

Pre-requisite: MTH104

#### **MTH210/410 Financial Mathematics II**

Bonds and other securities, Yield rates, Practical applications, More advanced financial analysis, The term structure of interest rates, Duration, convexity and immunization, Stochastic approaches to interest.

Pre-requisite: MTH209/409

#### **MTH211 Introduction to Computing**

Advanced problems in life contingencies; force and laws of mortality; premiums and reserves for insurance and annuities based on a single life; joint life probabilities, annuities and insurances; multiple-decrement theory; pension fund mathematics are a part of this course.

Pre-requisite: STA203/205

#### **MTH213 Actuarial Mathematics**

This course is designed to introduce software preferably MATLAB in mathematical computing. Topics includes, assignments, variables, vectors, matrices, for loops, conditional operators, logical operators, while loops, nested loop, structured programming, subroutines, functions, 2D graphics and 3D graphics.

#### **MTH215 Differential Equations**

Solution of first order differential equations by various methods and their applications, Second and Higher order Linear differential equations with engineering applications, System of Differential Equations, Homogeneous linear systems with constant coefficients, Series Solution of Differential Equations.

Pre-requisite: MTH 216

#### **MTH216 Complex Variable and Transforms**

Complex numbers and Complex Analytic function, Fourier Series, Laplace Transforms, Properties, derivatives and Integrals, Evaluation of Integration by Laplace Transforms. Inverse Transforms, Method of Partial fractions, Unit step function, Application to differential equations.

Pre-requisite: MTH 204

#### **MTH224 Multivariable Calculus**

In this course we will study real-valued functions of several variables, vector-valued functions of several variables, partial derivatives, optimization problems of functions of two variables, Lagrange multipliers, double integrals, triple integrals, vector fields, line integrals, Green's theorem, surface integrals, the divergence theorem and Stoke's theorem.

Pre-requisite: MTH105

#### **MTH251 Number Theory**

This course provide an introduction to the elementary theory of numbers. Topics included are mathematical induction, divisibility, prime numbers, greatest common divisor, Euclidean algorithm, fundamental theorem of arithmetic, factorization and Fermat numbers, linear Diophantine equations, congruence, Chinese remainder theorem, Wilson theorem, Fermat's little theorem, Euler's theorem.

#### **MTH301 Real Analysis I**

This course will serve as a bridge between calculus and analysis. In this course we will cover fundamental concepts such as limit, continuity, and differentiation but with much more rigor than it is done in basic calculus courses. Main topics include: The real number system, sequences and series, limits, continuous functions, differentiation.

Pre-requisite: MTH105, MTH203



#### **MTH401 Complex Analysis**

In this course, student will learn theory of functions of a complex variable. Topics are complex numbers, the complex plane and Riemann sphere, Möbius transformations, elementary functions and their mapping properties, conformal mapping, holomorphic functions, Cauchy's theorem and integral formula. Taylor and Laurent series, maximum modulus principle, Schwarz' lemma, residue theorem and residue calculus.

Pre-requisite: MTH311

#### **MTH403 Numerical Analysis**

This course analyzed the basic techniques for the efficient numerical approximation of the solution of problems in science and engineering. Topics includes approximation of roots of  $f(x)=0$ , solving linear systems of equations, polynomial interpolation, curve fitting, numerical differentiation and integration, numerical solution of ordinary differential equations.

Pre-requisite: MTH105, MTH204, MTH213

#### **MTH311 Real Analysis II**

In this course we will cover advance topics such as theory of Riemann Integration, uniform convergence and the Real line topology with adequate rigor.

Pre-requisite: MTH301

#### **MTH344 Introduction to Differential Equations**

The course is an introduction to differential equations. Topics covers, Definitions and terminologies, first order differential equations, modeling with first order differential equations, higher order differential equations, modeling with higher order differential equations, series solutions and special functions, Laplace transform, system of linear first order differential equations, Sturm-Liouville problems.

Pre-requisite: MTH105

#### **MTH346 Partial Differential Equations**

This course introduces the theory of initial and boundary value problems for partial differential equations (PDEs) with emphasis on linear equations. Topics covered include characteristic method for linear PDEs, heat equation, wave equation, Laplace equation, non-linear first-order equations, conservation laws, Hamilton-Jacobi equations, Fourier transform, Sobolev spaces.

Pre-requisite: MTH204, MTH344

#### **MTH350 Topics in Mathematical Economics**

A course in advanced economic theory designed to provide students the fundamental mathematical tools necessary to prepare for graduate work in economics or business administration. Topics include the development of portions of consumer, producer and macro (fiscal and monetary) theory. The material includes comparative static analysis, single and multiple agent unconstrained and constrained optimization problems and dynamic analysis.

Pre-requisite: MTH105, MTH204

#### **MTH421 Abstract Algebra**

This course covers advanced topics in algebra that deal with abstract algebraic structures rather than the usual number systems. Topics include sets and relations, binary operations, groups, fundamental theorems about groups, cyclic groups, subgroups, symmetric groups, equivalence relations, cosets, theorem of Lagrange, normal subgroups, homomorphism, isomorphism, isomorphism theorems, rings, fields, integral domain.

Pre-requisite: MTH203

#### **MTH423 Combinatorics**

The aim of the course is to introduce students to the theory of discrete structures. Topics covered includes mathematics of choice, binomial and multinomial coefficients, combinatorial identities, partitions, symmetric functions, combinatorics of finite functions, Stirling numbers, Bell numbers, principle of inclusion/exclusion, ordinary and exponential generating functions, applications, enumeration in Graphs.

#### **MTH427 Topology**

This course aims to mathematical study of shapes and topological spaces. It will cover the basics of point set topology that includes topological spaces and continuous mappings, separation, compactness, connectedness, fundamental group and covering spaces, Brouwer's fixed-point theorem.

Pre-requisite: MTH311

#### **MTH430 Operations Research**

This course provides scientific study of decision making. In this course student will learn the simplex algorithm, duality, slackness, sensitivity analysis, transportation and assignment problems, transportation simplex method, network models, network simplex method, CPM & PERT, queuing models, Markov chains.

Pre-requisite: MTH204

#### **MTH433 Optimization Techniques**

This course covers, linear programming, duality and sensitivity analysis, Lagrange multipliers, Kuhn-Tucker conditions, convexity and calculus of variations.

Pre-requisite: MTH105, MTH204

#### **MTH437 Functional Analysis**

This course is the study of vector spaces endowed with a topology. Topics include review of metric spaces, normed spaces, normed linear spaces, Banach spaces, convex sets, quotient spaces, equivalent norms, linear operators, linear functional, finite dimensional normed spaces.

Pre-requisite: MTH204, MTH311

#### **MTH439 Introduction to Dynamical Systems**

This course provides the study of time dependent systems. Topics include flows on the line, bifurcation of one dimensional systems, flows on the circle, two dimensional flows, linear systems of ODEs, nonlinear systems and phase plane analysis, higher dimensional systems, chaos, strange attractors, one dimensional maps, fractals.

Pre-requisite: MTH204, MTH344

### **MTH222 Discrete Structure**

The topics covers proposition calculus, predicate calculus inference imprecation, recursive functions, sequences and series, inclusion/exclusion, recurrence relations, graphs and trees, Boolean algebras, and ordered sets, computer related arithmetic.

### **MTH224 Multivariable Calculus**

The course includes techniques of integration, areas between curves, continuity of functions of several variables, partial differentiation, line integral, multiple integral, calculus of variations.

Pre-requisite: MTH104/401

### **MTH400 Mathematics for Business**

This course is designed for all business students. It will assist students in reaching a level of increased competence in mathematics and expanded understanding of the applications of mathematical concepts in business activities. Emphasis is placed upon learning mathematical concepts through practical application to common business problems.

### **MTH401 Calculus I**

The course covers functions, system of linear equations, Cramer's rule, sequences, limits and continuity, differentiation, mean value theorem, maxima and minima and integration of simple functions.

### **MTH403 Numerical Computing/ Analysis**

The course covers errors, calculations and importance in numerical computing; various methods of solution of non-linear equations, Newton's method and condition of convergence, interpolating polynomials, forward differences ( ) Newton's Forward (NF) polynomial, backward differences ( ), Newton's Backward (NB) polynomial; error analysis, unequal spaced values, inverse interpolation; numerical differentiation, formula for higher derivatives, numerical integration, rectangular rules; trapezoidal rule, Simpson's 1/3, 3/8 and 14/15 rule, Romberg's approximation, Gauss's quadrature, and multiple integrals. MATLAB and a programming language will be used to teach all topics.

Pre-requisite: MTH215

### **MTH406 Finite Element Analysis (FEA)**

The course includes variation function, interpolation function, one-dimensional finite elements, two-dimensional finite elements; boundary-value problems, variational principles, Galerkin approximation; partial differential equations, initial value problems and numerical integration.

Pre-requisite: MTH 208

### **MTH407 Mathematics for Business**

This course is designed for all business students. It will assist students in reaching a level of increased competence in mathematics and expanded understanding of the applications of mathematical concepts in business activities.

## **Mathematics & Statistics (Scientific Computing)**

### **MTS610 Calculus of Variations**

Calculus of variations concerns problems in which one wishes to find the extrema (usually the minima) of some quantity over a system that has functional degrees of freedom. In this course it is shown that such variational problems give rise to a system of differential equations, the Euler-Lagrange equations. These equations, which have far reaching applications, and the techniques for their solution, will be studied in detail.

### **MTS611 Statistical Inference**

The theory of statistical inference underpins statistical design, estimation and hypothesis testing. Topics covered include, Frequentist and Bayesian approaches, sampling distributions, Sufficiency, likelihood, asymptotic properties of estimators, Bayesian Inference and Likelihood ratio tests.

### **MTS612 Numerical Methods for ODEs and PDEs**

This course will cover numerical solution of (PDEs) and (ODEs). Applications will include the Poisson equation, heat equation, wave equation, and nonlinear equations of fluid, solid, and gas dynamics.

### **MTS613 Advanced Design of Experiments**

Introduction to linear models; experimental design; fixed, random, and mixed models. Factorial and fractional factorial designs. Taguchi designs and applications. Incomplete block designs, Response surface designs with applications and Mixture experiments.

### **MTS614 Mathematical Statistics**

This course covers Probability theory, marginal and conditional distributions. Introduction to stochastic processes, Markov chain, generating functions, functions of random variables and derived distributions, sampling distributions, methods of estimation.

### **MTS615 Dynamical Systems**

This component aims to give an overview of the main aspects of nonlinear systems and to provide definitions and theoretical background. This course will address issues under Continuous Dynamical Systems, Discrete Dynamical systems, and Non-linear waves.

### **MTS617 Advanced Numerical Analysis**

Direct and indirect methods for solving linear equations and matrix inversion, conditioning eigenvalues and eigenvectors. Functional approximation, methods for ordinary differential equations. The student is also introduced to use some software packages.

### **MTS645 Multivariate Statistics**

Topics include matrix algebra, random sampling, multivariate normal distributions, multivariate regression, MANOVA, principal components, factor analysis, Discriminant analysis. Statistical software, such as SAS or R, will be utilized.



### **MTS618 Statistical Modeling & Computation**

This course describes how to use R to build statistical models and use them to analyze data. Multiple regression, followed by logistic regression, is applied to Poisson model for count data. Computational techniques such as Monte Carlo, Jackknife and Bootstrap using R, will be discussed.

### **MTS619 Time Series Analysis**

Studies the basic time series models in both the time domain (ARMA models) and the frequency domain (spectral models), emphasizing application to real data sets.

### **MTS620 Asymptotic Analysis**

Topics covered may include Asymptotic expansions, (non) convergence, algebraic equations with small parameters, eigen value problems, Asymptotic evaluation of integrals: Laplace's method, method of stationary phase, Boundary layers, principle of dominant balance, matched asymptotics with applications to physical problems, Boundary layers in PDE's, Method of multiple scales, WKB theory, and Exponentially ill conditioning.

### **MTS621 Stochastic Processes**

This course covers probability theory, models with unpredictability, queues and population growth. Markov chains, Poisson processes, random walks, branching processes, first passage times, recurrence and transience, stationary and limiting probabilities.

### **MTS623 Applied Regression Analysis**

This course explores, applied methods in regression analysis. Topics include linear and multiple regression and model building, ANOVA as regression analysis, analysis of covariance, model selection and diagnostic checking techniques, nonlinear regression, and logistic regression.

### **MTS625 Theory and Practices of Forecasting**

Time series data properties and analysis, temporal dependencies, and applications in areas such as economics, engineering and the natural and social sciences.

### **MTS626 Advance Convex Analysis**

In this course we shall cover the elements at the heart of convex analysis: sub gradients, optimality conditions, the Fenchel conjugate, and duality.

### **MTS627 Statistical Quality Control**

Statistical quality control courses introduce students to the product design and control process. Course assignments may include creating sample quality control plans. Students examine a company's production and processing capacity, along with the product quality loss when production exceeds that capacity.

### **MTS628 Advance Numerical Optimization**

Topics may include, Karush-Kuhn-Tucker optimality conditions; Convergence, Newton and quasi-Newton methods; Nonlinear conjugate gradient methods; Levenberg-Marquardt methods; quadratic programming and nonlinear programming; penalty- and barrier-function methods.

### **MTS629 Machine Learning & Pattern Recognition**

This course is a foundational course for anyone pursuing machine learning, or interested in the intelligent utilization of machine learning methods. The primary aim of the course is enable the student to think coherently and confidently about machine learning problems, and present the student with a set of practical tools that can be applied to solve real-world problems in machine learning, coupled with an appropriate, principled approach to formulating a solution.

### **MTS631 Production Quality Software**

The course will cover the techniques used by most successful software engineers to address problems of quality and complexity. Goal is to learn how to write software that is robust, reusable, and maintainable by practicing the craft thoughtfully and critically through assignments and code reviews. Topics covered include, The Java Language - Overview, features, and best-practices., Concurrency - The Java Memory Model and thread-safety. Object-Oriented Design - Guidelines for good designs. Design Patterns - Solutions for common software design problems. Refactoring - When to modify existing code and how to do so safely. Test-Driven Development - Ensure your code works the way you expect and doesn't break when you change it.

### **MTS632 Advance Variational Inequalities**

The theory of variational inequalities treats optimization problems over convex sets. In this course we study the existence, uniqueness and regularity of the solution of a variational inequality. Applications and numerical methods will also be discussed.

### **MTS633 Fundamental Algorithms**

This is an introductory course in algorithms. We will cover standard topics such as sorting, divide-and-conquer, various data structures, graph algorithms, dynamic programming, greedy algorithms, and - time permitting - NP-completeness and basic approximation algorithms. The emphasis will be given to arguing the correctness of algorithms and performing the analysis of their running time.

### **MTS634 Advance Numerical Linear Algebra**

Matrix computations lie at the heart of most scientific computer codes. In this course, we will study how to perform such computations efficiently and accurately. Topics will include Gaussian elimination, singular value decomposition, eigenvalue solvers and iterative methods for linear systems.

### **MTS635 Information Retrieval & Data Mining**

The course is aimed at an entry level study of information retrieval and data mining techniques. It is about how to find relevant information and subsequently extract meaningful patterns out of it. While the basic theories and mathematical models of information retrieval and data mining are covered, the course is primarily focused on practical algorithms of textual document indexing, relevance ranking, web usage mining, text analytics, as well as their performance evaluations. Practical retrieval and data mining applications such as web search engines, personalization and recommender systems, business intelligence, and fraud detection will also be covered.



### **MTS636 Advance Hilbert Space**

Inner product spaces, geometric and metric properties of Hilbert spaces, orthogonal expansions and projections in Hilbert spaces. Bounded linear functional and operators, compact operators on Hilbert spaces. The spectral theorem for self adjoint compact operators.

### **MTS637 Simulation and Modeling**

This course describes analytical and simulation techniques, probability distributions and their properties, Introduction to modeling and simulation concentrating on building business cases. Matlab and/or R will be used to solve formal problems and explore knowledge management

### **MTS639 Principles in Parallel Computing**

This course is designed for both academic and industrial scientists interested in parallel computing and its applications to large-scale scientific and engineering problems. It focuses on the three main issues in parallel computing: analysis of parallel hardware and software systems, design and implementation of parallel algorithms, and applications of parallel computing to selected problems in physical science and engineering. The course emphasizes hands-on practice and understanding of algorithmic concepts of parallel computing.

### **MTS639 Principles in Parallel Computing**

This course introduces applied mathematicians, engineers, and physicists to the most useful symmetry methods for differential equations. It is aimed primarily at postgraduates and those involved in research. The topics include introduction and derivation of Lie symmetries, optimal system and methods for obtaining analytical solutions of ODEs and PDEs.

### **MTS641 Continuum Mechanics**

Topics will include kinematics, stress analysis, balance laws (mass, momentum, and energy), the entropy inequality, and constitutive equations in the framework of Cartesian vectors and tensors. Emphasis will be placed on mechanical principles that apply to all materials by using the unifying mathematical framework of Cartesian vectors and tensors.

### **MTS642 Geometric Methods in Mechanics and Physics**

Topics include smooth manifolds and mappings, tangent and normal bundles. Vector fields and flows, Distributions and Frobenius' theorem. Matrix Lie groups and Lie algebras. Exterior differential forms, Stokes theorem, Hodge Theory and Finite Element Method.

## **Media Studies**

### **MMM301 Photo Journalism**

This advanced level course aims to polish students' visual storytelling skills, and enhance their capacity to present stories in an impactful manner, through the use of pictures and words, with the proficiency expected of a trained photojournalist.

Pre-requisite: MMM332

### **MMM302 Logic and Critical Thinking**

This course seeks to develop the faculties of reasoning and critical thinking. It is designed to train students in analyzing arguments critically, using classical and current logic tools, and applying them to real life contexts.

Pre-requisite: SSC101

### **MMM303 Outline of Political Science**

This course takes students through the process of evolution of political ideas, and development of political institutions. Discussions relate to the rise of the state, its institutions such as legislature, executive and judiciary, and their working in different countries.

Pre-requisite: SSC104

### **MMM304 Media Literacy**

Offered early in the program, this course will develop students' skills for critically analyzing media content, and understanding the purpose and meaning of messages disseminated by traditional and contemporary media.

Pre-requisite: MPY301/ MMM364

### **MMM307 World Civilization and Culture**

This course focuses on the impact of past civilizations on human culture and society. Starting with the Egyptian, Babylonian, Greek, and Roman civilizations, the discussion hones in on the evolution of Western and Islamic culture as reflected in the arts, music, literature, scientific and philosophical thinking of the last two centuries.

[Pre-requisite: SSC104]

### **MMM308 Contemporary World Media**

This course brings out the richness and diversity of media at a global level and the universal concern with regard to its role as the fourth estate. It also highlights problems encountered by or attributed to media, and the challenges faced by it in satisfying a public that is not only better informed, but also holds media accountable for its actions.

Pre-requisite: MMM304

### **MMM310 News Writing and Reporting**

This first news writing course familiarizes students with what news is, how to identify a possible news story, how to gather all the information related to it, and how to present it effectively. It also seeks to acquaint them with reporting techniques for stories related to crime, court cases, political and social issues, education, etc.

Pre-requisite: MMM304

### **MMM311 Introduction to Broadcast Media**

This course introduces students to the world of broadcast media, and provides them with a comprehensive understanding of the historical, technical, legal and commercial aspects of radio and television broadcasting.

[Pre-requisite: MMM310]

### **MMM312 Introduction to Advertising and PR**

This introductory course exposes students to the structure and working of advertising and PR agencies. Students learn about the concepts, practices, principles, tools and techniques of the two interrelated fields, as well as gain insight into the benefits of integrating advertising & PR.

Pre-requisite: SSC101



### **MMM313 Theater Arts**

This course is designed to increase student's understanding of theater as a performing art form. Students will explore and experience dramatic structures and styles, acting and directing, theater design and architecture. They will view and critique one or more live play productions, and present their own plays as their term project.

Pre-requisite: LAN113

### **MMM314 Online Journalism**

This course exposes students to the practice of web journalism and its capacity to reach vast audiences with speed and alacrity. Students learn to research, write, edit and publish news on the web, through blogs and websites, and to assess their impact.

Pre-requisite: MMM310

### **MMM315 Feature, Article and Column Writing**

This course is intended to develop specialized writing skill among students of journalism. It is a practical course that trains students to write as a professional for newspapers, magazines, and other media platforms.

Pre-requisite: MMM310

### **MMM316 Sub Editing**

The purpose of this practical course is to train students in the techniques of copy editing, headline making, page layout construction, besides rewriting, restructuring and improving copy, that make up a Sub-Editor's job.

Pre-requisites: MMM310

### **MMM318 Economic Journalism**

This course seeks to develop students' ability to understand and report on news related to economics, finance and trade. Students learn to analyze financial statements, and understand the operation of banks, financial institutions, stock exchange, and to communicate complex financial news and information in simple laymen's terms.

Pre-requisite: ECO106

### **MMM320 Editing & Post-Production**

This Editing & Post-Production course will provide students with deep understanding of video editing and special effects using Adobe Premier Pro and other relevant applications.

Pre-requisite: MMM327

### **MMM321 Development Communication**

This course highlights the importance of socio-economic development, and provides a strong theoretical basis for scrutinizing a country's development projects and commenting on developmental issues in a constructive manner.

Pre-requisite: MMM318

### **MMM322 Current Affairs**

In this course students improve their understanding of current affairs, engage in critical thinking, and develop comparative perspectives on issues. They enhance their debating skills, and the ability to write on current affairs topics for traditional as well as new media (Facebook, Twitter, and blogs).

Pre-requisite: MAN305

### **MMM324 Media Management and Marketing**

This course examines the different approaches to business management in media organizations, with a focus on their common as well as differentiated marketing strategies and practices.

Pre-requisite: MMM328

### **MMM327 Studio Production**

This practical course introduces students to the craft of writing, editing and producing studio based programs for TV. Emphasis is on understanding the tools and techniques of studio production by playing the roles of news-writers, anchors, directors, and studio crew.

Pre-requisite: MMM310

### **MMM328 Methods in Media Research**

This comprehensive course seeks to develop students' understanding of the tools and techniques of qualitative and quantitative research such as questionnaires, interview and discussion guides. It also teaches them to identify credible data sources and use them as the basis of creating impactful news stories.

Pre-requisite: STA100

### **MMM329 Creative Writing Workshop**

This is a mid-level course aimed at optimizing the writing skills of students. It is built around extensive reading and writing assignments. Readings will cover classical and contemporary writers, specializing in fiction and nonfiction genres. Emphasis will be placed on developing the capacity for creating original writings of an elevated standard.

Pre-requisite: COM109

### **MMM330 Appreciation of Vernacular Literature**

This course is specifically designed to develop deeper understanding of the cultural and historical evolution of languages in South Asia, focusing primarily on Urdu. It will use a variety of literary genres to arouse students' interest in discovering the nuances of the language, and its development along cultural and historical timelines.

Pre-requisite: LAN113

### **MMM332 News Production / News Anchoring**

This advanced level, studio-based course for Journalism majors, aims to develop the required skills for producing news packages for, and anchoring on television.

Pre-requisite: MMM327

### **MMM333 Sports Journalism**

This specialized course familiarizes students with the tools and techniques of sports journalism. Class discussions focus on a variety of major sporting events and review their coverage in print and electronic media. Students visit field locations for real time news coverage, where they also interact with and learn from professional journalists.

Pre-requisite: MMM315





### **MMM335 Magazine Production**

This course covers magazine design fundamentals i.e. typography, image research assignments, pre-press and manufacturing process, using traditional and computer-based tools and techniques. Every student must produce a sample online magazine during the term, going through a series of workshops, presentations and revision sessions.

Pre-requisite: MMM316 or MMM363

### **MMM336 Human Rights and Gender Reporting**

This course is designed to familiarize students with the nuances of reporting on human rights violations. It relies on lectures, assignments and field visits to develop deeper understanding of issues related to the vulnerable segments of society i.e. women, children, religious minorities, and to enhance students' ability to write on these issues.

Pre-requisite: MMM310

### **MMM337 Thesis (Journalism)**

This capstone project for Journalism majors will test their understanding of the tools and techniques of academic research, as they go through the process of selecting a research topic, developing a formal research design, undertaking literature review, collating, analyzing and interpreting field data and writing the final research report.

Pre-requisite: MMM328

### **MMM338 Cinematography I**

This introductory course provides the technical foundation for developing students' understanding and skill in the art of "visual storytelling". Students will learn to work with camera and light in a variety of conditions.

Pre-requisite: MMM363

### **MMM339 Cinematography II**

This course will familiarize students with the tools and techniques of studio lighting as well as external lighting. The class shall teach students lighting through lecture sessions, workshops, and screenings. Students will get ample opportunity to develop their technical skills, and practice them to produce a short film focused on lighting techniques. .

Pre-requisite: MMM338

### **MMM340 Cinematography III**

This advanced level course will build on the learnings of the previous course, Cinematography II, to provide students with a deeper understanding of the technical properties of lenses, filters, and the application of lighting techniques primarily through lecture sessions, and workshops. Students will sharpen their technical skills, practice video image making, develop critical thinking skills, and their own film language and style.

Pre-requisite: MMM339

### **MMM342 Advanced Filmmaking – The Art & Craft I**

This course is designed as a precursor to the final course in Filmmaking, and by that token it will include all aspects of filmmaking including idea creation, screenwriting, story-boarding, and selection of music and sound.

Pre-requisite: MMM340

### **MMM344 Screenwriting for Film & TV**

This dedicated course will enhance the students' screenwriting skills i.e. "writing from a visual point of view", for TV. The thrust of the course will be on learning from the work of professional scriptwriters, and cover the principal genres and formats. Written assignments will be used to measure progress, and grade the work of students.

Pre-requisite: MMM329

### **MMM351 Production Management**

This course is designed to familiarize students with essential pre-production areas such as script development, budgeting, casting, set construction, and scouting for locations, required to produce video films for television.

Pre-requisite: MMM363

### **MMM354 Introduction to Editing & Sound Design**

This initial course will focus on two interdependent areas of digital editing and sound design. Students will practice their skill in non-linear video editing using FCP software, to edit different for types of production such as action, dialogues, comedy etc., and experiment with sound tracks to enhance the impact of the edit.

Pre-requisite: MMM363

### **MMM355 Production of Documentary**

This introductory course in nonfiction production will take students through the stages of conceptualizing, researching, scriptwriting, and producing video documentaries. It will focus on learning through observation, discussion and practicing with different treatments, styles, and production techniques.

Pre-requisite: MMM320

### **MMM356 Ad-Film Production**

The focus of this course will be on the "ad-film genre", taking students through the creative process, starting off with idea generation or scripting or copywriting, storyboarding, casting, choice of locations, set-designing/ construction, shooting, editing, post-production and sound mixing to arrive at the finished "station material".

Pre-requisite: MMM355

### **MMM357 Sound Design II**

In this course students will aim at polishing their picture competency and sound competency skills. They will learn about sound track creation for film/TV, working with several strata of sound possibilities, ranging from music to general ambience, and perfect their skills in field-recording and sound editing.

Pre-requisite: MMM354

### **MMM360 Introduction to Photography**

This basic photography course will introduce students to the essentials of professional digital photography. It will teach them the techniques of digital photography in a practical and interactive manner, enabling them to obtain optimum results using varied themes, under different conditions.



### **MMM361 Fashion Journalism**

This course covers various aspect of fashion journalism, from understanding fashion trends, to generating ideas for fashion features, reviewing shows, taking catwalk notes, working with photographers and photographs, interviewing designers, and writing reviews and pitching them to magazine editors.

Pre-requisite: MMM360

### **MMM362 History of Filmmaking**

This course aims at creating an appreciation of how filmmaking has evolved over the years into a powerful visual medium. Students will not only discover how sound, light, camera, and music come together to create the magic of film, but also how critical are passion, creativity, commitment, and teamwork to succeed in this vocation.

Pre-requisite: MMM360

### **MMM363 Introduction to Design Tools**

This course will introduce students to three practical graphic design software viz. Adobe Photoshop, Illustrator and InDesign, along with their application in photo-editing, web graphics, motion graphics, special effects, vector illustrations, and editorial design and page-making for books and magazines.

Pre-requisite: MMM360

### **MMM364 Introduction to Mass communication**

This is an introductory level course that provides an overview of the historical and social context of mass media. Students learn about the process of Mass Communication and the relationship between Media and Society.

### **MMM365 Filmmaking – The Art & Craft II (Studio)**

The “Studio” component of the final Advertising Filmmaking course will be divided between guest lecture sessions and preparation for the thesis/ creative project. High-caliber guest lecturers drawn from the industry will share first-hand knowledge of the challenges of practical filmmaking and project management.

Pre-requisite: MMM342

### **MMM366 Filmmaking – The Art & Craft II (Thesis)**

This capstone course will draw on students’ integrated knowledge, skill and understanding of digital filmmaking. Each student will produce two short films of 20-30 minutes duration. Out of the 90 hours scheduled for this course, a third will be used for lab and review sessions, and two-thirds for fieldwork, editing and post-production.

Pre-requisite: MMM365

### **MMM367 Digital Journalism**

This capstone course will draw on students’ integrated knowledge, This course will encourage students to explore the shift towards digital journalism, and learn digital-specific news production tools and techniques. Students will be required to set up and manage a news website, complete with news, opinion pieces and blogs, and also set up and manage social media accounts to support the site.

Pre-requisite: MMM315

## **Media Management**

### **MMM401 Media & Social Change**

This new course will explore the linkages between development, media and social change. Beginning with an overview of contemporary development challenges, it will assist the students in exploring ways in which media has and can bring about social, political and economic change. The role of governments responsible for policy-making, civil society as champions of the marginalized segments of the population, and various media tools such as documentaries, digital storytelling, blogging and social networking will also be discussed.

### **MMM423 Specialized Communication Skills**

The course is designed to train and equip students with specialized verbal and written communication acumen required in efficient and effective information and entertainment dissemination through print and electronic media and advertising and public relations.

### **MMM427 Citizen Journalism**

Students are familiarized with such aspects of Citizen Journalism as civic and social issues or problems pertaining to education, health planning, vehicular traffic, public utilities, etc. This course does not only identify issues and problem as regards social and civil life but also enables students to devise and apply practical models to address them through media efficiently and effectively.

Pre-requisite: MMM435/438

### **MMM428 Script Writing**

The art of script writing is best learnt through professionals in various fields of print and electronic media in terms of conceiving an idea, developing a plan, devising convincing headlines, scripting the idea and concluding with an exclamation, if not a consensus.

Pre-requisite: MMM435/438

### **MMM429 Digital Media**

Digital Media includes interactive multimedia, digital video and film production, web design, image creation, digital animation, 3D modeling, digital sound technology, graphic designing, basically pertaining to digital technology as a part and parcel of electronic media.

Pre-requisite: MIS401

### **MMM430 Time, Priorities and Conflict Management**

This course aims at providing fresh ideas and insights for media personnel to manage time and priorities in tough and tedious routine and special conditions by delegating work responsibilities or by skillful multiple tasks adjustments. Time and priorities management are intensively addressed in all media forms relating to radio, TV, newspapers and magazines as well as in advertising, public relations and event management, of course, according to local and indigenous conditions.

Pre-requisite: MAN401

#### **MMM434 Media Planning**

The course prepares the student for the changing media scenario by enabling them to specialize in the handling and effective selection of media. The course elaborates how the advertising budget can be used optimally across various media.

Pre-requisite: MAN401, MKT401

#### **MMM435 Print Media**

The objective of the course is to provide specific study of print media for those students who aspire for a career in newspapers, magazines, periodicals and other publications. The course teaches students about process and production of print media, printing technologies, production strategies, thus equipping the students with knowledge and skills to enter the print media industry.

Pre-requisite: MMM438

#### **MMM436 Electronic Media**

This course prepares students to acquire a full understanding of the function of radio and television in all its modern manifestations, including cable TV. Students will learn how to formulate advertising plans & monitor results taking cognizance of problems, opportunities and regulatory matters.

Pre-requisite: MMM438

#### **MMM437 Role of Media in World Affairs**

This course teaches students the importance of media as a vehicle for creating an atmosphere conducive to international relations. It teaches the students how the media has undergone significant changes over the years and the power it has on the formation of public opinion and affecting the external environment for marketers and others.

Pre-requisite: MMM438

#### **MMM438 Introduction to Media in Pakistan**

This course comprehensively covers contents like print, electronic, out-of-home media in Pakistan. The course also discusses the Pakistani environment in the context of media laws & ethics, the role it plays in world affairs, and marketing, planning and research processes prevalent in the country.

#### **MMM439 Media Research and Public Opinion**

Mass media research introduces graduate students to applied audience research for electronic media. The emphasis will be on Pakistan's media market and students will gain hands on experience with syndicated and custom audience research for print and electronic media. Students will be exposed to various aspects of media audience research including Gallup ratings for TV, radio and cable TV and other music research. Students are expected to become familiar with the Pakistan media market specially in electronic media, based on TV, radio, cable systems and cinema through mass media research based on research process, research approaches, data analysis and research application.

Pre-requisite: MMM435/438

#### **MMM511 Multimedia and Film Production**

The course focuses on aspects of multi-media, video and film production. This course provides the student hands-on knowledge of planning, organizing, directing, controlling and promoting, provided by professionals from the field. The work-like atmosphere enables students to prepare for careers in this area.

#### **MMM601 Digital Video Production**

This introductory course is designed for students not familiar with digital video production. It will briefly introduce them to the history of filmmaking, as well as the major artistic and technological advances in the art form. In this course students will become familiar with the specialized vocabulary of film and television, the process for developing ideas, turning them into scripts, and using scripts to learn the basics of practical video production. The final project will be a video product based on the students' approved scripts.

#### **MMM602 Global Media Marketing Strategies**

Building on the fundamentals of marketing, this course is designed to introduce students to media marketing within the context of the global environment. The course therefore would delve into the cultural, social, legal, political, financial and geographic dimensions of global marketing and understand their impact on marketing programs and strategies. Case studies of global media organizations will form part of the course.

#### **MMM603 Seminar in Strategic Media Marketing**

The objective of this course is to develop an in-depth understanding of how Strategic Marketing concepts and theories are applied in the real world of media. Hence the time allocated to this course will be evenly split between understanding textbook concepts and theories, reviewing case studies, and learning from direct face-to-face interaction with leading scholars and practitioners in leading media organizations.

#### **MMM604 Screenwriting for TV & Cinema**

The objective of this course is to introduce students to the essence of film and television screenplay structure, and develop their ability to analyze strategies in film and television, apply the correct script forms of screenwriting, and creatively engage them in the various stages of original scriptwriting for TV. The assignments will include writing of scenes, treatments of up to a half-hour script, with a view to develop a final, usable screenplay.

#### **MMM606 Media Psychology**

Media psychology has emerged as a significant field of study in recent years spurred by the major developments in media technologies. This course will not only assist students in understanding the impact of psychological theory and research on media, but also how it can be used to create impact and optimize the potential of media. As technologies become more sophisticated, media professionals need to understand what is aptly described as the psychology of media experience.



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## **MPhil in Business Management**

### **MPM601 Advanced Qualitative Research**

The course focuses on developing a working knowledge of a range of qualitative methods, methodological approaches, and theoretical framework of research to enable the participants to conduct qualitative research. Students will read research articles and case studies to propose and plan a study of their own selected inquiry.

### **MPM603 Advanced Quantitative Research**

This course aims to provide students with a broad range of quantitative research methods and skills that are relevant across business psychology, business management, human resources, marketing, economics, finance and social sciences.

### **MPM605 Survey of Current Research Literature in Management**

This course will enable students to explore recent research conducted in Business Management discipline and reported in reputed scientific journals. It will also aim at guiding research students to write literature reviews at the early stage of their research design, which form an important part of dissertation.

### **MPM607 Corporate Governance and Strategy**

The course brings together a coherent research based set of concepts, tools and practices for training integrators (general managers/directors) to handle cross-functional and cross-product sets of decisions. For advanced management researchers, this course aims to develop a useful set of examples and a rich source of research questions.

### **MPM608 Project / Research Practicum**

The practicum course aims to provide students with real experience in a workplace environment, working on a challenging project. The practicum provides opportunities for students from all disciplines, including management, human resource management, finance, and marketing research.

### **MPM609 Seminar in Human Resource Management**

The aim of the course is to equip the students with the latest concepts, techniques and practices of HRM and strategic HRM in a modern corporate environment. The course provides opportunities based on case studies to practically integrate HR functions with overall strategy of national and global organizations.

### **MPM610 Independent Study**

This course will provide space to the participants coming from different disciplines to propose a research topic in their field on unpublished major work and complete the research in one semester for publication in any HEC recognized journal or read at conferences of international repute.

### **MPM611 Advanced Corporate Finance**

The course has been designed to give extended / advanced knowledge about Corporate Finance. Extended topics like option valuation, risk and real options in capital budgeting, financing and dividend policies will be studied at length.

### **MPM614 Advanced Marketing Strategy**

This course focuses on a relative connectivity of changing concepts and philosophy of marketing with application examples created by corporations to handle their complex marketing tasks to achieve intended results.

### **MPM616 Econometrics**

The course provides the students with the fundamental econometric theory and concepts, and practical training to become sound applied economists who know what econometric methods to use in different circumstances and how to interpret and appraise the results of the empirical analysis.

### **MPM716 Hospital Planning and Organization**

This course provides an overview of the evolution, structure and current issues in the health care system. It examines the unique features of health care as a product, and the changing relationships between patients, physicians, hospitals, insurers, employers, communities, and government. This course covers history and organization of the health care system, financing and utilization of health services, health status of the population, disease occurrence, legal aspects of health care and medical sociology. Government health policy formulation and implementation and its impact on health care.

### **MPM717 Health Institutions, System and Policy Management**

This course focuses on managed care and market structure of the healthcare industry as a whole. It covers strategic planning and marketing of managed care services, operational issues in developing a managed care network, actuarial issues, and the management of physician behavior. In addition the course analyzes strategies of vertical integration and horizontal integration, and their attempt to alter the balance of power in local healthcare markets. This course highlights the operational issues in managing cost and quality in an integrated system, integration along the supply chain, and the performance of these systems, and the bargaining and negotiation between hospitals, physicians, and health plans.

### **MPM718 Global Perspective of Health Care Marketing**

This course is aimed at creating better understanding an increasingly complex market environment for Healthcare product development and commercialization. It explores the facts and clarify the implications of ongoing thematic changes - the 5 D's - that are fundamentally transforming commercial decision making in health care markets from insurance and care delivery to pharmaceuticals, biotechnology, and devices.

#### **MPM719 Integrated Leadership in HealthCare**

This course describes the critical knowledge and skills needed to be effective leaders in today's complex healthcare environment. It covers conflict resolution, leadership and negotiation skills, strategic planning, and ethics. Within the context of healthcare advocacy, the course examines the organizational and individual issues that impact success in promoting and advocating for a healthcare agenda.

#### **MPM723 Primary Health Care Management**

In this course, students are introduced to philosophies and models of primary health care. Capacity building and community development are presented in relation to the socio-political environment in which care is delivered. Community nursing and midwifery are profiled as examples of primary health care initiatives.

#### **MPM724 Managing Healthcare Ethics**

This course provides an introduction to the relationship of law to health care, including liability, government regulation, financial and ethical issues, contracting and negotiation and dispute resolution. This course presents an overview of legal and ethical issues facing managers and providers in health care. It provides students with a foundation of health law and ethics and reviews a wide variety of health care legal and ethical situations and dilemmas.

#### **MPM725 Managing Regulatory Affairs of Healthcare Industry**

This course provides students with a basic understanding of the areas of regulatory affairs and quality operations within various health-care industries, including pharmaceutical companies. Students are prepared for occupations involving drug or medical device submissions and quality assurance functions and roles. The issues of regulatory compliance in Pakistan as well as in other areas of the world are covered in the course.

### **MPhil Leading to PhD in Organizational Psychology**

#### **MPP601 Qualitative Research Methods in Psychology**

This course provides an introduction to the qualitative research paradigm, issues of ontology, epistemology and methodology, research design using qualitative research methods, and theory building and theory testing. It focuses on several selected research approaches that will prepare students to undertake sound qualitative research.

#### **MPP603 Quantitative Research Methods in Psychology**

This course adopts a practical approach to teaching the analytical aspects of quantitative research techniques in psychology. It is designed to provide students with the basic background in research design and data analysis.

#### **MPP605 Psychological Testing & Measurement**

This course surveys the major concepts and techniques in the field of psychometrics, and provides students with some practical experience with commonly used tests. Topics covered include: the testing process; test standardization; reliability and validity; personality assessment; occupational applications; large-scale measurements; ethics and prospects.

#### **MPP607 Independent Study in Organizational Psychology**

This course is designed to propose a research topic in the field of Organizational Psychology in unpublished major work and to complete the research and publish it in HEC recognized journal. For independent study, the participants will be provided a suitable adjunct faculty member of the university, who is able to facilitate in completing the process of research and publication.

#### **MPP609 Personnel Psychology in the Work Place**

This course explores the application of psychological theory and practice to human resources activities in organizations. Topics include job analysis and design, employee selection and placement, performance management and appraisal, and legal and ethical considerations in human resources management.

#### **MPP611 Human Factors in Work Environment**

This course includes evaluation of human factors in man-machine relationships, with an emphasis on automation, systems analysis, displays, and adaptive problems to stress. It is designed to provide the principles of human factors in work environment; provide guidance into the means of optimizing the design of the workplace and the work system in order to maximize individual outputs.

#### **MPP613 Organizational Conflict & Management**

This course is based on the foundation that conflict is both "inevitable and beneficial" in successful organizations. We will examine interpersonal conflict, the role of organizational culture in conflict resolution and the impact of diversity on conflict. Skill development in conflict management and resolution will be based on a collaborative approach involving team-work, case analysis, and role-play.

#### **MPP615 Project Practicum in Organizational Psychology**

This course introduces students to work settings such as businesses corporations, banks, governmental and non-governmental organizations in which they will have an opportunity to apply the theories and subject matter of industrial/organizational psychology in the "real world".

### **MS/MPhil in Education**

#### **MPE604 Developing a Research Project**

This course enables candidates to identify their own area of research interest in the field of Education to develop a synopsis for their projected thesis.

#### **MPE611 Readings in Education**

This course introduces participants to critical reading as a process of analyzing and evaluating the context and purpose of written texts by focusing on the four basic methods of critical thinking: analysis, interpretation, evaluation, and synthesis. It also helps the readers form their own opinions upon education issues through extensive reading. The focus is also given to written skills through production of book reviews and discussion articles.



### **MPE610 Philosophical Foundation in Education**

This course introduces the fundamental conceptual and ethical questions that global change is bringing about in contemporary education. Participants learn the global dimensions of several crucial contemporary issues, including international security and human rights, the problems of global conflict, the hopes of global cooperation, and the complexity of educational accountability, authority, and professionalism.

### **MPE615 Qualitative Research Methods in Education**

The course focuses on developing a working knowledge of a range of qualitative methods, approaches, and theoretical framework of research. The course also introduces the participants to APA writing style and concepts of academic writing.

### **MPE617 Statistical Testing and Inferences in Education**

This course provides opportunities for developing educationists to increase understanding of, and ability to use, quantitative research methods for scientific inquiry. The course also focuses on applications for data analysis, including construction of data files, SPSS for data analysis, and development of an analysis plan. In addition, students are expected to learn how to document and communicate the quantitatively obtained results of the analysis efficiently.

### **MPE603 Policies and Education in Pakistan**

The topics in the course include empirical and legal research on educational issues of Pakistan at the local and state level. Participants gain an in depth knowledge of critical appraisal of Pakistani policies, facilitating communication between education leaders and policymakers, statutes and case law related to liability, student rights, employee relations and property use.

### **MPE702 Managing Higher Education Institutions**

The course assesses the performance of higher education institutions and obstacles encountered in academic and administrative work. It provides participants an opportunity to visit higher education institutions for a briefing to experience and critique the management systems in operation.

### **MPE704 Strategic Management of Schools and School Systems**

This course is particularly based on elements of school systems by utilizing system analysis in identifying system input, operations, outputs, and feedback processes that offer clear criteria for development and improvement in both public and private school systems.

### **MPE705 Economics of Education**

This course is designed to introduce participants to economic principles, theory, and practice as it pertains to educational systems and their impact on economic growth (e.g., investment, labor, productivity, cost, efficiency, supply and demand) in the context of education.

### **MPE706 Global Issues in Education**

This course introduces the fundamental, conceptual, and ethical questions that global change is bringing about in contemporary education. The students understand the importance, commonalities, differences, and connections between global and comparative education.

### **MPE714 Early Childhood Development**

This course orients participants with the basic concepts of early childhood education and development. It helps them to explore and analyze various models in place. Furthermore, the course enhances the participants' concepts and analysis pertinent to childhood studies in Pakistani and global contexts.

## **MS in Engineering Management**

### **MEM501 Project Management**

The course will help students gain insight into the concept of a project and its definition, Introduction to planning, scheduling and control of projects, Network model and its applications. Probabilistic and Deterministic Approaches. Gantt charts, PERT and CPM. Network simulation, latest software on project management, Determination of resources requirements of a project.

### **MEM502 Design, Patents, Contract And Legal Engineering**

The course provides an in-depth understanding of Design, its process and optimization, Patent development, its types and authentication, Legal procedures and principles of interest to engineers, The Pakistani patent legal systems and agencies, contracts, its specifications, and liability, Patent and proprietary rights.

### **MEM503 Quality Process For Design And Production**

This course aims to cover the theoretical foundations of Quality and its definition, selecting quality parameters for inspections including limits, tolerances and fits, Product standards and references (national and international), in-process and off-process inspection, Performance tests (destructive and non-destructive tests), Statistical design of engineering experiment.

### **MEM504 Research Methodology**

This course provides an opportunity for participants to establish or advance their understanding of research through critical exploration of research language, ethics, and approaches. The course introduces the language of research, ethical principles and challenges, and the elements of the research process within quantitative, qualitative.

### **MEM505 Applied Engineering Analysis**

This course presents a range of practical modeling and analysis methods that are used to solve engineering problems. Differential equations, series solutions of differential equations (special functions), boundary-value problems and characteristic function representation, Laplace transforms, Fourier analysis, partial differential equations, formulating and solving problems in engineering for systems of differential equations and partial differential equations.

### **MEM506 Facility Planning And Layout**

The course introduces Location and site selection criteria, Equipment and utilities layout, Latest tools and software for facility layouts, work cell layout and job shop layout, Types of Layout, Types of Production, Group / Cellular Technology, Material Handling Systems, Type of flows, Material Requirement Planning (MRP-II).



### **MEM507 Operations Analysis & Resource Allocation**

This course aims to provide an overview of the functional activities necessary for the creation/delivery of goods and services. Topics covered include: productivity; strategy in a global business environment; project management; quality management.

### **MEM508 Operation Management**

This course covers essentials of Introduction to Operations Management, Operation system inputs and outputs, Generic model of Operation System, Operations Strategy for Competitive Advantage, Operations in a global environment, Designing Operations, Plant location and layout. Types of production and material handling.

### **MEM509 Simulation & Modeling**

The course focuses on Introduction and importance of simulation in engineering, Different levels of simulation in engineering applications (components level, system level and event level simulation), Dynamic and static simulation.

### **MEM510 Production Planning And Control**

This course exposes students to the Production system, its inputs, conversation and output, objectives and evaluation of production planning and control, Aggregate Production Planning, scheduling, shop loading, Low and high volume production, Ordering / sequencing and progress controlling, work flow and its balancing.

### **MEM511 Advance Practices In Engineering Management**

The course emphasizes on emerging trends in the field of engineering management.

### **MEM512 Environmental And Safety Management**

The course introduces students to the physical aspects of odor, noise and vibration and its effect on human. Physical sources of noise, pollution and vibration and their control.

### **MEM513 Industrial Costing Management**

This course particularly caters to the Cost and Value concept, Types of costs and its calculations. Money-time relation, Return on investment, Present and future worth of money. Cost centers, costing organization, and responsibilities. Appreciation and depreciation analysis.

### **MEM514 Technology Management**

The course helps to gain an insight into Technology Management, The Role of Technology in the Creation of Wealth, Critical Factors in Managing Technology, Technology Life Cycles.

### **MEM515 Lean Six Sigma & Lean Manufacturing**

The course focuses on developing a broad understanding of Lean/Six Sigma principles and practices, Build capability to implement Lean/Six Sigma initiatives in manufacturing operations.

### **MEM516 Marketing Management**

The course is designed to serve as an introduction to the theory and practice of marketing. Students will improve their ability to develop effective marketing strategies and assess market opportunities, as well as design strategy implementation programs.

## **Policy Studies**

### **PLY101 Policy Making in a Globalized World**

The course focuses on theory of policy – liberal, socialist and nationalist approaches. The state, the market and the individual in capitalist order; global policy makers – multinational, financiers, multilateral agencies and private sector raters; the surveillance standardization regime, the system pegemon and global policy; policy making in Pakistan, state policy makers; the State Bank; the impact of de-regulation and privatization. Private sector policy makers associations NGO's, the media and the influence of global policy on national policy making in Pakistan.

## **Pakistan / Islamic Studies**

### **PRL301 Pakistan / Islamic Studies**

The course covers various movements which led to the creation of the Islamic Republic of Pakistan. The history of Pakistan is discussed with an analysis of the various leaders and their contributions to the development process. The course discusses how different messengers of Allah came to spread His word. It further discusses the need for Islam: its five pillars, the life of the Prophet Muhammad (PBUH), the companions of the Prophet (PBUH), and the several Surahs, Ahadiths, and Ayats.

## **Political Sciences**

### **PSC301 Pakistan Studies**

The course on Pakistan Studies is an in-depth course covering various movements which led to the creation of the Islamic Republic of Pakistan. The history of Pakistan is discussed with an analysis of various leaders and their contributions to the process of national development. It also discusses the two nation theory in detail.

### **PSC401 Pakistan Studies and Current Affairs**

The course is an in-depth study covering the various movements which led to the creation of the Islamic Republic of Pakistan. The history of Pakistan is discussed with an analysis of the various leaders and their contributions to the development process. Issues related to current affairs will also be discussed.



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## PhD (Business Management)

### **PBM701 Philosophy of Business Management**

The objective of the course is to link the philosophy of the researcher's area of specialization to the theoretical and philosophical foundations of management sciences. It links the selected area with the classical, modern and postmodern discourses and sources of management. It explores past and present of management sciences in terms of epistemology, metaphysics, ethics, knowledge systems and political economy and helps in developing a sound and productive vision of future in the area of research.

### **PBM703 Multivariate Analysis**

The course enables the identification of a set of techniques for analyzing data sets with more than one variable in the student's chosen area of research. Students would explore and identify relevant techniques from univariate analysis, bivariate analysis, analysis of variance, categorical data analysis, multivariate linear regression, discriminant analysis, canonical correlation, multivariate analysis of variance, principal component analysis, factor analysis, cluster analysis and logistic regression. This would lead the student to develop multivariate analysis techniques for their area of research and their justification.

### **PBM705 Readings in Business Research**

This course enables the students to study high quality PhD dissertations and their research methodology in their chosen area of research. The students are expected to study the qualitative and quantitative research methodologies undertaken in their field and develop a template that they would use for their research plans, methodology, outcomes, results and research writing.

### **PBM707 Replication of Business Research Design and Results**

Replication involves the process of repeating a study using the same methods, different subjects, and different experimenters. A qualitative assessment of the result comparison is carried out to identify similarities and differences and to discover assumptions or parameters underlying any variances. The applied research leads to the proposal of how the selected research may be extended and enhanced.

### **PBM801 Marketing Models**

This course describes theoretical and empirical models used to analyze marketing management issues in the areas of product introduction and positioning, pricing, advertising, and distribution channels. The theoretical structure in the course comes from microeconomics of firm and consumer decision making, with special consideration of competitive issues. Theoretical, operational models in marketing, with emphasis on recent advances; in-depth criticism of models, participation in model development project. The empirical work draws from conjoint analysis, choice modeling, and multivariate techniques.

### **PBM803 Marketing Theory**

Recent and classic research contributions to marketing theory development. The course addresses conceptual development and current practice in marketing decision-making. Topics critically examined include marketing orientation, competitive interaction, product development and introduction, channel relationship management, customer relationship management, advertising and promotion, pricing and revenues, and sales, service and quality.

### **PBM805 Advanced Topics in Marketing**

Current state of knowledge in Marketing Research. As an introductory seminar, coverage will include current topics appearing in top marketing journals. Discussions will revolve around the reference disciplines and theories used in the marketing literature. This course will provide an in-depth introduction to a particular methodology or a particular setting that is relevant to research.

### **PBM811 Advanced Topics in Strategic Management**

Current state of knowledge in strategic management. Topics may include the sources of competitive advantage, the role of industry evolution and technology, the organization of top management, and managerial decision-making and cognition. The course allows students to research alternative theoretical perspectives and available empirical evidence related to these topics.

### **PBM813 Advanced Topics in Organization Theory**

This course introduces students to the major schools of thought in organization and management theory. It considers the development of the field, major and foundational works in these schools of thought, and provides a cognitive map with which to evaluate contemporary research and debates. At the end of the course the student will have an understanding of the strengths and weaknesses of each major perspective from the research.

### **PBM815 Advanced Topics in Human Behavior in Organization**

This seminar examines theory and original research within the field of organizational behavior. The course covers a range of topics, including job performance, work attitudes (e.g., organizational commitment, job satisfaction), motivation, trust, justice, individual differences (e.g., personality), team structure and processes, power, leadership, and organizational culture. The primary emphasis is on the field's classic, ground-breaking, empirical and/or provocative research. Overall, the course exposes students to current research thinking and strategies within the field.

### **PBM821 Advanced Topics in Operations Management Research**

This course provides a general introduction to the major research fields of operations management (OM). The focus will be on reading and evaluating current papers from prominent OM journals. The theory of science and the review process will be briefly discussed. Students are expected to have as mathematical background the equivalent of upper-level undergraduate or first-year graduate courses in optimization and probability or stochastic modeling. This course may be appropriate for some graduate students in engineering or computing science.



### **PBM823 Advanced Research Topics in Operations Management**

This course will provide an in-depth introduction to a particular methodology or a particular setting that is relevant to research in operations management. The topic may vary from year to year. Possible topics include optimization modeling and formulation, stochastic modeling and optimization, behavioural research in operations management, and health care operations management. The required background for students will vary depending on the topic. This course may be appropriate for some graduate students in engineering or computing science.

### **PBM825 Advanced Research Topics in Management Information Systems**

As an introductory seminar, coverage will include current and historical topics appearing in top information systems journals. Discussions will revolve around the reference disciplines and theories used in the MIS literature. This course will provide an in-depth introduction to a particular methodology or a particular setting that is relevant to research in management information systems. Possible topics include applications of optimal control theory in management information systems and operations management, collaborative communication systems, and quantitative models for management information systems.

### **PBM831 Advanced Topics in Finance**

This course provides introduction to the major research fields of Finance. The focus will be on reading and evaluating current papers from prominent Finance journals. This course provides an introduction to theoretical and empirical research work in asset pricing and market microstructure. Research topics may include market efficiency, time varying expected returns and volatility, test of asset pricing models, and models and analysis of price formation. They may also include contracting theory, the theory of the firm, corporate governance, capital structure, and dividend policy. The course may be repeated if the topics vary.

### **PBM841 Advanced Readings in Business Ethics**

This course offers description and analysis of discourses of ethics ranging from Aristotle to postmodern ethicists. It also focuses on the applications of these theories in the fields of marketing, finance, technology, employer-employee relationship and the regulation of the corporation. This course presents advanced studies of liberal and neo-liberal, Marxist and neo-Marxist, Aristotelian and neo-Aristotelian, modern and postmodern, and communicative and pragmatist ethical approaches to business practice.

### **PBM842 Globalization Discourses of Ethics**

This course offers an analytical contextualization of globalization in the framework of modern and postmodern ethical approaches, and addresses relevant ethical issues and their resolutions in theory and practice. It presents a theoretical framework for the ethics of globalization. This course surveys globalist and anti-globalist, hyper-pro-globalist and hyper-anti-globalist discourses from ethical standpoints. It studies the legal, economic, political, and cultural dimensions of globalization in connection with prospects of global civil society, cosmopolitanism and cosmocracy.

## **PhD (Computer Science)**

### **PCS701 Big Data Analytics and Knowledge Discovery**

This course will introduce principles for big data analytics that have been developed in response to the challenges for big data processing and analysis; it will also cover the Specific knowledge of the fields of Machine Learning and Knowledge Discovery in Databases. Literature published will be discussed and innovative ideas will be encouraged.

### **PCS703 Natural Language Processing Information Retrieval**

The course is concerned with concept in relevant journals, models and algorithms to interpret generate and learn natural languages, as well as applications of NLP. The goal of the course is for the students to be familiar with basic concepts in NLP, understand the algorithms and methods for NLP and acquire the skills for developing NLP tools/systems

### **PCS705 Advance Theory of Computation**

This course is primarily concerned with rigorous reasoning about computation; a significant portion of this course will then be focused on computational complexity, including major topics in theory of computation such as randomization, interactive proofs, parallel computation, and quantum computing

### **PCS707 Advances in Machine Learning**

Machine learning approach will be discussed with trends and recent developments. Specific attention will be focused on robotics and intelligent systems.

### **PCS709 Computational Intelligence**

This course will cover the introductory concepts, models, algorithms, and tools for development of intelligent systems. Topics include artificial neural networks, genetic algorithms, fuzzy systems, swarm intelligence, artificial life, and hybridizations of the above techniques.

### **PCS711 Heuristic Search Theory and Methods**

This course will cover many important search algorithms used in AI ranging from single-agent search like A\*, over two-player search (alpha-beta) to many-players, annealing or global search methods. Algorithms will be evaluated in terms of their algorithmic complexity, implementation considerations, utility, interaction with application-dependent knowledge.

### **PCS713 Advance Neural Networks**

This course will cover basic neural network architectures and learning algorithms, for applications in pattern recognition, image processing, computer vision, financial markets analysis. Three forms of learning will be introduced (i.e., supervised, unsupervised and reinforcement learning) and applications.

### **PCS715 Intelligent Web Technologies**

The objective of this course is to cater the recently growing information, culminating in the advent of big digital libraries. The course will discuss web intelligent techniques using AI, data visualization, statistics and other learning techniques.



### **PCS717 Parallel and Distributed Systems**

This course will cover the current research topics in the design, implementation, and evaluation of parallel and distributed systems. Focus will be on the systems software and parallel programming systems, but some hardware issues will also be covered. Topics will include parallel algorithms, parallelization strategies, virtual machines, and operating system support

### **PCS719 Formal Research Methods**

This course cover the most often encountered research methodologies in Computing Science and the dissemination techniques that a computing scientist should master, ethical issues related to research and graduate school life will also be part of this course

### **PCS723 Computer Vision and Robotics**

Robotics and related technologies will be discussed with emphasis on vision. This course will cover treatment of geometry to reach and understand the modern Non-Euclidean (projective) formulation of camera imaging.

### **PCS725 Temporal and Spatial Database Management System**

This course will introduce principles and foundations of temporal and spatial databases, including data models, query languages, algebras, and algorithms for selected operators

### **PCS731 Advanced Digital Signal Processing**

This course will cover the theory and algorithms for processing of deterministic and stochastic signals .Topics include discrete signals, systems, and transforms, linear filtering, fast Fourier transform, non-linear filtering, spectrum estimation, linear prediction, adaptive filtering, and array signal processing

### **PCS733 Advance Decision Support System**

This course will cover the process of decision-making and issues involved in the design, implementation and evaluation of DSS. Additional topics include data mining, user interfaces, knowledge-based DSS, and research directions in DSS

### **PCS739 Advances in Simulation and Modeling**

The course will cover Markov Models and Queuing Networks and simulation techniques such as, Monte Carlo Techniques and Event Driven Simulation, applied in performance modeling of communication systems and networks.

### **PCS743 Fuzzy Topologies with Human Centric Computing**

Fuzzy set theory and analysis will be explored in the context of human centric computing and information processes. In addition applications in business, actuarial science and risk management will be discussed

### **PCS745 Advanced Algorithm Analysis**

The goal of this course is to develop the appropriate background, foundation and experience for advanced study in Computer Science, Develop mathematical skills for algorithm design, analysis, evaluation and computational cost; Develop the skills to design and implement efficient programming solutions to various problems; Develop data structure techniques for various aspects of programming.

## **PhD (Mathematics & Scientific Computing)**

### **PMT701 Advanced Numerical Computing**

Direct and Indirect methods for solving simultaneous linear equations and matrix inversion, conditioning and round-off errors, Eigenvalues, eigenvectors, numerical functional approximation. Numerical differentiation and integration,

### **PMT703 Linear Algebra and Lie Algebra**

Definition of Lie algebras and examples. Nilpotent, solvable and semi-simple Lie algebras. Engel's theorem, Lie's Theorem, Killing form and Cartan's criterion. Weyl's theorem on complete reducibility. Representations of  $sl(2, \mathbb{C})$ . Root space decomposition of semisimple Lie algebras. Root system and Weyl group.

### **PMT705 Applied Matrix Theory**

Canonical forms, functions of matrices, variational methods, perturbation theory, numerical methods, nonnegative matrices, applications to differential equations. EM factorization, and Markov chains

### **PMT707 Numerical Methods for PDEs**

Nonlinear discrete equations; Newton and monotone methods for nonlinear equations; computational algorithms and applications; finite difference method-convergence, stability and error estimates; multiplicity of solutions and bifurcation; asymptotic behavior of solutions; and coupled systems of equations.

### **PMT709 Topics in Inverse Problems**

This course enables students know commonly used algorithms and techniques for analyzing and computing inverse problems, have seen and discussed examples of inverse problems in a variety of fields. Inverse problem resources and references will be discussed. Research based project is required.

### **PMT711 Topics in Numerical Differential Equations**

This graduate-level course is an advanced introduction to applications and theory of numerical methods for solution of differential equations. In particular, the course focuses on physically-arising partial differential equations, with emphasis on the fundamental ideas underlying various methods.

## **PhD (Statistics & Scientific Computing)**

### **PST701 Advanced Statistical Computing and Graphics**

This course introduces students to a range of computational techniques including numerical linear algebra, numerical optimization, graphical techniques, numerical approximations,

### **PST703 Regression Modeling and Computing**

The course emphasizes on the principles of statistical modeling through iterative processes, assessing the fit, and suggesting alternative models. Extensive use of R is part of the course.



### **PST705 Advanced Mathematical Statistics**

This course covers the exposure to the topics of Random Vectors, Multivariate Distributions and Transformations, Conditioning, Transforms – Generating and Characteristic Functions, Order Statistics, the Multivariate Normal Distribution, Convergence and Large Sample Approximations

### **PST707 Advanced Bayesian Inference & Stochastic Modeling**

This course focuses on building graphical models and stochastic simulation methods for inference and prediction, Mixture models, networks, and other latent variable probability models, i.e. hidden Markov models, Monte Carlo methodology and related dynamical modeling theory.

### **PST713 Non-linear and Integer Programming**

An advanced mathematical treatment of analytical and algorithmic aspects of finite dimensional nonlinear programming.. General integer programming problems and methods of solving them. Special attention directed toward current research and recent developments in the field

### **PST715 Advanced Design and Analysis of Experiments**

This course focuses on the topics such as design fundamentals, factorial; nested factorial; incomplete block and fractional factorial designs. Response surface and mixture designs will be discussed. Split, Split-split and Optimum designs will be studied.

### **PST717 Advances in Time Series Analysis**

Topics include univariate ARIMA modeling, forecasting, seasonality, model identification and diagnostics. Recent advancements in financial time series, unit root phenomenon, cointegration, GARCH and stochastic volatility modeling, trend break analysis and nonlinearity will be covered.

### **PST719 Advances in Bioinformatics & Biostatistics**

The broad topics include model building, advanced analysis of categorical data, logistic regression analysis for binary outcome data, regression analysis for count data, analysis of life table, Kaplan-Meier survival plot, log rank test and Cox Proportional Hazards model.

### **PST721 Statistical Quality Control**

It covers the techniques of modern Quality Control and Management. Topics include Statistical Process Control, Capability Studies, Continuous Improvement, ISO 9000 and other standards. Six Sigma, Design for Six Sigma and Lean Management tools. :Taguchi methodology.

### **PST723 Stochastic Modeling**

Survey of modeling approaches and analysis methods for data from continuous state random processes. Emphasis on differential and difference equations with noisy input. Doob-Meyer decomposition of process into its signal and noise components.

## **PhD in Education/Psychology**

### **PSS701 Methods and Issues in Advanced Qualitative Research**

The course focuses on developing a working knowledge of a range of qualitative methods, methodological approaches, and theoretical framework of research to enable the participants to conduct qualitative research within the social sciences.

### **PSS702 Advanced Educational Philosophy**

This course is to understand the category of education from wide variety of perspectives. The course will explicate the development education from local through modern to post modern cultural perspectives.

### **PSS703 Methods and Issues in Advanced Quantitative Research**

The primary goal of the course is to help participants to develop a conceptual background and practical skills needed to critically evaluate statistics and to conduct statistical analyses of empirical data independently to complete a small research project.

### **PSS705 Seminar in Interdisciplinary Studies (Education and Psychology)**

This course will provide participants with a broad overview of areas of study, major theories and research methodologies that guide the discipline of social sciences with a special focus on education. Separate seminars will be served as a platform to discuss and analyze current issues using an interdisciplinary social science perspective.

### **PSS707 Independent Study**

This course will provide space for the participants to propose a research topic in their field of interest and complete a small scale project for publication in an HEC recognized journal.

### **PSS709 Measurement & Assessment**

This course provides participants with a comprehensive examination of the psychometric procedures used to develop and validate educational, psychological, and organizational instruments. Topics include normative samples, reliability and validity, test score interpretation, and test development.

### **PSS710 Psychology of Personality**

This course enables participants to differentiate among the primary theoretical models of personality theory, such as psychodynamic, affective, cognitive-behavioral, and humanistic theories.

### **PSS 712 Educational Policies and Organizational Development**

This course educates participants to develop high-standards in an organization through carefully looking through the education policies that help to reflect the standards and goals for which the education community is responsible.

### **PSS721 Project Internship - Education**

The practicum course aims to provide participants with real experience in a workplace environment by working on a challenging project. The practicum provides opportunities for participants to affiliate themselves with an educational institute and carry out a project over one semester.



#### **PED701 Methods and Issues in Advanced Qualitative Research**

The course focuses on developing a working knowledge of a range of qualitative methods, methodological approaches, and theoretical framework of research to enable the participants to conduct qualitative research within the social sciences.

#### **PED702 Advanced Educational Philosophy**

This course is to understand the category of education from wide variety of perspectives. The course explicates the development of education from local through modern to post modern cultural perspectives.

#### **PED703 Methods and Issues in Advance Quantitative Research**

The primary goal of the course is to help participants to develop a conceptual background and practical skills needed to critically evaluate statistics and to conduct statistical analyses of empirical data independently to complete a small research project.

#### **PED705 Developing and Conducting Independent Research**

This course provides space for the participants to propose a research topic in their field of interest and complete a small scale project for publication in an HEC recognized journal. This course is different from the main Ph.D. research study and will be beneficial for the candidates in providing them with experience to pursue their major work of investigation.

#### **PED810 Planning, Developing and Evaluating Curriculum**

This course is intended to provide professional teachers with an improved ability to assess curricula and to make curricular decisions at the course- and program-levels. It helps to develop an appreciation for curriculum processes (planning, development, implementation, and evaluation) as it applies to education and also enrich the understandings of curriculum concepts, processes, policies, and products.

#### **PED812 Educational Policies and Organizational Development**

This course educates students to develop high-standards in an organization through carefully looking through the education policy that helps to reflect the standards and goals for which the education community is responsible.

#### **PED814 Managing Educational Projects and Intervention**

The practicum course aims to provide participants with real experience in a workplace environment by working on a challenging project. The practicum provides opportunities for participants to affiliate themselves with an educational institute and carry out a project over one semester. The project will enable participants to experience and excel in the arena of their concentration.

#### **PED820 Innovations and Pedagogies in Teacher Education**

This is a holistic course which encompasses the spirit of learning and teaching. It is designed to help students learn to organize classrooms as healthy environments for positive learning. It teaches students ways to deal with behavioral problems when they occur. Educators should acquire the ability to modify and adapt each lesson plan in accordance with the needs and pace of their students. In addition, they should possess basic skills to enable them to integrate the curriculum standards and desired learning outcomes when building their customized lesson plans.

## **PhD in Economics**

#### **PDE701 Advanced Research Methodology**

The importance of research, goals of research, topic selection, literature review, qualitative and quantitative studies, study design and sampling, sampling methods, data preparation and analysis, descriptive statistics, hypothesis testing, errors, correlation, inferential statistics, statistical significance.

#### **PDE702 Advanced Applied Econometrics**

Econometric methods for cross-section and panel data. generalized method of moments, empirical likelihood, instrumental variables, bootstrapping, clustering, treatment effects, selection bias, difference-in-differences, qualitative choice, quartile regression, nonparametric methods, and semi parametric methods, recently developed econometric techniques, simulation techniques, estimation subject to inequality restrictions, semi parametric and nonparametric tools.

#### **PDE703 / PEC711 Development Economics**

The objective of the course is to familiarize the students with the theory and problems of development; Modernization Theory vs. Dependency Theory; imperialism; Structuralism vs neo-liberalism; trade and development; structural adjustment policies; debt problems; development and democracy; conflict, growth and development; globalization and related issues.

#### **PDE704 New Dimensions in Economic and Public Policies**

Optimal design of tax and social insurance policies. Efficiency costs and incidence of taxation, income taxation, transfer and welfare programs, public goods and externalities, fiscal federalism and welfare analysis. Monetary policy and coordination, exchange rates, balance of payment analysis, international capital flows, debt crises, growth, and policy coordination. Structural and stabilization policies, growth, income distribution, poverty. Industrial policy to promote growth and industrialization, organizational structure, R& D, strategic objectives; competition and anti-trust policies.

#### **PDE711/ PEC712 Industrial Economics in a Globalized World**

Theory and current issues in industrial economics. Core industrial organization issues, industrial economic issues at the national level and policy related issues. Market structure and innovation, market structure and advertising, vertical integration and mergers, foreclosures, upstream competition, privatization and regulation, industrial policy, structural adjustment and stabilization policies, reforming State Owned Enterprises (SOEs) in China.

#### **PDE712 Public Finance**

Equity and market failure; the economics of taxation, direct and indirect taxation, taxation of income, wealth and consumption, tax incentives, tax compliance and enforcement, and tax reform, user charges and fees. Public expenditure policy, government social protection programs, balanced budgets, deficit financing, debt management, fiscal consolidation and fiscal sustainability. Fiscal stimulus vs. fiscal austerity, fiscal decentralization and intergovernmental fiscal relations.



### **PDE713 International Trade**

Law of comparative advantage, gains from trade, Ricardian and the Heckscher-Ohlin models, alternative trade theories, tariff and non-tariff barriers (NTBs), customs unions, international factor movements, fixed and flexible exchange rates, the internationalization of financial markets, international capital mobility, International Financial Institutions (IFIs), balance of payments and adjustment policies, international macroeconomic policy.

### **PDE714 Selected Topics in Monetary Economics**

Monetary policy under uncertainty, market based monetary policy, economic and monetary union, monitoring inflation, empirical models of exchange rate dynamics, financial globalization, rational expectations, exchange rates and monetary policy in the New Synthesis.

### **PDE715 Main Issues in Islamic Economics**

Theological basis to the practical implications of economic philosophy of Islam; basic economic theory of Islam and economic rules and outlook of the individual, businesses and the state in the Islamic context discussed in contrast to conventional economic theories. Analysis of the economic and spiritual well being of individuals and states as proposed under the Islamic system based on equity and justice.

## **Psychology**

### **PSY400 Introduction to Organizational Psychology**

This course examines the psychological aspects of organizational behavior and individual psychological processes and behavior. The topics will include social norms, group and team processes, leadership and power, motivation, job attitudes and satisfaction and organizational change.

### **PSY402 Counseling Psychology**

This course focuses on the basic approaches, principles, and procedures of counseling. Students will be engaged in some directed role playing of counseling techniques as well as prepare a class demonstration based on their personal integration of readings and practice. Research related to counseling as well as issues regarding the nature of the counseling relationship will also be focused.

Pre-requisite: PSY400

### **PSY405 Group Dynamics**

This course presents theories of group dynamics and illustrative application to understand personal, marital, political, industrial and professional life. Personal participation by the student in a group interactive process will be emphasized. The course is designed especially to help group leaders understand the complex underlying dynamic forces that influence our behavior in groups.

### **PSY406 Research Methods in Organizational Psychology**

This course builds on the fundamentals of research design and knowledge of basic statistical techniques to provide a broad overview of the major research methods of applied psychological research. Students learn to frame inquiries and problems as research questions.

### **PSY407 Personnel Psychology**

This course focuses on psychological methods and knowledge applied to the personnel functions of industry. It provides an analysis and discussion of theories and research studies on the following topics: organizational management and development; manpower planning, selection, placement, training, and other important personnel problems.

### **PSY408 Consumer Psychology**

This course focuses on the type and behavior of consumer, effects of psycho-social factors in decision making, satisfaction, loyalty, attitude, and changing attitude of consumer, ethics and principles of psychology in advertising, media selection, and methods in developing a research study in the area of consumer and advertising psychology.

### **PSY430 Psychological Testing I**

This course is designed to provide an introduction to concepts, theories, and methods regarding psychological testing and measurement. It will focus on areas such as psychometric principles (e.g., validity and reliability), test and item analysis, test construction, and applications of psychological testing in industry.

Pre-requisite: PSY 400

### **PSY431 Psychological Testing II**

This course focuses on psychological testing and measurement in industry and organizations. Various tests such as aptitude test, vocational interest test, personality test, attitude test and predictors used in industry and organization will be demonstrated. Practice using, modifying, making psychological tests, including analyzing and reporting results of the psychological tests will also be discussed.

### **PSY432 Behavior Modification in Industry**

The overall objective of this course is to discuss reinforcement theory and how those techniques can be applied to positively or negatively affect human behavior. Students learn about methods, terminology and procedures used, as well as the development and history of behavior modification.

### **PSY433 Leadership and Strategic Change**

This course is designed to enhance skills for facilitating/consulting with organizational leadership in organizational change. Theories and techniques for understanding and facilitating change processes within diverse organizational cultures are discussed and applied.

### **PSY434 Personality Psychology**

'Personality' is a broad term applied to the wide traits of people who are employed and managed across the economy. Organizations of any size require additional staff to provide psychological assessment and management of their human resources.



### **PSY435 Research Project/Practicum**

The practicum prepares students to practice industrial/organizational psychology with the understanding of organizational cultures critical to effective professional practice in the workplace. Students refine skills in identifying and solving human-resource problems in work settings.

### **PSY436 Seminar in Organizational Psychology**

This course covers the most recent advances, issues and problems in industrial and organizational psychology through relevant professional journals, in order to prepare students for continued education or applied practice of their field. Students will critique professional journals and review the development of topics in their field.

### **PSY501 Work Motivation and Attitude**

The course covers concepts in various theories of motivation, content and process theories, job satisfaction and its relationship with motives and performance efficiency; applications of theories of motivation to increase performance; problems and solutions of motivation in Pakistani society; research and development of motivational techniques to increase performance efficiency.

### **PSY506 Quality of Work Life**

This course focuses on theories and research relating to quality of life at work, application of knowledge in health; safety at work, environment and working motivation; educating managers and employees to enable them to deal with sickness and problems caused by working, and concentrate on their physical and mental health.

### **PSY515 Projective Methods**

This course presents the history and use of projective assessment devices such as the Thematic Apperception Test, Rorschach Ink blot Test, and Draw-A-Person test. The emphasis is upon administration and interpretation of these specific projective techniques.

## **Religious Studies**

### **REL101 Islamic Studies**

This course focuses on the meaning, significance and practicality of Islam as a universal religion. It acquaints students with the fundamental concepts, values and practice of Islam. It also reveals the relevance of Islam to all walks of life. The aim of this course is to enable the students to discover and study the spirit of the religion of Islam.

## **Supply Chain and Logistics Management**

### **SCM301 Introduction to ERP Systems**

This is a hands-on intensive implementation course exploring latest trends in off-the-shelf ERP packages like Oracle Applications or SAP. Overview of the reach of the ERP modules such as ordering and sales, inventory and material management, procurement, project management, manufacturing planning and control, finance, costing, business intelligence, maintenance, HR, etc.

### **SCM501/605 Supply Chain Management**

This course covers essentials of Supply Chain Management and is divided into foundations of SCM, enabling concepts, the requirement process, strategic sourcing, strategic cost management relationship management and world class supply chain management.

Pre-requisite: MAN 101/401

### **SCM306/603 IT Applications in Logistics & SCM**

covers the topics: identification techniques for data collection, data transmission, data processing, and data warehousing in logistics; standardization in logistical data management; the importance of a real-time data flow and significant analytics .

### **SCM309/604 Packaging Design - Environmental Aspects**

Packaging aspects are discussed in view of the different logistical, marketing, environmental, and legal requirements. Important factor is the standardization of packages for cost saving and damage free handling and transportation. Packages are carrying different kind of information, For logistical purposes the international standards for product identification, location numbering etc. are important.

### **SCM502/606 ERP Systems Design and Implementation**

This course provides a technical overview of enterprise planning systems and their impact on organizations. Selected software solutions are introduced to illustrate the concepts, fundamentals, general information technology context and integration of business enterprise applications. Case studies will be used to discuss various stages of implementing ERP solutions.

### **SCM503/607 Strategic Supply Chain Management**

This course covers a wide range of Supply Chain Management activities including formation and management of strategic alliances, buyer selections and management, negotiations, global sourcing, ethics in contracting situations and applications of information technology in SCM.

Pre-requisite: MAN 101/401

### **SCM504/608 Procurement and Inventory Management**

The synchronization of supply with demand in order to provide customer value has to be designed, controlled and improved. In supply chain management these activities have to be coordinated along different stages in different enterprises. This course deals with understanding and overcoming the problems arising in those multistage inventory systems using case studies.

### **SCM505/609 Storage and Warehouse Techniques**

In order to operate, optimize or understand warehouse systems, a sound knowledge about the various technical realizations of warehouse functions is essential. This course provides an overview of various in-house transporting and storage systems and indicates the preferred areas of usage. Case studies will be used as modus operandi in the course.

### **SCM506/610 Transportation Techniques and Management**

The course aims to give an understanding of the basic techniques used in transportation. All major techniques in the fields of road-traffic, air traffic, railroad and navy are discussed. Transport chains using freight-villages, intermodal transports, combined transport-chains as location planning, design and organization of dispatch departments, supply-chain-management tracking- and- tracing are investigated using the case study approach.

### **SCM507/601 Quantitative Methods in Production and Logistics**

Students get knowledge and skills required to manage complex systems of production, distribution and freight transport in global supply chains. It also prepares students for careers in industrial companies and service organizations which have to deal with complex logistical and production processes. Operations Research & Quantitative Logistics focuses on those areas in the transport and logistics sector that require strong quantitative skills, where practitioners apply academically developed theories. This includes Quantitative trend analyses techniques. Production planning process (optimizing capacities and lot sizes). Transportation Planning Facility, site layout, and location planning etc. The use of the planning tools provided by Microsoft Excel Solver Data Analytics, Data warehousing, Business intelligence.

### **SCM508/615 Design of Business Processes - Workflow Management**

Understanding of Value Adding business processes, internal and cross-company supply chain Knowledge of the design and optimization tools. Definition of internal and external enterprise process chains .Design and optimization process chains using Microsoft Office SharePoint Designer/Server 2007 or ARIS-Tool-set. Visualization of internal or cross-company processes by using flowchart modeling style of MS Visio 2010.Automation of ERP processes by implementation workflow management systems in ERP systems (SAP workflow management).

### **SCM510/616 Logistical Projects in ERP - Case Study Development**

Good understanding of business processes such as order fulfillment, material and capacity resource planning, financial and accounting processes. Operating the ERP application system with SAP or Oracle. Understanding of business analytics resulting out of the business processes. Introduction into ERP systems,Basic technology of the SAP ERP system Design of business cases like quality management, quality auditing or business information systems ,Customizing requirements and realization. Future ERP systems – requirements and realization with advanced computing technics s.a. in- memory-computing with HANA, Cloud Computing.

### **SCM511/612 Risk Management in Supply Networks**

This course provides a holistic view on the total value adding process regarding risk portfolios .Using the FMEA method for analyzing risk potentials and learning how to develop resistant / robust supply chain strategies (TSCRM). Introduction to the principles of risk management of business and engineering processes. Sources of risk – early warning signals,Trends effecting the Supply Chain risk potential, TotalSupplyChainRiskManagementTSCRM–holisticapproach,Business continuity management.

### **SCM512/613 Innovation Management in Supply Chain and Logistics**

This course provides future trends in global supply networks in technology of material and information flow, new partnership and collaboration principles following the Toyota Supply Chain Management,Impact of new technologies in communication (RFID, GBI, WLAN, Web-based applications etc, Demand driven supply chains, Impact analysis of innovation to social, environmental and financial results. Development of a innovative and sustainable supply chain strategy.

### **SCM513/614 Corporate Consultancy Projects in Logistics**

This course provides introduction into the project management and consultancy process. Kick-off Meeting between the customer (industrial or logistics service enterprise) and the consultancy team (4 to 5 students and the lecturer) .Problem definition (diagnosis) workshop of the consultancy team moderated by the lecturer. Information gathering at customer's site Creative problem solving workshop of the consultancy team Information consolidation and evaluation – internal decision making process (consultancy team) Presentation of the favorite solutions to the customer.

## **Social Sciences**

### **SSC101/402 Introduction to Psychology**

Its subject matter includes human development, memory cognition, perception and psychopathology. The course explores the field of psychology, teaches to learn about oneself, the mind and the science of psychology.

### **SSC103 Behavioral Studies**

This course is designed to provide students with the knowledge and significance of human behavior at work place. The course will offer an understanding of human behavior along with organizational design & culture, structure, leadership, motivation and other management concepts.

### **SSC104 Principles of Sociology**

The course seeks to teach the basics of Sociology including social action and interaction, social groups, social institutions, culture, prejudice and stereotypes, and social change.



### **SSC201 Policy Studies**

The Liberal, Marxist and Weberian approaches to policy making. The market and the state, bureaucracy and administration regulatory systems. Non-state sources of policy conception and implementation corporations, association, NGOs policy making and implementation processes in Pakistan in fiscal, monetary, labor, energy, health and education areas.

### **SSC202 Environmental Studies**

The course covers basic concepts of Environmental Science and current environmental issues. Major components of environment and ecosystems. Basic understanding in the areas of industrial, coastal and marine environment, deforestation, greenhouse effects, ozone depletion, impacts on human health and climatic change. Environmental challenges for sustainable development, current and future trends in population growth, environmental pollution, development in industry and agriculture, urbanization, poverty and resource depletion. National and International Environmental laws and regulations.

### **SSC301 History of Ideas**

This course offers insights into the archetypes of knowledge and introduces students with nature of diverse ideas and the way socio-politico-economic conditions are related to ideas. This course studies metaphysics, epistemology, political theory, and ethics etc. It develops students' critical thinking and analytical skills and enables them to appreciate the role of ideas in shaping past, structuring present and influencing future.

### **SSC302 Important Concepts in Philosophy**

This course will seek to discuss the history of ideas, from the ancient Greeks to the present, and the contribution of important philosophers.

### **SSC401 Business Ethics**

This course offers an in-depth analytical and critical study of ethical theory and its application to business practice. It encompasses ethical theories from Aristotle to modern and postmodern ethics and applies them to various areas of business practice such as marketing, management, finance, technology, organization, globalization etc. This course is designed to enable students to foresee, identify and resolve ethical issues and problems in business.

### **SSC403 Social Psychology**

This course focuses on human behavior in its social context to reveal how one's feelings and actions can be influenced by other people. The topics include processes of human interaction and the social influences of family, membership groups, and socioeconomic class on individuals and groups.

### **SSC405 Business Ethics and Financial Responsibility**

The course examines ethical issues in the context of business theory and practice. In the process of exploring these issues and raising questions, students draw on a wide body of literature including the humanities, management theory, and the social sciences.

### **SSC406 Psychology and Learning**

The course examines major theories of learning with relevance to instrumental and classical conditioning, cognitive learning processes, motivation, affect, and memory. The students will explore relevant research on traditional and contemporary issues in learning, with an emphasis on human learning from both behavioral and cognitive perspectives.

### **SSC501 Epistemology and Moral Philosophy**

This course will examine the basic questions and principles of moral reasoning. Among the issues to be considered: what makes an action moral? Does might make right? Do moral judgments admit of exceptions? Is pleasure a relevant factor in deciding what to do? Does moral reasoning rest on a grand mistake?

## **Statistics**

### **STA100 Basic Statistical Methods**

This course provides concepts of statistical tools used for computation of quantities required for business analysis. The emphasis is on quantitative techniques and its application to economics, business and media studies.

### **STA101/102 Quantitative Methods I & II**

The objective of the course is to train students in the use of quantitative techniques in business and finance. The students are required to gain thorough theoretical knowledge of the subject and understanding of the application of such knowledge.

### **STA103 Sampling and Probability Theory**

The course highlights the basis concepts of statistics, sample space, events, classical and axiomatic definition of probability, conditional probability and Bayes' theorem, binomial, Poisson, normal distribution and moment generating functions.

### **STA201 Quantitative Business Analysis**

This course will provide an in-depth study of the concepts of statistics and quantitative business tools. The emphasis will mainly be on learning quantitative techniques along with their applications to economics and business.

Pre-requisite: MTH 103

### **STA202 Quantitative Skills and Managerial Statistics**

The course introduces the use of statistical method to proceed beyond the collected data into the area of decision making through statistical analysis. It provides an in-depth introduction to probability, sampling theory and sampling distribution, estimation of parameters, hypothesis testing, analysis of variance, decision theory and quality control charts.

Pre-requisite: STA 201





**STA203 Probability Theory and Statistics**

The course includes the basic concepts of statistics, sample space, events, classical and axiomatic definition of probability, conditional probability and Bayes' theorem, binomial, Poisson and normal distribution, moment generating functions, etc.

Pre-requisite: MTH104, MTH103

**STA204 Industrial Applications of Statistics**

The course teaches an applied approach to statistical quality control utilizing theoretical tools acquired in other mathematics-statistics courses. It emphasizes on understanding and applying statistical analysis methods in real-world situations in engineering.

**STA205 Probability Theory & Statistics II**

Probability Theory, a rigorous treatment of probability and Statistical Theory, a treatment of Distribution Theory and Inference will develop your knowledge of probability and statistics beyond the first year course. It will also provide the probability and statistics basis for all advanced courses. Further Mathematical Methods covers the mathematics needed for statistics and actuarial courses.

Pre-requisite: STA203

**STA206 Probability & Statistics**

The course includes concepts of statistics, sample space, events, probability, conditional probability and Bayes' theorem, Discrete and continuous random variables and discrete probability distributions. Mathematical expectations and moment generating function.

**STA210 Sampling Theory**

The purpose of this course is to provide students with theoretical background in survey sampling. The course will expose students to a wide range of sample designs and estimation techniques used in practice, including different sampling techniques.

Pre-requisite: MTH201, STA203, STA301, STA302

**STA301 Model and Inferences**

Statistical models and random samples, informal methods of checking models, estimation and prediction, methods of maximum likelihood and least squares and their applications within the frame-work of programming are taught in this course.

Pre-requisite: MTH201, STA203, STA205

**STA302 Methods of Data Analysis**

The course is an introduction to the use of computers as a powerful tool in data analysis. Topics will include statistical graphics, advanced regression techniques, curve fitting and smoothing, generalized additive models, CART, multivariate techniques, cross-validation and the bootstrap. Additional topics may include survival analysis, simulation methods and neural networks.

Pre-requisite: STA203, STA301

**STA303 Time Series Analysis and Forecasting**

The course covers introduction of statistical methods for analyzing and forecasting time series data. The topics include; spectral analysis, smoothing autoregressive moving average models, regression with auto correlated errors, linear filters and bivariate spectral analysis.

Pre-requisite: ARM601, STA305

**STA305 Applied Regression Analysis**

Linear regression and correlation; maximum likelihood and least square estimators and their properties. nonlinear regression models; generalized linear regression models; introduction to time series; time series model building and forecasting with focus on data of interest to actuaries are features of this course.

Pre-requisite: MTH204, STA302

**STA307 Decision Theory**

Sampling models in business and economic problems, Bayesian inferences, auto-regressive series models and their applications, Bayesian estimation of parameters, adaptive forecasting, control theory, dynamics, models for inventory control are features of this course.

Pre-requisite: STA205

**STA309 Loss Models I**

Models for loss severity: parametric models, effect of policy modifications; tail behavior. Models for loss frequency:  $(a,b,0)$ ,  $(a,b,1)$ , mixed Poisson models; compound Poisson models. Aggregate claim models: moment and moment generating function: recursion. Classical ruin theory.

Pre-requisite: FRM202

**STA310 Loss Models II**

Credibility Theory: Limited fluctuation; Bayesian; Buhlmann; Buhlmann-Straub; Empirical Bayes parameter estimation statistical inference for loss models; maximum likelihood estimation; effect of policy modifications; model selection.

Pre-requisite: STA309

**STA403 Statistics and Mathematics**

A systematic exposure to the statistical and mathematical analysis of business situations. This course introduces statistical & mathematical methods in the area of decision-making. The course includes measures of dispersion, different mathematical functions, optimization methodology.

**STA404 Statistical Inference**

The course concentrates on the application of statistical techniques to the analysis of data and estimation procedures. The topics include counting techniques, probability & its distributions, sampling, estimation of parameters, testing of hypothesis & analysis of variances, regression & correlation.

Pre-requisite: STA 403



#### **STA405 Simulation and Modeling**

The course includes types of models, properties of linear models, model building techniques, the black box approach, random number generation and testing. Transformation; test of randomness, parameter estimation, least mean square, bootstrap, jackknifing, re-sampling procedures, query models and applications.

Pre-requisite: STA 203 CSC 306 / CSC 409

#### **STA406 Statistical Methods in Social Sciences**

This course includes an overview of quantitative methods, basic concepts in descriptive and inferential statistics. It emphasizes on the development of critical thinking skills and the methodological tools necessary for functioning as an Industrial Organizational Psychologist in applied settings. The focus is on non-parametric and parametric statistical procedures including when and how to use each quantitative method including choice of the most appropriate research method and strategies to address common problems encountered and using computer programs for data analysis.

#### **STA407 Design of Experiments**

This course explains design of experiment and its importance. Different experimental designs such as Complete Randomized (CRBD), Latin Square Design, two-level factorial, fractional factorial, and Taguchi's orthogonal designs will be discussed.

Pre-requisite: STA404

## **Telecommunication Engineering**

#### **TCE201 Communication System**

This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, and modulation techniques, characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment.

Pre-requisite: TCE204, TCE205

#### **TCE204 Electromagnetic Field Theory**

Introduces the concepts and mathematical methods to understand and analyze electromagnetic fields and waves.

Pre-requisite: GSC103, MTH204

#### **TCE205 Signals and Systems**

To provide understanding of signals, systems and transforms. Linear system theory, signals, types of signals, transformations of independent variable, signal properties, exponential signals, impulse and step functions, systems, input-output models of system, properties of system, linear time-invariant system, time domain analysis of linear systems, properties of LTI system, LTI analysis of linear differential equations, complex exponential inputs to LTI system, stability analysis are taught in the course.

Pre-requisite: MTH216

#### **TCE301 Probability Methods in Engineering**

To introduce the basic concept and engineering applications of probability and statistics, Set theory, basic concepts of probability, conditional probability, independent events, Baye's Theorem, discrete and continuous random variables, distributions and density functions, probability distributions (binomial, Poisson, hypergeometric, normal, uniform and exponential).

Pre-requisite: MTH215

#### **TCE321 Wave Propagation & Antenna**

To make students understand different aspects of electromagnetic wave propagation and the role of antenna as transducer. Different characteristics of antennas are also explained.

Pre-requisite: CME301

#### **TCE404 Digital Signal Processing**

One- and N-dimensional signals and systems, sampling theorem, discrete-time Fourier transform, discrete Fourier transform, fast Fourier transform, z-transforms: stability and minimum phase signals/systems, linear filtering of signal: time domain: difference equations and convolution, impulse invariance, etc. are the contents of the course.

Pre-requisite: MTH403, CME202

#### **TCE415 Transmission & Switching Systems**

Transmission systems including PDH and SDH, synchronization, routing techniques, line encoding techniques. Telecommunication networks, PSTN, PLMN, and PABX, exchange hierarchies, digital exchanges, routers, bridges, switches, hubs, gateways and signaling systems are taught in the course.

Pre-requisite: TCE205

#### **TCE416 Digital Communication**

Introduction to principle of analysis and designing of modern digital communication systems.

Pre-requisite: CME301

#### **TCE420 Information Theory and Coding**

Information, Entropy, Relative & mutual Entropy, Chain rules for entropy and mutual information, Source coding, Data compression, Examples of compression codes, Huffman codes, Lempel-ziv codes, Types of channels: discrete memory-less, Binary Symmetric, Binary Erasure, Gaussian channel capacity, Shannon's Theorem, Prefix and Block codes (fixed and variable length).

Pre-requisite: TCE201

#### **TCE422 Communication System**

This course is structured as a senior-level design course emphasizing the different communication systems and their applications such as broadband, satellite communication, TV broadcasting and navigation etc.

Pre-requisite: TCE200

#### **TCE423 RF and Microwave Engineering**

Radio communication systems, Modulation and Demodulation, Radio wave propagation techniques, Antennas and Aerials, Antenna Arrays, Antenna Distribution systems, Radio receiver properties, Types of receivers.

Pre-requisite: TCE321



**TCE424 Radar Systems**

To teach the principle of operation of radar; commonly used devices in radar; statistical nature of the received signal and signal processing; different types of radar and their applications.

Pre-requisite: TCE201

**TCE425 Telecom Management**

The course will give the concepts of Network Management in TCP/IP Environments, Networks Management Station (NMS), Network Management Requirements, and Performance & Security Management.

Pre-requisite: ENG203

**TCE426 Electromagnetic Compatibility**

The primary purpose of the course is to develop the fundamental concepts of EMI and EMC. The course is devised to acquaint the students with the knowledge of sources and types of interference, EMI effects, Coupling, Grounding, Shielding, filtering and military EMI/EMC standards.

Pre-requisite: TCE204

**TCE427 Antenna Theory and Design**

Design and use of antennas of varying types, including wire, broadband, horn, and reflector antennas in transmitting and receiving applications. The application and design of antenna arrays, and an introduction to diffraction theory.

Pre-requisite: TCE321

**TCE428 Mobile and Pervasive Computing**

This course will cover the topics such as introduction to wireless communication systems, evolution of mobile radio communications, infra-red systems, paging systems, cordless telephone systems, cellular telephone systems and wireless LANs.

Pre-requisite: TCE461

**TCE429 Tele-Traffic Engineering**

This course focuses on the application of traffic engineering theory to telecommunication.

Pre-requisite: TCE321

**TCE430 Satellite Communication**

To acquaint the students with the principle of operation of satellite communication, its benefits and the technology involved.

Pre-requisite: TCE200

**TCE431 Digital Filter Design**

The objective of this course is to introduce the basic concepts in designing digital filters, for example IIR filter or FIR filters.

Pre-requisite: TCE404

**TCE461 Wireless and Mobile Communications**

The aim of this module is to understand the fundamentals of wireless and mobile communications & the use of wireless technology in the telecom industry.

Pre-requisite: TCE416

**TCE471 Optical Communication**

The aim of this course is to understand the optical fiber communication technology and networks & their applications in telecommunication industry.

Pre-requisite: TCE416, TCE335

**TCE450 Project**

To give students a chance for enhancing their Technical capabilities by Implementing their theoretical & practical knowledge in the field of Research & Development. (For Semester VII & VIII).

**Telecommunication Management****TCM401 Introduction to Technology Management**

Surveys the history and recent developments of technology management in the corporate and government environments. Major aspects of domestic and international technology management are discussed. Information technology management is the focus of this course. Other topics include project and system management, computer information systems, telecommunications management, distribution, marketing, logistics, manufacturing and aspects of international technology management.

**TCM402 Introduction to Teletraffic Engineering**

Review of Probability distributions, PDF and CDF development and applications for Telecommunication systems. Traffic characterization, Loss and delay traffic scenarios. Traffic tables and Traffic provisioning and planning case studies for both private and Public based Telecommunication Networks.

**TCM403 Global Communications: Industry and Policy**

Focuses on understanding how the changing structures of telecommunications in North America, South America, Europe, Asia/Pacific and Japan, and how global decisions affect local actions. The course explores current and merging issues in global telecommunications including deregulation, transition to new business models and affordable access to technology. The students will learn how some of the most powerful global regulatory bodies create and establish legal and regulatory policy, and how their actions affect business and consumers.

**TCM404 Management of Telecommunications**

To study principle of telecom planning and management, Telecom strategic planning, system planning process, Business planning process, the Business planning and revision, feasibility analysis, financial evaluation techniques.

**TCM405 Optical Communication Network**

Introduces basic fiber optical technologies. The major components of a fiber communications link, including splices, connectors, optical sources, detectors, optical amplifiers, splitters and modulators are covered. Optical switching systems and technologies will be studied in detail as well as some fiber based standards and networks such as FDDI, SONET.



#### **TCM406 Network Design**

To impart knowledge to students, about designing of Telecommunications Networks. This course provides basic concepts of telecommunication networks and how it is designed and what factors play prime role in designing of any telecommunication network. This course also compares various networks such as Satellite, Optical fiber and Microwave/DRS. This comparison provides advantages and disadvantages of different networks in different scenarios and how and why a particular one is selected.

#### **TCM407 Broadband Communications**

Review of basic digital hardware and the structure of digital computer and the digital switching networks. Topics include voice digitization, line coding, time division multiplexing, basic digital modulation formats, network control and synchronization, digital technologies and switching systems for high-speed data and voice networks in examples of T1/T3, ATM, SONET/SDH, B-ISDN, PBX, ACD and LANs. Different types of media such as fiber optics, cable and wire, cellular as well as local and long distance switching systems are also covered.

#### **TCM408 Advanced Mobile and Wireless Communications**

Focuses on key technologies used in mobile and wireless communications, including cellular NGSM, TDMA, CDMA paging, PCS and infrared. It emphasizes on key service providers, design of wireless data and voice communications systems, security, and advances in mobile and wireless technology; addresses growth of PDAs and other mobile devices, and their impact on enterprise networks and features a case study approach on the application of these technologies.

#### **TCM409 Customer Service and Call Center Technologies**

Focuses on customer service and call centers as the contact point between a customer and a company's products and services; Emphases on critical call center technologies, including Computer Telephony Integration (CTI), workflow software, ACD and PBX systems, messaging systems (voice and email) and knowledge management systems. Students will learn how to implement customer service applications, such as help desk, customer support and field service.

#### **TCM410 Management of Network Security**

Defines network security in the context of networks, information and computer systems. This course identifies threats and vulnerabilities; major aspects of encryption, digital signatures and other authentication procedures are covered. LAN, Wireless and other aspects of network security are reviewed with discussions focusing on firewalls, VPN, and ISO17700 compliance.

#### **TCM411 Telecommunication Marketing**

Telecommunication Marketing is one of the courses being offered the MBA in Telecommunication Management program. Topics in this course include the nature of the telecommunication market, analysis of customer procurement strategy, product policy, pricing, distribution strategy, sales force management and key account selling strategies.

#### **TCM450 Project**

This course gives students a chance to enhance their technical capabilities by implementing their theoretical and practical knowledge in the field of Research and Development.

#### **TCM501 Management of Telecommunication Regulatory System**

Introduction to graduate level study of telecommunications law and policy and its intersection with economics and technology. Fundamental principles and theories of telecommunications law, policy and policy-making, and methodological approaches are covered.

#### **TCM502 The Future of Emerging Technologies**

Focuses on emerging technologies and the use of scenario planning as a comprehensive tool to explore the trends and factors impacting technical decisions for business, industry and other organizations. It explores emerging technologies, e.g., biotech, Micromechanical Electrical Systems (MEMS), nanotechnologies, etc. and their potential effect on established systems and technologies.

#### **TCM503 Electronic Business, System and Technologies**

Provides a high-level overview of the e-business industry with a focus on both business-to-business and business-to-consumer electronic commerce. Discussion of e-government issues will also be covered. Topics include framing the electronic commerce market opportunity, the evolution from simple e-commerce to comprehensive e-business, exploring various business models, identifying key elements of branding and the customer interface, implementation, analytics and industry trends. It examines the fine balance between creating a personalized user experience and maintaining a customer's privacy.

#### **TCM504 Management of Physical Security Technology and Systems**

Emphasizes the securing and protection of physical assets with concentration on communications and computing facilities, including computers, servers, etc. Consideration will also be placed on securing key personnel when they are off site. Focus is also placed on processes and procedures that minimize business disruption while insuring site(s) and asset protection.

#### **TCM505 Telecommunication Business Continuity Process and Crisis Management**

Emphasizes the development of protocols and procedures designed to minimize business and enterprise risks associated with disasters and other major disruptions to ensure the rapid recovery of critical business functions. Focus is placed on planning and plan maintenance; business impact analysis identifying critical business processes and systems; and development of alternative operating or recovery procedures. Additionally, considerations for virtual continuity and collaboration with intercom any business-continuity planning teams will be covered.



#### **TCM506 Telecommunication Business Process**

Focuses on the dramatic transformation of business and organizational models realized through the convergence of communications and computers via the Internet and web, and other networks. Emphasis is placed on the global considerations an enterprise an organization must hold as policies, systems and technologies evaluated for the enterprise or organization. This core MSEBST program course will discuss and analyze relevant case studies.

#### **TCM507 Optimization of Telecommunication Systems**

Application of economic principles to policy and strategy issues in the print, online, broadcasting, multi-channel, home video, and motion picture industries, the production, distribution, and pricing of information products and services; intellectual property and new technologies; information networks and compatibility, policy and strategy applications are covered in this course.

#### **TCM508 Managing Telecommunication in Media Application**

Examines the information processing of mediated messages and theories underlying memory, attention, and cognition. Advanced analysis of cognitive psychology and emotion theory as they apply to the study of media, case studies in marketing and competitive strategies of media and telecommunications firms. Effects of technological change on industry structure and strategy are covered in this course.

#### **TCM509 Internet Telephony**

Focuses on different media and technologies used to deliver integrated data/voice communications, including integrated data/voice switching, voice-over IP and IP Telephony. It discusses current and emerging standards in the industry. Emphasises on the selection, design and implementation of integrated data/voice applications throughout the enterprise is a feature of this course.

#### **TCM510 Managing the Creative Process**

Examination of the business side of video production with emphasis on the role of the producer and/or production manager, including production team organization, schedules, budgets, contracts, markets and intellectual property are the courses features.

#### **TCM511 IP Multimedia Technologies**

The objective of course is to impart knowledge about Next Generation Converged Networks and Services based on IP Core Network, i.e. IP Telephony, IPTV, Multimedia and Interactive Games, Internet Radio, and Media Streaming. The students will learn technological as well as managerial aspects of multimedia networks and applications.

#### **TCM515 Multimedia Communication**

This course introduces technologies for multimedia communications. It will address how to efficiently represent multimedia data, including video, image, and audio, and how to deliver them over a variety of networks. In the coding aspect, state-of-the-art compression technologies will be presented. Emphasis will be given to a number of standards, including H.26x, MPEG, and JPEG. In the networking aspect, special considerations for sending multimedia over ATM, wireless, and IP networks, such as error resilience and quality of service, will be discussed.

#### **TCM516 Error Control coding**

Channel coding, cyclic codes, encoding by polynomial, multiple error correction, finite field arithmetic, BCH codes, reed Solomon codes, performance calculation of block codes, multistage coding, iterative decoding, the soft-output Viterbi Algorithm are taught in the course.

#### **TCM517 Multimedia Systems**

Multimedia data has become an indispensable part of our daily life and modern research projects. In this course, students will be introduced to principles and current technologies of multimedia systems, multimedia standards, and gain hands-on experience in this area. Issues in effectively representing, processing, and retrieving multimedia data such as sound and music, graphics, image and video will be addressed.

#### **TCM518 Video and Channel Coding**

The course contains video basics, what is video? recording and playback and history of video. analog video, the video image, formats and standards, composite and component video. digital video, comparing digital and analog video, compression, formats and standards, encoding and streaming, video codecs, MPEG, streaming video. Video products, cameras and recorders, video networks and cisco video products.

#### **TCM519 Speech Coding**

This course will throw light upon the topics such as models for speech production: the human vocal tract, linear prediction used for vocal tract parameter estimation, parameters for the male/female, and child voice, models for speech perception: the human ear, frequency analysis and pitch perception, intensity discrimination, time/frequency masking, sound localization and auditory perception, the interaction between visual and auditory information, speech coding and recognition, etc., are a features of this course.

#### **TCM520 Network Security and Cryptography**

This course focuses on algorithms and protocols for secure network communication. Topics include cryptographic algorithms (DES, Diffie-Hellman, RSA), authentication, key management, secure networking, certification, trust management, and secure electronic.

#### **TCM521 Voice Over Internet protocol**

The objective of this course is to provide a technical and practical overview of Voice over IP (VoIP). The course identifies the main elements of the technology and presents them in an accessible format. At the end of the course students will be conversant with VoIP technology and understand the role of VoIP in their customer's company and marketplace.



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**TCM522 Information Theory and Coding**

The topics covered include basic concepts of information theory—entropy, mutual information, channel capacity, information rate, Shannon’s noiseless coding theorem and Shannon’s fundamental coding theorem; modeling of information sources—zero-memory and Markov models; modeling of information channels—BSC and BEC channels, additivity of information and cascaded channels; construction of compact source codes—Kraft inequality, compact codes, Huffman and LZW compression codes; and analysis and design of error-control channel codes—Hamming distance, binary linear codes and the parity-check matrix, Hamming codes, checksum codes, cyclic codes and the generator polynomial and CRC codes.

**TCM523 Wireless Adhoc Networks**

Introduction, foundations of wireless communication, wireless channels, modulations, WPANs, WLANs, and MAC Layers, wireless protocols, mobile IP, wireless routing, wireless TCP, source coding, QoS, introduction to wireless sensors networks, data dissemination and network security are covered in this course.

**TCM524 Broadband Communication**

This course covers various systems that transmit data including, multimedia data at high speed networks and networks, ATM, T1/E1 circuits, multiplexing of T1/E1 standards, optical channels, cable systems, satellite transmission and broadband issues, ISDN, and its variants. High speed multimedia communications systems.

**TCM525 Mobile and Pervasive Computing**

This course will cover the topics such as introduction to wireless communication systems, evolution of mobile radio communications, infra-red systems, paging systems, cordless telephone systems, cellular telephone systems and wireless LANs. In addition it includes, analog and digital transmission, channel capacity, transmission and multiplexing, communication networks, antenna and wave propagation, spread spectrum, satellite communication, cellular wireless networks and mobile radio propagation model.

**TCM526 Next Generation Networks**

This course provides students to get the opportunity to research and report on near term “Next Generation Networks”. The course consists of discussions on one type of Next Generation Network followed by each student researching two additional Next Generation Network types. A case study approach will be utilized.

**TCM527 Satellite Communication**

Students will be exposed to historical background of satellite communication, uplink and downlink frequencies, synchronous satellite, international regulations and frequency coordination, frequency allocation and band spectrum, general and technical characteristics of satellite communication signals, advantage and disadvantages of satellite communication, active and passive satellites. In addition to this, the course covers orbits and launching methods, radio wave propagation, atmospheric losses, rain attenuation, the space segment, altitude control, station keeping, thermal control, transponders and antenna, earth segments and the space link, inter connect and technical regulation and compliance approval of CPE and convergence are also features of the course.

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## CERTIFICATE COURSES

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External students are allowed to register for 15-week Certificate Courses of their areas of interest. The following are some of the Certificate Courses being offered during 2016-2017:

### **Accounting**

Accounting Information Systems  
Advanced Financial Accounting

### **Advertising and Communication Management**

Principles of Marketing  
Principles of Advertising  
Advertising Research  
Client Management

### **Finance and Banking**

Analysis of Financial Statements  
Corporate Finance  
Money and Capital Markets  
Treasury and Fund Management

### **Health Services Administration**

Strategic Management of Health Services  
Pharmaceutical Marketing and Quality Assurance

### **Human Resource Management**

Strategic Human Resource Management  
Salary and Compensation  
Leadership Studies

### **Management Information Systems**

Oracle/Developer 2000  
Software Engineering  
Data Communication and Networking  
Programming in C++

### **Marketing**

Advertising  
Personal Selling  
Brand Management  
Media Planning

### **Sales Management**

Effective Territory Design  
Basic Selling Skills  
Distribution and Channel Management  
Merchandising



# **ACADEMIC CALENDAR**



## FALL 2016

Registration and Fee Payment <ul style="list-style-type: none"> <li>New students</li> <li>On board students</li> </ul>	Saturday, July 23, 2016 to Saturday, August 13, 2016 Monday, August 15, 2016 to Monday, September 26, 2016
Orientation	Saturday, September 03, 2016
Commencement of Regular Classes	Monday, September 05, 2016
Commencement of Executive Classes	Saturday, September 10, 2016
Eid-ul-Azha*	Sunday, September 11 to Tuesday, September 13, 2016
Last day to drop courses without penalty	Sunday, October 16, 2016
Muharram*	Tuesday, October 11 & Wednesday, October 12, 2016
Last day to drop courses with penalty	Sunday, November 20, 2016
Classes End	Sunday, December 11, 2016
Break	Monday, December 12 to Sunday, December 18, 2016
Eid-e-Milad-un-Nabi (SAW)	Monday, December 12, 2016
Quaid-e-Azam's Birthday	Sunday, December 25, 2016
Final Exam	Monday, December 19, 2016 to Monday, January 02, 2017

### Exam Schedule for Regular and Executive Students

Week	Exams	Regular	Executive
5th / 6th	1st Hourly	10/10 - 13/10	15/10 - 16/10
10th / 11th	2nd Hourly	14/11 - 17/11	19/11 - 20/11
16th	Final	19/12/2016 to 02/01/2017	

\* Subject to the appearance of moon.

**Note:**

All dates are subject to change. Students will be informed of the changes well in advance.



## SPRING 2017

Registration and Fee Payment <ul style="list-style-type: none"> <li>• New students</li> <li>• On board students</li> </ul>	Saturday, December 31, 2016 to Saturday, January 07, 2017 Saturday, December 24, 2016 to Tuesday, January 24, 2017
Commencement of Executive Classes	Saturday, January 14, 2017
Commencement of Regular Classes	Monday, January 16, 2017
Last day to drop courses without penalty	Monday, January 30, 2017
Last day to drop courses with penalty	Thursday, March 30, 2017
Classes End	Sunday, April 23, 2017
Break	Monday, April 24, 2017 to Sunday, April 30, 2017
Labor Day	Monday, May 01, 2017
Final Exam	Saturday, April 29, 2017 to Monday, May 15, 2017

### Exam Schedule for Regular and Executive Students

Week	Exams	Regular	Executive
6th	1st Hourly	20/2 - 23/2	18/2 - 19/2
11th	2nd Hourly	27/3 - 30/3	25/3 - 26/3
16th	Final	29/04/2017 to 15/05/2017	

\* Subject to the appearance of moon.

**Note:**

All dates are subject to change. Students will be informed of the changes well in advance.



## SUMMER 2017

Registration and Fee Payment <ul style="list-style-type: none"> <li>New students</li> <li>On board students</li> </ul>	Saturday, April 15, 2017 to Saturday, April 22, 2017 Tuesday, April 25, 2017 to Thursday, May 25, 2017
Commencement of Executive Classes	Saturday, May 20, 2017
Orientation	Saturday, May 20, 2017
Last day to drop courses without penalty	Monday, June 26, 2017
Last day to drop courses with penalty	Monday, July 31, 2017
Eid-ul-Fitr*	Monday, June 26 to Wednesday, June 28, 2017
Independence Day	Monday, August 14, 2017
Classes End	Sunday, August 20, 2017
Break	Monday, August 21, 2017 to Friday, August 25, 2017
Final Exam	Saturday, August 26, 2017 & Saturday, September 02, 2017 Sunday, August 27, 2017 % Sunday, September 03, 2017

### Exam Schedule

Week	Exams	Executive
6th	1st Hourly	24/6 - 25/6
11th	2nd Hourly	29/7 - 30/7
15th	Final	26/8 & 27/8 to 2/9 & 3/9

## SUMMER CRASH 2017

Registration and Fee Payment <ul style="list-style-type: none"> <li>New students</li> <li>On board students</li> </ul>	Saturday, April 15, 2017 to Saturday, April 22, 2017 Tuesday, April 25, 2017 to Thursday, May 25, 2017
Commencement of Regular Classes	Monday, June 05, 2017
Last day to drop courses without penalty	Thursday, June 08, 2017
Eid-ul-Fitr*	Monday, June 26, 2017 to Wednesday, June 28, 2017
Last day to drop courses with penalty	Saturday, July 15, 2017
Classes End	Thursday, August 03, 2017
Independence Day	Monday, August 14, 2017
Break	Friday, August 04, 2017 to Monday, August 14, 2017
Final Exam	Tuesday, August 15, 2017 to Friday, August 18, 2017

### Exam Schedule

Week	Exams	Crash Program
6th	Mid-Term	10/7 - 13/7
11th	Final	15/8/2017 to 18/8/2017

\* Subject to the appearance of moon.

**Note:**

All dates are subject to change. Students will be informed of the changes well in advance.



**Institute of Business Management**

Korangi Creek, Karachi-75190, Pakistan

Tel: +92-21 111-002-004, Fax: +92-21 35090968

Email: [iobm@iobm.edu.pk](mailto:iobm@iobm.edu.pk)

Website: <http://www.iobm.edu.pk>

[www.facebook.com/official.iobm](http://www.facebook.com/official.iobm)

[www.twitter.com/iobm\\_official](http://www.twitter.com/iobm_official)