

Khari Shareef Darbar Mirpur, Azad Kashmir



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## Message of Chancellor



The role of universities in the 21<sup>st</sup> Century has increased considerably due to the academic revolution that has taken place in higher education in the last half century. Higher education is now increasingly viewed as a major engine of economic development. To meet the current challenges of rapid growth, universities need to play a pivotal role in producing graduates who think critically and effectively, and pursue research and innovation.

Promoting higher education in the Azad Jammu and Kashmir has been our top priority as it is vital for socio-economic development of the state. To achieve prosperity, quality of education needs to be improved. For attaining excellence, a shift from quantity to quality is a must. The Government of Azad State of Jammu and Kashmir is determined to create and sustain opportunities of

higher education to the youth of the State.

The Mirpur University of Science & Technology (MUST), being a premier institution of learning in the AJK, has taken impressive strides in different fields of education. Its efforts to impart state of the art education to the students and inculcate in them values of service and quest for knowledge are laudable. What I appreciate most is that MUST is offering market oriented course in business, engineering, economics, IT and other related disciplines. The diverse degree programmes will continue to provide greater access to the poor and marginalized people of this region for pursuit of higher education.

I strongly believe that more students should have an opportunity to succeed through the availability of high-quality, accessible, and affordable education at MUST, which is doing precisely that.

**Muhammad Masood Khan**

Chancellor MUST

President of Azad Jammu & Kashmir



## Message of Vice Chancellor



The Mirpur University of Science and Technology was established in 2008. Right from its inception, the University experienced difficult times, political interference has in fact hampered its development. Under the circumstances, the GoAJK entrusted the task of developing the MUST by appointing me again as its Vice Chancellor. I am grateful to the GoAJK for continuing reposing confidence in me. I assure the Government that I will spare no effort to come up to the expectations of all the stakeholders. I am fully determined to make certain efficient and transparent administration. Businesses and procedures of the University have been institutionalized and functions carried out in accordance with the University Act through prescribed statutes, rules and regulations. I will make the University a 'student focused' and ensure provision of necessary facilities to students during their studies. The environment of the University will be made conducive to learning, equipping the youth with the practical knowledge so that our graduates may carry their degrees on their shoulders. Co-curricular activities will be promoted by involving students in healthy pursuits and competitions. Efforts will be made to develop human

resource of the University so as to furnish all the disciplines with well trained and qualified human resource.

Research activities will be promoted in the University and the enrollment of students in the M.Phil. and Ph.D. level programs will be enhanced. Collaboration with national and international universities/ research organizations will be developed to promote and internationalize the University. I request the community at Mirpur and the UK to please own the University and come up for its development, so that dream of a reputed seat of higher learning at the Mirpur may come true. The community may contribute in the development of the University through its products. I am confident that we will be able to develop this University on a fast track in consonance with the needs and aspirations of the people of the state.

I welcome students to the MUST and wish them a pleasant, safe and productive stay at the University and in the beautiful city of Mirpur. Dear students – knowledge is the function of being. Be focused in your studies; invest your sheer hard work to attain success – do not predict invent your future. May Allah bless you with the virtue of knowledge and the hobby of serving the humanity, the society, the nation and of course your family.

**Prof. Dr. Habib-ur- Rehman, FCSP**  
*Sitara-i- Imtiaz*



## Organizational Setup

- Chancellor: Muhammad Masood Khan  
Chancellor MUST and President of Azad Jammu & Kashmir
- Vice Chancellor: Prof. Dr. Habib-ur-Rehman, (FCSP, Sitara-i-Imtiaz)
- Dean Faculty of Arts: Prof. Dr. Maqsood Ahmed
- Dean Faculty of Engineering: Engr. Prof. Dr. Anwar Khitab
- Dean Faculty of Science: Prof. Dr. Rehana Asghar
- Registrar: Engr. Muhammad Waris
- Controller of Examinations: Prof. Dr. Shaukat Mahmood
- Treasure: Mr. Zafar Iqbal
- Director of AS & RB: Dr. Javeed Akhtar
- Director QEC: Dr. Imtiaz Ahmed
- Director ORIC: Mr. Asif Javed
- Director Planning & Development: Muhammad Iqbal Ch
- Director NTC: Imtiaz Ahmad Bhat
- Director Student's Affairs: Engr. Shahid Amin
- Director Sports: Mr. Abid Hussain
- Provost Hostels: Engr. Muhammad Shabbir Mirza



Dr. Habib-ur-Rehman Vice Chancellor MUST presenting shield to Dr. Samar Mubarak Mand at the inaugural ceremony of the Annual Olympiad 2017.

## The State of Azad Jammu & Kashmir

**Azad Jammu and Kashmir** is the political entity within the Pakistani-controlled part of the former princely state of Jammu and Kashmir. It borders Indian administered Jammu and Kashmir to the east (separated from it by the Line of Control), Khyber Pakhtunkhwa province to the west, Gilgit-Baltistan to the north, and the Punjab province to the south. With its capital at Muzaffarabad, Azad Jammu and Kashmir covers an area of 13,297 square kilometers (5134 square miles) and has an estimated population of about four million.

Azad Jammu and Kashmir (AJK) is a self-governing state under Pakistani control, but under Pakistan's constitution the state is not actually part of Pakistan. Azad Kashmir has its own elected president, prime minister, legislature, high court, and official flag. The state is administratively divided into three divisions which, in turn, are divided into ten districts namely, Mirpur, Kotli, Bhimber, Muzaffarabad, Hattian, Neelum, Poonch, Sudhnuti, Haveli, and Bagh. These ten districts are further subdivided into 29 subdivisions. The people's participation in the political and socio economic development is ensured through the elected institutions of the Azad Jammu & Kashmir Legislative Assembly comprising of 41 directly and 8 indirectly elected members and the Azad Jammu & Kashmir Council with six elected members. Azad Kashmir's financial matters, i.e., budget and tax affairs, are dealt with by the Azad Jammu and Kashmir Council rather than by Pakistan's Central Board of Revenue. The Azad Jammu and Kashmir Council is a supreme body consisting of 11 members, six from the

government of Azad Jammu and Kashmir and five from the government of Pakistan. Its chairman/chief executive is the president of Pakistan. Other members of the council are the President and the Prime minister of Azad Kashmir and a few other AJK ministers.

The literacy rate in Azad Kashmir is more than 64%, which is significantly higher than the national average of Pakistan. At present the gross enrolment rate at primary level is 95% for boys and 88% for girls (between the ages of 5-9). Urdu is the official language of Azad Jammu and Kashmir. However, due to the area's diverse cultural blend, many languages are spoken by different populations, including Pahari, Potwari, Hindko, Gojri, Punjabi and Pashto.

The northern part of Azad Jammu and Kashmir encompasses the lower part of the Himalayas, including Hari Parbat peak in the Neelum Valley is the highest peak in the state. Fertile, green, mountainous valleys are characteristic of Azad Kashmir's geography, making it one of the most beautiful regions on the subcontinent. The region receives rainfall in both winter and summer. Muzaffarabad and Patton are among the wettest areas of the state. rivers, turbulent foaming streams, wheat-scented Throughout most of the region, the average rainfall exceeds 1400 mm, with the highest average rainfall occurring near Muzaffarabad (around 1800 mm). During the summer season, monsoon floods of the Jhelum and Neelum rivers are common, due to high rainfall and melting snow.

Azad Jammu & Kashmir is very rich in natural beauty. Its snow-covered peaks, dense forests, winding



rivers, turbulent foaming streams, wheat scented valleys, velvet green plateaus and climate varying from arctic to tropical, all join together to make it an excellent tourist attraction. Splendid vallies of Neelum, Jhelum, Leepa, Sudhan Gali, Banjosa, Rawalakot, Paniola, Datot, Tolipir and many more have magical attraction for visitors. Azad Jammu & Kashmir is a fascinating land of diverse people, languages & cultures.

Agriculture is a major part of Azad Kashmir's economy. Low-lying areas that have high populations grow crops like barley, mangoes, millet, corn (maize), and wheat, and also raise cattle. In the elevated areas

that are less populated and more spread-out, forestry, corn, and livestock are the main sources of income.

There are mineral and marble resources in Azad Kashmir close to Mirpur and Muzaffarabad. There are also graphite deposits at Mohriwali. There are also reservoirs of low-grade coal, chalk, bauxite, and zircon. Commensurate with its natural beauty, Kashmir is famous for its rich and varied cultural heritage. Handicrafts are famous all over the world. In addition to agriculture, textiles, arts and crafts, remittances by British Pakistanis have played a major role in the economy of Azad Kashmir.



Inauguration Ceremony of Dice Mega Innovation & Entrepreneurship Event 2017





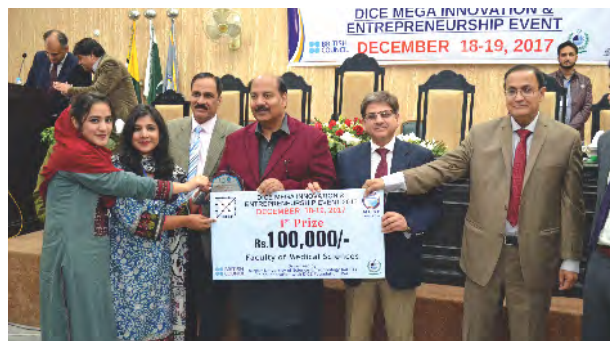
Ghulam Muhammad Safi Receiving Honorary Degree of Doctorate on Behalf of Syed Ali Geelani from Chancellor and Vice Chancellor (MUST)



A view of Mangla Boating Club, Mirpur



## Highlights of Dice Mega Innovation & Entrepreneurship Event 2017



## The MUST

### The Dawn of New Academic Era in Azad Jammu and Kashmir

Mirpur University of Science & Technology, was established in August 2008 under a Presidential Ordinance of XVIII of 2008 after integration of three entities of The University of Azad Jammu & Kashmir, namely, Ali Ahmed Shah University College of Engineering & Technology, The University College of Home Economics and the Institute of Islamic Studies. Mirpur University of Science & Technology (MUST) is presently located in three campuses, the main one is situated on Allama Iqbal Road opposite to the District Courts where seven departments namely: Electrical, Computer System Engineering, Electrical Technology, Power, Software, Civil and Mechanical under faculty of Engineering, five Departments under faculty of Sciences namely: Biotechnology, Chemistry, CS&IT, Mathematics, and Physics and four

departments of faculty of Arts namely: Islamic Studies, Law, Education, and Business Administration are working. Directorate of Student Affairs, Board of Advanced Studies and Research, ORIC, Sports and NTC offices are also present in city campus. This City Campus is the main hub of education due to which its buildings are designed in this way that it comprises of the Central Library, auditorium, hostels, mosque, student cafeterias, some outdoor sports facilities, big lecture halls, conference halls, spacious labs, parking zone are some of the facilities available in the city campus.

The second campus is located on Allama Iqbal Road adjacent to Girls Degree College. In this campus there is an administrative block, department of Home Economics and Zoology. The girl's hostel is also located in this campus.

The third campus is stationed at District Bhimber on DC Road near Girls Degree College. Three





Departments are working there namely: Botany, English and Economics with possibly more being added in the near future.

MUST always looks forward to welcoming successful performers being only one institution in territory of Azad Kashmir for teaching and training Graduates in Engineering, Sciences and in Arts & Humanities. The University as an institution of higher learning is devoted to promote the general advancement of knowledge and understanding and the development of every student to his/her highest potential so that each may make the maximum contribution to the improvement of the standards, mores, and scientific and cultural climate of all people. In this standpoint MUST in collaboration with HEC has offered 92 Need based scholarships worth 10.609 million for students securing good positions in class but financial hardships are the main encumbrance in their studies. This scheme will be continued in the forth coming



session and the number of scholarships will be 100 in this time so that needy but talented student could avail maximum opportunity. In pursuit of excellence in education, and to enhance the skills of their graduates MUST dedicates itself to adopting a curriculum that embodies and promotes academic specialization and professional education while maintaining a continuous process of institutional self-assessment and adaptation to meet the rapidly changing needs of society.

MUST provides its own internet facility along with its own internal Network so that all students can access it from their own departments and for this purpose NTC was established. The University intends holding online Courses in collaboration with other Universities both local and foreign. These courses could be on subjects in which required expertise is not available. Interactive desktop video conferencing for discussions on research topics can also be one of the possible future developments with a view to enhance facilities for higher education and research in the state of Azad Jammu & Kashmir and the adjoining areas, in the field of Science & Technology.

Commendable services rendered by these institutions are praiseworthy. The students having been bestowed upon degrees in their respective disciplines, mentioned above, are ardently serving the nation, and the humanity at large, at home and abroad. The new status heralds a new sign of revolutionary uplift of education.

Evidently, there are certain requirements, rather pressing ones; first and foremost is that of land. Out of total requirement of 5000 Kanals, 4800 Kanals have



awarded. University shall be shifted to its new location; a picturesque spot Sainse, 15 kilometres away from the city on the main Mirpur-Bhimber road. It may fulfil the requirements of future expansion at least for five decades. The calm and peaceful environment is conducive to academic and research activities.

The new university with the name of MUST is really a beginning of new era in terms of imparting quality education. Ours is a propitious transformation from smaller to bigger, from lower to higher and from better to the best in the real sense of the term. Our qualified staff is devoted to the very cause of sublime and perfection. The veteran staff, embodiment of professionalism, is involved in class work along with research and other scholarly activities. Living in this age of marvelous scientific and technological achievements, advancements in these fields are intrinsically of paramount importance.

Mirpur University of Science & Technology (MUST), Mirpur A.K differs in its character from AJ&K University Muzaffarabad by its high powered body "Senate"; a body with full integrity of formulating statutes, rules and regulations, purchasing, maintaining and disposing of moveable and immovable property, creation and abolition of posts and maintenance of academic and administrative disciplines. Such a body is non-existent in AJ&K University.

Our new born university, MUST is endeavouring its best to take up the challenges of the day and come up to the national expectations and aspirations. We are equipping our laboratories with modern apparatus so that we may be able to quench the thirst of our students for knowledge. The MUST is determined to

produce such graduates as to prove the grist to the mill of the nation. Enhancement of standard is our pivotal goal and we are doing our best to make the MUST worthy by all standards. It will touch the ecstasy of prominence in a short extent of time.

## Mirpur City

Mirpur, city is situated at an elevation of 459 meters A.S.L (Above Sea Level) at the South of the State and is linked with Pakistan and the districts of Azad Kashmir through several routes. It is linked with the main Peshawar- Karachi Grand Trunk Road at Dina, a small town about 15 kilometers short of Jhelum city. The typology of Mirpur comprises partly plain and partly hilly areas. Its hot climate and other geographical conditions closely resemble to those of Jhelum and Gujarat, the adjoining districts of Pakistan.

The people of this area are basically agriculturists. During the last four decades a large number of people from this district have gone abroad, especially to United Kingdom for earning their livelihood. As such, they are today the major foreign exchange earning resource for Pakistan. The construction of Mangla Dam converted the old Mirpur town into a big artificial lake and effected a population of about 50,000. But it paved the way for existing new Mirpur town situated on the bank of Mangla Lake. A new city entitled 'New Mirpur City' has been designed for effected people and this city is well planned and buildings are mostly of modern design. Mirpur has developed into an industrial city very rapidly.

All the basic amenities of life are available in Mirpur. Colleges, hospitals, banks, shopping centers, hotels, telephone & telegraph units, forest, PWD, Industries

and Tourist rest houses exist in the city. Bus and wagon transport services are also available. As it adjoins the industrial cities of Pakistan, the Government of Azad Jammu & Kashmir has successfully endeavored to develop it as an industrial place and promote private investment for establishing Logging and Saw Mill, Marble, Pharmaceutical, Foam Textile, Vegetable ghee, Garments, Scooters, Cosmetics and many other industries.

All these aspects have converted this place into an attractive tourist and business spot. Mangla has special attraction for the tourists coming on short visits because of its proximity to Jhelum, Lahore and Rawalpindi/ Islamabad.



**Laptop Distribution Ceremony of PM Laptop Scheme 2017**



## Bhimber City

Bhimber, administratively declared as an independent district in 1996, was a subdivision of District Mirpur. It has been important strategically. Bhimber city lies on the route that was followed by the Mughal Emperors for their frequent visits to the Kashmir Valley. It is also known as "Baab-e-Kashmir" (Door to Kashmir) because of its importance and geographical location which was ideal for Mughal Emperors to enter Kashmir. Therefore, the Mughals used Bhimber as a staging point for journey to Srinagar. Mughal Emperor Jahangir discussed Bhimber in his book Tuzk-e-Jahangiri.

Bhimber district is very rich in Archaeology and Wildlife, whereas its enchanting valleys present panoramic views to the visitors. Bhimber town is located at a distance of 50 kilometers from Mirpur, 47 kilometers from Gujarat, and 166 kilometers from Rawalpindi. This town is connected both with Mirpur & Gujarat through all weather black top

roads. The Bhimber region is only region in Azad Kashmir which consists of plains. It's hot, dry climate and other geographical conditions closely resemble with those of Gujarat, the adjoining district of Pakistan.

All the basic amenities of life are available in Bhimber. Famous historical and scenic sites in the town and surrounding areas are source of attraction for tourists. Samahni valley, a scenic spot, is situated at 17 kilometers from Bhimber and 67 kilometers from Mirpur having a panoramic view. A rest house for visitors is provided by AJK Tourism Department. Baghsar, 975 meters in elevation, is an ideal tourist resort in the Samahni valley. The Saar, local name for lake, is nearly half kilometer long sheet of crystal clear water that soothes the sense of a tourist after a 64 kilometer journey from Gujarat via Bhimber. Native people and people migrated from Samahni Valley speak Pahari. Bhimber is situated at the border of Azad Kashmir and Punjab, so Pahari dialect influenced by Punjabi is also used.



**Seminar on Role of overseas Kashmiris for Kashmir cause and Development of AJ&K 2017**





# Faculty of Arts



**Prof. Dr. Maqsood Ahmed Ch.**

Tel: +92-5827-961014

Email: dean.arts@must.edu.pk

## Department at Mirpur Campus

1. MUST Business School (MBS)
2. Center for Peace and Progress (CPP)
3. Education
4. Law
5. Home Economics
6. IML & Mass Communication
7. Institute of Islamic Studies

## Department at Bhimber Campus

1. Economics
2. English



Dean Faculty of Arts, with Head of Departments



## Dean's Message

With education splitting into several waves, one feels the need for educational décor in a way that would uplift our spiritual, cultural and traditional perspectives and also undertake the historical facets of our beloved planet. Art and Humanities are the pillars of education same as we put weight on science and technology. We (The Mankind) have been able to nourish Art and Humanities over the years with more and more creativity coming into being and with its solemn affirmation to our rituals and historical events, it has generated several new and situational trends in the field of Arts and Humanities.

Always among the highest expression of every culture the art teaches us much about every historical period through its buddings like literature, philosophy, religion and fine arts. To have a pure knowledge of arts one needs not only to study but also participate in the activities of art work. This would reveal several new horizons in the field of art with its chiasm enlightening the lives of many both educationally and spiritually. Universally speaking the arts surpass all language barriers and depict the world as a unit with slight changes every civilization has in their setups. Arts can bring every subject to life and turn abstraction into concrete reality. As Dean Faculty of Arts, I am honored to say that with the aspirations of the Vice Chancellor Mirpur University of Science and Technology, Prof. Dr. Habib-ur-Rehman (S.I), we have been able to successfully establish the faculty of arts considering the needs of people in general and specifically of Azad Kashmir. I am obliged and thankful to the faculty members for their hard work and full cooperation in illuminating the very new concepts of education in Azad Kashmir. I am also hopeful that with our efforts, we would be able to acclimatize many other educational reforms in the field of Arts and Humanities in coming years.

**Prof. Dr. Maqsood Ahmed Ch.**



## MUST Business School (MBS)



### Coordinator:

Dr. Shujahat Ali

Tel: +92-5827-961113

E-mail: chairman.dbms@must.edu.pk

### Faculty:

Sr.	Name	Designation	Last Degree	Univ./Countr
1.	Dr. Muhammad Khaliq	Asso. Prof.	Ph.D	Malaysia
2.	Dr. Shujahat Ali	Asst. Prof.	Ph.D	China
3.	Mr. Zahid-ur-Rehman	Lecturer	M.Phil	QAU, Pak.
4.	Mr. Zia Khalid	Lecturer	MS	CUST
5.	Mr. Aadil Rehman	Lecturer	MS	UK
6.	Mr. Adeel Razaq	Lecturer	MS	Iqra Uni. Pak.
7.	Mr. Muhammad Asad	Lecturer	MS	CUST
8.	Mr. Abdul Majid	Lecturer	MS	Shiffeld Hallam UK
9.	Ms. Sumera Kouser	Lecturer	MS	CUST.
10.	Mrs. Mahroash Munir	Lecturer	MS	CUST.
11.	Mrs. Kokab Ashraf	Lecturer	BBA (Hons.)	UAJK
12.	Mr. Ahsan Tahir	Jr. Lecturer	MS	Iqra Uni. Pak.
13.	Mr. Qasim Ali	Jr. Lecturer	MBA	NUMAL, Pak.
14.	Mr. Shahid Mahmood	Jr. Lecturer	MS	MUST
15.	Ms. Nadia Murtaza	Jr. Lecturer	MS	II Uni., Pak.
16.	Ms. Urooj Fatima	Jr. Lecturer	MS	SZABIST, Pak.
17.	Ms. Zara Kiran	Jr. Lecturer	MBA	AIOU, Pak
18.	Mr. Bilal Khawaja	Jr. Lecturer	MBA	Air, Pak
19.	Mr. Rizwan Ismail	Lecturer	MS	MUST
20.	Mr. Adeel Bashir	Lecturer	MS	UAJK
21.	Ms. Sadia Rafique	Lecturer	MS	SZABIST
22.	Ms. Kiran Aziz	Lecturer	MS	CUST



Faculty Members of MUST Business School





## Introduction to MUST Business School

Must Business School, Inaugurated by Dr Ishrat Husain former Governor State Bank of Pakistan and currently serving as dean and director Institute of Business Administration Karachi (IBA), is one of the best business schools in this part of the country. The school is a blend of experience in teaching, research and practical exposure of the market. Moreover, through different initiatives such as Entrepreneurial Incubation Center (EIC), each year a number of businesses are initiated by our students, the aim of which is to produce graduates those are not looking for employment but catering employment for others in the market. MBS has initiated a Business Research Center (BRC) which is mainly established to meet the current research needs of local businesses, to minimize the failure rate of businesses and to boost success rate in businesses. Teaching Methods at MBS are based on a combination of classroom sessions, syndication, group work, case studies, term papers, use of library, top quality seminars, workshops and conferences. The School offers courses in seven different disciplines including BBA, BBF, MBA, M.Com and M.Phil.

## Mission

Our mission is to develop innovative and ethical business leaders who understand the impact of business on society and create value for the world. Our graduates comprehend organizational systems, the vital role of leadership, and the forces transforming the global economy. We generate scholarly knowledge, insights and advance management practice through our research, teaching, and community engagement.

## Vision

Must Business School at MUST Mirpur has a vision to

produce the nation's best business professionals, who have been thoroughly prepared through a rigorous curriculum consisting of theory, exposure to practices of the market (practical relevance), and innovation to become the candidates of choice for hiring by industrial and business organizations.

## Objectives

- To produce excellent research that helps both society and businesses.
- To be an outstanding learning and teaching institution that produces employable students.
- To build sustainable and mutually beneficial relationships with the corporate world.
- To develop national and international partnerships with like minded institutions.
- To inculcate a culture of continuous improvement based on international standards of excellence for business schools.
- To promote innovation and team-work amongst our students and faculty members.

## Job Prospects for Graduates

Our graduates have sound knowledge of business and management and they easily get jobs in small and medium sized industries, national and multinational companies, banks and national and international NGOs. The graduates can also appear in competitive examination e.g. Azad Kashmir Public Service Commission and Federal Public Service Commissions for administrative and academic jobs.

## Programs

### 1-Undergraduate

- BBA (Hons.) 4 Years
- BS Banking & Finance (Hons.) 4 Years

## 2-Graduate

- MBA 3.5 Year
- MBA 1.5 Year (Evening)
- MBA (Executive) 2 Year (Evening)
- M. Com 2 Year
- MS

## Bachelor of Business Administration (BBA-Hons)

In this program we pay equal attention to both theory and practice to develop the capabilities of our graduates to a level that wonderfully matches to the ever-changing job requirements of industry.

### Courses

	Course Code	Title	Credit Hrs.
Semester-I	BBA-111	Principles of Accountings	3
	BBA-112	IT in Business	3
	BBA-113	Pak. Studies/ Islamic Studies	3
	BBA-114	Introduction to Psychology	3
	BBA-115	Freshman English-I	3
	BBA-116	Business Mathematics-I	3
	<b>Total Credit Hours</b>		<b>18</b>
Semester-II	BBA-121	Micro Economics	3
	BBA-122	Business Mathematics-II	3
	BBA-123	Business Ethics	3
	BBA-124	Financial Accounting	3
	BBA-125	Freshman English-II	3
	<b>Total Credit Hours</b>		<b>15</b>
Semester-III	BBA-231	Principles of Marketing	3
	BBA-232	Macro Economics	3
	BBA-233	Introduction to Sociology	3
	BBA-234	Business Statistics-I	3
	BBA-235	Business Communication	3
	<b>Total Credit Hours</b>		<b>15</b>

## Duration

It is a 4 years degree program with 8 semesters and consisting of 129 credit hours: 102 credit hours for core courses; 18 credit hours for specialization courses; 3 credit hours for internship report and a 6 credit hours project.

## Eligibility

- Higher Secondary School Certificate or Equivalent securing at least 45% marks in aggregate.

- Entry Test

## Timings

Morning



	Course Code	Title	Credit Hrs.
Semester-IV	BBA-241	Research Methods & Report Writing	3
	BBA-242	Principles of Management	3
	BBA-243	Marketing Management	3
	BBA-244	Business Finance	3
	BBA-245	Business Statistics-II	3
		<b>Total Credit Hours</b>	<b>15</b>
Semester-V	BBA-351	Cost Accounting	3
	BBA-352	Human Resource Management	3
	BBA-353	Organizational Behavior	3
	BBA-354	Financial Management	3
	BBA-355	Business Law	3
		<b>Total Credit Hours</b>	<b>15</b>
Semester-VI	BBA-361	Financial Institutions	3
	BBA-362	Consumer Behavior	3
	BBA-363	Money & Banking	3
	BBA-364	Elective-I	3
	BBA-365	Elective-II	3
		<b>Total Credit Hours</b>	<b>15</b>
Semester-VII	BBA-471	Strategic Management	3
	BBA-472	Operations Management	3
	BBA-473	Managerial Accounting	3
	BBA-474	Elective-III	3
	BBA-475	Elective-IV	3
		<b>Total Credit Hours</b>	<b>18</b>
Semester-VIII	BBA-481	Business Project/ 2 Courses	6
	BBA-482	Entrepreneurship	3
	BBA-483	Total Quality Management	3
	BBA-484	Elective-V	3
	BBA-485	Elective-VI	3
		<b>Total Credit Hours</b>	<b>18</b>



## Elective Courses

	Course Code	Title	Credit Hrs.
FINANCE	BBA-360	Advanced Financial Accounting	3
	BBA-367	Auditing Theory & Practice	3
	BBA-368	Analysis of Financial Statements	3
	BBA-369	International Finance	3
	BBA-370	Corporate Finance	3
	BBA-470	Investment Analysis and Portfolio Management	3
	BBA-477	Financial Markets	3
	BBA-478	Risk Management	3
	BBA-479	Islamic Banking	3
	BBA-480	Investment Banking and Financial Services	3
	BBA-486		3
	BBA-487		3
MARKETING	BBA-488	Advertising	3
	BBA-489	Strategic Marketing	3
	BBA-490	Export Marketing	3
	BBA-491	Social Marketing	3
	BBA-492	International Marketing	3
	BBA-493	Sales Management	3
	BBA-494	Brand Management	3
	BBA-495	Seminars in Marketing	3
MANAGEMENT	BBA-496	Management of Public Enterprises	3
	BBA-497	Conflict Management	3
	BBA-498	Change and Innovation Management	3
	BBA-499	Training & Development	3
	BBA-356	Seminars in Management	3
	BBA-357	Recruitment and Selection Techniques	3
	BBA-358	Compensation and Benefits Management	3
	BBA-359	Industrial Relations Management	3
	BBA-246	Human Resource Development	3
	BBA-247	Occupational Health and Safety	3
	BBA-248	International Business	3
	BBA-249	Strategic Human Resource Management	3



## BS in Banking and Finance

The BS in Banking and Finance is a specialized degree programme which has been designed for students wishing to develop their skills and knowledge in preparation for a successful career in the financial sector in Pakistan or abroad. The programme has a very high banking component having direct application of economics to banking. It provides the students with an understanding of the ways in which financial institutions operate and the structure and functioning of financial markets. The students will seek to learn about the operations, strategy and regulation in this dynamic sector. During their studies, they will be able to develop special knowledge to pursue a management career within a financial institution.

## Duration

It is a 4 years degree program with 8 semesters and consisting of 129 credit hours: 102 credit hours for core courses; 18 credit hours for specialization courses; 3 credit hours for internship report and a 6 credit hours project.

## Eligibility

- Higher Secondary School Certificate or Equivalent securing at least 45% marks in aggregate.
- Entry Test

## Timings

Morning

## Courses

	Code	Course Title	Credit Hours
1ST SEMESTER	BBF-111	Financial Accounting	3
	BBF-112	Islamic Studies	3
	BBF-113	Functional English	3
	BBF-114	Micro Economics	3
	BBF-115	Introduction to Computers	3
	BBF-116	Business Mathematics	3
		<b>Total Credit Hours</b>	<b>18</b>
2ND SEMESTER	BBF-121	Introduction to Finance	3
	BBF-122	Pakistan Studies	3
	BBF-123	Functional English II	3
	BBF-124	Financial Accounting II	3
	BBF-125	Macro Economics	3
	BBF-126	Introduction to Banking	3
		<b>Total Credit Hours</b>	<b>18</b>



## Courses

	Course Code	Title	Credit Hrs.
3RD SEMESTER	BBF-231	Introduction to Management	3
	BBF-232	Business Communication	3
	BBF-233	Business Statistics	3
	BBF-234	Introduction to Business	3
	BBF-235	Cost Accounting	3
		<b>Total Credit Hours</b>	<b>15</b>
4TH SEMESTER	BBF-241	Business & Commercial Law	3
	BBF-242	Money, Banking and Investment	3
	BBF-243	Human Resource Management	3
	BBF-244	Financial Management	3
	BBF-245	Introduction to Marketing	3
		<b>Total Credit Hours</b>	<b>15</b>
5TH SEMESTER	BBF-351	Business Ethics	3
	BBF-352	Bank Auditing	3
	BBF-353	Organizational Behavior	3
	BBF-354	Central Banking	3
	BBF-355	Risk Management	3
	BBF-356	Financial Statement Analysis	3
		<b>Total Credit Hours</b>	<b>18</b>
6TH SEMESTER	BBF-361	Banking Law and Practice	3
	BBF-362	Business Research Methods	3
	BBF-363	Corporate Finance	3
	BBF-364	Islamic Banking	3
	BBF-365	Pakistan Economy	3
	BBF-366	SME Finance	3
		<b>Total Credit Hours</b>	<b>18</b>



	Course Code	Title	Credit Hrs.
7TH SEMESTER	BBF-471	Management Information System in Banks	3
	BBF-472	Portfolio Management	3
	BBF-473	International Banking	3
	BBF-474	Business Taxation Laws	3
	BBF-475	International Trade & Foreign Exchange	3
		<b>Total Credit Hours</b>	<b>15</b>
8TH SEMESTER	BBF-481	Credit Analysis & Investment Banking	3
	BBF-482	Marketing of Banking Products & Financial Services	3
	BBF-483	Money & Capital Markets	3
	BBF-484	Research Project	6
		<b>Total Credit Hours</b>	<b>15</b>
		<b>Grand Total Credit Hours</b>	<b>126</b>

## Master of Business Administration (MBA) 3.5 Year

At MBA the emphasis is on research orientation, problem solving, entrepreneurial skills, management skills and all ingredients required to perfect leadership qualities for the leaders of tomorrow.

### Duration

It is a 3.5 year degree program with 7 semesters and consisting of 107 credit hours: 83 credit hours for core courses; 18 credit hours for specialization courses and a 06 credit hours Business project.

## Eligibility

- A minimum of 14 years of education (Bachelor's degree) in any discipline, e.g. B.A, B.Sc. B Com etc, 45% aggregate or 2nd division.
- Entry Test

## Timings

Morning



## Courses

	Course Code	Title	Credit Hrs.
1ST SEMESTER	MBA-511	Principles of Accounting	3
	MBA-512	Micro Economics	3
	MBA-513	Business Mathematics & Statistics	3
	MBA-514	IT in Business	3
	MBA-515	Oral Communication	3
		<b>Total Credit Hours</b>	<b>15</b>
2ND SEMESTER	MBA-521	Financial Accounting	3
	MBA-522	Principles of Management	3
	MBA-523	Principles of Marketing	3
	MBA-524	Macro Economics	3
	MBA-525	Business Communication	3
	MBA-526	Seminar on CPEC	2
		<b>Total Credit Hours</b>	<b>17</b>
3RD SEMESTER	MBA-631	Marketing Management	3
	MBA-632	Business Finance	3
	MBA-633	Business Ethics	3
	MBA-634	Human Resource Management	3
	MBA-635	Statistical Inferences	3
		<b>Total Credit Hours</b>	<b>15</b>
4TH SEMESTER	MBA-641	Organizational Behavior	3
	MBA-642	Financial Management	3
	MBA-643	Operations Management	3
	MBA-644	Business Law	3
	MBA-645	Research Methods & Report Writing	3
		<b>Total Credit Hours</b>	<b>15</b>



	Course Code	Title	Credit Hrs.
5TH SEMESTER	MBA-751	Corporate Governance	3
	MBA-752	Strategic Management	3
	MBA-753	Cost Accounting	3
		Elective -I	3
		Elective-II	3
		<b>Total Credit Hours</b>	<b>15</b>
6TH SEMESTER	MBA-761	Project Management	3
	MBA-762	Leadership	3
	MBA-763	Advanced Research Methods	3
		Elective-III	3
	MBA-872	Project-I	3
		<b>Total Credit Hours</b>	<b>15</b>
7TH SEMESTER	MBA-871	Supply Chain Management	3
		Elective-IV	3
		Elective-V	3
		Elective-VI	3
	MBA-872	Project-II	3
		<b>Total Credit Hours</b>	<b>15</b>
		<b>Grand Total</b>	<b>107</b>



Seminar on Ethics Organized by MBS



## Elective Courses

	Course Code	Title	Credit Hrs.
MARKETING	MBA-753	Consumer Behaviour	3
	MBA-754	Advertising & Promotion	3
	MBA-755	Sales Management	3
	MBA-756	Services Marketing	3
	MBA-757	Brand Management	3
	MBA-758	Global Marketing	3
	MBA-759	Marketing Research	3
	MBA-750	Marketing Channels	3
	MBA-760	Strategic Marketing	3
	MBA-763	Seminars in Marketing	3
FINANCE	MBA-764	Bank Management	3
	MBA-765	Financial Reporting & Analysis	3
	MBA-766	Investment & Security Analysis	3
	MBA-767	Corporate Finance	3
	MBA-768	Credit Management	3
	MBA-769	Money & Capital Markets	3
	MBA-770	Islamic Banking & Finance	3
	MBA-870	Portfolio Management	3
	MBA-882	Financial Institutions	3
	MBA-883	International Financial Management	3
	MBA-885	Analysis of Financial Statements	3
HUMAN RESOURCE MANAGEMENT	MBA-873	Performance Management	3
	MBA-874	Change Management	3
	MBA-875	Organizational Development	3
	MBA-876	Human Resource Development	3
	MBA-877	Learning & Management Development	3
	MBA-878	Collective Bargaining & Wage Policy	3
	MBA-879	Negotiation & Conflict Management	3
	MBA-880	Strategic Human Resource Management	3
	MBA-881	Seminars in Human Resource Management	3
	MBA-884	HR in Public Sector	3



## Master of Business Administration (MBA) 1.5 Years

The MBA 1.5 Years degree program is designed to serve the needs of those who already hold an honors degree in business or commerce and now looking for a Masters to be at par with MBA 3.5 years. The program will meet the increasing demand for advanced business education which will not only combine text book learning with case study methodology but will expose students to an environment which will facilitate development of there conceptual skills as well as personal growth. By the end of program, the students will feel comfortable taking up leadership and decision making roles to can work across disciplines and cultures to manage change, develop creative

solutions to problems and improve performance and beinnovative.

### Eligibility

Applicants should have a B.Com (Hons.) or BBA (Hons.) degree with 2.5/4 CGPA or 50% marks in the annual system.

### Duration

It is a 1.5 year degree program with 3 semesters and consisting of 36 credit hours: 18 credit hours for core courses; 12 credit hours for specialization courses and a 6 credit hour thesis/project. First two semesters are dedicated for the course work and the 3rd semester is for the research work.

### Timings

Evening

### Courses

	Course Sr. No.	Title	Credit Hrs.
Semester-I	1	Core Course-I	3
	2	Core Course-II	3
	3	Core Course-III	3
	4	Elective-I	3
	5	Elective-II	3
Semester-II	1	Core Course-IV	3
	2	Core Course-V	3
	3	Core Course-VI	3
	4	Elective-III	3
	5	Elective-IV	3
Semester-III		Thesis + Viva	6



## Core Courses

Course Code	Title	Credit Hrs.
MBA-711	Advance Research Methods	3
MBA-712	Project Management	3
MBA-713	Quantitative Techniques in Business	3
MBA-714	Economic Analysis	3
MBA-715	Knowledge Management	3
MBA-716	Advances in Entrepreneurship	3
MBA-717	Corporate Governance	3
MBA-718	Organizational Development	3
MBA-719	SME Management	3

## Elective Courses

	Sr. No.	Title	Credit Hrs.
MARKETING	MBA-741	Advertising & Promotion	3
	MBA-742	Strategic Marketing Planning	3
	MBA-743	Marketing Research	3
	MBA-744	Sales Management	3
	MBA-745	Services Marketing	3
	MBA-746	Seminars in Marketing	3
	MBA-747	Product and Brand Management	3
	MBA-748	Consumers Behavior	3
	MBA-749	Marketing Channels	3
FINANCE	MBA-731	Financial Decision Making	3
	MBA-732	Financial Markets	3
	MBA-733	Commercial & Investment Banking	3
	MBA-734	Seminar in Finance	3
	MBA-735	International Financial Management	3
	MBA-736	Security Analysis & Portfolio Management	3
	MBA-737	Treasury & Fund Management	3
	MBA-738	Corporate Finance	3
	MBA-739	Financial Risk Management	3
	MBA-740	Behavioral Finance	3



## HUMAN RESOURCE MANAGEMENT

MBA 721	Human Resource Development	3
MBA 722	Change Management	3
MBA 723	Negotiation & Conflict Management	3
MBA 724	Strategic Human Resource Management	3
MBA 725	Compensation & Reward Management	3
MBA 726	Performance Management	3
MBA 727	Industrial Psychology	3
MBA 728	Seminars in HRM	3
MBA 729	Leadership	3
MBA 730	Recruitment and Selection	3

## MBA(Executive) 2 Year

This degree is specifically aimed to cater the needs of those professionals who are rich in industry experience working at different tiers of management but lack on the academic side. The curriculum has been designed to develop in-depth understanding of all business functions. The curriculum is based on technical, data-driven, quantitative skills to make objective decisions with the interpersonal and communication skills necessary to work effectively with people at all levels and from all cultures. The Program will meet the increasing demand for advanced business education which will not only combine text book learning with case study methodology but will expose students to an environment which will facilitate development of their conceptual skills as well as personal growth.

## Eligibility

Applicants should have a 14 years education with 4 years industry experience or a 16 year education with 2 years industry experience. Candidates having passed their degrees in annual system must have at least 45 percent marks and in semester system 2.5/4 CGPA.

## Duration

It is a 2 year degree program with 4 semesters and consisting of 63 credit hours: 48 credit hours for core courses; 12 credit hours for specialization courses and a 3 credit hour Internship /Business project.

## Timings

Evening

## Scheme of Study:

Duration:	4 Semesters
Course Work:	60 Credits
Oral/Comprehensive Examination	S/U Basis
Internship/Research Project:	3 Credit Hours
<b>Total:</b>	<b>63 Credits</b>

Prof. Dr. Akhtar Baloch, Vice Chancellor Benazir Bhutto Shaheed University Lyari Karachi Inagurated MUST Business Research Center



## Courses

	Course Code	Title	Credit Hrs.
1ST SEMESTER	EMB-511	Financial Accounting	03
	EMB-512	Principles of Marketing	03
	EMB-513	Principles of Management	03
	EMB-514	Business Mathematics & Statistics	03
	EMB-515	Business Communication	03
	<b>Total Credit Hours</b>		<b>15</b>
2ND SEMESTER	EMB-521	Cost Accounting	03
	EMB-522	Human Resource Management	03
	EMB-523	Quantitative Techniques in Business	03
	EMB-524	Business Finance	03
	EMB-525	Managerial Economics	03
	<b>Total Credit Hours</b>		<b>15</b>
3RD SEMESTER	EMB-631	Marketing Management	03
	EMB-632	Financial Management	03
	EMB-633	Business Research Methods	03
	EMB-	Elective I	03
	EMB-	Elective II	03
	<b>Total Credit Hours</b>		<b>15</b>
4TH SEMESTER	EMB-641	Strategic Management	03
	EMB-642	Project Management	03
	EMB-643	Organizational Behavior	03
	EMB-	Elective III	03
	EMB-	Elective IV	03
	EMB-665	Business Project	03
	<b>Total Credit Hours</b>		<b>18</b>



## Elective Courses

	Course Code	Title	Credit Hrs.
MARKETING	EMB-634	Marketing Research	3
	EMB-635	Consumers Behavior	3
	EMB-636	Advertising & Promotion	3
	EMB-637	Sales Management	3
	EMB-638	Services Marketing	3
	EMB-639	Seminars in Marketing	3
FINANCE	EMB-654	Security Analysis & Portfolio Management	3
	EMB-655	Commercial & Investment Banking	3
	EMB-656	Financial Markets	3
	EMB-657	Behavioral Finance	3
	EMB-658	International Financial Management	3
	EMB-659	Financial Decision Making	3
	EMB-660	Analysis of Financial Statements	3
	EMB-661	Corporate Finance	3
	EMB-662	Financial Risk Management	3
HUMAN RESOURCE MANAGEMENT	EMB-644	Strategic Human Resource Management	3
	EMB-645	Human Resource Development	3
	EMB-646	Negotiation & Conflict Management	3
	EMB-647	Change Management	3
	EMB-648	Compensation & Reward Management	3
	EMB-649	Performance Management	3
	EMB-650	Industrial Psychology	3
	EMB-651	Seminars in HRM	3
	EMB-652	Leadership	3
	EMB-653	Recruitment and Selection	3



## M.Com (2 Year)

The M.Com two year program is offered to equip students with the latest tools available in the field of Commerce and Business. The program is designed to fulfill the needs of Commerce graduates fully capable of handling the matters related to Accounting, Finance, Audit, Taxation, and Banking.

### Scheme of Study:

Duration: 4-6 Semesters  
 Course Work: 62 Credits  
 Oral/Comprehensive Examination S/U Basis  
 Internship Report 3Credit Hours  
**Total: 65 Credits**

### Scheme of Study

	Course Code	Title	Credit Hrs.
<b>1ST SEMESTER</b>	MC-511	Principles of Management	3
	MC-512	International Business	3
	MC-513	Advance Cost Accounting	3
	MC-514	Financial Accounting	3
	MC-515	Computer Application in Business	3
		<b>Total</b>	<b>15</b>
<b>2ND SEMESTER</b>	MC-521	Financial Management	3
	MC-522	Principles of Marketing	3
	MC-523	Project Management	3
	MC-524	Business Communication & Report Writing	3
	MC-525	Advance Financial Accounting	3
	MC-526	Seminar on CPEC	2
		<b>Total</b>	<b>17</b>
<b>3RD SEMESTER</b>	MC-631	Research Methods & Techniques	3
	MC-632	Managerial Accounting	3
	MC-633	Quantitative Techniques in Business	3
	MC-	Elective course	3
	MC-	Elective course	3
	MC-650	Internship Report	3
		<b>Total</b>	<b>18</b>

### Eligibility:

The criteria should have done B.Com for admission in M.Com.

### Timing:

Morning

### Admission Criteria

### Academic Merit:

Entry Test + Academic Achievements



**4TH SEMESTER**

**Optional Subjects:** Any two courses from the selected field of specialization.

MC-641	Human Resource Management	3
MC-642	Corporate Finance	3
MC-643	Strategic Management	3
MC-	Elective course	3
MC-	Elective course	3
<b>Total</b>		<b>15</b>

## Specialization Courses

	Course Code	Title	Credit Hrs.
<b>FINANCE</b>	MC-634	Islamic Principles of Finance	3
	MC-635	Banking Management	3
	MC-636	Financial Institutions & Markets	3
	MC-637	Insurance Management	3
	MC-638	Portfolio Management	3
	MC-639	International Finance	3
<b>ACCOUNTING</b>	MC-644	Advanced Accounting Theory & Problems	3
	MC-645	Public Accounting	3
	MC-646	Advanced Auditing Problems	3
	MC-647	Cost Accounting for Selected Industries	3
	MC-648	International Accounting	3
	MC-649	Advanced Management Auditing	3



**MUST Marketing Gala**





## Banking

1. Practice and Law of Banking
2. Islamic Banking and Finance
3. Regulatory Framework of Financial Sector
4. International Banking
5. Commercial Banking
6. Central Banking
7. Financial Structure of Pakistan
8. Risk Management in Banks
9. Current Issues in Banking
10. Capital and Money Market Operations
11. Lease Financing and Investment Banking
12. International Financial Institutions

## MS Program:

MS in Management Sciences is a research based degree program. It is designed to find out solutions of the problems in the economy. Mainly factors contributing to the high quality of research and training of students: The basics of business such as management, marketing, commerce, IT and

computer sciences; and focus on the rigorous analysis of business problems.

## Scheme of Study

1	Core courses	12
2	Specialization	12
3	Thesis	06
4	Seminar / Conference	01
<b>TOTAL</b>		<b>31</b>

## Eligibility

A minimum of 16 year of education with MBA/M.Com/MPA/BBA (4 year)/B.Com (4 year)/BS Management (4 year) or equivalent with second division or 2.50 CGPA on the scale of 4.00 from any institution recognized by HEC Pakistan.

## Course Structure of MS Program

MS is 31 Credit Hour program after 16 years of education. Offering different areas of specialization it necessary for understanding of in order to core functional area developed.



## Code Courses

Course Code	Course Title	Credit Hrs.
MS 711	Advanced Research Methods and Statistical Packages	03
MS 712	Philosophy of Management	03
MS 713	Behavioral Finance	03
MS 714	Advanced Services Marketing	03

## Specialization Courses Management

Course Code	Course Title	Credit Hrs.
MS 721	Management of NGOs	03
MS 722	Seminar on Strategic Knowledge Management	03
MS 723	Current Issues in Management	03
MS 724	Advances in Supply Chain Management	03
MS 725	Topic in Quality Management	03
MS 726	Project Management	03
MS 727	Operations Management	03

## Human Resource Management

Course Code	Course Title	Credit Hrs.
MS 731	Career Management & Planning	03
MS 732	Human Resource Development	03
MS 733	Human Resource Information System	03
MS 734	HRM in Public and Private Sector	03
MS 735	Organization Development	03
MS 736	Industrial Relations and Labor Law in Pakistan	03



## Marketing

Course Code	Course Title	Credit Hrs.
MS 741	Customer Relationship Management	03
MS 742	Advance Topics in Consumer Behavior	03
MS 743	Product Management	03
MS 744	Strategic Marketing	03
MS 745	Brand Management	03
MS 746	Current issues in Advertising Management	03
MS 747	Current Issues in Marketing	03
MS 748	Sales management	03
MS 749	Services marketing	03

## Finance

Course Code	Course Title	Credit Hrs.
MS 751	Islamic Finance	03
MS 752	Banking Management	03
MS 753	Insurance Management	03
MS 754	Behavioral Finance	03
MS 755	Case Studies in Corporate Finance	03
MS 756	Financial Risk Management	03
MS 757	Issues in Financial Reporting	03
MS 758	Financial Modeling	03
MS 759	Advance portfolio management	03
MS 760	Stock Market and Efficiency	03

## Accounting

Course Code	Course Title	Credit Hrs.
MS 761	Advanced Accounting Theory & Problems	03
MS 762	Governmental Accounting	03
MS 763	Advanced Auditing techniques	03
MS 764	Cost Accounting for Selected Industries	03
MS 765	Management Accounting	03
MS 766	Accounting for Venture Capital & Mutual Funds	03



## Entrepreneurship

Course Code	Course Title	Credit Hrs.
MS 771	Social Entrepreneurship	03
MS 772	Entrepreneurial Finance	03
MS 773	Inventions and Patents	03
MS 774	Entrepreneurial Marketing	03
MS 775	International Entrepreneurship	03
MS 776	Technology Commercialization	03
MS 777	Advances in business strategy	03
MS 778	Techno Entrepreneurship	03

### Eligibility for Non-Business 16 Year Degree Holders

The students with 16-year of non-relevant education will be required to do 30 to 36 Credit hours of deficiency courses before they could become eligible for admission to MS program.

The following courses are to be successfully completed as minimum requirement.

- Financial Accounting
- Introduction to Management
- Introduction to HRM
- Principles of Marketing
- Marketing Management
- Business Finance
- Financial Management
- Business Economics
- Business Mathematics and Statistics





## Center for Peace and Progress (CPP)



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### Mission:

“ To undertake and promote quality research in the field of current affairs especially with relevance to Kashmir enabling youth to develop objective thinking in their decision making process.”



Staff of Peace and Progress



## Introduction

Center for Peace and Progress (CPP) has been established in MUST that has two sub branches, Kashmir Desk and Peace and Progress Research Journal. Kashmir desk is in main campus and facilitates provision of relevant and current information regarding Kashmir issue and other related areas to the honorable dignitaries, delegations, tourists and research scholars during their visit to MUST, whereas Peace and Progress Research Journal aims at publishing the articles related to the issue, culture, heritage, and archaeology of Kashmir. It is an open access quality biannual research journal with ISSN 2413-

6123 that opens up new opportunities to explore creative solutions to major problems including Kashmir issue and enlighten a common Kashmiri to develop sense of commitment and responsibility for shared concern. It also undertakes various other activities like organizing seminars and hold international conferences on burning questions of the time having repercussions on this region.



## Peace and Progress

**Open Access Research Journal of Social Sciences - ISSN 2413-6123**

Peace and Progress, the research journal, aims at publishing the articles related to the issue, culture, heritage, and archaeology of Kashmir. Kashmir is a state that has thousands years of history and the people of Kashmir are primary stakeholders in the resolution of Kashmir conflict that is affecting the regional peace and stability. There has been an emerging need to involve people from Kashmir in discussing how to address the challenges the region faces. The meaningful and well thought-out input in the shape of research articles can be a valuable source finding the best way forward in the right direction. It is hoped that, "Peace and Progress" will go a long way in realizing the crucial realities pertaining to Kashmir conflict and viewing the problem in its true prospective.

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8.	Mr. Munawwar Hussain	Jr. Lecturer	M.Phil	UOL, Pak.

### Introduction:

The Department of Education is very important in the overall structure of any university. It does not only work for the self-development of the department but also provides assistance to the other departments of the university in meeting the professional needs of the teachers and learning needs of the students. It also serves the society as its purpose is to produce well-qualified and trained teachers who can contribute to the best of the society's welfare as teaching is a very sacred profession and responsible job as it requires not only expertise in the related subject but also a calm and composed mind and a sense of building a nation. The Department of Education is practicing the teaching spirit in its students and expecting the same spirit in them as a teacher in their future. The scheme of study undertaken has been designed according to the specified guidelines of HEC. The Department of Education, MUST, Mirpur is situated at the main campus Mirpur. The beautiful campus of the university is also a great attraction in the city of Mirpur.





Faculty Members, Department of Education

### **Vision:**

We inculcate in the prospective teachers the sense of responsibility to pass on the human values of highest level along with the pedagogical skills embedded with this sacred profession.

### **Mission Statement:**

To facilitate the process of learning in the students through provision of quality education as a main tool and ensure development of effective communication skills with the ability to think objectively and develop a mind with curiosity coupled with sense of innovation and creativity. Inculcate human values and character traits in the students to make them competitive by

fostering educational excellence.

### **Objectives:**

- To facilitate students in learning process to develop them professionally equipped.
- To develop the research culture among the students to be competitive.
- To emphasize inclusive aspects of education as a mean to reform the society.
- To incorporate human and scientific approach towards teaching profession.



## Job Opportunities

Our graduates are accepted and offered jobs in private as well as in public education sector for both teaching and administrative professional assignments especially in the institutions which impart teachers training programs.

## Programs

### Undergraduate

- Associate Degree in Education (ADE)
- B.Ed Elementary (4 Years)
- B.Ed Elementary (2.5 Years)
- B.Ed Secondary (1.5 Years)

### Postgraduate

- MA Education
- M.Phil. Education

## ASSOCIATE DEGREE IN EDUCATION (ADE) TWO YEARS SCHEME OF STUDIES

## Eligibility Criteria

- FA/F.Sc/ A levels with minimum 2<sup>nd</sup> Division
- FA/F.Sc/ A levels with school subjects.

### Duration:

2 years (4 Semesters)

Semester Duration: 16-18 weeks

Semesters: 4

Course Load per semester: 15-18 Cr Hrs

Number of Courses per semester: 5-6 (not more than 3lab/ practical courses)

## Structure of the Scheme

Courses	Credit Hours
Compulsory Courses	16
Professional Courses	21
Foundation Courses	15
Content Courses	09
Teaching Practice	06
<b>Total Credit Hours:</b>	<b>67</b>



## Courses

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
1ST SEMESTER	EDU-3101	Functional English-I (Compulsory)			3
	EDU-3102	Islamic Studies/ Ethics (Compulsory)			2
	EDU-3103	Child Development (Foundation)			3
	EDU-3104	Urdu / Regional Languages (Content)			3
	EDU-3105	General Science (Content)			3
	EDU-3106	General Methods of Teaching (Foundation)			3
		<b>Total Credit Hours</b>			<b>17</b>
2ND SEMESTER	EDU-3201	English-II (Communication Skills Compulsory)			3
	EDU-3202	Computer Literacy (Compulsory)			3
	EDU-3203	Classroom Management (Foundation)			3
	EDU-3204	General Mathematics (Compulsory)			3
	EDU-3205	Pakistan Studies (Compulsory)			2
	EDU-3206	Methods of Teaching Islamic Studies (Professional)			3
		<b>Total Credit Hours</b>			<b>17</b>
3RD SEMESTER	EDU-4301	Teaching Literacy Skills (Professional) 3			3
	EDU-4302	Art, Crafts and Calligraphy (Content) 3			3
	EDU-4303	Teaching of Urdu (Professional) 3			3
	EDU-4304	Teaching of General Science (Professional)			3
	EDU-4305	Instructional and Communication Technology			2
	EDU-4306	(ICT) in Education (Professional)			
		Teaching Practice (Short Term)			3
4TH SEMESTER		<b>Total Credit Hours</b>			<b>17</b>
	EDU-4401	Classroom Assessment (Foundation)			3
	EDU-4402	Teaching of English (Professional)			3
	EDU-4403	Teaching of Mathematics (Professional)			3
	EDU-4404	School, community and Teacher (Foundation)			2+1
	EDU-4405	Teaching of Social Studies (Professional)			2
	EDU-4406	The Teaching Practicum			3
		<b>Total Credit Hours</b>			<b>17</b>



## B.S (Hons.) 4 year Degree Program Scheme of Studies

### Eligibility Criteria

- FA/F.Sc / A level or equivalent with minimum 2<sup>nd</sup> Division.
  - FA/F.Sc / A level with school subjects.
- Duration: 4 years  
 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	19
Professional Courses	49
Foundation Courses	24
Content Courses	27
Teaching Practice	15
<b>Total Credit Hours:</b>	<b>134</b>

### Courses

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
1ST SEMESTER	EDU-3101	Functional English-I (Compulsory)			3
	EDU-3102	Islamic Studies/Ethics (Compulsory)			2
	EDU-3103	Child Development (Foundation)			3
	EDU-3104	Urdu / Regional Languages (Content)			3
	EDU-3105	General Science (Content)			3
	EDU-3106	General Methods of Teaching (Foundation)			3
		<b>Total Credit Hours</b>			<b>17</b>
2ND SEMESTER	EDU-3201	English-II Communication Skills ( Compulsory)			3
	EDU-3202	Computer Literacy (Compulsory)			3
	EDU-3203	Classroom Management (Foundation)			3
	EDU-3204	General Mathematics (Compulsory)			3
	EDU-3205	Pakistan Studies (Compulsory)			2
	EDU-3206	Methods of Teaching Islamic Studies (Professional)			3
		<b>Total Credit Hours</b>			<b>17</b>



	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
3RD SEMESTER	EDU-4301	Teaching Literacy Skills (Professional)			3
	EDU-4302	Art, Crafts and Calligraphy (Content)			3
	EDU-4303	Teaching of Urdu/Regional Languages (Professional)			3
	EDU-4304	Teaching of G. Science (Professional)			3
	EDU-4305	Instructional and Communication Technology (ICT) in Education (Professional)			2
	EDU-4306	Teaching Practice (Short Term)			3
		<b>Total Credit Hours</b>			<b>17</b>
4TH SEMESTER	EDU-4401	Classroom Assessment (Foundation)			3
	EDU-4402	Teaching of English (Professional)			3
	EDU-4403	Teaching of Mathematics (Professional)			3
	EDU-4404	School, community and Teacher(Foundation)			2+1
	EDU-4405	Teaching of Social Studies (Professional)			2
	EDU-4406	Teaching Practice			3
		<b>Total Credit Hours</b>			<b>17</b>
5TH SEMESTER	EDU-5501	English – III (Technical Writing & Presentation Skills) (Compulsory)			3
	EDU-5502	Foundations of Education (Foundation)			3
	EDU-5503	Content Course – I(from selected discipline – I)			3
	EDU-5504	Content Course – I(from selected discipline – II)			3
	EDU-5505	Curriculum Development (Foundation)			3
	EDU-5506	Educational Psychology (Foundation)			3
		<b>Total Credit Hours</b>			<b>18</b>



## Courses

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.	
6TH SEMESTER	EDU-5601	Contemporary Issues and Trends in Education (Professional)			3	
	EDU-5602	Content Course – II (from selected discipline – I)			3	
	EDU-5603	Content Course – II (from selected discipline – II)			3	
	EDU-5604	Comparative Education (Professional)			3	
	EDU-5605	Introduction to Guidance and Counseling (Professional)			3	
		<b>Total Credit Hours</b>			<b>15</b>	
7TH SEMESTER	EDU-6701	Content Course – III(from selected discipline – I)			3	
	EDU-6702	Content Course – III(from selected discipline – II)			3	
	EDU-6703	Inclusive Education (Professional)			3	
	EDU-6704	Educational Management and Leadership			3	
	EDU-6705	Research Methods in Education (Professional)			3	
	EDU-6706	Teaching Practice (Short Term)			3	
		<b>Total Credit Hours</b>			<b>18</b>	
8TH SEMESTER	EDU-6801	School Management (Professional)			3	
	EDU-6802	Test Development and Evaluation (Professional)			3	
	EDU-6803	Teaching Practice (Long Term)			6	
	EDU-6804	Research Project (Professional)			3	
		<b>Total Credit Hours</b>			<b>15</b>	
		<b>Grand Total Credit Hours</b>			<b>134</b>	

## M.A Education

### Entry Requirements

- B.A. /B.Sc or equivalent with at least second Division
- Entry Test conducted by the university

### Scheme of Studies:

Duration	04-06 Semesters
Thesis/Research Project	06 Credit Hrs.
Teaching Practice	03 Credit Hrs.
<b>Total Courses</b>	<b>72 Credit Hrs.</b>
Oral comprehension examination	S/U Basis

### Courses

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
Semester 1	EDU-5101	Foundation of Education			03
	EDU-5102	ICT in Education			03
	EDU-5103	Education in Pakistan			03
	EDU-5104	Educational Leadership & Management			03
	EDU-5105	Contemporary Trends & Issues in Education			03
		<b>Total</b>			<b>15</b>
Semester 2	EDU-5201	Educational Psychology			03
	EDU-5202	Islamic System of Education			03
	EDU-5203	Introduction to Curriculum Development			03
	EDU-5204	Guidance & Counseling			03
	EDU-5205	Educational Technologies			03
	EDU-5206	Teaching Methods and Strategies			03
		<b>Total</b>			<b>18</b>

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
Semester 3	EDU-6301	Research Methods in Education			03
	EDU-6302	Teaching of English			03
	EDU-6303	Comparative Education			03
	EDU-6304	Educational Measurement and Evaluation			03
	EDU-6305	Teacher Education			03
	EDU-6306	Teaching of Pakistan Studies/ General Science			03
	<b>Total</b>				<b>18</b>
Semester 4	EDU-6401	Elementary & Secondary Education			03
	EDU-6402	Higher Education			03
	EDU-6403	Teaching Practice			06
	EDU-6404	Thesis /Research Project			06
	<b>Total 18</b>				<b>18</b>
	<b>Total Credit Hours</b>				<b>72</b>





## M.Phil. Education

### Introduction

The M.Phil. Programme is crucial for prospective researchers at the pre-doctoral level. The programme is designed to build the research capacity of scholars from varied backgrounds and provide a strong orientation in different areas of education. M.Phil. programme will include Core courses and Area of Specialization. In addition all the students will be required to undertake a Dissertation. The course will help to develop a rational conceptualization of educational research. Early stage research students will develop competency in undertaking independent micro and macro level research projects in the priority areas of teacher education and /or in the area of education interdisciplinary.

### Objectives of Program

The students will be helped to:

- Reflect on the basic parameters within which the system of school education operates. These are: the learner, the teacher, the teaching-learning process, pedagogy, the school context, the larger societal context, the support systems and various connections and interconnections between these parameters
- Appreciate that research would help to enhance efficiency, effectiveness, quality and excellence in the system of school education
- Develop an understanding about problems of education and methodology to explore alternative solutions.

- Develop competency in undertaking leadership in the areas of School Education and Teacher Education
- Develop a rational conceptualization of educational research.
- Develop competency in undertaking independent micro and macro level research projects in the priority areas of school education and teacher education

### Duration of the Program

Duration of the program will be two years.

### Admission Criteria

#### Minimum Academic Requirement:

A candidate seeking admission to the degree must have sixteen years of education or 4 years education after F.A. /F. Sc. or equivalent (at least 130 credit hours) with at least second division/CGPA 2.50 in the degree on the basis of which admission is requested. Any candidate having M. Ed (Education) M.A. Education degree with at least 45% marks of any recognized University shall be eligible to apply for the course.

### Medium of Instruction

The medium of instruction and examinations shall be English.

### Duration of the course

The duration of the course is 4 to 6 semesters, and total of 30 credit hours as per HEC criteria.





### Courses Semester 1 (12 Credit Hrs.)

	Course Code	Course Title	Credit Hrs.
1ST SEMESTER	EDU-7101	Professional development of Teachers (Core)	3
	EDU-7102	Qualitative Research Methods in Education (Core)	3
	EDU-7103	Advanced Course on Educational Psychology (Professional)	3
	EDU-7104	Educational Testing, Measurement and Evaluation (Professional)	3
2ND SEMESTER	EDU-7201	Educational change and Development (Core)	3
	EDU-7202	Quantitative Research Methods in education (Core)	3
	EDU-7203	Trends and issues in Teacher Education (Professional)	3
	EDU-7204	Educational Policy, Planning and Management (Professional)	3
3RD & 4TH SEMESTER	Thesis		6

**Total Credit Hrs**

**30**

## Department of Law



### Coordinator

Muhammad Yasin Khan

[Tel:+92-5827-960065](tel:+92-5827-960065)

[Chairperson.law@must.edu.pk](mailto:Chairperson.law@must.edu.pk)

### Faculty:

	Name	Designation	Last Degree	Univ./Country
1.	Mr. Muhammad Yasin Khan	Coordinator	LLM(CL)	UAJK, Pak.
2.	Mr. Saqib Shahbaz	Asstt. Prof.	LLM	USA, Lahore, Pak
3.	Ms. Haleema Sadia	Lecturer	LLM	IIUI, Pak.
4.	Mr. Nafees Ahmed Khan	Lecturer	LLM(MFL)	IIUI, Pak.
5.	Ms. Saiqa Naseer	Lecturer	LLM(MFL)	IIUI, Pak.
6.	Ms. Arooj Aziz	Lecturer	LLM	UOL, Pak.
7.	Mr. Ahsan Iqbal	Lecturer	LLM	UOB, UK.
8.	Ms khair-un-Naisa	Jr. Lecturer	LLB	UOG, Pak.
9	Mr. Kashif Naeem	Jr. Lecturer	B.A.LLB	MUST
10	Mr. Taimoor Akbar Chaudhary	Jr. Lecturer	LLB(Hons)	IIUI, Pak.



Faculty Members, Department of LAW



## Vision

The Department of Law persistently strives for social justice, human dignity, civil rights through disseminating the knowledge of law. Through teaching, the Department provides students wisdom to understand the phenomena of questions of analysis and interpretation, logical reasoning, ethical judgement, political liberty and social control. It allows undergraduates to see law in its historical and social contexts, and to examine its general principles, doctrines and techniques

## Mission

The Department provides a diverse body of students with the opportunity to obtain substantial knowledge of law and aspired to have a high level professional commitment. By providing the substantial knowledge and legal education we foster better informed and culturally sensitive responses to the challenges of the country.

## Introduction

We all know that law study is very important in society to make it peaceful and problem free. Law is something that the human has created to modulate the society by introducing justice, fairness and equality. Studying law will not only give you the opportunity to qualify as a lawyer or any other legal position; it will also help you to develop a diverse set of skills which you will be able to apply in many different situations. You will learn the art to assimilate and analyze complex information, construct arguments, write with precision and clarity, and think on your feet. The study of law promotes awareness among the masses to respect and understand the rule of law. The Department makes an endeavor to develop credible human traits in the law students to become

honest and characterful person in their professional life. The Department offers admission in the 5 years B.A.LLB degree programme once a year. The scheme of study undertaken has been designed according to the specified guidelines of HEC.

## OBJECTIVES

- To provide quality legal education by ensuring local, national and international standards.
- To prepare youth to understand the core concept of legal analysis, legal reasoning, and legal problem solving.
- To stress on the professional training of the law students for their successful legal career.
- To train and equip the students to think like a lawyer.
- To develop the legal research skills of Law Graduates to enable them conduct effective legal research with the proficiency suitable for a competent entry-level practitioner.
- To prepare youth to take on the responsibilities to present the Pakistan's case and struggle for Kashmir's freedom at the international forums such as United Nation Origination, WTO, OIC and other legal negotiations and arbitration level international bodies.
- To offer students such a quality legal education with opportunities to work on legal writings such as law journal, law newsletter, in moot court competitions and in a bigger range of law school organizations that are designed to enrich the education of future lawyers in the shape of their write up, their advocacy skills and their exposure to cope up with diverse political, legal and cultural aspects.

## Job Opportunities

Our graduate's pursuit a thrilling and competitive career as Lawyers, Judges, Legal Advisors, Barristers, Legal Consultants, Draftsmen, Law Officers, Legal Academicians and the Para Legal Staff etc.

## Programs

B.A. LLB

## Admission Requirement

FA/FSC with at least 2nd Division or Equivalent (or as per University policy for BS or Equivalent Education). Passing of LAT conducted by HEC

## Scheme of Studies

Total number of credit hours: 176

Duration: 05 years (10 Semesters)

## Courses

Semester Duration: 16-18 weeks

- Course load per semester: 15-20 credit hours
- Number of courses per semester: 5-7 Courses
- 12 compulsory courses of 34 credits.
- 09 general and non-law courses of 27 credits.
- 34 law specific and major courses of 103 credits.

**Note:** The medium of instruction and exam at MUST is English for B.A.LLB degree programme. All the assessments are accepted in English.

	Course Code	Course Title	Credit Hrs.
1ST SEMESTER	LAW-1101	English-I	3
	LAW-1102	Pakistan Studies	2
	LAW-1103	Sociology	3
	LAW-1104	Introduction To Economics	3
	LAW-1105	Introduction To Lawskills	3
	LAW-1106	Development-I	3
	LAW-1107	Jammu & Kashmir Studies	3
		<b>Total</b>	<b>20</b>
2ND SEMESTER	LAW-1201	English-II	3
	LAW-1202	Islamic Studies/ Ethics	2
	LAW-1203	Political Science	3
	LAW-1204	Legal System Of Pakistan	3
	LAW-1205	Legal History Of Pakistan And India	3
	LAW-1206	Skills Development-II	3
	LAW-1207	Arabic	3
		<b>Total</b>	<b>20</b>
3RD SEMESTER	LAW-2301	English-III	3
	LAW-2302	Logic And Legal Reasoning Islamic	3
	LAW-2303	Jurisprudence-I	3
	LAW-2304	Law Of Torts	3
	LAW-2305	Law Of Contract-I	3
	LAW-2306	Research Methods	3
		<b>Total</b>	<b>18</b>



	Course Code	Course Title	Credit Hrs.
4TH SEMESTER	LAW-2401	Human Rights Law	3
	LAW-2402	Constitutional Law-i (comparative)	3
	LAW-2403	Law Of Contract-ii	3
	LAW-2404	Islamic Jurisprudence-ii	3
	LAW-2405	Constitutional History Of Aj&k	3
	LAW-2406	Fundamentals Of Management	3
		<b>Total</b>	<b>18</b>
5TH SEMESTER	LAW-3501	Jurisprudence-I	3
	LAW-3502	Constitutional Law-II (Pakistan)	3
	LAW-3503	Islamic Personal Law-I	3
	LAW-3504	Criminal Law-I	3
	LAW-3505	Mercantile Law-I	3
		<b>Total</b>	<b>15</b>
6TH SEMESTER	LAW-3601	Jurisprudence-II	3
	LAW-3602	Mercantile Law-II	3
	LAW-3603	Islamic Personal Law-II	3
	LAW-3604	Criminal Law-II	3
	LAW-3605	Law Of Property	3
		<b>Total</b>	<b>15</b>
7TH SEMESTER	LAW-4701	Public International Law-I	3
	LAW-4702	Constitutional History Of Pakistan	3
	LAW-4703	Civil Procedure-I	3
	LAW-4704	Criminal Procedure-I	3
	LAW-4705	Law Of Evidence-I	3
	LAW-4706	Legal Drafting-I	3
		<b>Total</b>	<b>18</b>



## Courses

	Course Code	Course Title	Credit Hrs.
8TH SEMESTER	LAW-4801	Public International Law-II	3
	LAW-4802	Equity And Specific Relief	3
	LAW-4803	Civil Procedure-II	3
	LAW-4804	Criminal Procedure-II	3
	LAW-4805	Law Of Evidence-II	3
	LAW-4806	Legal Drafting-II	3
		<b>Total</b>	<b>18</b>
		8 Week Internship after Completion Of 8th Semester During Vacations	
9TH SEMESTER	LAW-5901	Administrative Law-I	3
	LAW-5902	Legal Ethics	3
	LAW-5903	Elective-I*	3
	LAW-5904	Elective-II*	3
	LAW-5905	Moot Cases and Role Playing	3
		<b>Total</b>	<b>15</b>
10TH SEMESTER	LAW-5101	Administrative Law-II	3
	LAW-5102	Interpretation Of Statutes	3
	LAW-5103	Research Project	3
	LAW-5104	Elective-III*	3
	LAW-5105	Elective-IV*	3
		<b>Total</b>	<b>15</b>

### Elective Courses

1. Alternate Dispute Resolution	10. Law of International Institutions	19. Islamic Legal Maxims
2. Banking Laws	11. International Trade Law	20. Public Interest Litigation (Law of Writs)
3. International Refugee law	12. Islamic Commercial Laws	21. Shipping Law
4. E-Commerce Law (Cyber Laws)	13. Labor Laws	22. Taxation Laws
5. Election Laws	14. Land Laws	23. Comparative Constitutional Development in AJ&K, IHK and GB
6. Environmental Laws	15. Local and Special Laws	24. Criminology
7. Intellectual Property Laws	16. Media Laws	25. Disaster Management Laws
8. International Economic Law	17. Medical and Forensic Law	26. Law & Development
9. International Humanitarian Law	18. Minor Acts	

My experience at Department of Law is very momentous. The Department has empowered me to polish my skills and other multitude of abilities. Our department is well organized. The faculty has given me lot of opportunities to learn. I am proud to be a student of this department and my message for my colleagues, ***“the world is not for those who cry but for those who try”***



**Ejaz Hussain Dar**  
Roll No FA15-LLB-042  
B.A.LLB (6<sup>th</sup> Semester)

## Department of Economics



**Chairman**

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### Faculty:

Name	Designation	Last Degree	Univ/Contry
1. Dr. Khadim Hussain	Assistant Professor	Ph.D.	NWAFU, China
2. Mr. Muhammad Ajmair	Assistant Professor	M.Phil.	FUUAST, Pak
3. Mrs. Nasim Akhtar	Assistant Professor	M.Phil.	AIU, Pak
4. Dr. Muhammad Saim Hashmi	Assistant Professor	Ph.D.	HUST, China
5. Mr. Tanveer Bashir	Lecturer	M.Sc.	UAF, Pak
6. Mrs. Mehreen Zaid Ullah	Lecturer	M.Phil.	IIUI, Pak
7. Mr. Faisal Azeem Abbasi	Junior Lecturer	M.Phil.	Preston, Pak
8. Mrs. Rani Saima Noureen	Junior Lecturer	M.Phil.	AIU, Pak
9. Mrs. Maryaim Yassar	Junior Lecturer	M.Phil.	NUST, Pak
10. Ms. Aneeda Ayoub	Junior Lecturer	M.Sc.	UAJK, Pak



**Faculty Members, Department of Economics**



## Introduction

The department of economics was established in 2009 at Bhimber campus, Bhimber, AJK. The department offers an excellent learning environment, with internet facility, most recent books and qualified faculty. The department developed the curricula of academic programs at various levels to meet the national and international standards as defined by Higher Education Commission (HEC) of Pakistan. The curricula include BS (4 years) degree program and M.Sc. (2 years) degree program. The department is going to start M.Phil. (2 year) degree program and PhD program soon. Up till now our graduate have been readily absorbed in various field i.e. teaching, civil service, banking and in other financial institutions. The department is playing a vital role in providing trained and competent human recourse to overcome the scarcity of professional in the field of Economics.

## Vision

Department of Economics is committed to the development of human recourse by imparting quality education to masses as well as inculcating in them human values of the highest level to promote a peaceful and harmonious society for a global fraternity capable and facing future challenges.

## Mission.

- The Department of Economics will prepare each student to participate effectively as an informed citizen in the affairs of our society by enhancing their ability to access economics activity and to contribute productively in their careers using knowledge learned during their study of economics. Through effective teaching, the Department also will provide its students with knowledge of current economic thought will develop students understanding of the role played by economics institution in our society. The Department will enhance students

learned along these lines at both the bachelor's and master's level.

- The faculty in the Department of Economics will engage in applied social research that enhances the reputation of the department and University and that contributes to the knowledge base of economics, business leaders, and economics educators.
- Finally, the Department of Economics will engage in service activities and develop collaboration with other public and private sector institutions that enhance the development of the Department and University, and expanded community of interest.

## Broad Aims

- To deliver excellent, stimulating, research-led, teaching across undergraduate and postgraduate program to develop critical thinking in students.
- To address students' academic, social and employability needs by maintaining the currents stable size of the department in terms of students numbers, to enable the department to focus on enhancing the students experience and research outcome.
- To support and promote the research activities of our academic staff and to enable research of international quality and impart the feed back into our teaching to maintain program at the forefront of economics.

## Objectives

A student who has successfully completed the major in economics will be able to:

- Comprehend the fundamental concepts and theoretical principles of the discipline.
- Identify the economic dimensions of societal problems by effectively using appropriate economic concepts.
- Apply the analytical and theoretical framework of economics in the investigation of societal problems by



exhibiting a comprehension of the economic method and its mode of inquiry.

- Apply the analytical and theoretical framework of economics in the investigation of societal problems by exhibiting a comprehension of the economic decision making process and its underline rationale.
- Apply the analytical and theoretical framework of economics in the investigation of societal problems by exhibiting a comprehension of the necessity of relating economic theory to predictive and explanatory policy purposes.
- Apply the mathematical and quantitative tools of analysis for both problem solving and analytical purposes
- Appreciate the role of economics in dealing with social problem traditionally examined by other social science disciplines

### Future Plans

The department of Economics is going to start M.Phil Program this year and PhD program soon.

### Current Programs

Currently the Department of Economics is running BS and M.Sc. programs successfully.



### Consultancy Service

The department of Economics is also providing consultancy service in applied social research. Department currently offering consultancy services in following areas:

- Issues related to public sector
- Issues related to agriculture
- Issues related to livelihood and dependency on forest
- Issues related to poverty and inequality
- Issues related to demography
- Issues related environment and natural resources
- Issues related to regional development
- Issues related to food security and food safety

### Facilities

- Qualified teaching staff
- Research conducive environment
- A rapidly expanding Library which is well equipped with latest books on economics
- A well equipped computer lab with internet facility
- Intra- campuses transport facility
- Hostel facility for female students





## Programs

### 1- Masters in Economics (2 Years)

#### Entry Requirements

- B.A/ B.Sc./B.Com./BBA with Economics
- Entry Test conducted by the University

### 2- B.S. Economics (4 Years)

#### Entry Requirements

- F.A/ F.Sc./I.Com./I.C.S. preferable with Economics
- Entry Test conducted by the University

Courses:

Thesis (Optional):

Comprehensive & Oral:

Oral Examination:

Internship/Practical Training:

**Total:**

63 Credit Hours

06-Credit Hours

S/U Basis

S/U Basis

S/U Basis

**63Credits Hours**

## Scheme of Studies (M.Sc.)

Duration: 04-06 Semesters

### Courses

	Course Code	Course Title	Credit Hrs.
1ST SEMESTER	ECO-511	Microeconomics	03
	ECO-512	Macroeconomics	03
	ECO-513	Mathematical Economics I	03
	ECO-514	Statistics for Economists	03
	ECO-515	Islamic Economics	03
		<b>Total</b>	<b>15</b>
2ND SEMESTER	ECO-521	Mathematical Economics II	03
	ECO-522	Econometrics I	03
	ECO-523	Microeconomics Analysis	03
	ECO-524	Macroeconomics Analysis	03
	ECO-525	Development Economics	03
		Optional-I	03
		<b>Total</b>	<b>18</b>





	Course Code	Course Title	Credit Hrs.
3RD SEMESTER	ECO-631	Research Methodology	03
	ECO-632	International Trade Theory	03
	ECO-633	Applied Economics and Computer Application	03
	ECO-634	Econometrics II	03
		Optional-II	03
		Optional-III	03
		<b>Total</b>	<b>18</b>
4TH SEMESTER	ECO-641	Optional –IV	03
		Optional-V	03
		Research Thesis	06
		OR	
		Optional-VII	03
		Optional-VIII	03
		<b>Total</b>	<b>12</b>

### Optional Courses

#### Agriculture and Resource Economics

Course Code	Course Title	Credit Hrs.
ECO-651	Agriculture Economics	03
ECO-652	Natural Resource Economics	03
ECO-653	Environmental Economists	03
ECO-654	Energy Economics	03

#### Development Studies

Course Code	Course Title	Credit Hrs.
ECO-655	Sustainable Development	03
ECO-656	Health Economics	03
ECO-657	Poverty and Income Distribution	03

## Business and Finance

Course Code	Course Title	Credit Hrs.
ECO-658	Business Economics	03
ECO-659	Managerial Economics	03

## Labor Economics

Course Code	Course Title	Credit Hrs.
ECO-660	Labor Economics	03
ECO-661	Human Resource Development	03

## Public Sector Economics

Course Code	Course Title	Credit Hrs.
ECO-662	Fiscal Policy	03
ECO-663	Public Economics	03

## Macroeconomics/ Monetary Economics

Course Code	Course Title	Credit Hrs.
ECO-664	Monetary Policy	03
ECO-665	Money Banking and Finance	03

## Miscellaneous

Course Code	Course Title	Credit Hrs.
ECO-666	Economics of Population	03
ECO-667	Major Issues in Pakistan's Economy	03



## B.S. Economics Program Scheme of Studies (B.S. Economics)

Duration:	08-12 Semesters
Courses:	130 Credit Hours
Comprehensive & Oral Examination:	S/U Basis
Internship/Practical Training:	S/U Basis
<b>Total:</b>	<b>130 Credits</b>

### Courses

	Course Code	Course Title	Credit Hrs.
1ST SEMESTER	ECON 101	English I	3
	ECON 102	Principal of Micro Economics	3
	ECON 103	Islamic Studies	2
	ECON 104	Mathematics I	3
	ECON 105	Introduction to Computer	3
	ECON 106	Optional (Non-Economics)	3
		<b>Total</b>	<b>17</b>
2ND SEMESTER	ECON 107	English II	3
	ECON 108	Pakistan Studies	2
	ECON 109	Principal of Macro Economics	3
	ECON 110	Mathematics II	3
	ECON 111	Optional (Non-Economics)	3
	ECON 112	Optional (Non-Economics)	3
		<b>Total</b>	<b>17</b>
3RD SEMESTER	ECON 201	English III	3
	ECON 202	Intermediate Micro Economics	3
	ECON 203	Development Economics	3
	ECON 204	Statistics I	3
	ECON 205	Optional (Non-Economics)	3
	ECON 206	Optional (Non-Economics)	3
		<b>Total</b>	<b>18</b>

## Courses

	Course Code	Course Title	Credit Hrs.
4TH SEMESTER	ECON 207	English IV	3
	ECON 208	Intermediate macro economics	3
	ECON 209	Statistics II	3
	ECON 210	Agriculture Economics	3
	ECON 211	Optional (Non-Economics)	3
	ECON 212	Optional (Non-Economics)	3
		<b>Total</b>	<b>18</b>
5TH SEMESTER	ECON 301	Micro Economics	3
	ECON 302	Macro Economics	3
	ECON 303	Mathematical Economics II	3
	ECON 304	Issues in pak Economy	3
	ECON 305	Optional (Non-Economics)	3
		<b>Total</b>	<b>15</b>
6TH SEMESTER	ECON 306	Economic Growth	3
	ECON 307	Econometrics I	3
	ECON 308	Mathematical Economics II	3
	ECON 309	Elective I	3
	ECON 310	Elective II	3
		<b>Total</b>	<b>15</b>
7TH SEMESTER	ECON 401	International Trade Theory	3
	ECON 402	Research Methods	3
	ECON 403	Public Sector Economics	3
	ECON 404	Econometrics II	3
	ECON 405	Elective III	3
		<b>Total</b>	<b>15</b>



## Courses

	Course Code	Course Title	Credit Hrs.
8TH SEMESTER	ECON 406	Entrepreneurial Economics	3
	ECON 407	Islamic Economics	3
	ECON 408	Monetary Economics	3
	ECON 409	Elective IV	3
	ECON 410	Elective V	3
		<b>Total</b>	<b>15</b>

### M.Phil Economics Program

#### Entry Requirements:-

1. Sixteen years of schooling or 4 years education (124 credit hours) after HSSC/F.A. /F.Sc/Grade 12 equivalent in relevant field will be required for admission in the M.Phil Program.
2. The GAT-General conducted by the National Testing Service with a minimum 50% cumulative score will be required at

the time of admission to M.Phil. The GAT-General test is valid for a period of two years.

#### Scheme of Studies

Duration:	04-06 Semesters
Courses:	24 Credit Hours
Seminar:	01 Credit Hours
Thesis:	25 Credit Hours









	Course Code	Course Title	Credit Hrs.
1ST SEMESTER	ECON-701	Advanced Microeconomics*	03
	ECON-703	Advanced Econometrics*	03
		Optional (Economics)	03
		Optional (Economics)	03
		<b>Total</b>	<b>12</b>
2ND SEMESTER	ECON-702	Advanced Macroeconomics *	03
	ECON-704	Research Method in Social Sciences	03
	ECON-709	Optional (Economics)	03
		Optional (Economics)	03
		<b>Total</b>	<b>12</b>
3RD & 4TH SEMESTER	ECON 509	Dissertation / Thesis	25



### Noman Ali M.Sc 2<sup>nd</sup> Semester

It's my pleasure to be part of MUST. I think it's a fantastic place to seek knowledge. As I'm from department of Economics, so, I must say that faculty members in this department are very competent and hard working. It is there is hard work which has transformed me in two semesters. God bless them and MUST.



### Humaira Ali B.S. Economics-VI

Success is always blessed by Allah almighty. Time Files when you have wonderful people around you, home like feeling and also spiritual parents teachers around you to guide you. My University experience is a charm for me which I shall always remember and smile. B.S. Economics time has passed very fast can't just remember how time has flown but special moments always bring a smile on my face when I remember them.

## List of M.Phil Optional Courses

Semester - I		Semester - II	
Course No.	Subject	Course No.	Subject
ECON-511	Islamic Economics-Theory & Policy	ECON-512	Topics in Agricultural Economics
ECON-513	Economics of Business and Finance	ECON-520	Topics in Urban Economics
ECON-521	Topics in Labor Economics	ECON-530	Optimization Techniques
ECON-602	Economic Growth Models	ECON-535	Project analysis & Investment Decision Making
ECON-541	Topics in Public Sector Economics	ECON-550	Topics in International Economics
ECON-551	WTO, Globalization & Economic Integration	ECON-560	Population Dynamics
ECON-541	Topics in Monetary Economics	ECON-552	Globalization and Socio-economic Change
ECON-605	General Equilibrium & Welfare Economics	ECON-594	Institutional and Behavioral Economics
ECON-593	Topics in Human Resource Development	ECON-592	Economics of Environment & Natural Resources
ECON-591	Advanced Econometric Techniques and Forecasting	ECON-590	Topics in Development Economics

**All optional courses are of 03 credit hrs each**

## Department of English



### Coordinator

Ms. Saima Yasmin

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[chairperson.english@must.edu.pk](mailto:chairperson.english@must.edu.pk)

[saima.eng@must.edu.pk](mailto:saima.eng@must.edu.pk)

### Faculty:

Sr.	Name	Designation	Last Degree	Univ/Country
1.	Ms. Saima Yasmin	Lecturer / Coordinator	M. Phil	NCBA & E, Gujrat, Pak
2.	Ms. Asma Iqbal Kayani	Assi. Professor	M. Phil	NCBA & E, Gujrat, Pak
3.	Ms. Sehrish Shafi	Lecturer	M.A	UAJK Mzd. Pak
4.	Mr. Toqeer Ahmed	Lecturer	M. Phil (Literature)	IIU. Islamabad, Pak.
5.	Ms. Ambreen Rahim	Lecturer	M. Phil	NCBA & E, Gujrat, Pak
6.	Ms. Lubna Aram Azam	Lecturer	M. Phil (Linguistics)	UOG, Gujrat Pak.
7.	Mr. M. Jahangir Akhter	Lecturer	M. Phil (Linguistics)	MUL-LHR, Pak.
8.	Ms. Maria Sadiq	Jr. Lecturer	M.A	UAJK Mzd. Pak.
9.	Ms. Saba Chaman	Jr. Lecturer	M.A	UOG Gujrat, Pak
10.	Ms. Samia Anwar	Jr. Lecturer	M.A	UOP Peshawar, Pak
11.	Ms. Asthma Riaz	Jr. Lecturer	M.A.	FJWU, Pak
12.	Ms. Hina Mazhar	Jr. Lecturer	B.S. (Hons.)	LCWU Lahore, Pak
13.	Ms. Sania Nawaz Ratyal	Jr. Lecturer	M.A	NUMAL, Pak



Faculty Members, Department of English



## Introduction

The Department of English, Mirpur University of science & technology, commenced its classes at Bhimber campus in 2009. Since its establishment, the department has strived to achieve and maintain a standard of excellence. Mainly, it has focused on the quality of teaching and the development of communicative, literary, critical & creative skills of the students. The department offers the Masters in Language & Literature. It is two-year degree program with equal emphasis on English Language & literature. The aim of this program is to promote broader vision through an interdisciplinary approach. The faculty members are a rich blend of youth and experience. The department intends to offer more courses in future to cater to the needs of the students. It not only refines the literary, creative & linguistic skills of its own students but also carries on the conventions as a facilitator to other departments at the Main campus.

## Message by coordinator

Welcome to the growing and dynamic department of English at Bhimber campus. Department of English serves as a platform for the potential graduates in literature and linguistics. Literature is the reflection of a society expressed through variety of genres of its kind. It provides a fine analysis of strengths, weaknesses, opportunities, and threats of the contemporary society in order to guide its development. Literature serves critical role in social development that encourages values and norms that bind society in a harmonious manner with a

delicate sense of aesthetics. Linguistics focuses on the study of language that explores the development and use of language in context. Communication is at the core of personal, professional, and social roles. Linguistics equips with the necessary tools and techniques to share ideas efficiently and effectively. Creative and communicative aspects of the graduates are polished besides inculcating the necessary value of civic responsibility. The department aims to provide graduates with academic accomplishment and personal development.

## Program Mission

- To develop human resources by inculcating professional knowledge, skills and ethical values.
- To build concrete concepts of the subject through high quality classroom teaching, conceptual analysis and research work.
- To help individuals to be a master in English Language & Literature.

## Program Objectives:

- To enable the graduates to apply knowledge gained in the degree program effectively and efficiently.
- To encourage critical thinking and effective communication skills.
- To step into Research and Development (R&D) effectively.
- To pursue higher studies in any international University of high repute.
- To enable the students to identify the current global trends in linguistics and literature.





## Programmes

M.A. English

## Entry Requirements

- B.A at least 2<sup>nd</sup> Division
- Entry Test conducted by the University

## Scheme of Studies

Duration:	04-06 Semesters
Course :	60 Credit Hours
Thesis/ Optional Courses:	06 Credit Hour
Thesis/ Optional Courses:	06 Credit Hours
Comprehensive & Oral :	S/U Basis
Internship :	S/U Basis
<b>Total Credit Hours :</b>	<b>66</b>

## SYLLABUS AND COURSES OF READING FOR M. A IN LINGUISTICS AND ENGLISH LITERATURE

The following is a proposed semester wise list of courses

	Course Code	Course Title	Credit Hrs.
1ST SEMESTER	ENG-5101	Academic Discourse	3
	ENG-5102	Phonetics and Phonology	3
	ENG-5103	Introduction to Language & Linguistics	3
	ENG-5104	History of English Literature	3
	ENG-5105	Poetry-I	3
2ND SEMESTER	ENG-5201	Sociolinguistics	3
	ENG-5202	TESOL	3
	ENG-5203	Literary Criticism	3
	ENG-5204	Classical Drama	3
	ENG-5205	Victorian English Novels	3
3RD SEMESTER	ENG-6301	Stylistics	3
	ENG-6302	Poetry-II	3
	ENG-6303	Shorter Fiction	3
	ENG-6304	Prose	3
	ENG-6305	Research Methodology	3
	ENG-6306	Semantics	3

	Course Code	Course Title	Credit Hrs.
4TH SEMESTER	ENG-6401	Pragmatics	3
	ENG-6402	Modern Drama	3
	ENG-6403	Modern English Novels	3
	ENG-6404	Introduction to Morphology & Syntax	3
	ENG-6405	Comprehensive Oral Examination	S/U
	ENG-6406	Internship	S/U
	ENG-6407	Thesis (optional)	6
ELECTIVE COURSES	N.B: Students may opt two elective courses in lieu of thesis from the following list.		
	ENG-6408	Psycholinguistics	3
	ENG-6409	Discourse Analysis	3
	ENG-6410	Creative Writing	3
	ENG-6411	Post-Colonial Literature	3
	ENG-6412	American Literature	3
	ENG-6413	Pakistani English Literature	3

## SCHEME OF STUDIES

	Duration	: 08-10 Semesters
	Courses	: 130 Credit Hours
For BS English	Thesis/ Optional Courses	: 06 Credit Hours
	Comprehensive & Oral	: S/U Basis
	Internship	: S/U Basis
	<b>Total Credit Hours</b>	<b>: 136</b>

## Entry Requirement

- Intermediate or equivalent qualification with at least 45% marks.
- Entry Test conducted by the University

## COURSES For BS English

	Course Code	Course Title	Credit Hrs.
1ST SEMESTER	ENG-3101	English Language in Use (C)	3
	ISD-3102	Islamic Studies (C)	2
	EDU-3103	Education (G)	3
	KAS-3104	Kashmir Studies (G)	3
	ENG3105	Introduction to English Poetry & Drama (F)	3
	ENG-3106	Introduction to Linguistics (F)	3



	Course Code	Course Title	Credit Hrs.
2ND SEMESTER	ENG-3201	English for Academic Reading & Writing (C)	3
	PKS-3202	Pakistan Studies (C)	2
	AUQ-3203	Arabic for Understanding Quran (G)	3
	LAW-3204	Introduction to Law (G)	3
	ENG-3205	Phonetics & Phonology (F)	3
	ENG-3206	History of English Literature-I (Medieval to Romanticism) (F)	3
3RD SEMESTER	ENG-4101	English Communication Skills (C)	3
	COM-4102	Introduction to Computing & IT (C)	3
	EDS-4103	Everyday Science (G)	3
	PSY-4104	Psychology (G)	3
	ENG-4105	Introduction to English Novel, Short Story & Prose (F)	3
	ENG-4106	Introduction to Morphology (F)	3
4TH SEMESTER	ENG-4201	Advance Academic Reading and Writing (C)	3
	HRC-4202	Human Rights and Citizenship (C)	3
	IRS-4203	International Relations (G)	3
	PAS-4204	Public Administration (G)	3
	ENG-4205	History of English Literature II (19th Century Realism up to Contemporary Times) (F)	3
	ENG-4206	Syntax (F)	3
5TH SEMESTER	ENG-5101	Visionary Discourse (C)	3
	ENG -5102	Literary Criticism-I (M)	3
	<b>Major Courses: (A minimum of 4 courses are to be selected from the list)</b>		
	ENG -5103	Classical Poetry (M)	3
	ENG -5104	Novel-I (M)	3
	ENG -5105	Research Methodology (M)	3
	ENG -5106	Testing & Evaluation (M)	3
	ENG -5107	Sociolinguistics (M)	3
	ENG -5108	Introduction to Semantics (M)	3
6TH SEMESTER	ENG-5201	Literary Theory & Criticism (M)	3
	ENG-5202	Classics in Drama (M)	3
	ENG-5203	Romantic & Victorian Poetry (M)	3
	ENG-5204	Stylistics (M)	3
	ENG-5205	Pragmatics (M)	3
	ENG-5206	Psycholinguistics (M)	3

	Course Code	Course Title	Credit Hrs.
7TH SEMESTER	ENG-6101-a	Modern Poetry (M)	3
	ENG-6102-a	American Literature (M)	3
	ENG-6103-a	South Asian Literature (M)	3
	ENG-6104-a	Translation theory & Literary Studies (M)	3
	<b>Elective Courses (A minimum of 1 course is to be selected from the list)</b>		
	ENG-6105-a	American Drama (M)	3
	ENG-6106-a	Afro-American Literature (M)	3
	ENG-6107-a	Continental Literature (M)	3
	ENG-6108-a	Pakistani Literature in English	3
Linguistics	ENG-6101-b	Language Teaching Methodologies (M)	3
	ENG-6102-b	Discourse Analysis (M)	3
	ENG-6103-b	Second Language Acquisition (M)	3
	ENG-6104-b	Research Methods in Linguistics (M)	3
	<b>Elective Courses (A minimum of 1 course is to be selected from the list)</b>		
	ENG-6105-b	Translation Studies (M)	3
	ENG-6106-b	Media Discourse Analysis (M)	3
	ENG-6107-b	World Englishes (M)	3
8TH SEMESTER	ENG-6201-a	20 <sup>th</sup> Century Fiction & Nonfiction	3
	ENG-6202-a	Literary Criticism II (M)	3
	ENG-6203-a	Postcolonial Literature (M)	3
	<b>Elective Courses (A minimum of 2 courses are to be selected from the list)</b>		
	ENG-6204-a	Literary Movements (M)	3
	ENG-6205-a	Literary Stylistics (M)	3
	ENG-6206-a	Emerging Forms of Literature (M)	3
	ENG-6207-a	Thesis (M)	6
Linguistics	ENG-6201-b	Creative Writing	3
	ENG-6202-b	Applied Linguistics (M)	3
	ENG-6203-b	Language Culture & Identity (M)	3
	<b>Elective Courses (A minimum of 2 courses are to be selected from the list)</b>		
	ENG-6204-b	Genre Analysis (M)	3
	ENG-6205-b	English for Specific Purposes (M)	3
	ENG-6206-b	Anthropological Linguistics	3
	ENG-6207-b	Thesis (M)	6

**Note:** Thesis course in the last semester is equal to two courses. The students who have 3CGPA at the end of the 7<sup>th</sup> semester will be eligible to take Thesis course.



## Department of Home Economics



### Chairperson

**Mrs Wajeeha Arshad**

Tel: 92-5827-961052

Email: chairperson.he@must.edu.pk

### Faculty:

	<b>Name</b>	<b>Designation</b>	<b>University</b>
1.	Mrs.Wajeeha Arshad	Assistant Professor	UCHEG, Lahore
2.	Mrs.Tayyaba Gul	Assistant Professor	UCHE, Peshawar
3.	Mr.Rasheed Siddiquee	Assistant Professor	Hazara Uni,
4.	Mrs. Nasreen Tariq	Assistant Professor	UCHEG, Lahore
5.	Mrs. Rahat Sharif	Assistant Professor	UCHEG, Lahore
6.	Mrs. Sobia Akram	Lecturer	UCHE, Peshawar
7.	Mrs. Asma Sagheer Khan	Lecturer	UCHE, Peshawar
8.	Mrs. Amina Gul	Lecturer	UCHE, Peshawar
9.	Mrs. Sabahat Zareen	Lecturer	QAU, Islamabad
10.	Mrs. Tehmina Tabbasum	Jr.Lecturer	UCHE, Peshawar
11.	Mrs.Nazish Zulfiqar	Jr.Lecturer	AIOU , Islamabad
12.	Ms. Gohar Iqbal	Jr.Lecturer	Fuji Foundation Uni, Islamabad
13.	Ms. Sundas Farooq	Jr.Lecturer	UCHE, Peshawar
14.	Mrs. Sehrish	Jr.Lecturer	UCHE, Peshawar



**Faculty Members, Department of Home Economics**



## Introduction:

Department of Home Economics is the only institute of its kind in Azad Kashmir. It is situated at Mirpur, a beautiful plateau of Azad Kashmir. The College of Home Economics was established in 1981 under the University of Azad Jammu and Kashmir, in 2009 Home Economics College merged into newly established university, MUST. Over the year, home economists in Pakistan have contributed significantly to strengthening programs aimed at women, families, and children, increasing understanding and appreciation of other cultures, improving public health, and the process of introducing change.

## Mission statement:

- To emphasize the social, economic and environmental impact of management of everyday life of individual, families and house hold.
- To conduct research in areas relevant to the Home Economics.

## Objectives:

- To enhance the physical, psychosocial, economic, and aesthetic sense of the students, by that they will be able to work for the well being of individuals, families & communities.
- To develop skilled manpower to meet human



needs as producers and consumers of goods and services.

- To prepare professionals for the development of community and environment.
- To integrates & apply knowledge of sciences & humanities.
- To develop a positive attitude towards life.
- To provide up to date and modern education

## Jobs prospective for graduates:

- Our graduates have sound knowledge of home economics & they easily get jobs as:
- Nutritionist , dietitian , hotel managers, industry managers, food quality control manager , caterers, fashion designer, job in boutiques, owner of home industry, social mobilizes, Montessori teachers, head of child care centers, event manager, painters, interior designers, furniture designers, artist, calligrapher & creative editor.



## Facilities

- Food & Nutrition Lab
- Textile & Clothing Lab
- Art & Design Lab
- Child Development & Guidance Lab (Nursery section)
- Home Management & Residence Lab
- Bio-Physics Lab
- Chemistry Lab
- Computer Lab
- Library
- Hostel Accommodation
- Transport
- Canteen
- Examination Hall

## Introduction of Home Economics

### Disciplines:

#### Food and nutrition

One of the most significant domains of any Home Economics curriculum is Food & Nutrition. Central focuses included learning many different ways of preparing nutritious meal as well as safe food storage techniques; this helped lay the foundation for how Food & Nutrition is incorporated into Home Economics curriculum today. Food & Nutrition based on meal management, food preservation, experimental food, food technology, institutional management, dietetics & community nutrition etc.

**Clothing & Textiles:** This subject covers the main area of our need of clothing also concerned the textile chemistry, Textile marketing & merchandizing, textiles Engineering and textile designing etc.

**Human development** deals with the



psychological needs of the child this area based on early child care, psychology of the childhood, and theories of child development etc.

In nursery section, the children between ages of three to four years are enrolled each year, starting from September. The nursery section is provided with necessary amenities and its mode of activities is subject to participation and innovation of Home Economics.

#### Home management & interior designing

This field based on the management of money, budgeting, home furnishing and interior designing on commercial level.

#### Art & Design:

In this field, it covers the applied interior designing, block printing, painting, pottery painting, sculpture etc



## Subject based practical work:

- Residence lab (15 days of stay in the residence lab ,interior Designing)
- Textile Designing annual display
- Art Design Exhibitions and annual display
- Visits of Food & Nutrition to Hospitals and community nutrition program.
- Observation in Nursery Section through selected techniques

## Nursery Section:

In nursery section, the children between ages of three to four years are enrolled each year, starting from September. The nursery section is provided with necessary amenities and its mode of activities is subject to participation and innovation of Home Economics.

## Counseling and Guidance Program

A well structured Counseling and Guidance is working to help the students under supervision of the Chairperson and a Psychologist. All the teachers are available to the students as counselors. Major responsibilities of the teachers as counselors include:

- Guiding and counseling individual students and groups to solve their problems.
- Counseling small groups and individuals with problems.
- Consulting with teachers, staff, and parents

regarding meeting the developmental needs of students to solve problems of students.

- Referring students with severe problems to appropriate institutes in consultation with their parents.
- Coordinating, conducting, or participating in activities that contribute to the effective coordination among students, teachers and parents.
- Evaluating and revising the student development Program.
- Pursuing professional growth.
- Consult with student's family, teachers, educational support staff, and Government Institutes regarding strategies to help students.
- Parents must be involved and participate in the activities of this component to help their children overcome barriers to their educational progress.







## Workshops:

Workshops on different disciplines of Home Economics have been started from April 2016. The duration of these workshops are 1 month. These workshops will continue throughout the year.

The main disciplines of workshops are as follows:

- Food & Nutrition
- Textile & Clothing
- Art & Design
- Guidance & Counseling
- Fundamentals of computer

### Food & Nutrition workshop









## Awards and Honors:

- Two students Aysha Mushtaq and Ansa Jamshaid of Home Economics department has been selected for National Athlete Championship.
- Best female athlete Award 2016 won by Ansa Jamshaid BS Home Economics
- 1st position in inter collegiate games at AJK Level.
- First position in short put won by Ayesha Mushtaq BS Home Economics
- First position in Discus throw by won Ayesha Mushtaq BS Home Economics
- First position in Impulse (project Exhibition) won by Ansa Jamshaid BS Home Economics
- 3rd position of Ansa Jamshaid in Jevellen throw, long jump, and in 400 m race
- Best decoration award in MUST Got Talent and Esperanza, 16.
- 1st position in Dessert making competition
- Rida Mir 12th semester has got 1st position in theme sketching (MUST Got Talent)
- Sadia zulfiqar has got 1st position in Talent Hunt Esperanza, 16.
- Sadia zulfiqar has got 2nd position in Eco Art MUST.
- Shafaq zafar has got 2nd position Jevellen throw and 3rd in discus throw.



Drafting & Stitching and  
Glass Painting Workshop

## Future Plan:

- The department plans to start different diploma and certificates courses of varying duration of different disciplines of Home Economics.
- Establishment of display center
- Up gradation of physical infrastructure of class rooms , labs and nursery.

## Programs

1. B.Sc 4 Years
2. BS Home Economics after HSSC
3. BS Home Economics after SSC
4. M.Sc. Textile & Clothing
5. M.Sc. Food and Nutrition

## Admission Requirement

1. For BS Programs
  - 2nd After HSSC at least Division
  - Entry test conducted by the University
2. For M.Sc. Programs
  - Graduation at least 2nd Division (B.Sc. Home Economics) from any HEC recognized university.
  - Graduation in Home Economics from HEC recognized university.
  - Entry test conducted by the University

## Scheme of Study

### BS 4 years degree program After HSSC

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
1ST SEMESTER	HE-311	English-I	03	00	03
	HE-312	Pakistan Studies	02	00	02
	HE-313	Math/Stat-1	03	00	03
	HE4-314	General-I Chemistry	02	00	02
	HEF-315	Foundation-1 Introduction To Home Economics	02	00	02
	HEF-316	Foundation-2 Introduction To Arts & Design I	02	01	03
	HEF-317	Foundation-3 Clothing & Consumer Education	02	01	03
	<b>Total Credit Hours</b>				<b>18</b>



	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
2ND SEMESTER	HE-321	English-II	03	00	03
	HE-322	Islamic Studies / Ethics	02	00	02
	HE-323	Math / Stat – II / Univ. Optional	03	00	03
	HEG-324	General-Ii Physics	02	00	02
	HEG-325	General-Iii Psychology	02	00	02
	HEF-326	Foundation-4 Introduction To Arts & Design II	02	01	03
	HEF-327	Foundation-5 Advanced Clothing	02	01	03
		<b>Total Credit Hours</b>			<b>18</b>
3RD SEMESTER	HE-431	English-III	03	00	03
	HE-432	Introduction To Computer	02	01	03
	HEG-433	GENERAL-IV Fundamentals Of Economics	02	01	03
	HEF-434	Foundation-6 Life Span Development	02	01	03
	HEF-435	Foundation-7 Home Mgt & Housing 1	02	01	03
	HEF-436	Foundation-8 Fundamentals Of F&N	02	01	03
		<b>Total Credit Hours</b>			<b>18</b>
4TH SEMESTER	HE-441	English-IV /Arabic	03	00	03
	HEG-442	GENERAL-V Biochemistry	02	01	03
	HEG-443	GENERAL-VI Sociology	02	00	02
	HEG-444	Foundation-9 Family & Community Development	02	01	03
	HEF-445	Foundation-10 Home Management & Housing-II	02	01	03
	HEF-446	Foundation-11Meal Management	02	01	03
		<b>Total Credit Hours</b>			<b>17</b>

## Scheme of Studies for 5-8 Semesters According to area of specialization

### (a) ART & DESIGN

	Name of Subjects	Credit Hrs.
5TH SEMESTER	FOUNDATION-11 Home Economics Education, Administration & Supervision	03
	MAJOR-I Applied Art-I	03
	MAJOR-II Art Education-I	03
	MAJOR-III Essential of Interior Design-I	03
	MAJOR-IV Commercial Art	03
	<b>Total credit hours</b>	<b>15</b>
6TH SEMESTER	FOUNDATION-13 Methods of Research in Home Economics	03
	MAJOR-V Applied Art-II	03
	MAJOR-VI Art Education-II	03
	MAJOR-VII Essential of Interior Design-II	03
	MAJOR-VIII Islamic Art	03
	<b>Total credit hours</b>	<b>15</b>
7TH SEMESTER	MAJOR-XI INTERNSHIP/ Research Project	04
	MAJOR-X Art Appreciation-I	03
	MAJOR-XI Drawing & Painting	03
	ELECTIVE-I Interior Design/ The Craft of Hand Weaving/ Graphic Communication-I	03
	ELECTIVE-II Hand Built Pottery/ Textile Designing-II/ Methods of Art Education	03
	<b>Total credit hours</b>	<b>16</b>
8TH SEMESTER	MAJOR-XII Research Project	04
	MAJOR-XIII Art Appreciation-II	03
	MAJOR-XIV Painting & Print Making	03
	ELECTIVE-III Weaving/ Methods of Art Education-II/ Interior Design-II	03
	ELECTIVE-IV Graphic Communication-II/ Ceramics/ Textile Design & Printing/ Internship	03
	<b>Total credit hours</b>	<b>16</b>
	<b>Total CH 5-8</b>	<b>62</b>
	<b>Total CH 1-8</b>	<b>133</b>



## (b) Food and Nutrition

	Course Code	Title	Credit Hrs.
5TH SEMESTER	HEF-551	Foundation-11 Home Economics Education, Administration & Supervision	3
	HEM-552	Major I Food Preservation	3
	HEM-553	Major-II Experimental Foods	3
	HEM-554	Major-III Advanced Nutrition	3
	HEM-555	Major-IV Dietetics	3
		<b>Total</b>	<b>15</b>
6TH SEMESTER	HEF-561	Foundation-13 Methods of Research In Home Economics	3
	HEF-562	Major V Physiological Aspects of Nutrition	3
	HEM-563	Major-VI Nutritional Biochemistry 1	3
	HEM-564	Major-VII Food Microbiology	3
	HEM-565	Major-VIII Community Nutrition	3
		<b>Total</b>	<b>15</b>
7TH SEMESTER	HEM-671	Major-IX Internship (Hospital/Community/Institution)	4
	HEM-672	Major-X Nutritional Biochemistry 2	3
	HEM-673	Major-XI Food Technology	3
	HEM-674	Elective-La Institutional Management/Elective-Lb/Food Analysis	3
	HEM-675	Elective-LIa Life Cycle Nutrition/Elective-11b Nutritional Management In Disasters	3
		<b>Total</b>	<b>16</b>
8TH SEMESTER	HEM-681	Major-XII Research Project	4
	HEM-682	Major-XIII Applied Nutrition	3
	HEM-683	Major-XIV Nutrition Health & Prevention	3
	HEM-684	Elective-III Sports Nutrition	3
	HEM-685	Elective-IV Food Allergies	3
		<b>Total</b>	<b>16</b>
		<b>Total sm-5-8</b>	<b>62</b>
		<b>Total sm-1-8</b>	<b>133</b>



### (c) Human Development and Family Studies

	Course Code	Title	Credit Hrs.
5TH SEMESTER	HEF-551	Foundation-11 Home Economics Education, Administration & Supervision	3
	HEM-552	Major-I Development from Prenatal to Infancy	3
	HEM-553	Major-II Childhood Care and Development	3
	HEM-554	Major-III Adolescent Development	3
	HEM-555	Major-IV Adulthood and Aging	3
		<b>Total</b>	<b>15</b>
6TH SEMESTER	HEF-561	Foundation-13 Methods of Research in Home Economics	3
	HEM-562	Major-V Positive Psychology	3
	HEM-563	Major-VIII Early Childhood and Guidance	3
	HEM-564	Major-X Theories of Human Development	3
	HEM-565	Major-XI Communication In Human and Family Relations	3
		<b>Total</b>	<b>15</b>
7TH SEMESTER	HEM-671	Major-XI Internship/Research Project	4
	HEM-672	Major-VI Abnormal Psychology	3
	HEM-673	Major-IX Elementary Education and Administration	3
	HEM-674	Elective-I Counseling and Guidance / Human and Family Ecology	3
	HEM-675	Elective-II Exceptional Children / Family Dynamics	3
		<b>Or</b>	<b>16</b>
	HEE-671	Major-XI Research Project	4
	HEM-672	Major-X Educational Psychology	3
	HEM-673	Major-XVI Planning and Managing Human Services Programs	3
	HEE-674	Elective-III Psychological Testing/Gerontology: Social Aspects	3
	HEE-675	Elective-IV Family Problems and Intervention Strategies/Day Care Management and Administration	3
		<b>Total</b>	<b>16</b>
	<b>Total sm5-8</b>	<b>62</b>	
	<b>Total sm1-8</b>	<b>133</b>	



#### (d) INTERIOR AND ENVIRONMENTAL DESIGNING

	Course Code	Title	Credit Hrs.
5TH SEMESTER	HEF-551	Foundation -11 Home Economics Education, Administration & Supervision	3
	HEM-552	Major I Interior Space Planning I	3
	HEM-553	Major-II Fundamentals of Interior Architecture I	3
	HEM-554	Major-III Designing the Furniture	3
	HEM-555	Major-IV Interior Design Application (Perspective Drawing/Studio)	3
		<b>Total</b>	<b>15</b>
6TH SEMESTER	HEF-561	Foundation -13 Methods of Research In Home Economics	3
	HEM-562	Major V Environmental Aesthetics	3
	HEM-563	Major-VI Fundamentals of Interior Architecture II	3
	HEM-564	Major-VII Designing for Soft Furnishing	3
	HEM-565	Major-VIII Interior Environment (Physical Aspect)	3
		<b>Total</b>	<b>15</b>
7TH SEMESTER	HEM-671	Major-XI Internship	4
	HEM-672	Major-X Interior Space Planning II	3
	HEM-673	Major-X Interior Design Project I	3
	HEM-674	Elective-I Environmental Management	3
	HEE-675	Elective-II Designing Functional Spaces For Special Needs/Environmental Psychology	3
		<b>Total</b>	<b>16</b>
8TH SEMESTER	HEM-681	Major-XII Research Project	4
	HEM-682	Major-XIII Advance Computer Applications for Interior Design	3
	HEM-683	Major-XIV Interior Design Project II	3
	HEE-684	Elective-III Interior Design Professional Practice Management	3
	HEE-685	Elective-IV A. Consumer, Marketing Strategies/ B. Environmental Ethics	3
		<b>Total</b>	<b>16</b>
		<b>Total Sm5-8</b>	<b>62</b>
		<b>Total Sm-1-8</b>	<b>133</b>



## (e) RESOURCES AND FACILITY MANAGEMENT

	Course Code	Title	Credit Hrs.
5TH SEMESTER	HEF-551	Foundation-11 Home Economics Education, Administration & Supervision	3
	HEM-552	Major-I Essentials of Management	3
	HEM-553	Major-II Entrepreneurship for Home Based Industry	3
	HEM-554	Major-III Mgt of Household Affairs	3
	HEM-555	Major-IV Fundamentals of Marketing	3
		<b>Total</b>	<b>15</b>
6TH SEMESTER	HEF-561	Foundation-13 Methods of Research in Home Economics	3
	HEM-562	Major-V Essentials of Communication	3
	HEM-563	Major-VI House Keeping Management	3
	HEM-564	Major-VII Home Management & Supervision	3
	HEM-565	Major-VIII Org Behavior	3
		<b>Total</b>	<b>15</b>
7TH SEMESTER	HEM-671	Major-IX Internship/Research Project	4
	HEM-672	Major-X Human Resource Management	3
	HEM-673	Major-XI Consumer Economics	3
	HEE-674	Elective-I Project Management/ Environmental Mgt	3
	HEE-675	Elective-II Internship Family Finance / Mgt of Institutions: Education & Health	3
		<b>Total</b>	<b>16</b>
8TH SEMESTER	HEM-681	Major-XII Research Project	4
	HEM-682	Major-XIII Hotel Management	3
	HEM-683	Major-XIV Human Resource Development	3
	HEE-684	Elective-IVI Money Banking and Finance/ Internship	3
		<b>Total</b>	<b>16</b>
		<b>Total Sm5-8</b>	<b>62</b>
		<b>Total Sm1-8</b>	<b>133</b>



## (f) TEXTILES AND CLOTHING

	Course Code	Title	Credit Hrs.
5TH SEMESTER	HEF-551	Foundation -11 Home Economics Education, Administration & Supervision	3
	HEM-552	Major I A dvanced Textile	3
	HEM-553	Major-II Pattern Making	3
	HEM-554	Major-III Fashion Designing And Illustrations	3
	HEM-555	Major-IV Textile Chemistry -I	3
		<b>Total</b>	<b>15</b>
6TH SEMESTER	HEF-561	Foundation -13 Methods of Research in Home Economics	3
	HEM-562	Major-V Textiles Computer aided Design	3
	HEM-563	Major-VI Textile Chemistry -II	3
	HEM-564	Major-VII Textile Testing	3
	HEM-565	Major-VIII Textiles Dyeing and Printing	3
		<b>Total</b>	<b>15</b>
7TH SEMESTER	HEM-671	Major-IX INTERNSHIP/ Research Project	4
	HEM-672	Major-X Art of Draping	3
	HEM-673	Major-XI Experiential Textile	3
	HEE-674	Elective-I a) Textile and Clothing Industrial Management b) Decorative Fabrics	3
	HEE-675	Elective-II a) Entrepreneurship b) Hi storic costume c) Economic, Social and Psychological Aspects of Clothing and Textiles	3
		<b>Total</b>	<b>16</b>
8TH SEMESTER	HEM-681	Major-XII Research Project	4
	HEM-682	Major-III Applied Textile Designing	3
	HEM-683	Major-XIV Dress Designing through Draping	3
	HEE-684	Elective-III a) Marketing and Merchandizing b) Structural Textile Designing c) Fashion Photography	3
	HEE-685	Elective-IV a) Fashion ad Boutique Management b) Functional Designing for Special People	3
		<b>Total</b>	<b>16</b>
		<b>Total sm5-8</b>	<b>62</b>
		<b>Total sm1-8</b>	<b>133</b>

## Student Messages



### **Nosheen Shoukat 10 Semester**

Being a student of department of Home Economics, I feel proud; it makes me expert in multiple fields including<sup>th</sup> (Arts & Sciences). The time I have spent here is enjoyable & knowledge full experience of my life. One of the main feature of this department is the blend of courses with practical's & theory. It broadens my vision & exposure. Home economics helps us in professional as well as in personal life.



### **Komal Younas 8<sup>th</sup> Semester**

It was pleasure to join MUST. It was my best decision to take admission in HOME ECONOMICS DEPT. This institution equips young women with the specialized knowledge in the field of interior design, textile design, food & nutrition, art & design & human development. Therefore, it has acquired a special significance in moulding the female generation, providing them with an opportunity to study a unique blend of both science and art related subjects. It also opens up future avenues for personal, professional and social enhancement.





## Institute of Modern Languages (IML) & Mass Communication



### Director:

Maj (Retd) Shahzada Masoud ul Hassan Bukhari

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Mob: +92-333-5821855

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### Faculty:

	Name	Designation	Last degree	Univ/Country
1	Dr Ayesha Jalil	Assistant Professor	PhD Sociology	PU/Pak
2	Ms Kiran Saleem	Lecturer	MA History	UAJK/Pak
3	Ms Qudwa Khalil	Lecturer	MSc Pak St	QAU/Pak
4	Ms Waqar un Nisa	Lecturer	M.Phil. Pak St	QAU/Pak
5	Ms Ambreen Aftab	Junior Lecturer	MA English	UAJK/Pak
6	Ms Sadaf Munir	Public Relation Officer	M.Phil. (GPP)	NDU/Pak
7	Kashif Najeeb	Assistant Registrar	MS in Media Communication	IIU/Pak



Faculty Members, Institute of Modern Languages (IML) & Mass Communication

## Introduction

Institute of Modern Languages (IML) and Mass Communication is relatively a new discipline in MUST that undertakes the academic assignment to introduce various short certificate as well as long diploma courses in different languages and media studies like Basic English, Basic Arabic , and various short courses in journalism and mass communication.

IML also has a mandate to offer BS Mass Communication (4 Years) regular morning shift programs to the students with effect from 2015 (fall Semester) onwards followed by MS Media studies and PhD programs in a couple of years. IML will cater for the need of students who seek a challenging career in the field of Media studies, a 5th pillar in the hierarchy of a modern democratic state.

The establishment of Institute of Modern Languages (IML) and Mass Communication in MUST will go a long way in promoting the culture of democratic values, peace and tolerance in the peace starved society like Pakistan in a short span

of time. IML will make an endeavor to educate masses to respect the difference of opinion of one another and live together with peace and harmony.

## Mission

“The mission of Institute of Modern Languages (IML) and Mass Communication is to promote awareness among masses to learn to live together and respect human rights irrespective of race, creed, color or faith with the help of educational programs of various languages and media studies”

## BS Mass Communication / Media Studies (4 Years Program)

### Admission Requirements

- F.A/F.Sc with at least 45 % Marks

### Entry Test

An Entry test for the admission in BS Mass Communication will be conducted at the University.

### Scheme of Studies

## BS Mass Communication / Media Studies (4 Years Program)

**Total : 130 Credit Hours**

	Sr. No.	Title	Credit Hrs.
<b>1ST SEMESTER</b>	1.	English - I	3
	2.	Islamic Studies	2
	3.	Introduction to Communication	3
	4.	Computer Skills	3
	5.	Subsidiary Subject -I	3
	6.	Subsidiary Subject - II	3
		<b>Total</b>	<b>17</b>



	Sr. No.	Title	Credit Hrs.
2ND SEMESTER	1.	English - II	3
	2.	Pak Studies	2
	3.	Contemporary World Media	3
	4.	Statistics Cum Mathematics	3
	5.	Subsidiary - III	3
	6.	Subsidiary - IV	3
		<b>Total</b>	<b>17</b>
3RD SEMESTER	1.	English - III	3
	2.	Functional Urdu	3
	3.	National & International Affairs	3
	4.	Statistics / University Optional	3
	5.	Subsidiary - V	3
	6.	Subsidiary - VI	3
		<b>Total</b>	<b>18</b>
4TH SEMESTER	1.	English IV / University Optional	3
	2.	Mass Media in Pakistan	3
	3.	Writing Workshop	3
	4.	Subsidiary - VII	3
	5.	Subsidiary - VIII	3
		<b>Total</b>	<b>15</b>
5TH SEMESTER	1.	News Reporting & Writing	3
	2.	Broadcast Journalism	3
	3.	Online Journalism	3
	4.	Media Seminar	3
	5.	Theories of Communication - I	3
		<b>Total</b>	<b>15</b>

	Sr. No.	Title	Credit Hrs.
6TH SEMESTER	1.	Sub Editing & Page Designing (Theory & Practice)	3
	2.	Feature, Column & Editorial Writing (Theory & Practice)	3
	3.	Research Methods - I	3
	4.	Theories of Communication - II	3
	5.	Introduction to Advertising & Public Relations	3
		<b>Total</b>	<b>15</b>
7TH SEMESTER	1.	Research Methods - II	3
	2.	Development Communication	3
	3.	Media Ethics and Laws	3
	4.	Course from Specialization	3
	5.	Course from Specialization	3
		<b>Total</b>	<b>15</b>
8TH SEMESTER	1.	Research Report	3
	2.	Media Management & Marketing	3
	3.	Specialized Journalism - Health, Education, Economics, Environment, Women & Media, Labour, Regional Media, Media in SAARC Countries, Sports, Rural Journalism etc. (Out of these subjects, one can be opted).	3
	4.	Course from Specialization	3
	5.	Course from Specialization	3
	6.	Internship	3
		<b>Total</b>	<b>18</b>
		<b>Total Credit Hours:</b>	<b>130</b>

Note: Universities may add two courses of 3 credit hours each according to their requirements and available facilities.

## Institute of Islamic Studies



### Director

**Dr. Tahir Aslam**

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E-mail: director.is@must.edu.pk

### Faculty:

	Name		Last Degree	Univ./Country
1.	Dr. Tahir Aslam	Asstt. Prof.	Ph.D	NUML, Pak
2.	Dr. Asghar Ali Khan	Asstt. Prof.	Ph. D	Punjab, Pak
3.	Dr. Sajjad Ahmed	Asstt. Prof.	Ph.D	AIU, Pak
4.	Mr. Nasir-ud-Din	Lecturer	M.Phil	MUST
5.	Mr. Muhammad Imran	Lecturer	M.Phil	MUST
6.	Ms. Naila	Senior Res. Officer.	M.Phil	MUST
7.	Ms. Rashida	Lecturer	M. Phil	IIUI, Pak
8.	Ms. Ruqyyah Akhter	Visiting	M. Phil	IIUI, Pak
9.	Ms. Sadaf Sufian	Visiting	M. Phil	Minhaj Lahore.



**Faculty Member, Institute of Islamic Studies**



## Introduction

Institute of Islamic Studies (IIS) is the constituent body of the Mirpur University of Science and Technology. It has been working under the banner of UAJK since 1980 to become a remarkable landmark of teaching and researching. It uses a new methodology to teach Islamic Studies in higher education, outreaches to the community, and supports research. It aspires to become a leading national institution in Islamic studies in AJK. It has produced hundreds of graduates who are serving the nation in different capacities.

The Institute of Islamic Studies (IIS) was established with the mission to strengthen and enrich the study of the Islamic world, its religion, culture, history and civilization. The Institute has an ambitious vision to play a global leadership role in advancing knowledge and understanding of Islam.

## Job Prospects for Graduates

Lectureship in University/Colleges, Subject Specialist School cadre. Teachers School Cadre,

Civil Service and Army Service.

## Programs

### 1-Undergraduate

- B.A(Hons)
- Diploma in Arabic

### 2-Graduate

- M.A (Islamic Studies)
- M.A (Arabic)
- M.Phil

## B.A. (Hons) Program

### Admission Requirements

- At least 2<sup>nd</sup> division in Intermediate.

### Scheme of Studies:

Duration:	8-10 semesters
Courses:	125 Credit Hours
Reading & Conference:	S/U Basis
Comprehensive Oral Examination:	S/U Basis
<b>Total:</b>	<b>125 Credit Hours</b>



Workshop on Research Methodology Organized by Institute of Islamic Studies



## Courses

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
1ST SEMESTER	ISL-3101	Textual Study of Quran-I	3	0	3
	ISL-3102	Textual Study of Hadith-I	3	0	3
	PAK -3103	Pak Studies	2	0	2
	COM-3104	Introduction to Computer Science	3	0	3
	ENG -3105	English-I	3	0	3
	ARI-3106	Arabic-I	3	0	3
		<b>Total:</b>			<b>17</b>
2ND SEMESTER	ISL-3201	Textual Study of Hadith-II	3	0	3
	ISL-3202	Islamic History-I	3	0	3
	COM-3203	Data Base Management	3	0	3
	ENG-3204	English-II	3	0	3
	ARI-3205	Arabic-II	3	0	3
		<b>Total:</b>			<b>15</b>
3RD SEMESTER	ISL-4101	History-II	3	0	3
	ISL-4102	Fiqh-ul-Ibadat	3	0	3
	COM -4103	Web Development	3	0	3
	ENG-4104	English-III	3	0	3
	ARI-4105	Arabic-III	3	0	3
		<b>Total:</b>			<b>15</b>
4TH SEMESTER	ISL-4201	Textual Study of Quran-II	3	0	3
	ISL-4202	Contemporary Muslim World	3	0	3
	ISL-4203	Islam & Modern Economics-I	3	0	3
	COM -4204	Visual Basic Programming	3	0	3
	ENG-4205	English-IV	3	0	3
	ARI-4206	Arabic-IV	3	0	3
		<b>Total:</b>			<b>18</b>

## Courses

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
5TH SEMESTER	ISL-5101	History of Hadith Literature and its Principles	3	0	3
	ISL-5102	Comparative Study of Religions-I	3	0	3
	ISL-5103	Islam & Modern Economics-II	3	0	3
	COM -5104	Introduction to Programming with JAVA	3	0	3
	ARI-5105	Arabic-V	3	0	3
		<b>Total:</b>			<b>15</b>
6TH SEMESTER	ISL -5201	Arabic-VI	3	0	3
	ISL-5202	History of Tafseer and its Principles	3	0	3
	ISL-5203	History of Fiqh and Islamic Jurisprudence	3	0	3

Students are required to select two courses from the following.

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
	ISL-5204	Islam and Modern Political Thoughts-II	3	0	3
	ISL-5205	Islam and Modern Social Thoughts	3	0	3
	ISL-5206	Islam and Science	3	0	3
	ISL-5207	Dawa and Irshad	3	0	3
	ISL-5208	Islam and Philosophy	3	0	3
	ISL-5209	Tasawaf and Ikhlāq	3	0	3
		<b>Total:</b>			<b>15</b>

### Note:

The fourth year (7th & 8th semesters) of B.A. (Hons.) course is for specialization.

Following Three specializations are offered and the students have to select one specialization.

- Specialization in Tafseer and Hadith
- Specialization in Fiqh
- Specialization in Arabic



## Specialization in Tafseer and Hadith

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
7TH SEMESTER	ISL-6101	Study of Quranic Verses Relating to Ahkaam	3	0	3
	ISL-6102	Textual Study of Hadith-III	3	0	3
	ISL-6103	Sciences of Quran	3	0	3
	ISL-6104	Al-Nusoos-ul-Adabiyya	3	0	3
	COM -6105	Computer Research	3	0	3
		<b>Total:</b>			<b>15</b>
8TH SEMESTER	ISL-6201	Textual Study of Quran-III	3	0	3
	ISL-6202	Fiqh-ul-Hadith	3	0	3
	ISL-6203	Sciences of Hadith	3	0	3
	ISL-6204	Comparative Study of Religions	3	0	3
	ARI-6205	Arabic-VIII	3	0	3
		<b>Total:</b>			<b>15</b>

## Specialization in Fiqh

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
7TH SEMESTER	ISL-6106	Study of Quranic Verses Relating to Ahkaam	3	0	3
	ARI -6107	Al-Nusoos-ul-Adabiyya	3	0	3
	COM -6108	Computer Research	3	0	3
	ISL-6109	Mercantile Law of Islam	3	0	3
	ISL -6110	Usul-e-Fiqh	3	0	3
		<b>Total:</b>			<b>15</b>
8TH SEMESTER	ISL-6206	Fiqh-ul-Hadith	3	0	3
	ISL-6207	Comparative Study of different schools of Fiqh	3	0	3
	ISL-6208	Al-Qawaid-ul-Fiqhiah	3	0	3
	ISL-6209	Comparative Study of Religions-II	3	0	3
	ARI -6210	Arabic-VIII	3	0	3
		<b>Total:</b>			<b>15</b>

## Specialization in Arabic

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
7TH SEMESTER	ARI-6111	Al-Qawaid	3	0	3
	ARI -6112	History of Arabic Literature	3	0	3
	ARI -6113	Al-Tabeer	3	0	3
	COM-6114	Computer Research	3	0	3
	ARI -6115	Al-Nusoos -ul-Adabiyya-I	3	0	3
	<b>Total:</b>				<b>15</b>
8TH SEMESTER	ARI -6211	Al-Tabeer-II	3	0	3
	ARI -6212	Criticism on Literature	3	0	3
	ARI -6213	Al-Nusoos -ul-Adabiyya-II	3	0	3
	ARI -6214	Translation	3	0	3
	ARI -6215	Al-Blagha	3	0	3
	<b>Total:</b>				<b>15</b>

## M. A. Arabic Program

## Scheme of Studies:

### Admission Requirements

- B.A at least second division with Islamic Studies as elective subject.
- Entry Test conducted by the University

Duration:

4-6 semesters

Courses:

60 Credit Hours

Thesis: (Optional)

06 Credit Hours

**Total :**

**60 Credit Hours**

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
1ST SEMESTER	ARB- 5101	القواعد الصرفية	3	0	3
	ARB- 5102	القواعد النحوية	3	0	3
	ARB- 5103	الأدب الديني(القرآن الكريم)	3	0	3
	ARB- 5104	الأدب الديني ( الحديث )	3	0	3
	ARB- 5105	المحاضرة والقرأة	3	0	3
2ND SEMESTER	ARB- 5201	القواعد الصرفية	3	0	3
	ARB- 5202	القواعد النحوية	3	0	3
	ARB- 5203	الأدب الديني(القرآن الكريم)	3	0	3
	ARB- 5204	الأدب الديني ( الحديث )	3	0	3
	ARB- 5205	المدخل إلى الحاسوب	3	0	3





4TH SEMESTER 3RD SEMESTER	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
	ARB-6101	النثر القديم	3	0	3
	ARB-6102	شعر العربي (عصر الجاهلي إلى الأموي)	3	0	3
	ARB-6103	البلاغة (علم البيان)	3	0	3
	ARB-6104	تاريخ الإسلام	3	0	3
	ARB-6105	النقد الأدبي القديم	3	0	3
	ARB-6201	النثر الحديث	3	0	3
	ARB-6202	شعر العربي (من العباسي إلى الحديث)	3	0	3
	ARB-6203	البلاغة (علم المعاني، علم البديع)	3	0	3
	ARB-6204	الأدب العربي في شبه القارة	3	0	3
	ARB-6205	النقد الأدبي الحديث	3	0	3

## 2-M. A. Islamic Studies Program

## Scheme of Studies:

### Admission Requirements

- B.A at least second division with Islamic Studies as elective subject.
- Entry Test conducted by the University

Duration:	4-6 semesters
Courses:	60 Credit Hours
Hours Reading & Conference:	0 Credit Hours
Thesis: (Optional)	06 Credit Hours
<b>Total :</b>	<b>60 Credit Hours</b>

### Courses

1ST SEMESTER	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
	ISL-5101	Study of Quran-I	3	0	3
	ISL-5102	Study of Hadith-I	3	0	3
	ISL-5103	Comparative Study of Religions-I	3	0	3
	ISL-5104	Seerah of the Holy Prophet-I	3	0	3
	ISL-5105	Arabic Language-I	3	0	3
2ND SEMESTER	ISL-5201	Study of Quran-II	3	0	3
	ISL-5202	Study of Hadith-II	3	0	3
	ISL-5203	Comparative Study of Religions-II	3	0	3
	ISL-5204	Seerah of the Holy Prophet (PBUH) -II	3	0	3
	ISL-5205	Arabic Language-II	3	0	3

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
3RD SEMESTER	ISL-6101	Islamic Fiq-I	3	0	3
	ISL-6102	Islam & Modern Economic Thoughts-I	3	0	3
	ISL-6103	Arabic Language-I	3	0	3
	ISL-6104/	Islam & Science-I	3 / 3	0	3 / 3
	ISL-6106	/ Thesis (Optional)			
	ISL-6105	Dawat-o-Irshad-I	3	0	3
4TH SEMESTER	ISL-6201	Islamic Fiq-II	3	0	3
	ISL-6202	Islam & Modern Economic Thoughts-II	3	0	3
	ISL-6203	Arabic Language-II	3	0	3
	ISL-6204	Islam & Science-II /	3 / 3	0	3 / 3
	ISL-6106	Thesis (Optional)			
	ISL-6205	Dawat-o-Irshad-II	3	0	3

## M.Phil Program

### Admission Requirements

- Candidates should have no 3<sup>rd</sup> Division in his/her Academic Career.
- Entry Test conducted by the University
- Entry Test as per University Rules

### Scheme of Studies

Course Work:	24 Credit Hours
Thesis:	06 Credit Hours
Seminar:	01 Credit Hour
<b>Total :</b>	<b>31 Credit Hours</b>

### Courses

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
1st SEMESTER	ISL-7101	Uloom-ul-Quran	3	0	3
	ISL-7102	Usool-e-Tahqiq	3	0	3
	ISL-7103	Arabic Language & Literature	3	0	3
	ISL-7104	Islam & Mustashraqueen	3	0	3
		<b>Total:</b>			<b>12</b>

From the following optional courses students shall have to chose four courses.



	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
2nd SEMESTER	ISL-7201	Tafseer ke Aasaleeb-o-Minahij(Optional)	3	0	3
	ISL-7202	Hadith Uloom-ul-Hadith(Optional)	3	0	3
	ISL-7203	Usool -e- Fiq(Optional)	3	0	3
	ISL-7204	Musadir e Uloom-e-Islamia(Optional)	3	0	3
	ISL-7205	Tasawouf(Optional)	3	0	3
	ISL-7206	Fiq Islami (Optional)	3	0	3
	ISL-7207	Contemporary Islamic Movements(Optional)	3	0	3

### 3RD & 4TH SEMESTER

	Course Code	Course Title	Lec. Hrs.	Lab. Hrs.	Credit Hrs.
	ISL-7001	Thesis	0	0	06
	ISL-7002	Seminar	0	0	01
		<b>Total</b>	<b>24</b>	<b>0</b>	<b>31</b>

### Certificate in Arabic Language

### Duration of the Program

4 months ( 16 week)

### Entrance Requirement

- Minimum qualification, Matriculation with Aggregate 50% OR
- Deeni Asnad from Madaris Arabia
- Entry Test = 30

**Credits (Credit Hours)** 9 hours per week

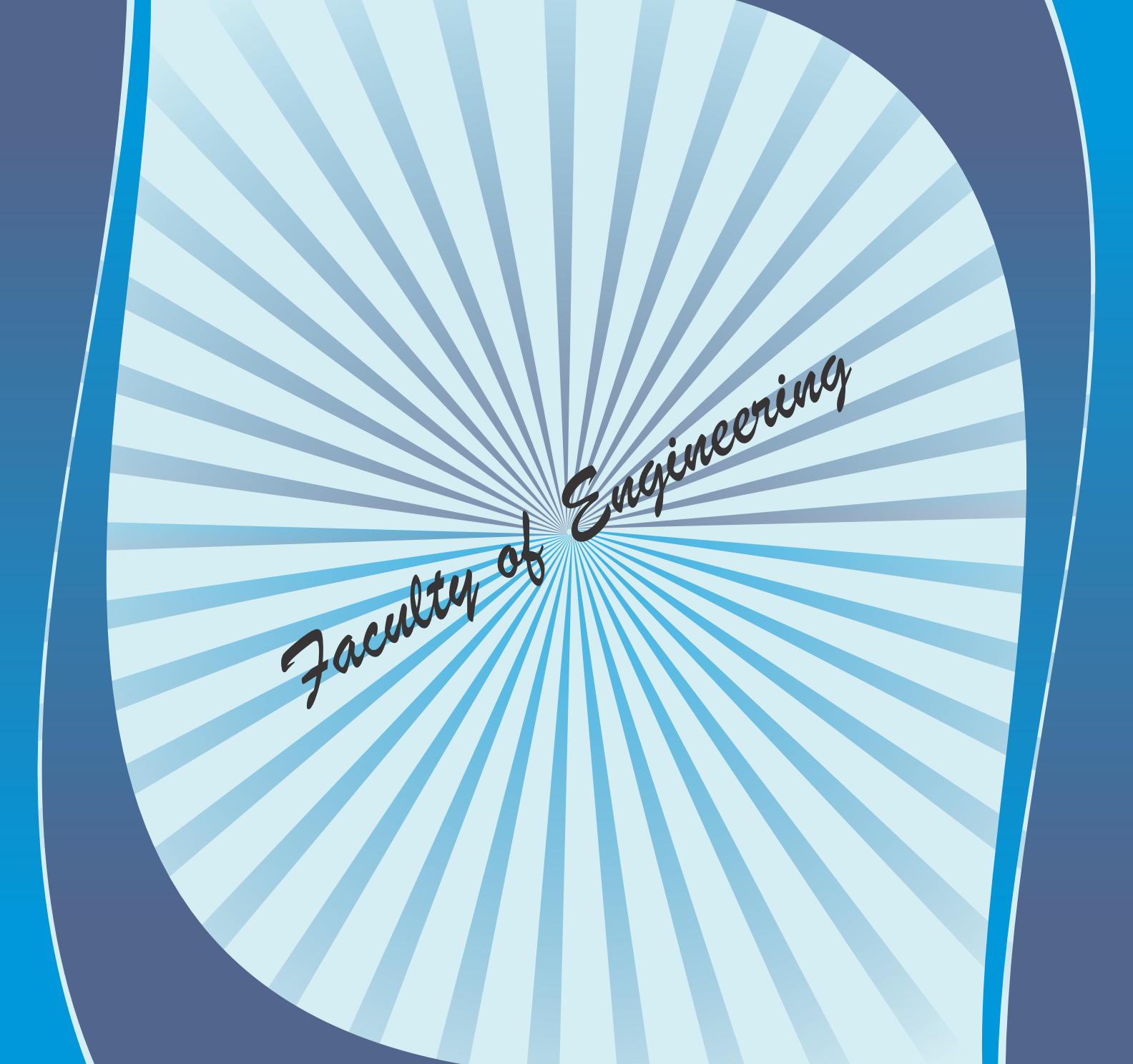
**Total credit hours** 144

**Days of studies** Monday, Tuesday, Wednesday

**Timings** 2:00 to 5:00 pm

### COURSES

Morphological Grammar	القواعد الصرفية	المادة الأولى
syntactical Grammar	القواعد النحوية	المادة الثانية
Reading, Speaking and Writing	القرأة والمحادثة والكتابة	المادة الثالثة

The logo features a central sunburst pattern with numerous rays radiating outwards. The rays are colored in alternating shades of light blue and medium blue. The entire sunburst is set against a dark blue background that has a wavy, organic shape. The text "Faculty of Engineering" is written in a black, cursive script font, positioned across the center of the sunburst.

*Faculty of Engineering*

# Faculty of Engineering

## Departments at Mirpur Campus

1. Civil Engineering
2. Computer Systems Engineering
3. Electrical Engineering
4. Mechanical Engineering
5. Electrical (Power) Engineering
6. Software Engineering
7. Mirpur Institute of Technology



**Engr. Prof. Dr. Anwar Khitab**

Dean Faculty of Engineering

Tel: +92-5827-961008 Fax: +92-5827-961015

E-mail: dean.engineering@must.edu.pk



Dean Faculty of Engineering with Head of Departments



## Dean's Message

The Faculty of Engineering is committed to producing highly competent engineers in the fields of Electrical, Mechanical, Civil, Computer Systems and Software Engineering and Power Engineering along with extremely important branch "Technology". For this purpose of catering nation's need for technologists, Baccalaureate Program in Electrical Technology has been started. The Faculty emphasizes to fulfill the need of the nation and the humanity at large in the fields of Engineering and Technology with discernment, determination, rationale, intension, vigilance and enthusiasm.

The faculty promises to achieve its SMART objectives with full velour and spirit. Our objectives are achievable, sustainable, measurable, realistic and time bound. The faculty is exercising a self-assessment program introduced by Higher Education Commission for Quality Enhancement. We have full commitment to meet the Pakistan Engineering Council 's and HEC educational standards. Our outcome is expected to compete the graduates of top Universities of the world. This goal is being accomplished through highly qualified, experienced faculty, well equipped laboratories and fully stuffed library: conventional as well as e-library. Students have opportunity to avail the most modern institutional facilities to bloom into competent engineers.

**Engr. Prof. Dr. Anwar Khitab**  
Dean Faculty of Engineering



## Department of Civil Engineering



### Chairman

**Dr. Asad Hanif**

Tel: +92-5827-961047

Email: [chaiman.ce@must.edu.pk](mailto:chaiman.ce@must.edu.pk)

S.N	Name	Designation	Highest Qualification	Institute of Highest Qualification
1	Engr. Dr. Asad Hanif	Asst. Professor / Chairman	Ph.D	HKUST), Hong Kong
2	Prof. Dr. Anwar Khitab	Professor/Dean Engineering	Ph.D	NIAS, Toulouse, France
3	Engr. Faisal Mushtaq	AP(Deputation P & D, Mzd)	M.Sc	University of Salford, UK
4	Engr. Muhammad Tausif Arshad	Assistant Professor	M.Sc	NED Karachi, Pakistan
5	Engr. Syed Zishan Ashiq	Asst. Prof./ Project Director	M.Sc	UET Lahore, Pakistan
6	Engr. Dr Ahsan Ejaz	Assistant Professor	Ph.D	Shanghai University, China
7	Engr. Israr ul Haq	Assistant Professor	M.Sc	NUST, Islamabad Pakistan
8	Engr. Engr. Waqas Anwar	Assistant Professor	M.Sc	The University of Nottingham, UK
9	Engr. Muhammad Hassan	Assistant Professor	M.Sc	UET, Taxila Pakistan
8	Engr. Atta Ur Rehman	Lecturer	PGD	UET, Lahore Pakistan
8	Engr. Malik Kashan Tariq	Lecturer (Deputation PWD)	M.Sc	NUST, Islamabad Pakistan
9	Engr. Imtiaz Ahmad	Lecturer (On Study Leave)	M.Sc	UET, Taxila Pakistan
10	Engr. Nazakat Hussain	Lecturer	B.Sc	UET Peshawar, Pakistan
11	Engr. Mustajab Ali	Lecturer (On Study Leave)	M.Sc	UET, Taxila Pakistan
13	Engr. Imran Mehmood	Lecturer	M.Sc	UET, Taxila Pakistan
14	Engr. Israr Ahmad	Lecturer	M.Sc	UET, Taxila Pakistan
16	Engr. Taimoor Karim	Lecturer	M.Sc	UET, Taxila Pakistan
18	Engr. Umar Arif Khan	Lecturer	M.Sc	University of Maryland, USA
19	Engr. Khalid Mehmood	Lecturer	M.Sc	UET, Taxila Pakistan
20	Engr. Syed Shujat-ul-Hassan	Gillani Jr. Lect. (Deputation P&D, Mzd)	M.Sc	UET, Taxila Pakistan
21	Engr. Muhammad Rizwan	Jr. Lecturer/Lab Engineer	M.Sc	MUST Mirpur AJ&K
22	Engr. Adnan Ashraf	Jr. Lect./Lab Eng. (Study Leave)	B.Sc	UET Lahore, Pakistan
23	Engr. Babar Naseem Khan Raja	Jr. Lect./Lab Eng. (Study Leave)	M.Sc	NUST, Islamabad Pakistan
24	Engr. Zahid Mehmood	Jr. Lecturer/Lab Engineer	M.Sc	UET Lahore, Pakistan
25	Engr. Muhammad Junaid Munir	Jr. Lect./Lab Eng. (Study Leave)	M.Sc	UET Lahore, Pakistan
26	Engr. Syed Minhaj Saleem Kazmi	Jr. Lect./Lab Eng. (Study Leave)	M.Sc	UET Lahore, Pakistan
27	Engr. Junaid Tariq	Jr. Lecturer/Lab Engineer	M.Sc	NUST, Islamabad Pakistan
28	Engr. Zain-ul-abdin	Jr. Lecturer/Lab Engineer	B.Sc	MUST, Mirpur AJ&K
29	Engr. Ali Sikandar	Jr. Lecturer/Lab Engineer	M.Sc	NUST, Islamabad Pakistan
30	Engr. Sohaib Ali	Jr. Lecturer/Lab Engineer	B.Sc	UET Lahore, Pakistan



Faculty Members, Department of Civil Engineering







## **Department of Civil Engineering**

### **Mission**

The Department of Civil Engineering was established in 2009 with a mission of educating students of civil engineering in the region to the highest international professional standards. The program aims to provide quality education in Civil Engineering by supporting academic distinction and excellence in teaching, innovative research and technological services in the region.

### **Introduction**

Civil engineering is a professional engineering discipline that deals with the planning, design, construction operation and maintenance of the physical and naturally built environment, including works such as bridges, roads, canals, dams and buildings. Civil engineering is the oldest engineering discipline after military engineering. It is traditionally broken into several sub-disciplines including environmental engineering, geotechnical engineering, structural engineering, transportation engineering, municipal or urban engineering, water resources engineering, materials engineering, coastal engineering, surveying, irrigation engineering,

hydraulics engineering and construction engineering. Civil engineering takes place on all levels: in the public sector from municipal to federal levels, and in the private sector from individual homeowner's to international companies.

### **Objectives**

- Give students skills and knowledge in civil engineering
- Increase awareness of latest advances
- Educate students on appropriate technology for national development
- Inculcate professional ethics into them.

### **Facilities:**

- Lecture Halls
- Cement/Concrete Testing lab
- Geo-Technical Lab
- Construction Materials Lab
- Highway and Transportation Lab
- Survey Lab
- Fluid Mechanics Lab
- Engineering Mechanics Lab
- Drawing Hall
- CAD Lab
- Examination Hall
- Departmental Library
- Commercialization of testing facilities in the department

## Future plans

- Upcoming plans include establishment of:
- Environmental Engineering Lab
- Hydrology Lab
- Hydraulics Lab
- Digital Library
- Research Center
- PhD Programs
- Conferences at National/International level

## Targets Achieved

- PEC accreditation up to the session 2012
- Establishment of Society of Civil Engineering MUST (SCEM)
- Establishment of the student chapter of ASCE USA

## Events held during

- Exhibition “Water at the heart of Science” with the collaboration of Pakistan Science Foundation
- Mega Structures wall poster competition
- Bridge Building competition
- Seminar on Nano-Technology
- Hydraulics Models Exhibition
- MUST Olympiad 2018
- Must Enigma







## Awards and Honors

- First position in “Exploring Engineering” competition held at GIKI
- First and runner up positions in 3d modeling held at FAST
- First position in an AutoCAD competition conducted by MUST Orion
- First position in ‘Technical paper writing’ contest conducted under MUSTIVAL’18
- First position in “Brains of MUST” competition in MUSTIVAL’18

## Workshops attended by the undergraduate students

- “Contract administration” by PEC
- “Safety in Construction” at NUST
- “Project Procurement and administration” by PEC

## Job opportunities for civil engineering graduates:

As the civil engineering is the most applied, practical and versatile technology in engineering field, therefore there are plenty of job opportunities available for the civil engineering graduates.

The major employers of civil engineers in government sector are Public Works Department (PWD), Local Government & Rural Development, Central Design Office (CDO), Planning & Development Department, Earthquake Reconstruction and Rehabilitation Authority (ERRA), State Earthquake Reconstruction & Rehabilitation Agency (SERRA), Mirpur Development Authority (MDA), Perk Development Authority, KDA and Works Departments of the Government of Azad Jammu & Kashmir, Capital Development Authority (CDA) Islamabad, National Highway Authority (NHA), Water And Power Development Authority (WAPDA), National Logistic Cell (NLC), Frontier Works

Organization (FWO), Research and Development Organizations, Military Lands and Cantonments, Project Management Unit (PMU), Punjab Urban Unit, Water And Sanitation Agency (WASA), Communication and Works (C&W), Irrigation Department, Pakistan Railways and many more

Beside government sector, the major strength of civil engineers is utilized in private construction companies such as DESCON Engineering Ltd., Habib Rafiq Ltd., Saadullah Khan and Brothers (SKB), National Foundation for Resource Development, Resource Development Institute (RDI), Binna Good Year, Paragon Construction Pvt. Ltd., Maqbool Associates, Maaksons, Izhar construction, Ghulam Rasool and Company (GRC), Skyways Construction Pvt. Ltd and many more. In addition, the jobs are also available in several civil engineering consultant companies such as NESPAK, Usmani Associates, Design Men Consultants. The demand of civil engineering graduates exists not only in Pakistan and Azad Jammu & Kashmir but also in Middle East, Australia, Canada, Europe and African countries. It is important to mention that the graduates of the department are already serving in many of the above mentioned



## Programs

### Programmes offered at Civil Engineering Department:

- M.Sc. Civil Engineering
- B.Sc. Civil Engineering

### Admission conditions / Criteria:

#### Admission Requirement for M.Sc

- B.Sc. Civil Engineering with at least 1st division or CGPA of 2.7/4.0 with no 3rd division in the Academic carrier
- Registered with Pakistan Engineering Council
- GAT (General) with at least qualifying score

- Entry test conducted by the university

### Admission Requirement for B.Sc

- F.Sc (Pre Engineering) or Equivalent with Mathematics, Physics and Chemistry & minimum of 60% marks and also must qualify the Entry Test of the University.

OR

- 3 Year post Matric Diploma of Associate Engineer (DAE) in Civil Technology with minimum of 60% marks and must qualify the Entry Test conducted by the University. (Only against Reserved Seat for DAE's)

## Scheme of Studies & Summary (B.Sc Civil Engineering)

1ST SEMESTER	Scheme of Studies & Summary (B.Sc Civil Engineering)					
	Minimum Duration:		8 Semesters			
	Courses:		136 Credits			
	Project		06 Credits			
	Comprehensive Oral Examinations:		S/U Basis			
	Internship/Practical Training		S/U Basis			
	Total Credits:		Credit 136			
	Course Code	Course Title	Crd. Hrs./Week			Prerequisites
			Theory	Lab	Total	
	CE-111	Engineering Materials	2	1	3	-
CE-112	Engineering Drawing	1	2	3	-	
CE-113	Computer Fundamentals	0	1	1	-	
CE-114	Basic Electromechanical Engineering	2	1	3	-	
HS-115	Functional English	2	0	2	-	
HS-116	Pakistan Studies	1	0	1	-	
NS-117	Applied Calculus / Math-I	3	0	3	-	



	Course Code	Course Title	Crd. Hrs./Week			Prerequisites
			Theory	Lab	Total	
2ND SEMESTER	CE-121	Surveying-I	2	1	3	-
	HS-123	Arabic	1	0	1	-
	HS-124	Kashmir Studies	1	0	1	-
	NS-125	Engineering Geology & Seismology	3	0	3	-
	NS-126	Engineering Mechanics	3	1	4	-
	NS-127	Applied Differential Equations / Math-II	3	0	3	-
3RD SEMESTER	CE-231	Computer Programming	1	1	2	Surveying-I
	CE-232	Surveying-II	2	1	3	
	CE-233	Strength of Materials-I	3	1	4	
	CE-234	Civil Engineering Drawing & Graphics	1	2	3	Engineering Drawing
	HS-235	Islamic Studies	1	0	1	
	NS-236	Numerical Analysis / Math-III	3	0	3	
4TH SEMESTER	CE-241	Quantity Surveying & Cost Estimation	2	1	3	
	CE-242	Soil Mechanics-I	3	1	4	
	CE-243	Theory of Structures-I	3	0	3	
	CE-244	Fluid Mechanics-I	3	1	4	
	NS-245	Geo-informatics	1	1	2	
	NS-246	Probability & Statistics / Math-IV	3	0	3	
5TH SEMESTER	CE-351	Theory of Structures-II	3	0	3	Theory of Structures-I
	CE-352	Engineering Hydrology	2	1	3	Fluid Mechanics-I Strength of Materials-I
	CE-353	Fluid Mechanics-II	2	1	3	
	CE-354	Strength of Materials-II	2	1	3	
	HS-355	Business Communication	1	1	2	
	MS-356	Construction Engineering & Management	3	1	4	

	Course Code	Course Title	Crd. Hrs./Week			Prerequisites
			Theory	Lab	Total	
6TH SEMESTER	CE-361	Transportation Engineering-I	3	0	3	
	CE-362	Environmental Engineering-I	2	1	3	
	CE-363	Hydraulics Engineering	2	1	3	
	CE-364	Reinforced Concrete Design-I	3	0	3	
	CE-365	Steel Structures	3	0	3	
	CE-366	Architecture and Town Planning	2	0	2	
7TH SEMESTER	CE-471	Environmental Engineering-II	2	0	2	Environmental Engineering-I
	CE-472	Transportation Engineering-II	3	1	4	Transportation Engineering - I
	CE-473	Soil Mechanics-II	2	1	3	Soil Mechanics-I
	CE-474	Reinforced Concrete Design-II	2	1	3	Reinforced Concrete Design-I
	CE-475	Civil Engineering Project	0	3	3	
	HS-476	Entrepreneurship	3	0	3	
8TH SEMESTER	CE-481	Irrigation Engineering	2	1	3	Soil Mechanics-II
	CE-482	Foundation Engineering	2	0	2	
	CE-483	Structural & Earthquake Engineering	3	0	3	
	MS-484	Engineering Economics	2	0	2	
	MS-485	Hazard Analysis & Disaster Management	2	0	2	
	CE-475	Civil Engineering Project	0	3	3	

## Scheme of Studies for M.Sc

Duration: 18 Months  
Courses: 24 Credit Hours

Thesis: 06 Credit Hours  
**Total : 30 Credit Hours**



## Optional Courses

### (a) Structural Engineering (optional)

Sr.	Code	Title	Crd. Hrs./Week
1.	STR-201	Advanced Structural Analysis	3
2.	STR-202	Seismic Design of Structures	3
3.	STR-203	Properties of Structural Materials	3
4.	STR-204	Bridge Engineering	3
5.	STR-205	Reinforced Concrete Structures	3
6.	STR-206	Finite Element Analysis	3
7.	STR-207	Advanced Strength of Materials	3

### (b) Water Resources & Irrigation Engineering (optional)

Sr.	Code	Title	Crd. Hrs./Week
1.	WRI-301	Advanced Irrigation Engineering	3
2.	WRI-302	Hydraulic Structures	3
3.	WRI-303	Hydropower Engineering	3
4.	WRI-304	Hydrological Modeling	3
5.	WRI-305	Drainage Engineering	3
6.	WRI-306	Groundwater Engineering	3
7.	WRI-307	Dam Engineering	3
8.	WRI-308	Water Supply Engineering	3
9.	WRI-309	Waste Water Engineering	3
10.	WRI-310	Solid Waste Management	3



**Anam Riaz**  
Session 2014-18

Being a student of department of civil engineering, I feel proud. My personality developed and groomed up. The interaction with the faculty has given me tremendous confidence. The faculty has a good reputation in terms of good work. The university provides financial support and incentives to talented and needy students in the form of scholarships. The Department offers a unique and comforting environment of education and co-curricular activities. MUST polished my hidden skills. Now, I can face practical difficulties related to my field.



### (c) Geotechnical Engineering (optional)

Sr.	Code	Title	Crd. Hrs./Week
1.	GTF-401	Advanced Soil Mechanics	3
2.	GTF-402	Dam Engineering	3
3.	GTF-403	Foundation Engineering-I	3
4.	GTF-404	Foundation Engineering-II	3
5.	GTF-405	Rock Engineering	3
6.	GTF-406	Pavement Analysis & Design	3

### (d) Transportation Engineering (optional)

Sr.	Code	Title	Crd. Hrs./Week
1.	TRP-501	Pavement Analysis & Design	3
2.	TRP-502	Transportation Planning & Engineering	3
3.	TRP-503	Traffic Engineering	3
4.	TRP-504	Highway Construction Materials & Equipment	3
5.	TRP-505	Railway Engineering	3

### (e) Construction Engineering & Management (optional)

Sr.	Code	Title	Crd. Hrs./Week
1.	CEM-601	Construction Project Administration	3
2.	CEM-602	Contract Management	3
3.	CEM-603	Construction Project Scheduling & Control	3
4.	CEM-604	Safety Management in Construction	3
5.	CEM-605	Economic Decision Analysis in Construction	3



**Naqash Ahmed**  
Session 2015-19

### Student's Messages

To me, the key mission of the Department of Civil Engineering is to impart the knowledge, building character & confidence and to find the right path to mold the future of the students. No doubt, MUST is on the right way to achieve excellence. The cooperative and friendly environment allows students to learn the true skills of engineering which will help them in their future career life. I am thankful to the chairman and the faculty of the civil engineering department for their commitment and struggle for such a boost.

## Department of Computer Systems Engineering



### Chairman

Engr. Dr. Muhammad Waqar Aslam

Tel: +92-5827-960037

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[waqar.cse@must.edu.pk](mailto:waqar.cse@must.edu.pk)

### Faculty:

Name	Designation	Last Degree	Uni./Country
1. Dr. Muhammad Riaz Moghal	Professor	Post Doctorate Ph.D (EE)	U.K
2. Dr. Muhammad Waqar Aslam	Assistant. Prof.	Ph.D (EE)	Uni. Of Liverpool, U.K
3. M. Umair Javed Alam Sundhu	Assistant. Prof.	M.Sc (EE)	Memorial Uni. Canada (Study Leave).
4. M. Usman Khan	Assistant. Prof.	M.Sc (CE)	Adelaide Uni., Australia
5. Abdul Basit Awan	Assistant. Prof.	M.Sc (EE)	MUST, Pak.
6. Bilal Ahmed	Assistant. Prof.	M.Sc (EE)	MUST, Pak.
7. Raja Basharat Manzoor	Assistant. Prof.	M.Sc (EE)	MUST, Pak.
8. Waqas Riaz	Lecturer	M.Sc (EE)	MUST, Pak.
9. Jibran Gul	Lecturer	M.Sc (EE)	MUST, Pak.
10. Qasim Yaqoob	Lecturer	M.Sc (EE)	MUST, Pak.
11. Hafiz Ehtisham	Lecturer	M.Sc (EE)	MUST, Pak.
12. Sajid Hussain	Lecturer	M.Sc (CSE)	MUST, Pak. (on Study Leave)
13. Ms. Sehrish Abid	Lecturer	M.Sc (CSE)	MUST, Pak.
14. Muhammad Abuzar	Lecturer	M.Sc (CSE)	MUST, Pak. (on Study Leave)
15. M. Waqas Ahmed	Lab Eng.	M.Sc (CSE)	UAJ&K, Pak.
16. Ms. Safeena Razaq	Lab Eng.	M.Sc (CSE)	UAJ&K, Pak.
17. Ms. Haleema Sadia	Lab Eng.	M.Sc (CSE)	MUST, Pak.
18. Mr. Tahir Subhani	Junior Lecturer	M.Sc (C&CNE)	Polytechnico di Torino Italy



Faculty Members, Department of Computer Systems Engineering





## Mission

The Department of Computer Systems Engineering seeks to produce outstanding computing professionals, significant advancements in the computer engineering and notable professional service to the academic and general communities.

## Introduction

The department of Computer System Engineering has been established in 2005, since then it is continuously expanded and is on the road of progress. It is the pioneer department in its field in the state of AJ&K and has been imparting useful and erudite workforce to the nation. The facilities and opportunities to faculty and students are exemplary.

## Facilities at Department

1. Student Help Desk
2. State of the art Laboratories and classrooms
3. Career Counseling center
4. Opportunity to involve in research and development clubs
5. Arfa Karim Computing Society

## Student Help Desk

Student Help desk provides a unique opportunity to the students of computer system engineering in keeping them abreast of all the departmental activities online via the CSE website ([www.csemust.com](http://www.csemust.com)). Parents/Guardians can access any of the academic record/status of the students remotely.

## Classrooms and Laboratories

The department is equipped with latest teaching equipment including multimedia projectors, speakers, air conditioners. The labs are equipped with state of the art latest equipment with skilled lab staff.

## Career Counseling Center

Guardian Council at department regularly counsels students regarding all their issues. Departmental career counseling committee helps student for future career counseling

## Research & Development Clubs

Various technical clubs and societies membership is available for all students of the department to promote their hand on skills and technical abilities as engineers.

## Arfa Karim Computing Society

A newly established Arfa Karim Computing Society offers membership to students of the Department interested in doing research as future career, governed jointly by current students and Alumni.

## Plans

The department seeks to provide conducive environment and educational experiences that enables our students to achieve their goals and function efficiently & effectively as computer professionals and as a human being. Further, the department seeks to conduct meaningful scholarly

department seeks to conduct meaningful scholarly research in computer engineering and related fields, and provide professional service to the university and to the community.

### Job Prospects for Graduates

The major employers of Computer Systems Engineering Graduates are: Mobile Companies, PTCL, KRL, Pakistan Navy, PIA, NADRA, Passport Offices, Air Force, Stock Exchanges, Railway, Atomic Energy Commission, Software developer companies, Banks and various other organizations.

### Programs

#### Undergraduate

B.Sc. Computer Systems Engineering

#### Graduate

M.Sc. Computer Systems Engineering

### B.Sc. Computer Systems Engineering Entry Requirement

- F.Sc. Pre-Engineering/ICS (Math, Physics, Computer Science) at least 60 % mark  
OR
- 3 Year post metric Diploma of Associate Engineer in relevant field with minimum of 60% (Only against Reserved Seat for DAE's)
- An Entry Test conducted by the University

### Scheme of Studies

Minimum Duration:	8 Semesters
Courses:	43
Project:	6 Credit Hours
Comprehensive oral examination	S/U Basis
Internship/Practical Training:	S/U Basis
<b>Total:</b>	<b>137 Credit Hours</b>







	Course Code	Title	Credit Hrs	Theory Contact Hrs	Practical Contact Hrs	Pre-requisite
1ST SEMESTER	CSE-111	Computer Fundamentals	2+1	2	3	
	HS-112	Islamic Studies	2+0	2	0	
	GS-113	Calculus and Analytical Geometry	3+0	3	0	
	GS-114	Applied Physics	3+1	3	3	
	HS-115	Functional English	2+0	2	0	
	CSE-116	Workshop Practice	0+1	0	3	
	HS-117	Arabic	2+0	2	0	
2ND SEMESTER	CSE-121	Computer Programming	3+1	3	3	
	CSE-122	Circuit Analysis	3+1	3	3	
	GS-123	Multivariable Calculus	3+0	3	0	
	HS-124	Communication Skills	2+0	2	0	
	CSE-125	Electronic Devices & Circuits	3+1	3	3	



## Courses

	Course Code	Title	Credit Hrs	Theory Contact Hrs	Practical Contact Hrs	Pre-requisite
3RD SEMESTER	CSE-231	Digital Logic Design	3+1	3	3	CSE-121
	GS-232	Discrete Structures	3+0	3	0	
	CSE-233	Object Oriented Programming	3+1	3	3	
	HS-234	Pakistan Studies	2+0	2	0	
	GS-235	Differential Equations	3+0	3	0	
	CSE-236	Engineering Drawing	0+1	0	3	
4TH SEMESTER	CSE-241	Computer Architecture and Organization	3+0	3	0	
	CSE-242	Data Structures and Algorithms	3+1	3	3	
	CSE-243	Signals & Systems	3+1	3	3	
	GS-244	Linear Algebra	3+0	3	0	
	CSE-245	Engineering Management & Economics	3+0	3	0	
5TH SEMESTER	CSE-351	Microprocessors and Interfacing	3+1	3	3	
	HS-352	Technical Report Writing	3+0	3	0	
	CSE-353	Computer Communication and Networks	3+1	3	3	
	CSE-354	Database Management Systems	3+1	3	3	
	CSE-355	Probability Methods in Engineering	3+0	3	0	
6TH SEMESTER	CSE-361	Digital Systems Design	3+1	3	3	CSE-231
	CSE-362	Software Engineering	3+0	3	0	
	CSE-363	Operating Systems	3+1	3	3	
	HS-364	Kashmir Studies	3+0	3	0	
	CSE-365	Artificial Intelligence	3+1	3	3	

	Course Code	Title	Credit Hrs	Theory Contact Hrs	Practical Contact Hrs	Pre-requisite
7TH SEMESTER	EE-471	Communication Systems	3+1	3	3	CSE-243
	HS-472	Professional Ethics	3+0	3	0	
	CSE-473	Digital Signal Processing	3+1	3	3	
	CSE-474	Multimedia Systems	3+0	3	0	
	CSE-475	Senior Design Project -1	0+3	0	9	
8TH SEMESTER	CSE-481	Parallel and Distributed Computing	3+1	3	3	
	GS-482	Entrepreneurship	2+0	2	0	
	GS-483	Organizational Behavior	2+0	2	0	
	CSE-484	Digital Image Processing	3+1	3	3	
	CSE-485	Senior Design Project -2	0+3	0	9	



## M.Sc. Computer Systems Engineering Program

### Eligibility

1. Four years BS/BE/BSc.degree in Computer (Systems) Engineering, Software Engineering, Electronic Engineering, Electrical Engineering, Telecommunication Engineering, or a four years degree in any other related discipline.
2. Registered with Pakistan Engineering Council (PEC)
3. GAT (General) at least qualifying score
4. Entry Test Conducted by the University
5. The candidates will be required to complete the deficiency coursework prior to the MS (CSE) coursework to ensure the pre-requisite competency in (CSE).

The deficiency coursework will be determined on the basis of the core (CSE) courses of the BS (CSE) degree.

### Duration

- Two years (four semesters).
- Minimum 31 credit hours from graduate

### Core Courses

Code	Title	Credit Hours
CSE-CR-01	Advanced Computer Architecture	3
CSE-CR-02	Advanced Computer Networks	3
CSE-CR-03	Advanced Digital Image Processing	3
CSE-CR-04	Advanced Operating Systems	3
CSE-CR-05	Stochastic Processes	3
CSE-CR-06	Advanced Database Management Systems	3
CSE-CR-07	Advanced Software Engineering	3



Computer (Systems) Engineering courses.

### Degree Requirements

In order to obtain MS (CSE) degree a student must:

- Pass three (3) courses (9 credit hours) from the core courses
- Pass five (5) courses (15 credit hours) from graduate elective courses.
- Satisfactorily complete a Research Project Thesis of 6 credit hours.
- Reading and Conference of 1 Credits
- Satisfactory completion of Comprehensive Oral Examination



## Graduate Elective

Candidate has to select five elective courses from graduate electives courses as per the availability of resources

Code	Title	Credit Hours
CSE-EL-01	Advanced Digital Signal Processing	3
CSE-EL-02	Advanced Digital System Design	3
CSE-EL-03	Advanced Communication Systems	3
CSE-EL-04	Machine Learning	3
CSE-EL-05	Pattern Recognition	3
CSE-EL-06	Multimedia Systems	3
CSE-EL-07	Computer Vision	3
CSE-EL-08	Advanced Mobile & Wireless Communication	3
CSE-EL-09	Software Defined Radios	3
CSE-EL-10	Parallel and Distributed Computing	3
CSE-EL-11	Advanced Security and Forensics	3
CSE-EL-12	Advanced Artificial Intelligence	3
CSE-EL-13	Fuzzy Logic & Neural Networks	3
CSE-EL-14	Semantic Web	3
CSE-EL-15	Big Data Analytics	3
CSE-EL-16	Genetic Algorithms	3
CSE-EL-17	Scientific Writing and Research Methodologies	3

## Student's Message



**Muhammad Waheed Khalid**  
M.Sc CSE 4th Semester

The department of computer system engineering is imparting quality masters education in the relevant field with main focus on research. The environment for research and advance studies in the department are exemplary and there are bright chances of getting further research opportunities and fellowships in the foreign Universities for advance studies. The course work taught at Masters level is up to date and give us an opportunity to further enhance our bachelor knowledge.



## Student's Messages



**Haleema Sadia**  
M.Sc CSE  
4th Semester

Studying as Master student at Computer System Engineering Department of MUST is a real great opportunity for me. I am graduated from the same Institution and it was always my desire to complete my master studies from a high reputed institute like MUST. The culture of research and innovative ideas are in abundance here and there is a conducive environment to test those ideas. There are different research grants available in the department for higher studies. The modern research material can be easily accessed in the department.



**Sheeza Aziz**  
B.Sc. CSE  
8th Semester

It is a great honor for me to be a part of Computer Systems Engineering Department of MUST. The facilities available to students are commendable. The Labs are up to date and the equipment available is the modern of its kind. The student help desk in the department ensures that students get their queries responded properly on time. The curriculum is thoroughly revised and up to the standards of Engineering all over the world. The regular student counselling in the department has its overall impact in the future development of true professionals.



**Zia Rasheed**  
B.Sc. CSE  
8th Semester

I am really lucky to get admission in the Computer System Department of MUST. The Department offers a unique environment of education and co-curricular activities and its balance has yielded many successful graduates in all walks of life. There is a great focus on practical work and all the necessary equipment in the labs are in abundance and is upgraded regularly. The faculty is very competent. It is a real high ground where quality engineers are produced and are serving the nation.

## Department of Electrical Engineering



### Chairman

**Engr. Muhammad Arif Khan**

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Fax: +92-5827-960099

E-mail: chairman\_ee@must.edu.pk

### Faculty:

S.No	Name	Designation	Qualification	Uni./Country
1	M. Arif Khan	Asst. Prof.	MS	UET Lahore
2	Muhammad Waris	Asso. Prof.	MS	UET Taxila
3	Dr. Syed Hassan Mujtba Jafri	Asso. Prof.	Ph.D	Uppsala Uni. Sweden
4	Dr. Ilyas Minhas	Asso. Prof.	Ph.D	Shanghai China
5	Shahid Amin	Asst. Prof.	M.S	AJKU
6	Dr. Naeem Iqbal Ratyal	Asst. Prof.	Ph.D	CUST
7	Asif Raza Butt	Asst. Prof.	MS	BTH, Sweden
8	Dr. Muhammad Sajid	Asst. Prof.	Ph.D	CUST
9	Muhammad Imran	Asst. Prof.	MS	QMUL (UK)
10	Munawar Sultan	Asst. Prof.	MS	AJK University
11	Ashfaq Ahmed	Asst. Prof.	MS	UET Taxila
12	Rab Nawaz	Asst. Prof.	MS	AJK University
13	Saeed Ahmed	Asst. Prof.	MS	AJK University
14	Mirza Ahmed Ateeq Baig	Asst. Prof.	MS	AJK University
15	Dr. Mehboob Alam	Asst. Prof.	Ph.D	Rice University
16	Wahab Ali Gulzar	Asst. Prof.	MS	UET Lahore
17	Anwar Ul Haq	Lecturer	MS	HYU South Korea
18	Imran Aziz	Lecturer	MS	AJK University
19	Hassan Ali Bhatti	Lecturer	MS	MUST
20	Omer Sher	Lecturer	MS	MUST
21	Sohaib Manzoor	Lecturer	MS	England
22	Nazish Habib	Lecturer	MS	Comsats Islamabad
23	Binish Kanwal	Lecturer	MS	MUST
24	Jabbar Younis	Lecturer	MS	Linkoping Uni. Sweden
25	Firdous Kanwal	Lecturer	MS	MUST
26	Tamoor Shafique	Jr. Lecturer	MS	Comsats Islamabad
27	Usman Mussadiq	Jr. Lecturer	MS	MUST
28	Usama Samad	Jr. Lecturer	MS	Comsats Islamabad
29	Hassan Talal	Jr. Lecturer	BS	MUST



Faculty Members, Department of Electrical Engineering

## Programs

### Undergraduate

- B.Sc. Electrical Engineering

### Graduate

- M.Sc Electrical Engineering
- Ph.D Electrical Engineering

## B.Sc. Electrical Engineering

### Admission Requirements

- F.Sc Pre-Engineering with at least 60% marks  
or
- 3 Years Diploma of Associate Engineer in Electrical / Electronics Engineering with minimum of 60%(Only against reserved seats for DAE's)
- Entry Test conducted by the University

### Scheme of Studies

Program Duration: 8-12 Semesters  
Courses: 132 Credit Hrs.

Thesis: 6 Credit Hrs.  
Internship/Practical Training: S/U Basis  
Total Credits 138  
Total (Courses + Lab) 66  
Core Engineering Subject Theory 23 Courses  
(66 CHrs)  
Labs: 27 CHrs  
Total (Theory + lab) CHrs (93 CHrs)  
(67.4%)

Non-Engineering Subjects  
(Basic Sciences/Arts/Humanities) 16 Courses  
(45 CHrs)  
(32.6%)



## Proposed Scheme of Study for B.Sc.Electrical Engineering

### Scheme of Study

Programme Duration: 8-12 Semesters

Courses: 130 Credits

Thesis: 6 Credits

Reading and Conference: S/U Basis

Comprehensive Oral Examination: S/U Basis

Internship/Practical Training: S/U Basis

**Total Credits: 136 Credits**

### Courses for B.Sc Electrical Engineering

	Course Code	Title	Crđ. Hrs.			Contact Hrs.			Pre Requisites
			Theory	Practical	Total	Theory	Practical	Total	
1ST SEMESTER	EE-111	Linear Circuit Analysis	3	1	4	3	3	6	
	EE-112	Introduction to Computing	1	1	2	1	3	4	
	EE-113	Workshop Practice	0	1	1	0	3	3	
	EE-114	Electronic Devices and Circuit	3	1	4	3	3	6	
	GS-115	Calculus & Analytical Geometry	3	0	3	3	0	3	
	HS-116	Communication Skills	3	0	3	3	0	3	
		<b>Total</b>	<b>13</b>	<b>4</b>	<b>17</b>	<b>13</b>	<b>12</b>	<b>25</b>	
2ND SEMESTER	EE-121	Programming Fundamentals	2	1	3	2	3	5	
	EE-122	Basic Mechanical Engineering	3	1	4	3	3	6	
	GS-123	Applied Physics	3	1	4	3	3	6	
	GS-124	Linear Algebra	3	0	3	3	0	3	
	HS-125	Functional English	3	0	3	3	0	3	HS-116
	HS-126	Islamic Studies	2	0	2	2	0	2	
		<b>Total</b>	<b>16</b>	<b>3</b>	<b>19</b>	<b>16</b>	<b>9</b>	<b>25</b>	
3RD SEMESTER	EE-231	Probability Methods in Engineering	3	0	3	3	0	3	
	EE-232	Data structures and Algorithms	3	1	4	3	3	6	EE-112
	EE-233	Digital Logic Design	3	1	4	3	3	6	
	EE-234	Engineering Drawing	0	1	1	0	3	3	
	HS-235	Pakistan & Kashmir Studies	3	0	3	3	0	3	
	GS-236	Differential Equations	3	0	3	3	0	3	GS-115
		<b>Total</b>	<b>15</b>	<b>3</b>	<b>18</b>	<b>15</b>	<b>9</b>	<b>24</b>	



## Courses for B.Sc Electrical Engineering

Course Code	Title	Crd. Hrs.			Contact Hrs.			Pre Requisites
		Theory	Practical	Total	Theory	Practical	Total	
4TH SEMESTER	ME-241 Basic Mechanical Engineering	3	0	3	3	0	3	EE-111
	EE-242 Signal and Systems	3	1	4	3	3	6	
	EE-243 Electrical Network Analysis	3	1	4	3	3	6	
	HS-244 Technical Report Writing	3	0	3	3	0	3	
	GS-245 Complex Variables & Transforms	3	0	3	3	0	3	GS-115
	<b>Total</b>	<b>15</b>	<b>2</b>	<b>17</b>	<b>15</b>	<b>6</b>	<b>21</b>	
5TH SEMESTER	EE-351 Linear Control Systems	3	1	4	3	3	6	EE-233
	EE-352 Microprocessor System	3	1	4	3	3	6	
	EE-353 Electromagnetic Field Theory	3	0	3	3	0	3	
	GS-354 Numerical Analysis	3	0	3	3	0	3	
	HS-355 Arabic	2	0	2	2	0	2	GS-236
	<b>Total</b>	<b>14</b>	<b>2</b>	<b>16</b>	<b>14</b>	<b>6</b>	<b>20</b>	
6TH SEMESTER	EE-361 Communication System	3	1	4	3	3	6	EE-242
	HS-362 Engineering Management & Eco.	3	0	3	3	0	3	
	EE-363 Instrumentation and Measurement	3	1	4	3	3	6	
	EE-364 Electrical Machines	3	1	4	3	3	6	
	HS-365 Entrepreneurship	3	0	3	3	0	3	
	<b>Total</b>	<b>15</b>	<b>3</b>	<b>18</b>	<b>15</b>	<b>9</b>	<b>24</b>	
7TH SEMESTER (Option-I)	HS-471 Engineering Ethics	3	0	3	3	0	3	EE-364
	EE-472 Power Distribution and Utilization	3	1	4	3	3	6	
	EE-473 Power Generation	3	0	3	3	0	3	
	EE-474 Electrical Power Transmission	3	1	4	3	3	6	
	EE-475 Project 1	0	3	3	0	9	9	
	<b>Total</b>	<b>12</b>	<b>5</b>	<b>17</b>	<b>12</b>	<b>15</b>	<b>27</b>	





Course Code	Title	Crd. Hrs.			Contact Hrs.			Pre Requisites
		Theory	Practical	Total	Theory	Practical	Total	
7TH SEMESTER (Option-II)	HS-471 Engineering Ethics	3	0	3	3	0	3	EE-233 EE-351 EE-242
	EE-472 Digital System Design	3	1	4	3	3	6	
	EE-473 Digital Control System	3	1	4	3	3	6	
	EE-474 Digital Signal Processing	3	1	4	3	3	6	
	EE-475 Project 1	0	3	3	0	9	9	
	<b>Total</b>	<b>12</b>	<b>6</b>	<b>18</b>	<b>12</b>	<b>18</b>	<b>30</b>	
7th-Semester (Option III*)	HS-471 Engineering Ethics	3	0	3	3	0	3	EE-242 EE-242
	EE-472 Computer Communication Network	3	1	4	3	3	6	
	EE-473 Digital Communication	3	0	3	3	0	3	
	EE-474 Digital Signal Processing	3	1	4	3	3	6	
	EE-475 Project 1	0	3	3	0	9	9	
	<b>Total</b>	<b>12</b>	<b>5</b>	<b>17</b>	<b>12</b>	<b>15</b>	<b>27</b>	
8TH SEMESTER (Option-I)	Elective -1 (Option I*)	3	1	4	3	3	6	
	Elective- 2 (Option I*)	3	1	4	3	3	6	
	Elective -3 (Option I*)	3	1	4	3	3	6	
	EE-484 Project 2	0	3	3	0	9	9	
	<b>Total</b>	<b>9</b>	<b>6</b>	<b>15</b>	<b>9</b>	<b>18</b>	<b>27</b>	
8TH SEMESTER (Option-II)	Elective -1 (Option II**)	3	1	4	3	3	6	
	Elective- 2 (Option II**)	3	1	4	3	3	6	
	Elective -3 (Option II**)	3	1	4	3	3	6	
	EE-484 Project 2	0	3	3	0	9	9	
	<b>Total</b>	<b>9</b>	<b>6</b>	<b>15</b>	<b>9</b>	<b>18</b>	<b>27</b>	

Course Code	Title	Crd. Hrs.			Contact Hrs.			Pre Requisites
		Theory	Practical	Total	Theory	Practical	Total	
8th-Semester (Option III*)	EE-484	Elective -1(Option III***)	3	1	4	3	3	6
		Elective- 2(Option III***)	3	1	4	3	3	6
		Elective -3(Option III***)	3	1	4	3	3	6
		Project 2	0	3	3	0	9	9
		<b>Total</b>	<b>9</b>	<b>6</b>	<b>15</b>	<b>9</b>	<b>18</b>	<b>27</b>

#### List of Elective Courses (Option I\*)

Course Code	Title	Crd. Hrs.			Contact Hrs.			Pre Requisites
		Theory	Practical	Total	Theory	Practical	Total	
EE-48E1	Power System Analysis	3	1	4	3	3	6	EE-123
EE-48E2	Power Systems Protection	3	1	4	3	3	6	
EE-48E3	Power Electronics	3	1	4	3	3	6	
EE-48E4	Power System Stability and Control	3	1	4	3	3	6	EE-364
EE-48E5	Advance Electrical Machines	3	1	4	3	3	6	
EE-48E6	Renewable Energy Systems	3	1	4	3	3	6	
EE-48E7	Digital Signal Processing	3	1	4	3	3	6	EE-242





### List of Elective Courses (Option II\*)

Course Code	Title	Crđ. Hrs.			Contact Hrs.			Pre Requisites
		Theory	Practical	Total	Theory	Practical	Total	
EE-48E1	Opto-Electronics	3	1	4	3	3	6	
EE-48E2	Industrial Electronics	3	1	4	3	3	6	
EE-48E3	Embedded System Design	3	1	4	3	3	6	
EE-48E4	Integrated Electronics	3	1	4	3	3	6	
EE-48E5	VLSI Design	3	1	4	3	3	6	
EE-48E6	RF and Microwave Engineering	3	1	4	3	3	6	EE-353
EE-48E7	Digital Image Processing	3	1	4	3	3	6	
EE-48E8	Introduction to Nanotechnology	3	1	4	3	3	6	
EE-48E9	Electronic Circuit Design	3	1	4	3	3	6	EE-123

### List of Elective Courses (Option III\*)

Course Code	Title	Crđ. Hrs.			Contact Hrs.			Pre Requisites
		Theory	Practical	Total	Theory	Practical	Total	
EE-48E1	Wireless and Mobile Communication	3	0	3	3	0	3	EE-353
EE-48E2	Optical Communication	3	1	4	3	3	6	
EE-48E3	Navigation and Radar System	3	0	3	3	0	3	
EE-48E4	Mobile and Pervasive Computing	3	1	4	3	3	6	EE-353
EE-48E5	Wave Propagation and Antennas	3	1	4	3	3	6	EE-353
EE-48E6	RF and Microwave Engineering	3	1	4	3	3	6	
EE-48E7	Satellite Engineering	3	0	3	3	0	3	
EE-48E8	Transmission and Switching	3	0	3	3	0	3	
EE-48E9	Digital Image Processing	3	1	4	3	3	6	

\* Option I courses are related to the field of Electrical Power

\*\* Option II courses are related to the field of Electronics and Control Systems

\*\*\* Option III courses are related to the field of Communications Systems

## Curriculum Design BSc. Electrical Engineering

Domain	Knowledge Area	PEC/HEC Recommended		Institute's Program Breakup	
		Total	Overall	Total	Overall
		Credits	%	Credits	%
Non-Engineering	Humanities	19	30-35%	20	32.60%
	Management Sciences	6		6	
	Natural Sciences	19-20		19	
	<b>Sub Total</b>	<b>44-45</b>		<b>45</b>	
Engineering	Computing	9	65-70%	9	67.40%
	Engineering Foundation	29		29	
	Major Based Core (Breadth)	23		23	
	Major Based Core (Depth)	19-20		19	
	Inter-Disciplinary Engineering Breadth (Electives)	6 to 7		7	
	Senior Design Project	6		6	
	Industrial Training (Summer)	0		0	
	<b>Sub Total</b>	<b>136 - 139</b>		<b>93</b>	
<b>Total</b>		<b>136 - 139</b>	<b>100</b>	<b>138</b>	<b>100</b>





## M. Sc. Electrical Engineering Program

### Admission Requirements

An applicant to M.Sc. Electrical Engineering Dept. must satisfy the following

- Should be registered with the Pakistan Engineering Council (PEC)
- Should have 2.7 CGPA or above in B.Sc.

### Electrical Engineering

- Should obtain at least 50 % marks in the entry test conducted by university.
- Should have passed NTS GAT examination with at least 50 score

Following table will describe this stan

Event	Conditions / Criteria / Policy		
Admission	Academic Record	Entry Test	Interview
	HSSC=10% SSC=10%B.Sc 50%	30%	S/U basis
Transfer of student from outside the university	All semester except first and last (Only under special circumstances)		
Program / Credit transfer			
	Yes		

## MSc. Electrical Engineering

### Electronics & Embedded Systems

(Evening Program)



## Courses

	Course Code	Type	Subject	Credit hours
1ST SEMESTER	Core I	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Core II	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Core III	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3



1ST SEMESTER	Course Code	Type	Subject	Cr. Hrs
	Core I	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Core II	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Core III	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
Semester II	Course Code	Type	Subject	Cr. Hrs
	Core IV	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Core V	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Elective I	Elective	Any course from the core courses of the other programs*	3
Semester III	Course Code	Type	Subject	Cr. Hrs
	Core VI	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Elective II	Elective	Any course from the core courses of the other programs*	3
	EE-82000	Compulsory	Postgraduate Thesis	3
Semester IV	Course Code	Type	Subject	Cr. Hrs
	EE-82000	Compulsory	Postgraduate Thesis	3

#### Electronics & Embedded Systems (Weekend Program)

Semester I	Course Code	Type	Subject	Cr. Hrs
	Core I	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Core II	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3



Semester II	Course Code	Type	Subject	Cr. Hrs
	Core III	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Core IV	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
Semester III	Course Code	Type	Subject	Cr. Hrs
	Core V	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Elective I	Elective	Any course from the core courses of the other programs*	3
Semester IV	Course Code	Type	Subject	Cr. Hrs
	Core VI	Compulsory	Offered from core courses list of Electronics & Embedded Systems	3
	Elective II	Elective	Any course from the core courses of the other programs*	3
Semester V & VI	Course Code	Type	Subject	Cr. Hrs
	EE-82000	Compulsory	Postgraduate Thesis	6

\*Other Programs: Control Systems Theory, Telecommunication, Control & Automation Engineering, Power Systems Engineering, Communication Systems & Networks

### Electronics & Embedded Systems

Course Code	LIST OF CORE COURSES	Course Code	LIST OF CORE COURSES
EE-72001	Embedded System Design	EE-72010	Advanced Microprocessor Based Systems
EE-72002	Semiconductor Processing	EE-72011	Artificial Neural Networks
EE-72003	Electromagnetic Field Analysis	EE-72012	Advanced Digital Signal Processing
EE-72004	Stochastic Systems	EE-72013	Advanced Computer Architecture
EE-72005	Advanced Microwave Engineering	EE-72014	Digital Image Processing
EE-72006	Solid State Electronics	EE-72015	Nanoelectronics
EE-72007	Photonic Devices	EE-72016	Modeling and Simulation of Semiconductor Devices
EE-72008	Computational EM		
EE-72009	Advanced VLSI Design		

Course Code	LIST OF CORE COURSES
EE-72017	VLSI Testing and Verification
EE-72018	Integrated Optical Devices & Waveguides
EE-72019	Digital Integrated Circuit Design
EE-72020	Analog IC Design
EE-72021	Advanced Topics in Electronics
EE-72022	Fiber Optics Theory and Communication
EE-72023	Computer Vision and Machine Learning
EE-72024	Advanced Topics in VLSI

Course Code	LIST OF CORE COURSES
EE-72025	Semiconductor Device Physics
EE-72026	Advanced Digital System Design
EE-72027	Quantum Mechanics
EE-72028	Advanced Topics in Electromagnetics
EE-72029	Advanced Antenna Theory
EE-72030	VLSI Signal Processing
EE-72031	VLSI Interconnects
EE-71019	Advanced Power Electronics Devices and Converters
EE-71024	Plasmonics and Metamaterials
EE-71036	Metaheuristic Optimization





### MSc. Electrical Engineering Power Systems Engineering (Evening Program)

Semester I	Course Code	Type	Subject	Credit hours
	Core I	Compulsory	Offered from core courses list of Power System Engineering	3
	Core II	Compulsory	Offered from core courses list of Power System Engineering	3
	Core III	Compulsory	Offered from core courses list of Power System Engineering	3

Semester II	Course Code	Type	Subject	Credit hours
	Core IV	Compulsory	Offered from core courses list of Power System Engineering	3
	Core V	Compulsory	Offered from core courses list of Power System Engineering	3
	Elective I	Elective	Any course from the core courses of the other programs*	3

Semester III	Course Code	Type	Subject	Credit hours
	Core VI	Compulsory	Offered from core courses list of Power System Engineering	3
	Elective II	Elective	Any course from the core courses of the other programs*	3
	EE-82000	Compulsory	Postgraduate Thesis	3

Semester IV	Course Code	Type	Subject	Credit hours
	EE-82000	Compulsory	Postgraduate Thesis	3

### Power System Engineering (Weekend Program)

Semester I	Course Code	Type	Subject	Credit hours
	Core I	Compulsory	Offered from core courses list of Power System Engineering	3
	Core II	Compulsory	Offered from core courses list of Power System Engineering	3

Semester II	Course Code	Type	Subject	Credit hours
	Core III	Compulsory	Offered from core courses list of Power System Engineering	3
	Core IV	Compulsory	Offered from core courses list of Power System Engineering	3

Semester III	Course Code	Type	Subject	Credit hours
	Core V Elective I	Compulsory Elective	Offered from core courses list of Power System Engineering Any course from the core courses of the other programs*	3 3
Semester IV	Course Code	Type	Subject	Credit hours
	Core VI Elective II	Compulsory Elective	Offered from core courses list of Power System Engineering Any course from the core courses of the other programs*	3 3
Semester V & VI	Course Code	Type	Subject	Credit hours
	EE-82000	Compulsory	Postgraduate Thesis	6

**\*Other Programs:** Control Systems Theory, Control & Automation Engineering, Electronics & Embedded Systems, Telecommunication, Communication systems & Networks

### Msc Electrical Engineering Power System Engineering

Course Code	LIST OF CORE COURSES	Course Code	LIST OF CORE COURSES
EE-71001	Control of AC & DC Machines and Drives	EE-71010	Industrial Power System & Design
EE-71002	Modeling and Simulation of Electrical Machines	EE-71011	Power Sytem Operation and Planning
EE-71003	Advanced Power System Distribution	EE-71012	Renewable Energy Sources
EE-71004	Power System Reliability	EE-71013	Advanced High Voltage Engineering
EE-71005	Energy Management	EE-71014	Power system Modeling and Analysis
EE-71006	Power Sytem Restructuring	EE-71015	Advanced Power System Transmission
EE-71007	Advanced Power System and Protection	EE-71016	Advanced Power System Stability and Quality
EE-71008	Insulation Coordination in Power Systems	EE-71017	Power Generation Economics
EE-71009	Power System Circuit Breaker & Substations	EE-71018	Distributed Generation
		EE-71019	Advanced Power Electronics Devices and Converters





Course Code	LIST OF CORE COURSES
EE-71020	Switch-Mode Power Supplies
EE-71021	Modeling and Simulation of Convertors
EE-71022	Special Electrical Machine
EE-71023	Advanced Control System
EE-71024	Plasmonics and Metamaterials
EE-71025	Advanced Design of Electrical Machine
EE-71026	Advanced Power System Analysis
EE-71027	Alternate Energy Sources
EE-71028	Advanced Topics in Power

Course Code	LIST OF CORE COURSES
EE-71029	Advanced Power System Operation and Control
EE-71030	Smart Grids
EE-71031	Sustainable Energy System
EE-71032	Electric Power Quality
EE-71033	Wind Power Generation
EE-71034	Faults Tolerated Power System
EE-71035	Energy Resources and Technologies
EE-71036	Metaheuristic Optimization
EE-72028	Advanced Topics in Electromagnetics

### Msc. Electrical Engineering Control & Automation Engineering (Evening Program)

	Course Code	Type	Subject	Credit hours
<b>Semester I</b>	Core I	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Core II	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Core III	Compulsory	Offered from core courses list of Control & Automation Engineering	3

	Course Code	Type	Subject	Credit hours
<b>Semester II</b>	Core IV	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Core V	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Elective I	Elective	Any course from the core courses of the other programs*	3



Semester III	Course Code	Type	Subject	Credit hours
	Core VI	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Elective II	Elective	Any course from the core courses of the other programs*	3
	EE-82000	Compulsory	Postgraduate Thesis	3

Semester IV	Course Code	Type	Subject	Credit hours
	EE-82000	Compulsory	Postgraduate Thesis	3

### Control & Automation Engineering (Weekend Program)

Semester I	Course Code	Type	Subject	Credit hours
	Core I	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Core II	Compulsory	Offered from core courses list of Control & Automation Engineering	3

Semester II	Course Code	Type	Subject	Credit hours
	Core III	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Core IV	Compulsory	Offered from core courses list of Control & Automation Engineering	3

Semester III	Course Code	Type	Subject	Credit hours
	Core V	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Elective I	Elective	Any course from the core courses of the other programs*	3

Semester IV	Course Code	Type	Subject	Credit hours
	Core VI	Compulsory	Offered from core courses list of Control & Automation Engineering	3
	Elective II	Elective	Any course from the core courses of the other programs*	3



Semester V & VI	Course Code	Type	Subject	Credit hours
	EE-82000	Compulsory	Postgraduate Thesis	6

**\*Other Programs:** Control Systems Theory, Telecommunication, Electronics & Embedded Systems, Power Systems Engineering, Communication systems & Networks

### M.Sc. Electrical Engineering Control & Automation Engineering

Course Code	LIST OF CORE COURSES	Course Code	LIST OF CORE COURSES
EE-73001	Advanced Digital Control Systems	EE-73012	System Dynamics
EE-73002	Fuzzy Control Systems	EE-73013	Advanced Topics in Control Systems
EE-73003	Adaptive Control System	EE-73014	Linear Control System Theory
EE-73004	Optimal Control Systems	EE-73015	Computational Methods in Large Scale Simulations
EE-73005	Robust Control	EE-73016	Non-Linear Control System
EE-73006	System Identification	EE-74019	Adaptive Filter Theory
EE-73007	Stochastic Control	EE-74014	Signal Detection and Estimation
EE-73008	Robot Control Theory	EE-71001	Control of AC and DC Machines and Drives
EE-73009	Optimal Control Systems	EE-71002	Modeling and Simulation of Electrical Machines
EE-73010	Estimation Theory		
EE-73011	Dynamics of Robots		

### M.Sc. Electrical Engineering Control Systems Theory (Evening Program)

Semester I	Course Code	Type	Subject	Credit hours
	Core I	Compulsory	Offered from core courses list of Control Systems Theory	3
	Core II	Compulsory	Offered from core courses list of Control Systems Theory	3
	Core III	Compulsory	Offered from core courses list of Control Systems Theory	3
Semester II	Course Code	Type	Subject	Credit hours
	Core IV	Compulsory	Offered from core courses list of Control Systems Theory	3
	Core V	Compulsory	Offered from core courses list of Control Systems Theory	3
	Elective I	Elective	Any course from the core courses of the other programs*	3



Semester III	Course Code	Type	Subject	Credit hours
Semester III	Core VI	Compulsory	Offered from core courses list of Control Systems Theory	3
	Elective II	Elective	Any course from the core courses of the other programs*	3
	EE-82000	Compulsory	Postgraduate Thesis	3

Semester IV	Course Code	Type	Subject	Credit hours
Semester IV	EE-82000	Compulsory	Postgraduate Thesis	3

### Control Systems Theory (Weekend Program)

Semester I	Course Code	Type	Subject	Credit hours
Semester I	Core I	Compulsory	Offered from core courses list of Control Systems Theory	3
	Core II	Compulsory	Offered from core courses list of Control Systems Theory	3

Semester II	Course Code	Type	Subject	Credit hours
Semester II	Core III	Compulsory	Offered from core courses list of Control Systems Theory	3
	Core IV	Compulsory	Offered from core courses list of Control Systems Theory	3

Semester III	Course Code	Type	Subject	Credit hours
Semester III	Core V	Compulsory	Offered from core courses list of Control Systems Theory	3
	Elective I	Elective	Any course from the core courses of the other programs*	3

Semester IV	Course Code	Type	Subject	Credit hours
Semester IV	Core VI	Compulsory	Offered from core courses list of Control Systems Theory	3
	Elective II	Elective	Any course from the core courses of the other programs*	3



Semester V & VI	Course Code	Type	Subject	Credit hours
	EE-82000	Compulsory	Postgraduate Thesis	6

**\*Other Programs:** Electronics & Embedded Systems, Telecommunication, Control & Automation Engineering, Power Systems Engineering, Communication systems & Networks

### Control Systems Theory

Course Code	LIST OF CORE COURSES	Course Code	LIST OF CORE COURSES
EE-75001	Control System Optimization	EE-73007	Stochastic Control
EE-75002	Chaos Theory	EE-73009	Optimal Control Systems
EE-75003	Random Variables and Stochastic Processes	EE-73010	Estimation Theory
EE-75004	Linear Multivariable Control Theory	EE-73011	Dynamics of Robots
EE-73001	Advanced Digital Control Systems	EE-73013	Advanced Topics in Control Systems
EE-73002	Fuzzy Control Systems	EE-73014	Linear Control System Theory
EE-73003	Adaptive Control System	EE-73015	Computational Methods in Large Scale Simulations
EE-73004	Optimal Control Systems	EE-73016	Non-Linear Control System
EE-73005	Robust Control	EE-74019	Adaptive Filter Theory
EE-73006	System Identification	EE-74014	Signal Detection and Estimation

### Msc. Electrical Engineering Telecommunication (Evening Program)

Semester I	Course Code	Type	Subject	Credit hours
	Core I	Compulsory	Offered from core courses list of Telecommunication	3
	Core II	Compulsory	Offered from core courses list of Telecommunication	3
	Core III	Compulsory	Offered from core courses list of Telecommunication	3

Semester II	Course Code	Type	Subject	Credit hours
	Core IV	Compulsory	Offered from core courses list of Telecommunication	3
	Core V	Compulsory	Offered from core courses list of Telecommunication	3
	Elective I	Elective	Any course from the core courses of the other programs*	3





Semester III	Course Code	Type	Subject	Credit hours
	Core VI	Compulsory	Offered from core courses list of Telecommunication	3
	Elective II	Elective	Any course from the core courses of the other programs*	3
	EE-82000	Compulsory	Postgraduate Thesis	3

Semester IV	Course Code	Type	Subject	Credit hours
	EE-82000	Compulsory	Postgraduate Thesis	3

### Telecommunication (Weekend Program)

Semester I	Course Code	Type	Subject	Credit hours
	Core I	Compulsory	Offered from core courses list of Telecommunication	3
	Core II	Compulsory	Offered from core courses list of Telecommunication	3

Semester II	Course Code	Type	Subject	Credit hours
	Core III	Compulsory	Offered from core courses list of Telecommunication	3
	Core IV	Compulsory	Offered from core courses list of Telecommunication	3

Semester III	Course Code	Type	Subject	Credit hours
	Core V	Compulsory	Offered from core courses list of Telecommunication	3
	Elective I	Elective	Any course from the core courses of the other programs*	3

Semester IV	Course Code	Type	Subject	Credit hours
	Core VI	Compulsory	Offered from core courses list of Telecommunication	3
	Elective II	Elective	Any course from the core courses of the other programs*	3



Semester V & VI	Course Code	Type	Subject	Credit hours
	EE-82000	Compulsory	Postgraduate Thesis	6

**\*Other Programs:** Control Systems Theory, Electronics & Embedded Systems, Control & Automation Engineering, Power Systems Engineering, Communication systems & Networks

### M.Sc. Electrical Engineering (Telecommunication)

Course Code	LIST OF CORE COURSES	Course Code	LIST OF CORE COURSES
EE-74001	Advanced Digital Communication	EE-74018	Cryptography and Security
EE-74002	Optical Networks	EE-74019	Adaptive Filter Theory
EE-74003	Information Theory and Coding	EE-74020	Wireless Adhoc Networks
EE-74004	Advanced Broadband Communication	EE-74021	Optimization of Data Network
EE-74005	Advanced Wireless Communication	EE-74022	Smart Grid Communication
EE-74006	IP Telephony and VOIP	EE-74023	Advanced Topic in Telecommunication
EE-74007	Speech and Audio Processing	EE-74024	Advanced Optical Communication
EE-74008	Cellular Radio and Personal Communication	EE-74025	Stochastic Processes
EE-74009	Advanced Communication Networks	EE-74026	Telecommunication Network Operations
EE-74010	Microwave Systems and Devices	EE-74027	Pattern Recognition
EE-74011	Advanced Concepts in Radar Applications	EE-71036	Metaheuristic Optimization
EE-74012	Global Positioning and Navigation	EE-72008	Computational EM
EE-74013	System Advanced Mobile Communication	EE-72012	Advanced Digital Signal Processing
EE-74014	Signal Detection and Estimation	EE-72014	Digital Image Processing
EE-74015	Advanced Satellite Communication	EE-72020	Analog IC Design
EE-74016	Electromagnetic Field Compatibility	EE-72023	Computer Vision and Machine Learning
EE-74017	Advanced Multimedia Communication	EE-72029	Advance Antenna Theory
		EE-72030	VLSI Signal Processing

## Msc. Electrical Engineering Communication Systems & Networks (Evening Program)

	Course Code	Type	Subject	Credit hours
Semester I	Core I	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Core II	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Core III	Compulsory	Offered from core courses list of Communication Systems & Networks	3

	Course Code	Type	Subject	Credit hours
Semester II	Core IV	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Core V	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Elective I	Elective	Any course from the core courses of the other programs*	3

	Course Code	Type	Subject	Credit hours
Semester III	Core VI	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Elective II	Elective	Any course from the core courses of the other programs*	3
	EE-82000	Compulsory	Postgraduate Thesis	3

	Course Code	Type	Subject	Credit hours
Semester IV	EE-82000	Compulsory	Postgraduate Thesis	3

## Communication Systems & Networks (Weekend Program)

	Course Code	Type	Subject	Credit hours
Semester I	Core I	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Core II	Compulsory	Offered from core courses list of Communication Systems & Networks	3



Semester II	Course Code	Type	Subject	Credit hours
	Core III	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Core IV	Compulsory	Offered from core courses list of Communication Systems & Networks	3

Semester III	Course Code	Type	Subject	Credit hours
	Core V	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Elective I	Elective	Any course from the core courses of the other programs*	3

Semester IV	Course Code	Type	Subject	Credit hours
	Core VI	Compulsory	Offered from core courses list of Communication Systems & Networks	3
	Elective II	Elective	Any course from the core courses of the other programs*	3

Semester V & VI	Course Code	Type	Subject	Credit hours
	EE-82000	Compulsory	Postgraduate Thesis	6

**\*Other Programs:** Electronics & Embedded Systems, Telecommunication, Control & Automation Engineering, Power Systems Engineering, Control Systems Theory

### Msc. Electrical Engineering Communication System & Networks

Course Code	LIST OF CORE COURSES	Course Code	LIST OF CORE COURSES
EE-76001	Electromagnetic Field Analysis	EE-76008	Spatial Array Processing
EE-76002	Radiating Systems & Antennas	EE-76009	Filtering & Tracking
EE-76003	Microwave Networks & Passive Components	EE-72004	Stochastic Systems
EE-76004	Advanced Computer Networks	EE-72008	Computational EM
EE-76005	Secure Communications	EE-72012	Advanced Digital Signal Processing
EE-76006	Microwave IC Design	EE-72019	Digital Integrated Circuit Design
EE-76007	Real-time DSP	EE-72023	Computer Vision and Machine Learning



Course Code	LIST OF CORE COURSES
EE-72025	Semiconductor Device Physics
EE-74001	Advanced Digital Communication
EE-74003	Information Theory and Coding
EE-74004	Advanced Broadband Communication
EE-74005	Advanced Wireless Communication

Course Code	LIST OF CORE COURSES
EE-74010	Microwave Systems & Devices
EE-74014	Signal Detection & Estimation
EE-74015	Advanced Satellite Communication
EE-74017	Advanced Multimedia Communication
EE-74019	Adaptive Filter Theory

## Electronics / Power System and Energy Management / Communication & Signal Processing / Robotics & Control / Computer Systems

### OPTION-1

Semester I	Course Code	Type	Subject	Credit hours
	Subject I	Compulsory	Offered from Ph.D. courses list	3
	Subject II	Compulsory	Offered from Ph.D. courses list	3
	Subject III	Compulsory	Offered from Ph.D. courses list	3

Semester II	Course Code	Type	Subject	Credit hours
	Subject IV	Compulsory	Offered from Ph.D. courses list	3
	Subject V	Compulsory	Offered from Ph.D. courses list	3
	Subject VI	Compulsory	Offered from Ph.D. courses list	3

Semester III-XVI	Course Code	Type	Subject	Credit hours
	EE-81000	Compulsory	Research Seminar	2
	EE-83000	Compulsory	Thesis	50

**Note:** Semester III-XVI also includes passing Comprehensive Exam (Written+Oral), Ph.D. Research Proposal, Final Open Defense

### OPTION-2

Semester I	Course Code	Type	Subject	Credit hours
	Subject I	Compulsory	Offered from Ph.D. courses list	3
	Subject II	Compulsory	Offered from Ph.D. courses list	3





Semester II	Course Code	Type	Subject	Credit hours
	Subject III	Compulsory	Offered from Ph.D. courses list	3
	Subject IV	Compulsory	Offered from Ph.D. courses list	3

Semester III	Course Code	Type	Subject	Credit hours
	Subject V	Compulsory	Offered from Ph.D. courses list	3
	Subject VI	Compulsory	Offered from Ph.D. courses list	3

Semester III-IV	Course Code	Type	Subject	Credit hours
	EE-81000	Compulsory	Research Seminar	2
	EE-83000	Compulsory	Thesis	50

**Note:** Semester IV-XVI also includes passing Comprehensive Exam (Written+Oral), Ph.D. Research Proposal, Final Open Defense

## PhD Electrical Engineering Electronics

Course Code	LIST OF CORE COURSES	Course Code	LIST OF CORE COURSES
EE-72001	Embedded System Design	EE-72013	Advanced Computer Architecture
EE-72002	Semiconductor Processing	EE-72014	Digital Image Processing
EE-72003	Electromagnetic Field Analysis	EE-72015	Nanoelectronics
EE-72004	Stochastic Systems	EE-72016	Modeling and Simulation of Semiconductor Devices
EE-72005	Advanced Microwave Engineering	EE-72017	VLSI Testing and Verification
EE-72006	Solid State Electronics	EE-72018	Integrated Optical Devices & Waveguides
EE-72007	Photonic Devices	EE-72019	Digital Integrated Circuit Design
EE-72008	Computational EM	EE-72020	Analog IC Design
EE-72009	Advanced VLSI Design	EE-72021	Advanced Topics in Electronics
EE-72010	Advanced Microprocessor Based Systems	EE-72022	Fiber Optics Theory and Communication
EE-72011	Artificial Neural Networks		
EE-72012	Advanced Digital Signal Processing		



Course Code	LIST OF CORE COURSES
EE-72023	Computer Vision and Machine Learning
EE-72024	Advanced Topics in VLSI
EE-72025	Semiconductor Device Physics
EE-72026	Advanced Digital System Design
EE-72027	Quantum Mechanics
EE-72028	Advanced Topics in Electromagnetics

Course Code	LIST OF CORE COURSES
EE-72029	Advanced Antenna Theory
EE-72030	VLSI Signal Processing
EE-72031	VLSI Interconnects
EE-71019	Advanced Power Electronics Devices and Converters
EE-71024	Plasmonics and Metamaterials
EE-71036	Metaheuristic Optimization

### Power Systems & Energy Management

Course Code	LIST OF CORE COURSES
EE-71001	Control of AC & DC Machines and Drives
EE-71002	Modeling and Simulation of Electrical Machines
EE-71003	Advanced Power System Distribution
EE-71004	Power System Reliability
EE-71005	Energy Management
EE-71006	Power System Restructuring
EE-71007	Advanced Power System and Protection
EE-71008	Insulation Coordination in Power Systems
EE-71009	Power System Circuit Breaker & Substations
EE-71010	Industrial Power System & Design
EE-71011	Power System Operation and Planning
EE-71012	Renewable Energy Sources
EE-71013	Advanced High Voltage Engineering
EE-71014	Power system Modeling and Analysis
EE-71015	Advanced Power System Transmission
EE-71016	Advanced Power System Stability and Quality
EE-71017	Power Generation Economics

Course Code	LIST OF CORE COURSES
EE-71018	Distributed Generation
EE-71019	Advanced Power Electronics Devices and Converters
EE-71020	Switch-Mode Power Supplies
EE-71021	Modeling and Simulation of Converters
EE-71022	Special Electrical Machine
EE-71023	Advanced Control System
EE-71024	Plasmonics and Metamaterials
EE-71025	Advanced Design of Electrical Machine
EE-71026	Advanced Power System Analysis
EE-71027	Alternate Energy Sources
EE-71028	Advanced Topics in Power
EE-71029	Advanced Power System Operation and Control
EE-71030	Smart Grids
EE-71031	Sustainable Energy System
EE-71032	Electric Power Quality
EE-71033	Wind Power Generation
EE-71034	Faults Tolerated Power System
EE-71035	Energy Resources and Technologies
EE-71036	Metaheuristic Optimization
EE-72028	Advanced Topics in Electromagnetics



## Communication and Signal Processing

Course Code	LIST OF CORE COURSES
EE-72003	Electromagnetic Field Analysis
EE-72025	Semiconductor Device Physics
EE-72012	Advanced Digital Signal Processing
EE-72004	Stochastic Systems
EE-76002	Radiating Systems & Antennas
EE-76003	Microwave Networks & Passive Components
EE-74010	Microwave Systems and Devices
EE-76004	Advanced Computer Networks
EE-74014	Signal Detection & Estimation
EE-74019	Adaptive Filter Theory
EE-76005	Secure Communications
EE-74001	Advanced Digital Communication
EE-72008	Computational EM
EE-76014	Microwave IC Design
EE-76007	Real-time DSP
EE-76008	Spatial Array Processing
EE-76009	Filtering & Tracking

Course Code	LIST OF CORE COURSES
EE-74003	Information Theory and Coding
EE-74005	Advanced Wireless Communication
EE-72019	Digital Integrated Circuit Design
EE-74004	Advanced Broadband Communication
EE-74015	Advanced Satellite Communication
EE-74017	Advanced Multimedia Communication
EE-72028	Advanced Topics in Electromagnetics
EE-72029	Advanced Antenna Theory
EE-72014	Digital Image Processing
EE-72020	Analog IC Design
EE-72023	Computer Vision and Machine Learning
EE-72030	VLSI Signal Processing
EE-74027	Pattern Recognition
EE-74023	Advanced Topics in Telecommunication
EE-71036	Metaheuristic Optimization

## Robotics and Control

Course Code	LIST OF CORE COURSES
EE-73001	Advanced Digital Control Systems
EE-73002	Fuzzy Control Systems
EE-73003	Adaptive Control System
EE-73004	Optimal Control Systems
EE-73005	Robust Control
EE-73006	System Identification
EE-73007	Stochastic Control
EE-73008	Robot Control Theory
EE-73009	Optimal Control Systems
EE-73010	Estimation Theory
EE-73011	Dynamics of Robots

Course Code	LIST OF CORE COURSES
EE-73012	System Dynamics
EE-73013	Advanced Topics in Control Systems
EE-73014	Linear Control System Theory
EE-73015	Computational Methods in Large Scale Simulations
EE-73016	Non-Linear Control System
EE-73017	Vision and Control
EE-75003	Random Variables and Stochastic Processes
EE-75004	Linear Multivariable Control Theory
EE-74019	Adaptive Filter Theory

Course Code	LIST OF CORE COURSES
EE-74014 EE-71001	Signal Detection and Estimation Control of AC & DC Machines and Drives

Course Code	LIST OF CORE COURSES
EE-71002	Modeling and Simulation of Electrical Machines

### Computer System Engineering

Course Code	LIST OF CORE COURSES
EE-72004 EE-72012 EE-72013 EE-72014 EE-72023 EE-72026 EE-72030	Stochastic Systems Advanced Digital Signal Processing Advanced Computer Architecture Digital Image Processing Computer Vision and Machine Learning Advanced Digital System Design VLSI Signal Processing

Course Code	LIST OF CORE COURSES
EE-72031 EE-73011 EE-73017 EE-74001 EE-74005 EE-74013 EE-74027 EE-76004	VLSI Interconnects Dynamics of Robots Vision and Control Advanced Digital Communication Advanced Wireless Communication Advanced Mobile Communication Pattern Recognition Advanced Computer Networks



**Engr. Usman Mussadaq**  
Ph.D 1st Semester EED

I really feel humble and privileged to be PhD student of the Electrical Engineering Department at MUST. It is a true acknowledgement from the core of my heart that this university has opened new horizons of learning for me. Each passing day is developing and grooming our personality in a very desirous and prodigious way. True admiration is confined to the Teaching Faculty staff.



## Department of Mechanical Engineering



### Coordinator

**Engr. Dr. Khuram Pervez Amber**

Tel & Fax: +92-5827-960036

Email: chairman\_me@must.edu.pk

### Faculty:

Name	Designation	Qualification	Uni./Country
1. Engr. Prof. Dr. Muhammad Riaz Mirza	Professor	PhD	UMIST UK
2. Engr. Prof. Javed Latif Ahmed Piracha	Professor	MS	UET Lahore
3. Engr. Muhammad Abid Qureshi	Associate Professor	MS	UET Taxila
4. Engr. Dr. Khuram Pervez Amber	Assistant Professor	PhD	LSBU, UK
5. Engr. Muhammad Iqbal	Assistant Professor	MS Agricultural Engg.	UAF
6. Engr. Dr. Muhammad Yamin Younis	Assistant Professor	PhD	BUAA China
7. Engr. Dr. Bilal Akbar	Assistant Professor	PhD	Brunel UK
8. Engr. Faraz Ikram	Assistant Professor	MS	MUST
9. Engr. Syed Kashif Hussain Gardezi	Assistant Professor	MS	MUST
10. Engr. Muhammad Imdad Hussain	Lecturer	MS	MUST
11. Engr. Muhammad Aamir Gulnawaz	Lecturer	MS	MUST
12. Engr. Noman Bashir	Lecturer	MS	MUST
13. Engr. Ambreen Tajammal	Lecturer	MS	UET, Taxila
14. Engr. Nasir Iqbal	Lecturer	MS	MUST
15. Engr. Kamran Afzal	Lecturer	MS	MUST
16. Engr. Haroon Mushtaq	Lecturer	MS	NUST
17. Engr. Asad Munir	Lecturer	MS	UET Lahore
18. Engr. Muhammad Azad	Jr. Lecturer	MS	MUST
19. Engr. Asif Awan	Lab Engineer/Jr. Lecturer	MS	MUST
20. Engr. Tahir Amin	Lab Engineer/Jr. Lecturer	MS	MUST
21. Engr. Faisal Maqbool	Lab Engineer/Jr. Lecturer	MS	MUST
22. Engr. Hafiz Sohaib	Lab Engineer/Jr. Lecturer	MS	MUST
23. Engr. Sajid Hussain	Lab Engineer/Jr. Lecturer	MS	EMU Turkey
24. Engr. Junaid Akbar	Lab Engineer	MS	MUST
25. Engr. Sohail Tariq	Lab Engineer	B.Sc.	Nimbo China



## Faculty on Study Leave:

Sr. No.	Names	Designation	Course of Study	Country
1.	Engr. Naveed Akram	Assistant Professor	Ph.D. Mechanical Engg.	Malaysia
2.	Engr. Asad Ijaz	Lab. Engineer	Ph.D. Mechanical Engg.	Pakistan
3.	Engr. Ghulam Qadir	Lab. Engineer	Ph.D. Mechanical Engg.	Pakistan
4.	Engr. Anser Bashir	Jr. Lecturer	Ph.D. Mechanical Engg.	Italy
5.	Engr. Taufeeq-ur-Rehman Abbasi	Jr. Lecturer	Ph.D. Mechanical Engg.	China
6.	Engr. Irum Zahra	Lab. Engineer	MS Mechanical Engg.	UK



**Faculty Members, Department of Mechanical Engineering**



## Introduction

Mechanical Engineering is a highly versatile and diversified engineering discipline. On one hand it is concerned with the design of machines and equipment that use energy and convert it into useful work. On the other hand it deals with the design and development of those machines that are used for manufacturing, production and process equipment. The department offers four years degree program leading to BSc in Mechanical Engineering

## Course of Study

The Mechanical Engineering courses are built on a strong foundation of mathematical, physical and computing sciences. Emphasis is laid on the fundamental concepts and principles, which constitute the basis of mechanical engineering practice. The curriculum is designed to cover a broad range of areas. The department offers a series of courses in the following areas:

Thermo-Fluid Engineering

Applied Mechanics and Design

Manufacturing Processes Engineering

Computer based Mechanical Engineering

Applied Mathematics & Statistics

Engineering Management

Courses in Thermo-Fluid Engineering include applied Thermodynamics, Refrigeration and Air Conditioning, Heat and Mass Transfer, Power Plant, Fluid Mechanics and Gas Dynamics. The department offers a wide range of courses in Applied Mechanics and Design. Starting from a basic course in Engineering Statics, a series of courses is offered in Mechanics of

Materials and Mechanics of Machines. These theoretical concepts are fostered in a series of Machine Design courses enabling the students to try their skills and design small mechanical equipment. Product design is of no use without product development studies. Manufacturing Processes Engineering deals with the smart and economical product development methodologies. Students start with Workshop Technology in this area. Successive courses in Engineering Materials, Manufacturing Processes and Production Automation provide the students further insight to this area. Additional courses like Engineering Management and Economics in senior year introduce students to the efficient management of the productive resources. Computer based mechanical engineering concepts have been embedded in various courses like Computer Programming, Machine Design, CAD and Thermo-Fluids Engineering etc. The University has a rich industrial neighborhood. The students have the opportunity to make maximum use of this industrial environment by engaging themselves in short term as well as long term training. These industries include HIT, HMC, POF, PAF complex at Kamra, HEC, KSB, TIP, CTI, ARL, OGTI, Railway Carriage Factory, Research Establishments of PAEC, NESCOM and a large number of units in the Hatter area. The students pick real world problems either for their semester papers or as final year project from these organizations and brush their skills.

The department is offering Masters Degree program since 2010. A large number of engineering graduates have made use of this program in a variety of areas. The program involves two years of part-time study and

consists of lectures, design, office work, laboratory investigation, software usage & application of computational methods and research.

## Job Prospects for Graduates

The major employers of Mechanical Engineering graduates in our country are: WAPDA, PTCL, PWD, Pakistan Navy, PIA, Air Force, Education, Atomic Energy Commission, AWC, Process Industries, NDC and various other organizations.

## Programs

### 1. Undergraduate

- B.Sc. Mechanical Engineering
- Mechanical Technology

### 2. Graduate

- MS in Mechanical Engineering
- MS in Energy Systems Engineering

## Admission Requirement for B. Sc. Mechanical Engineering

- F.Sc. Pre-Engineering at least 60 % marks



## Admission Requirement for MS in Mechanical Engineering

- An Entry Test conducted by the University.
- B.Sc. Mechanical Engineering with at least 1st Division or CGPA of 2.7/4.0 with no 3rd Division in the academic record.
- Registered with Pakistan Engineering Council.
- GAT (General) at least qualifying score.
- Entry Test Conducted by the University.

## Admission Requirement for MS in Energy Systems Engineering

- B.Sc. Mechanical, Electrical, Civil, Environmental or Chemical Engineering with at least 1st Division or CGPA of 2.7/4.0 with no 3rd Division in the academic record.
- Registered with Pakistan Engineering Council.
- GAT (General) at least qualifying score.
- Entry Test Conducted by the University.





## Scheme Courses for Session 2017 intake and onwards For B.Sc. Mechanical Engineering

	Course Code	Course Code & Title	Theory Cr.Hrs	Lab. Cr.Hrs	Total Cr.Hrs	Pre-Requisite
Semester 1	GSM-111	Calculus & Analytical Geometry	3	0	3	None
	GSM-112	Applied Physics	1	1	2	None
	GSM-113	Applied Chemistry	2	0	2	None
	HSM-114	Functional English	2	0	2	None
	CSM-115	Computer System & Programming	2	1	3	None
	BME-116	Engineering Drawing & Graphics	1	1	2	None
	BME-117	Engineering Mechanics-I: Statics	3	0	3	None
	HSM-118	Introduction to Chinese Language	0	0	0	None
		<b>Total</b>	<b>14</b>	<b>3</b>	<b>17</b>	
		<b>Cumulative Total</b>	<b>14</b>	<b>3</b>	<b>17</b>	
	Course Code	Course Code & Title	Theory Cr.Hrs	Lab. Cr.Hrs	Total Cr.Hrs	Pre-Requisite
Semester 2	BME-121	Computer Aided Drawing	0	1	1	None
	BME-122	Fluid Mechanics-I	3	0	3	None
	GSM-123	Linear Algebra & Ordinary Differential Equations	3	0	3	None
	BME-124	Engineering Mechanics-II: Dynamics	3	1	4	None
	BME-125	Workshop Practice	0	2	2	None
	ISM-126	Arabic	2	0	2	None
	BME-127	Thermodynamics-I	3	0	3	None
		<b>Total</b>	<b>14</b>	<b>4</b>	<b>18</b>	
		<b>Cumulative Total</b>	<b>28</b>	<b>7</b>	<b>35</b>	
	Course Code	Course Code & Title	Theory Cr.Hrs	Lab. Cr.Hrs	Total Cr.Hrs	Pre-Requisite
Semester 3	HSM-231	Communication Skills	1	0	1	None
	BME-232	Mechanics of Materials-I	3	0	3	None
	ISM-233	Kashmir & Pakistan Studies	3	0	3	None
	BME-234	Thermodynamics-II	3	1	4	BME-127
	BEE-235	Electrical Engineering	2	1	3	None
	GSM-236	Complex Variables and Transforms	3	0	3	None
		<b>Total</b>	<b>15</b>	<b>2</b>	<b>17</b>	
		<b>Cumulative Total</b>	<b>43</b>	<b>9</b>	<b>52</b>	

	Course Code	Course Code & Title	Theory Cr.Hrs	Lab. Cr.Hrs	Total Cr.Hrs	Pre-Requisite
Semester 4	BEE-241	Electronics Engineering	2	1	3	None
	GSM-242	Numerical Analysis	2	1	3	None
	ISM-243	Islamic Studies/Ethics	2	0	2	None
	BME-244	Mechanics of Materials-II	3	1	4	None
	BME-245	Machine Design-I	3	0	3	None
	BME-246	Engineering Materials	3	0	3	None
		<b>Total</b>	<b>15</b>	<b>3</b>	<b>18</b>	
		<b>Cumulative Total</b>	<b>58</b>	<b>12</b>	<b>70</b>	

	Course Code	Course Code & Title	Theory Cr.Hrs	Lab. Cr.Hrs	Total Cr.Hrs	Pre-Requisite
Semester 5	BME-351	Fluid Mechanics-II	3	1	4	BME-122
	HSM-352	Health, Safety & Environment	1	0	1	None
	BME-353	Machine Design-II	2	0	2	BME-245
	GSM-354	Applied Statistics	3	0	3	None
	BME-355	Heat & Mass Transfer	3	1	4	None
	BME-356	Manufacturing Processes	3	1	4	None
		<b>Total</b>	<b>15</b>	<b>3</b>	<b>18</b>	
		<b>Cumulative Total</b>	<b>73</b>	<b>15</b>	<b>88</b>	

	Course Code	Course Code & Title	Theory Cr.Hrs	Lab. Cr.Hrs	Total Cr.Hrs	Pre-Requisite
Semester 6	BME-361	Introduction to Finite Element Analysis	2	0	2	None
	BME-362	Technical Elective-I	2	0	2	None
	BME-363	Control Engineering	3	1	4	None
	BME-364	Mechanics of Machines	3	0	3	None
	BME-365	Heating, Ventilating and Air Conditioning	3	1	4	None
	BME-366	Instrumentation, Measurement and Quality Control	2	1	3	None
		<b>Total</b>	<b>15</b>	<b>3</b>	<b>18</b>	
		<b>Cumulative Total</b>	<b>88</b>	<b>18</b>	<b>106</b>	





	Course Code	Course Code & Title	Theory Cr.Hrs	Lab. Cr.Hrs	Total Cr.Hrs	Pre-Requisite
Semester 7	MSM-471	Engineering Economics & Optimization	3	0	3	None
	BME-472	Mechanical Vibrations	3	1	4	None
	BME-473	Internal Combustion Engines	3	0	3	None
	BME-474	Technical Elective-II	2	0	2	None
	BME-475	Modeling and Simulation	0	1	1	None
	BME-476	Final Year Project-I	0	3	3	None
		<b>Total</b>	11	5	16	
		<b>Cumulative Total</b>	99	23	122	

	Course Code	Course Code & Title	Theory Cr.Hrs	Lab. Cr.Hrs	Total Cr.Hrs	Pre-Requisite
Semester 8	BME-481	Technical Elective-III	2	0	2	None
	MSM-482	Entrepreneurship	1	0	1	None
	MSM-483	Management Elective	2	0	2	None
	BME-484	Power Plants	3	1	4	None
	HSM-485	Technical Report Writing & Presentation Skills	1	1	2	None
	BME-486	Final Year Project-II	0	3	3	None
	BME-487	Internship/ Industrial Experience	0	0	0	None
		<b>Total</b>	9	5	14	
		<b>Cumulative Total</b>	108	28	136	

Non Engineering Credit Hours	38	%age	27.94
Engineering Courses Credit Hours	98	%age	72.06

**Note:** For All courses with Labs, The Theoretical Portion as well as the Lab. Portion must both be passed separately.

## Graduate Programs in Mechanical Engineering

### MS Degree Program in Mechanical Engineering Department

- 1) **MS in Mechanical Engineering**  
a) **Specialization in Thermal Power Engineering**

	Course Code	Title	Crd. Hrs.
<b>MS-Core Subjects</b>	MTP-001	Advanced Thermodynamics	3
	MTP-002	Advanced Fluid Mechanics	3
	MTP-003	Advanced Heat Transfer	3
	MTP-004	Energy Management	3
	MME-003	Research Methodology	3
<b>MS-Compulsory Subjects</b>	MME-002	Advanced Numerical Analysis	3
	MME-001	Thesis	6
<b>MS-Elective Subjects</b>	MTP-005	Conduction & Radiation	3
	MTP-006	Convection Heat Transfer	3
	MTP-007	Boiling & Condensation Heat Transfer	3
	MTP-008	Internal Combustion Engines	3
	MTP-009	Fluidized Bed Combustion	3
	MTP-010	Pressurized Systems	3
	MTP-011	Solar Energy Utilization	3
	MTP-012	Fuel Cell Technology	3
	MTP-013	Combustion	3
	MTP-014	Air Pollution	3
	MTP-015	Experimental Methods	3
	MTP-016	Thermal Design of Heat Exchanger	3
	MTP-017	Energy Conservation & Management	3



## b. Specialization in Engineering Management:

Course Code	Subject	Credit Hours
MEM-001	Project Management	3
MEM-002	Quality Engineering	3
MEM-003	Simulation Modeling	3
MEM-004	Operation Management	3
MME-003	Research Methodology	3

### MS-Compulsory Subjects

Course Code	Subject	Credit Hours
MME-002	Advanced Numerical Analysis	3
MME-001	Thesis	6

### MS-Elective Subjects

Course Code	Title	Crd. Hrs.
MEM-005	Facility Planning and Layout	3
MEM-006	Advances Practices in Engineering Management	6
MEM-007	Technology Management	3
MEM-008	Production Planning and Control	3
MEM-009	Environmental and Safety Management	3
MEM-010	Engineering Ergonomic and Work Study	3
MEM-011	Industrial Costing Management	3
MEM-012	Advanced Research Methods	3
MEM-013	Human Resource Management	3
MEM-014	Production System Design and Analysis	3

## 2. MS-Energy Systems Engineering:

### MS-Core Subjects

Course Code	Subject	Credit Hours
MES-001	Energy Forecasting and Statistics	3
MES-002	Energy System Analysis	3
MES-003	Wind Energy	3
MES-004	Solar Energy Utilization	3
MME-003	Research Methodology	3

### MS-Compulsory Subjects

Course Code	Subject	Credit Hours
MME-002	Advanced Numerical Analysis	3
MME-001	Thesis	6

### MS-Elective Subjects

Course Code	Subject	Credit Hours
MES-005	Computer Applications in Energy System	3
MES-006	Energy Economics & Policy	3
MES-007	Fuel Cells Technology	3
MES-008	Clean Coal Technologies	3
MES-009	Development and Evaluation of Energy Projects	3
MES-010	Combined Heat & Power Systems	3
MES-011	Power Distribution System	3
MES-012	Environment Impact Assessment	3
MES-013	Energy and Environment	3
MES-014	Energy Resources and Technologies	3
MES-015	Biomass Energy	3
MES-016	Nuclear Energy Engineering	3
MES-017	Energy Management in building	3

## Laboratories and other Facilities

The department has the following well-equipped laboratories to meet the academic requirements of students and teachers as well as the professional needs of the government and private organizations:

- Applied Thermodynamics
- Mechanics of Materials
- Refrigeration & Air Conditioning
- Fluid Mechanics and Hydraulics
- Heat and Mass Transfer
- Mechanics of Machines
- Internal Combustion Engines
- Engineering Materials
- Workshop
- Engineering Mechanics (Static & Dynamics)
- Drawing Hall







## Student's Messages



**Adiba Sharif**  
Mechanical Engineering

I joined the university to quench my thirst of scientific and technical knowledge which always occupies a significant position in the evolution and growth of a country. I found here an admirable environment for improving our learning and exploring abilities. The faculty is very much interested in polishing our practical skills to make us a competent engineer. I would suggest all engineering education seekers to be a part of this institution and make it a leading one in the technology race.



**Majid Ishaque**  
Mechanical Engineering

"Studying for Mechanical Engineering in MUST is a passport for me into a career that is beyond the conventional and one that will literally help me reach for the sky. To me a Mechanical Engineering is a vast global Field that has not only shrunk the planet but also brought immense social and economic benefits to mankind. I found MUST a very enjoyable and stimulating learning experience in which I was able to build a solid knowledge base and prepare for the future in my chosen career. MUST, one of best Engineering institutes of Kashmir



**Aleem Sarwar**  
Mechanical Engineering

Mechanical Engineering is my passion, and my ambitions have always been very clear. MUST helped me in enjoying the diversity of the subject, projects are wide, varied and always different, all factors which help to keep it interesting. This degree is very relevant to the work I want to do, and one that will strengthen my engineering knowledge and skills for future jobs and opportunities. This degree has a staunch need of well established laboratories and cooperative faculty and MUST fulfils that in a great manner.



## Department of Electrical (Power) Engineering



### Chairman

**Engr. Muhammad Shabir Mirza**

Tel: +92-5827-960099

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E-mail: chairman\_pe@must.edu.pk

### Faculty:

	Name	Designation	Qualification	Uni./Country
1	Engr. Muhammad Shabir Mirza	Associate Professor	B.Sc	UET Lahore
2	Engr. Dr. Anzar Mahmood	Associate Professor	Ph.D	CIIT Islamabad
3	Engr. Dr. Muhammad Riaz	Assistant Professor	Ph.D	CUST Islamabad
4	Engr. Sajjad Manzoor	Assistant Professor	Ph.D	Hayang South Korea
5	Engr. Zafar Ali khan	Assistant Professor	Ph.D (In Progress)	Birmingham University UK
6	Engr. Mirza Jabbar Aziz Baig	Lecturer	M.Sc.	MUST, Mirpur A.K
7	Engr. Faheem Ashiq	Lecturer	Ph.D (In Progress)	MUST, Mirpur A.K
8	Engr. Shafaq Ejaz	Lecturer	Ph.D (In Progress)	MUST, Mirpur A.K
9	Engr. Shahbaz Baig	Lecturer	Ph.D (In Progress)	MUST, Mirpur A.K
10	Engr. Hirra Arshid	Lecturer	M.Sc.	NUST, Islamabad
11	Engr. Anila Kousar	Lecturer	Ph.D (In Progress)	MUST, Mirpur A.K
12	Engr. Adil Amin	Lecturer	Ph.D (In Progress)	MUST, Mirpur A.K
13	Engr. Muhammad Usman Bashir	Lecturer	M.Sc.	Uni. Of Malaya, Malaysia
14	Engr. Mamoon Akbar	Lab Engineer	Ph.D (In Progress)	Uni. Of Tampere, Finland
15	Engr. Usman Zafar Ch.	Lab Engineer	M.Sc.	MUST, Mirpur A.K
16	Engr. Saqib Qayyum	Lab Engineer	M.Sc. (In Progress)	MUST, Mirpur A.K
17	Engr. Qasim Mahmood	Lab Engineer	M.Sc.	MUST, Mirpur A.K



**Faculty Members, Department of Power Engineering**



### **Program Introduction:**

The Department of Electrical (Power) Engineering at Mirpur University of science & Technology (MUST), Mirpur is established recently in 2012. Electrical (Power) Engineering is a new emerging undergraduate program. During the last decade cheap generation, efficient transmission/ distribution and theft proof consumer metering was major concern, at the same time efficient utilization of energy is need of the time. The curriculum of Electrical (Power) Engineering program is designed in such a way that on completion of four years degree program Electrical Power Engineers will be capable to address the above mentioned issues.

The Electrical Power Engineer will become capable for critical analysis of the problem and will be able to work in diversified environment. Due to enhanced human values our young Engineer will become more beneficial for society. The program curriculum also create erg for higher studies in various fields of Electrical (Power) Engineering. The program is expected to shift on Outcome Based Education (OBE) with effect from Fall 2018.

### **Program Mission:**

Endeavour to provide quality education in the field of Electrical (Power) Engineering for the development of highest value human resource which contributes for the growth, Progress and prosperity at National/International level.

- To provide quality education in the field of Electrical (Power) Engineering.

- To produce hardworking, committed, and dedicated national professionals.
- To nurture talent and create the environment conducive to higher learning.
- To develop collaboration with other renowned local and foreign institutions.
- To produce Electrical (Power) Engineers Capable of:

- Doing work in diversified environment.
- Doing critical design problem analysis.
- Addressing issues like efficient utilization of energy, cheap generation, efficient transmission/ distribution and theft proof consumer metering.

### **Job Prospects for Graduates**

Electrical (Power) Engineering graduates are obligatory in different Electricity companies/ Organizations of power Generation, Transmission and Distribution and large industries where they can work as engineer or manager responsible for installation, maintenance, operation of power handling equipment and systems. In Pakistan major employers of Electrical (Power) Engineers are WAPDA, PDO AJ&K, NTDC, Atomic Energy Commission etc. Educational Institutes and research establishments recruit Electrical (Power) Engineers as faculty and scientist. Graduates can do research work in the field by joining research labs and institutes or can join engineering college/ university as a lecturer, further graduates can be self employed by starting own venture.



## Programs

### Undergraduate

- B.Sc. Electrical (Power) Engineering

### Admission Requirements

- F.Sc. Pre-Engineering with at least 60% Marks.  
or
- 3 Years Diploma of Associate Engineer in Electrical Engineering with Minimum of 60% (Only Against Reserved Seats for DAE's).
- Entry Test conducted by the University.

### Scheme Of Study

Program Duration:

8-12 Semesters

Courses:

131 Credit Hours

Thesis:

6 Credit Hours

Reading and Conference:

S/U Basis

Comprehensive Oral Examination:

S/U Basis

Internship/Practical Training:

S/U Basis

Two Weeks Social Work

S/U Basis

### Total:

**137 Credit Hours**

Engineering Courses:

96 CHRs (70 %)

Non-Engineering Subjects /Basic Sciences/Arts/ Humanities:

41 CHRs (30 %)







## Courses for B.Sc. Electrical (Power) Engineering

### Semester 1

Code	Course Title	Credit Hour	Contact Hours	Pre- requisites
EE -111	Linear Circuit Analysis	03+1=4	03+03=06	
GS-112	Applied Physics	03+1	03+03=06	
EE-113L	Workshop Practice LAB	01	03	
GS-114	Calculus and Analytical Geometry	03	03	
HS-115	Pak Studies	02	02	
EE -116	Programming Fundamentals	02+01=03	02+03=05	
<b>Total</b>		<b>17</b>	<b>25</b>	

### Semester 2

Code	Course Title	Credit Hour	Contact Hours	Pre- requisites
EE-121	D.C Machines & Transformers	03+01=04	03+03=06	EE-111
ME-122	Basic Mechanical Engineering	03	03	
GS-123	Differential Equations	03	03	
EE-124	Electronic Devices and Circuits	03+01=04	03+03=06	
HS-125	Functional English	02	02	
EE-126L	Engineering Drawing LAB	01	03	
HS-127	Arabic	02	02	
<b>Total</b>		<b>19</b>	<b>25</b>	

### Semester 3

Code	Course Title	Credit Hour	Contact Hours	Pre-requisites
EE-231	A.C Machines	03+01=04	03+03=06	EE-121
EE-232	Digital Logic Design	03+01=04	03+03=06	
GS-233	Complex Variables & Transforms	03	03	
EE-234	Electrical Network Analysis	03+01=04	03+03=06	EE-111
CE-235	Basic Civil Engineering	02+01=03	02+03=05	
<b>Total</b>		<b>18</b>	<b>26</b>	

### Semester 4

Code	Course Title	Credit Hour	Contact Hours	Pre-requisites
PE-241	Power Generation	03	03	EE-231
GS-242	Probability Methods in Engineering	03	03	
HS-243	Communication Skills	03	03	
HS-244	Islamic Studies	02	02	
GS-245	Linear Algebra	03	03	
EE-246	Instrumentation & Measurement	03+01=04	03+03=06	EE-124
	<b>Total</b>	<b>18</b>	<b>20</b>	



## Semester 5

Code	Course Title	Credit Hours	Contact Hours	Pre-requisites
EE-351	Communication Systems	03+01=04	03+03=06	
EE-352	Electromagnetic Field Theory	03	03	
EE-353	Microprocessor Systems	03+01=04	03+03=06	EE-232
PE-354	Electrical Power Transmission	03+01=04	03+03=06	
GS-355	Engineering Economics & Management	03	03	
<b>Total</b>		<b>18</b>	<b>24</b>	

## Semester 6

Code	Course Title	Credit Hours	Contact Hours	Pre-requisites
HS-361	Technical Writing	03	03	
PE-362	Power Electronics	03+01=04	03+03=06	EE-124
EE-363	Linear Control Systems	03+01=04	03+03=06	
GS-364	Numerical Analysis Techniques	03	03	
EE-365	Power Distribution and Utilization	03+01=04	03+03=06	
<b>Total</b>		<b>18</b>	<b>24</b>	

## Semester 7

Code	Course Title	Credit Hours	Contact Hours	Pre-requisites
PE-471	Power System Analysis	03	03	
PE-472	High Voltage Engineering	03+01=04	03+03=06	
EE-473	Data Structures and Algorithms	03+01=04	03+03=06	
GS-474	Entrepreneurship	02	02	
PE-475	Project	02	06	
<b>Total</b>		<b>15</b>	<b>23</b>	

## Semester 8

Code	Course Title	Credit Hours	Contact Hours	Pre-requisites
PE-481	Power System Protection	03+01=04	03+03=06	
	Elective -I	03	03	
	Elective -II	03	03	
PE-482	Project	04	12	
<b>Total</b>		<b>14</b>	<b>24</b>	



## Elective Courses

Code	Course Title	Credit Hours	Contact Hours	Pre-requisites
PE-48E1	Advanced Electrical Machines	03+01=04	03+03=06	
PE-48E2	Industrial Electronics and Drives	03+01=04	03+03=06	
PE-48E3	Power System Planning	03	03	
PE-48E4	Electrical Machine Design	03	03	
PE-48E5	Smart Grids	03	03	
PE-48E6	Electrical Substations	03	03	
PE-48E7	Power System Operation and Control	03	03	
PE-48E8	Electric Power Quality	03	03	
PE-48E9	Renewable Energy Systems	03	03	

### Facilities:

**Central Library:** Central library is equipped with over 20,000 books related to Electrical Engineering are available. Various National and International Research Journals are also present in the library.

**Departmental Library:** 3372 books exclusively of Electrical (Power) Engineering are available in the Departmental library. In addition to books, the library has substantial collection of local and foreign periodicals and newspapers.

Department has sufficient budget every year to upgrade library through purchase of relevant course and reference books. Access to HEC Digital Library including IEEE, Elsevier, ASTM, e-library, McGraw Hill Collection, Wiley Blackwell and MDPI journals is also available.

**Laboratories:** The Department has the facility of following Dedicated/ Shared Laboratories:



1. Computer Lab
2. High Voltage lab
3. Machine Lab
4. Power Distribution Lab
5. Power System Protection & Transmission Lab
6. Instrumentation and Measurement Lab
7. Auto- CAD Lab
8. Circuit Lab
9. Communication Lab
10. Control Lab
11. Digital Lab
12. Electronics Lab
13. ETAP Lab
14. IRC Lab
15. Mechanical Machine Lab
16. Surveying And Drawing Lab
17. Workshop Lab



## Department of Software Engineering



### Chairman

**Engr. Dr. Saadat Hanif Dar**

Email: saadat.dar@gmail.com

chairman.se@must.edu.pk

Tel: +925827-961016

### Faculty:

Name	Designation	Qualification	Uni./Country
1 Engr. Dr. Saadat Hanif Dar	Assistant Professor	Ph.D (EE)	Riphah International Uni, Islamabad
2 Engr. Dr. Nouman Ali Khan	Assistant Professor	Ph.D (CE)	UET Taxila
3 Engr. Shamila Nasreen	Assistant Professor	MS(SE)	UET Taxila
4 Ms. Tehmina Sheharyar	Lecturer	MS (SE)	Bahria University, Islamabad
5 Engr. Bilal Haider	Lecturer	MS (IS)	MCS, NUST, Rawalpindi
6 Engr. Areeb Ahmad	Lecturer	BS(SE)	MCS, NUST, Rawalpindi
7 Engr. Asim Javaid	Lecturer	MS(SE)	Bahria University, Islamabad
8 Engr. Tahir Abbas	Lecturer	MS(SE)	UET Taxila
9 Engr. Fasih Javaid	Lecturer	MS(EE)	MUST, Mirpur
10 Ms. Anum Tariq	Lecturer	MS(CSE)	CEME, NUST, Rawalpindi
11 Ms. Samina Fazilat	Jr. Lecturer	BS(SE)	MUST, Mirpur
12 Engr. Samiullah Khan	Lecturer	MS(CSE)	CEME, NUST, Rawalpindi
13 Engr. Sehrish Manzoor	Jr. Lecturer/Lab Engineer	BS(SE)	MUST, Mirpur
14 Engr. Afzal Ahmed	Jr. Lecturer/Lab Engineer	MS(SE)	Bahria University, Islamabad
15 Engr. Muhammad Raees	Jr. Lecturer/Lab Engineer	MS(SE)	Bahria University, Islamabad
16 Mr. Umer Mushtaq	Lecturer	MS(SE)	Bahria University, Islamabad
17 Mr. Imran Qayyum	Lab Engineer	BS(SE)	UAJK, Muzzaffarabad
18 Mr. Zohaib Ahmed	Lab Engineer	MS(SE)	Bahria University, Islamabad

### Faculty on Scholarship:

Name	Scholarship	Institute
1 Engr. Bilal Haider Naqvi	Ph.D Full Foreign	Lappeenranta University of Technology, Finland
2 Engr. Tahir Abbas	Ph.D Full Foreign	NTU, Netherlands



Faulty Members, Department of Software Engineering

### Program Overview

Software Engineering Department was established in the year 2006 under the umbrella of CS& IT department UAJK Muzaffarabad. Later, after the inception of MUST this department was switched towards Faculty of the engineering in the year 2009. The Department is committed to produce young entrepreneur for career in Software Project management and Software development and integration. Software Engineering department covers wide domains such as software development, data bases, Computer Graphics, Networking and web developing etc.

It is a Four-year degree program consists of eight (8) semesters. The maximum duration for completion of this degree is Fourteen (14) Semesters. The degree is awarded on the successful completion of minimum

134 credit hours, including six credits for the project with a passing CGPA of at least 2.5/4.

### Program Mission

To produce the next generation of Software Engineers capable of meeting challenges from current and the future, local and International, governmental and industrial sectors and who are abreast with the latest trends in the software engineering discipline.

### Program Educational Objectives (PEOs)

1. To prepare graduates for effective engineering of various types of software solutions through all stages
2. To prepare graduates for becoming effective professional and ethically responsible team members in multi-disciplinary software product development teams



3. To prepare well-rounded graduates with knowledge of various supporting disciplines
4. To prepare graduates with a will and understanding of embarking on a lifelong journey of continual learning and professional development

### **Program Learning Outcomes (PLOs)**

1. **The Engineering Knowledge:** An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis:** An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3. **Design/Development of Solutions:** An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. **Investigation:** An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
5. **Modern Tool Usage:** An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
6. **The Engineer and Society:** An ability to apply

reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

7. **Environment and Sustainability:** An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

9. **Individual and Team Work:** An ability to work effectively, as an individual or in a team, on multifaceted and/or multidisciplinary settings.

10. **Communication:** An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project Management:** An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

12. **Lifelong Learning:** An ability to recognize importance of and pursue lifelong learning in the broader context of innovation and technological developments.

## Scheme of Study

Revised for the Sessions:	2018-22 Onwards	Duration:	8 Semesters
Courses:	128 Credits	Final Year Project:	6 Credits
Total:	134 Credits	Internship:	S/U Basis
Oral Comprehensive Examinations: S/U Basis			

	Course Code	Title	Crd. Hrs.		Pre-Requisite
			Theory	Practical	
Semester - 1	SE-111	Introduction to Info. & Comm. Technologies	3	1	NA
	PS-112	Pakistan Studies	2	0	NA
	MT-113	Calculus and Analytical Geometry	3	0	NA
	PH-114	Applied Physics	3	0	NA
	EG-115	English Composition & Comprehension	3	0	NA
	IS-116	Islamic Studies/Ethics for Non-Muslims	2	0	NA
Semester - 2	SE-121	Discrete Structures	3	0	–
	SE-122	Linear Algebra	3	0	–
	SE-123	Programming Fundamentals	3	1	–
	KS-124	Kashmir Studies (University Elective-I)	2	0	–
	EG-125	Communication & Presentation Skill	3	0	EG-115
	SE-126	Introduction to Software Engineering	3	0	–
Semester - 3	SE-231	Software Requirement Engineering	3	0	SE-126
	SE-232	Data Structures and Algorithms	3	1	SE-123
	SE-233	Software Engineering Economics	3	0	–
	SE-234	Objects Oriented Programming	3	1	SE-123
	MT-235	Probability Statistics	3	0	–
Semester - 4	SE-241	Operating Systems	3	1	SE-232
	SE-242	Software Design & Architecture	3	1	SE-231
	EG-243	Technical and Business Writing	3	0	–
	SE-244	Database Systems	3	1	SE-232
	SE-245	Human Computer Interaction	3	0	–





	Course Code	Title	Crd. Hrs.		Pre-Requisite
			Theory	Practical	
Semester - 5	SE-351	Software Construction and Development	3	1	SE-242
	SE-352	Professional Practice	3	0	
	SE-353	Business Process Engineering (SE-Supporting-I)	3	0	
	SE-354	Web Engineering	3	1	
		SE Elective-I	2	1	
Semester - 6	SE-361	Information Security	3	0	SE-113
	SE-362	Software Quality Engineering	3	1	
	SE-363	Simulation and Modeling (SE-Supporting-II)	2	1	
	SE-364	Formal Methods in Software Engineering (SE Supporting – III)	3	0	SE-121
		Computer Networks	3	1	
Semester - 7	FYP-471	Final Year Project-I	0	3	SE-126 SE-351
	SE-472	Software Project Management	3	0	
	SE-473	Software Re-Engineering	3	0	
		SE Elective – II	2	1	
		SE Elective – III	2	1	
Semester - 8	FYP-481	Final Year Project-II	0	3	
	ETRE-482	Entrepreneurship (University Elective – III)	3	0	
	ARA-483	Arabic (University Elective – IV)	3	0	
		SE Elective – IV	3	0	
		SE Elective – V	3	0	

## Lab Facilities

Sr. No.	Lab Title	Experiments/ Courses Covered
1.	Analysis and Design Lab	Introduction to Computing, Software Design and Architecture, Computer Communications and Networks, Data Security and Encryption, Mobile Computing. Computer Architecture & Organization
2.	Development and Testing Lab	Programming Fundamentals, Object Oriented Programming, Data Structures and Algorithms, Introduction to Databases, Operating Systems, Advanced Database Systems, Software Verification & Validation. Web Design & Development
3.	General Programming Lab	Semester Projects, Assignments
4.	Electronics Lab	Physics, Digital Logic Design, Embedded and Real Time Systems.
5.	Final Year Project/Research	Semester Projects/Final Year Projects

Course Title	Credit Hours	Course Title	Credit Hours
Agent Based Software Engineering	3-0	Real Time Systems	3-0
Big Data Analytics	3-0	Semantic Web	3-0
Cloud Computing	3-0	Software Metrics	3-0
Computer Graphics	2-1	Systems Programming	2-1
Data Encryption and Security	3-0	Topics in Software Engineering	3-0
E-Commerce	3-0	Visual Programming	2-1
Game Application Development	2-1	Robotics	2-1
Global Software Development	3-0	Computer Vision	2-1
Information Systems Audit	3-0	Digital Image Processing	2-1
Management Information Systems	3-0	Advance Database Management Systems	2-1
Mobile Application Development	2-1	Enterprise Application Development	2-1
Multimedia Communication	2-1	Digital Logic Design	3-1
Natural Language Processing	3-0	Machine Learning	3-0
<b>Total (Any Five of the Above)</b>	<b>15-0</b>		



## Student's Messages



**Daniyal Shaheen**  
SE-8th  
Session 2014-18

First of all, I want to offer my gratitude to MUST for providing me the platform to fulfil my dream to become a professional and specifically my department provided me the platform to polish not only my curricular but also the extra-curricular activities. The dedicated staff instilled the technical and professional knowledge by becoming a paradigm of professional engineer. The facilities provided here in our department are matchless and acknowledged by Pakistan Engineering Council. I personally recommend the aspirants to join the department for the excellence in the arena of software.



**Nawal Farakh**  
SE-2nd  
Session 2017-21

It is a great Honour for me to be a part of Software Engineering Department. This program helps in developing critical thinking, imparts confidence, promotes social interactions and provide a rich set of Co-curricular activities. The highly qualified Faculty of Software Engineering is polishing our skills to make us competent professionals. I would recommend that it is great opportunity for those who want to excel in this field and make this institute a leading one in the technology race.

## Mirpur Institute of Technology



### Director

**Engr. Mirza Ateeque Ahmed**

Tel: +92-5827-961062

Email: chairperson\_et@must.edu.pk

### Faculty:

	<b>Name</b>	<b>Designation</b>	<b>Qualification</b>
1.	Engr. Mirza Ateeque Ahmed	Asstt. Prof.	Ph.D (Cont.) MUST
2.	Engr. Riffat Ara	Lecturer	Ph.D (Cont.) MUST
3.	Engr. Tasleem Kausar	Lecturer	Ph.D (Cont.) China
4.	Engr. Faisal Iqbal	Lecturer	Ph.D (Cont.) MUST
5.	Engr. Obed-ur-Rehman Pirzada	Lecturer	B.Sc (E.E) MUST
6.	Engr. Adil Ahmad	Junior Lect.	M.Sc.
7.	Engr. Imran Riaz	Junior Lect.	Ph.D (Cont.) MUST
8.	Engr. Tamoor Shafique	Junior Lect.	Ph.D (Cont.) UK



**Faculty Members, Department of Mirpur Institute of Technology**



## Mission

- To create and sustain a community of learning in which students acquire knowledge and learn to apply it professionally with due consideration for ethical, ecological and economic issues.
- To pursue research and disseminate research findings.
- To provide knowledge-based technological services to satisfy the needs of society and the industry.
- To help in building national capabilities in science, technology, humanities, management, education and research.

## Vision

To transfer technology incubation and enterprising spirit among student for the advancement of society as a whole creating wealth and economic opportunity

## Courses

	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
Semester I	GS-111	Applied Mathematics-I	3	0	3	3	0	3
	ET-112	Linear Circuit Analysis	2	1	3	2	3	5
	HS-113	Islamic Studies	2	0	2	2	0	2
	GS-114	Applied Physics	2	1	3	2	3	5
	GS-115	Introduction to computer Fundamentals	1	2	3	1	6	7
	ET -116	Engineering Drawing	1	2	3	1	6	7
		<b>Total</b>	<b>11</b>	<b>6</b>	<b>17</b>	<b>11</b>	<b>18</b>	<b>29</b>

for all. To develop excellent professionals for the economic development of the country.

## Scheme of Studies (B.Sc. Electrical Engineering Technology)

Program Duration:	<b>8-10 Semesters</b>
Courses:	100 Credit Hours
Project:	06 Credit Hours
Supervised Industrial Training:	32 Credit Hours
<b>Total:</b>	<b>138 Credit Hours</b>

## Admission Requirements

- D.A.E. (Electrical/Electronics) with minimum of 50% Marks.  
or
- F.Sc. (Pre-Engg.) OR Equivalent with Minimum of 50% Marks.
- Entry Test conducted by the University.



	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
Semester 2	HS-121	Communication Skills	3	0	3	3	0	3
	HS-122	Pakistan Studies	2	0	2	2	0	2
	ET-123	Electronics	2	2	4	2	6	8
	ET -124	Basic Mechanical Technology	2	1	3	2	3	5
	GS-125	Applied Mathematics-II	3	0	3	3	0	3
	ET-126	Electrical Machines-I	2	1	3	2	3	5
		<b>Total</b>	<b>14</b>	<b>04</b>	<b>18</b>	<b>14</b>	<b>12</b>	<b>26</b>

	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
Semester 3	ET -231	Power Generation System	2	0	2	2	0	2
	HS -232	Technical Report Writing	3	0	3	3	0	3
	ET -233	Electrical Instruments & Measurements	2	2	4	2	6	8
	ET -234	Electrical Machines-II	2	2	4	2	6	8
	ET -235	Digital Electronics	2	2	4	2	6	8
		<b>Total</b>	<b>11</b>	<b>6</b>	<b>17</b>	<b>11</b>	<b>18</b>	<b>29</b>

	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
Semester 4	ET -241	AC circuit Analysis	2	2	4	2	6	8
	ET -242	Electro-Magnetic Fields	2	0	2	2	0	2
	ET -243	Electrical Power Transmission	2	1	3	2	3	5
	ET -244	Power Distribution and Utilization	2	1	3	2	3	5
	ET -245	Microprocessor Theory and Interfacing	2	1	3	2	3	5
		<b>Total</b>	<b>10</b>	<b>6</b>	<b>16</b>	<b>10</b>	<b>8</b>	<b>18</b>



	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
Semester 5	ET -351	Power Electronics	2	2	4	2	6	8
	ET -352	High Voltage Technology	2	1	3	2	3	5
	ET -353	Switchgear and Protective Devices	2	1	3	2	3	5
	ET -354	Communication Technology	2	2	4	2	6	8
	ET-355	Control Technology	2	1	3	2	3	5
	MS -356	Total Quality Management	2	1	3	2	3	5
		<b>Total</b>	<b>12</b>	<b>6</b>	<b>18</b>	<b>12</b>	<b>18</b>	<b>30</b>

	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
Semester 6	ET -361	Power System Analysis	2	0	2	2	0	2
	ET -362	Data and Computer Communication	2	2	4	2	6	8
	ET -363	Industrial Drives and PLC	2	2	4	2	6	8
	HS-364	Arabic	2	0	2	2	0	2
	MS-365	Project Management	3	0	3	3	0	3
	ET-366	Project	0	3	3	0	9	9
	ET-367X	Project	0	3	3	0	9	9
		<b>Total</b>	<b>11</b>	<b>17</b>	<b>18</b>	<b>11</b>	<b>21</b>	<b>32</b>

	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
Semester 6-3rd Year	ET-367X	Project	0	3	3	0	9	9
		<b>Total</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>9</b>

Semester 7	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
	ET -471	Supervised Industrial Training/Field Training* *16weeks(8x5=40Hrs/week)	0	16	16	0	40x16=640	640
		<b>Total</b>	<b>0</b>	<b>16</b>	<b>16</b>	<b>0</b>	<b>640</b>	<b>640</b>

Semester 8	Course Code	Course Title	Crd. Hrs.			Contact Hours		
			Theory	Practical	Total	Theory	Practical	Total
	ET -481	Supervised Industrial Training/Field Training* *16weeks(8x5=40Hrs/week)	0	16	16	0	40x16=640	640
		<b>Total</b>	<b>0</b>	<b>16</b>	<b>16</b>	<b>0</b>	<b>640</b>	<b>640</b>

## Student's Messages



**Huzaifa Rashid**  
(4<sup>th</sup> Semester)

I am proud to be the student of Electrical Technology Department among one of the best department of the field. This department gave me confidence, skills and helps me in grooming my personality. Teachers are well qualified and cooperative. In my opinion the atmosphere of the university provides an edifying height in connection with the academic and moral attitude.



**Zia Sajjad**  
(6<sup>th</sup> Semester)

It is a matter of pleasure for me to get admission in this prestigious institution. The environment here is much conductive and helpful. The Department of Electrical Engineering Technology is carving me for field work and practical life. The knowledge I am getting here is futuristic and up to date. MUST is playing a vital role in polishing my problem solving abilities and boosting self-confidence. I would describe MUST as exciting and dynamic and would recommend it to any student looking for a good academic and professional career.



## Courses for B.Sc. Civil Engineering Technology

### Scheme of Studies

Program Duration	8-10 Semesters
Courses	99 Credits
Project	06 Credits
Supervised Industrial Training	32 Credits
Total	137 Credits

### Admission Requirements

- D.A.E. (Civil) with minimum of 50% Marks.  
OR
- F.Sc. (Pre-Eng.) OR Equivalent with Minimum of 50% Marks.
- Entry Test conducted by the University

### Department of Civil Engineering Technology Scheme of Study for session 2018-22

#### Semester-1st First Year

Course Code	Course Title	Credit Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
GS-111	Applied Mathematics-I	3	0	3	3	0	3
CT-112	Surveying	2	2	4	2	6	8
HS-113	Islamic Studies	2	0	2	2	0	2
MS-114	Occupational Health & Safety Management	2	0	2	2	0	2
GS-115	Introduction to computer Fundamentals	1	2	3	1	6	7
CT -116	Civil Engineering Drawing	1	2	3	1	6	7
<b>Total</b>		<b>11</b>	<b>06</b>	<b>17</b>	<b>11</b>	<b>18</b>	<b>29</b>

### Semester-2nd First Year

Course Code	Course Title	Credit Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
HS-121	Communication Skills	3	0	3	3	0	3
CT-122	Concrete Technology	2	2	4	2	6	8
CT-123	Applied Mechanics	2	2	4	2	6	8
CT -124	Materials and Methods of Constructions	2	2	4	2	6	8
GS-125	Applied Mathematics-II	3	0	3	3	0	3
<b>Total</b>		<b>12</b>	<b>6</b>	<b>18</b>	<b>12</b>	<b>18</b>	<b>30</b>

### Semester 3rd Second year

Course Code	Course Title	Credit Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
CT -231	Introduction to Architecture and Town Planning	2	0	2	2	0	2
HS -232	Pakistan Studies	2	0	2	2	0	2
CT -233	Quantity Surveying and Contract Documents	1	2	3	1	6	7
CT -234	Soil Mechanics	2	1	3	2	3	5
CT -235	Fluid Mechanics	2	1	3	2	3	5
CT-236	Mechanics of Solids	2	2	4	2	6	8
<b>Total</b>		<b>11</b>	<b>6</b>	<b>17</b>	<b>11</b>	<b>18</b>	<b>29</b>





### Semester 4th Second year

Course Code	Course Title	Credit Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
CT -241	Transportation Engineering	2	2	4	2	6	8
CT -242	Water Supply and Waste water Management	2	2	4	2	6	8
MS -243	Environmental Management	2	1	3	2	3	5
CT-244	Theory of Structures	2	1	3	2	3	5
CT -245	Technical Report Writing	3	0	3	3	0	3
<b>Total</b>		<b>11</b>	<b>6</b>	<b>17</b>	<b>11</b>	<b>18</b>	<b>29</b>

### Semester 5th Third Year

Course Code	Course Title	Credit. Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
CT-351	Hydrology	2	1	3	2	3	5
CT-352	Reinforced Concrete Structure	2	1	3	2	3	5
CT-353	Construction and Hydraulic Machinery	2	1	3	2	3	5
CT-354	Computer Aided Building Modeling and Design	1	2	3	1	6	7
CT-355	Foundations Engineering	2	1	3	2	3	5
MS -356	Project Management	3	0	3	3	0	3
<b>Total</b>		<b>12</b>	<b>6</b>	<b>18</b>	<b>12</b>	<b>18</b>	<b>30</b>

### Semester 6th Third Year

Course Code	Course Title	Credit Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
CT -361	Pre-stressed & Precast concrete	2	1	2	2	3	5
CT -362	Geology & Earthquake Engineering	2	1	4	2	3	5
CT -363	Irrigation and Hydraulic Structures	2	1	4	2	3	5
CT-364	Steel Structures	2	1	2	2	3	5
CT-365	Project	0	3	3	0	9	9
<b>Total</b>		<b>08</b>	<b>7</b>	<b>15</b>	<b>08</b>	<b>21</b>	<b>29</b>

### Semester 6th Third Year Summer Project Work

Course Code	Course Title	Credit Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
CT -366X	Project(Continue)	0	3	3	0	9	9
<b>Total</b>		<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>9</b>

### Semester 7th Fourth Year

Course Code	Course Title	Credit Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
CT -471	Supervised Industrial Training/Field Training*	0	16	16	0	40x16=640	640
<b>*16weeks(8x5=40Hrs/week) Total</b>		<b>0</b>	<b>16</b>	<b>16</b>	<b>0</b>	<b>640</b>	<b>640</b>



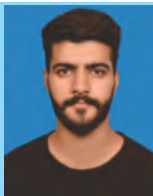
## Semester 8th Fourth Year

Course Code	Course Title	Credit Hrs.			Contact Hours		
		Theory	Practical	Total	Theory	Practical	Total
CT -481	Supervised Industrial Training/Field Training*	0	16	16	0	40x16=640	640
<b>*16weeks(8x5=40Hrs/week) Total</b>		<b>0</b>	<b>16</b>	<b>16</b>	<b>0</b>	<b>640</b>	<b>640</b>

## Faculty of Civil Engineering Technology Department:

	Name	Designation	Qualification	Uni./Country
1.	Engr. Mirza Ateeq Ahmed	Assistant Prof.	Ph.D(Continued)	MUST
2.	Engr. Waqas Anwar	Assistant Prof.	Ph.D(Continued)	CUST
3.	Engr. Israr-ul-Haq	Assistant Prof.	M.Sc CE	UET Taxila
4.	Engr. Imran Mehmood	Lecturer	Ph.D(Continued)CE	UET Taxila.
5.	Engr. Nazakat Hussain	Lecture	M.Sc. CE	MUST.
6.	Engr. Rizwan Ch.	Junior Lecturer	M.Sc. CE	MUST
7.	Engr. Imran Riaz	Junior Lecturer	Ph.D.(Continued)	MUST

## Student's Messages



**Ahad Riaz**  
(4<sup>th</sup> Semester)

It is great honor for me to be a part of civil engineering technology department of MUST. I found here an admirable environment for civilizing my learning and exploring abilities. The labs are up to date and equipment available is the modern of its kind. There is a great focus on practical work. I am very satisfied with highly qualified faculty. Now I am confident to face challenges and complexities of project related to civil engineering. No doubt it is great opportunity for those who wanted to outshine in the field of Civil engineering technology.



**Anees Fazal**  
(2<sup>nd</sup> Semester)

I am proud of being a student of MUST. I am Student of BS Civil Engineering Technology (2nd Semester) I am really impressed with knowledge given to students and excellent academic Environment provided in department here all students included with ethical and moral value.

The department has enabled me to enhance and practically apply my skill studding at Civil Technology help me to strive and attain as much as possible a perfection in field of Civil Technology.

The logo features a central point from which numerous thin, dark red lines radiate outwards, creating a sunburst or starburst effect. These lines are set against a lighter, dusty rose background. The entire design is contained within a dark red, rounded rectangular frame. The text "Faculty of Science" is written in a white, elegant script font, centered over the radiating lines.

*Faculty of Science*

# Faculty of Science

## Department at Mirpur Campus

1. Biotechnology
2. Chemistry
3. CS & IT
4. Mathematics
5. Physics
6. Zoology

## Department at Bhimber Campus

1. Botany



**Prof. Dr. Rehana Asghar (T.I.)**

Dean Faculty of Science

Tel: +92-5827-961054 Fax: +92-5827-961054

E-mail: rehanauaar@yahoo.com

dean.sciences@must.edu.pk



**Dean Faculty of Science with Head of Departments**





## Dean's Message

Welcome to the Faculty of Science (FoS) at the Mirpur University of Science and Technology (MUST), Mirpur. It is my privilege to serve as Dean for this prestigious FoS. The MUST is one of the leading universities to develop career and to make its graduates a precious asset of the country. The key to success of the FoS lies in the aspirations of our students, the hard work of our outstanding faculty members and the steady support of the MUST leadership. Science is one of the principle ways in which we as a society understand the world around us and solve the problems that beset us and to create a secure and safe society. Scientific endeavours provide us the ability to understand the universe, global ecosystem, evolution and diversity of life, feeding and combatting diseases. The first goal of the FoS is to acquire the knowledge and the second to prepare graduates for a quality of adult life in the global village as responsible citizens. Therefore, the expectations upon and responsibilities given to FoS from our society are held by us to be paramount.

The FoS consists of seven academic Departments: Biotechnology, Botany, Chemistry, Computer Science and Information Technology, Mathematics, Physics and Zoology. Faculty annually admits about 900 students and offers the BS (4-year), M.Sc., MCS, M.Phil. (2-year) and Ph.D. degree programmes. We are constantly revamping our curriculum to reflect the broadening spectrum of science to meet the needs of the day. We believe that the best learning often takes place outside the lecture theatre. Our students have many opportunities for enriching their experiences such as undergraduate research, group discussions, field trips, internships, seminars, workshops and conferences. They enjoy a congenial atmosphere with one another along with our experienced faculty who have a missionary zeal for producing an excellent academic atmosphere. The overarching objective of the FoS is to produce professionals who are knowledgeable and technically-savvy in their respective areas of expertise and who are not afraid to tackle challenging problems. The faculty take pride in the high quality of our teaching and research.

We are continuing to develop our strategic plan for future and identified four key themes: enabling research of the highest caliber in the natural, physical and biological sciences; elevating the quality of our undergraduate and graduate educational experiences to the level of our research; and increasing our impact on the society. Our faculty is focused in the research areas such as Biotechnology, Molecular Genetics, Genomics, Stem Cell Technology, Biodiversity and Conservation, Material and Chemical Science, Nano Science, Solid State and Nuclear Physics, Mathematical Modeling, Statistics, Artificial Intelligence and Computational Science. This research training at the FoS will help prepare graduates to become an articulate communicator, a careful thinker, a person who is concerned with good health and healthy interpersonal relationships that cross cultural boundaries.

I invite you to explore the exciting programs and become part of tremendous growth which is expected to continue even at faster pace. We will help you equip with latest technologies and skills to face the challenges and create the world of tomorrow. Our goal is to contribute to the sustainable and peaceful development of human society through the research and educational activities of science. We always consider how we can foster dreams and hopes in the young people who are the future of Pakistan.

**Prof. Dr. Rehana Asghar (T.I)**

## Department of Biotechnology



**Chairman**

**Dr. Imran Ali**

Tel: +92-5827-961999

Email: chairperson.biotech@must.edu.pk

aliimran@must.edu.pk

### Faculty:

	<b>Name</b>	<b>Designation</b>	<b>Last Degree</b>	<b>Univ./Country</b>
1.	Dr. Rehana Asghar(T.I.)	Professor	Ph.D & Post Doc	Uni. Of California USA.
2.	Dr. Maqsood Ahmed	Professor	Ph.D & Post Doc	BZU, Pak. China
3.	Dr. M. Tariq Awan	Asstt. Prof.	Ph.D	P.U, Pak.
4.	Dr. M. Altaf Hussain	Asstt. Prof.	Ph.D	UAJK, Pak.
5.	Dr. Abdul Jabbar	Asstt. Prof.	Ph.D	QAU, Pak.
6.	Dr. Imran Ali	Asstt. Prof.	Ph.D	MUST
7.	Ms. Saadia Mehboob	Lecturer	M.Phil	MUST, Pak.
8.	Dr. Tahir Mahmood	Lecturer	Ph.D	UAAR, Pak.
9.	Ms. Rabia Yasin	Lecturer	M.Phil	QAU, Pak.
10.	Ms. Benish Javed	Lecturer	M.Phil	QAU, Pak.



**Faculty Members, Department of Biotechnology**



## Introduction

Department of Biotechnology was established in June 2010 with the aim of providing the facility of higher education to the youth in a vibrant and growing field of biotechnology. The United Nations Convention on Biological Diversity defines biotechnology as any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use. Biotechnology draws on the pure biological sciences (genetics, microbiology, animal and plant cell culture, molecular biology, biochemistry, cell biology, environmental science) and in many instances on knowledge and methods from outside the sphere of biology (chemical engineering, bioprocess engineering, information technology and biorobotics). Modern biological sciences are intimately entwined and dependent on the methods developed through biotechnology and what is commonly thought of as the life science industry.

The mission of the department is to produce highly trained undergraduate and graduate students who can compete at national and international levels. In this regard the department is producing trained manpower in different areas such as pharmaceutical, industrial, environmental, medical, plant and animal biotechnology. The major purpose in the establishment of the department is to produce well equipped graduates in M.Phil. and Ph.D. degree programs who can carry out research in biotechnology. Biotechnology has an impact on many aspects of our everyday life, and hence the discipline intakes the students having diverse backgrounds like; biology,

biochemistry, botany, molecular biology, zoology, computer science and biostatistics. The main thrust area of the department is to use microorganism to produce and engineer industrially important chemicals/ enzymes to enhance the production of pharmaceutical products through mass culturing, to produce trained man power and goal oriented biotechnology research on specific problems related to country "s economic need in industrial, agriculture, health, medicine, energy and environmental sectors. Biotechnology department has isolated and characterized some industrially important microbes and genes like alpha amylase. Cellulases have been amplified and recombinant constructs have made by using recombinant DNA techniques. Another area of interest is the use of in-vitro biotechnology for the induction of stress tolerance in commercially important crops for adaptation under local environment. Looking at the available resources of the freshwater in the AJK, there is a wide scope to study freshwater life. Therefore there is a great potential to work on specifically fish biology of Mangla Dam for its improvement to generate high revenue industry.

In view of market acceptability of the graduating students the course contents of the degree programmes have been developed in accordance with the HEC recommended syllabi and courses. Department of Biotechnology offers a broad range of topics in biological sciences that apply to biotechnology including molecular biology, genomics, proteomics, bioinformatics and metabolomics. The graduates will have employment opportunities in national and international research organizations.



## Mission

Our mission is to develop skilled human resource in biotechnology with capabilities of providing sustainable solutions to the problems of bio science industries.

## Programs:

- B.S. Biotechnology
- M.Phil. Biotechnology
- Ph.D. Biotechnology

## Admission Requirements for B.S

- F.Sc. (Pre-Medical), Biology, Chemistry and Physics or Computer Science. No D-grade in academic career
- Entry Test will be conducted by the University with the following breakup: Biology: 35 %, English: 10%, Chemistry: 35% and Physics: 20%
- Merit will be determined on 20% of SSC, 50% of Intermediate and 30% of Entry Test marks

## Admission Requirements for M.Phil

- Second division or CGPA 2.5/4.0 in M.Sc. Life Sciences and related subjects, with no third division in the academic career.
- GAT General conducted by NTS with minimum 50% cumulative score.
- An Entry Test conducted by the University.

## Admission Requirements for Ph.D

- First division or CGPA 3.0/4.0 in M.Phil. Life Sciences and related subjects with no third division in the academic career.
- GRE International/ GAT Subject test with

minimum score 60% before submission of Ph.D. dissertation.

## Scheme of Studies for BS:

Duration:	8-10 Semesters
Course Work:	126 Credit Hours
Project (Mandatory):	06 Credit Hours
Seminar:	02 Credit Hours
Comprehensive Oral Examinations:	S/U
<b>Total:</b>	<b>134 Credit Hours</b>

## Scheme of Studies for M.Phil

Duration:	4-6 Semesters
Course Work:	24 Credit Hours
Seminar:	01 Credit Hours
Thesis:	06 Credit Hours
<b>Total:</b>	<b>31 Credit Hours</b>

The supervisor of M.Phil. student will propose courses relevant to student's research area. The students shall be required to present a thesis based on original research work carried out under the supervision of HEC approved supervisor.

## Scheme of Studies for Ph.D

Duration:	6-10 Semesters
Course Work:	18 Credit hours
Seminar I:	01 Credit Hour
Seminar II:	01 Credit Hour
Thesis:	50 Credit Hours
<b>Total:</b>	<b>70 Credit Hours</b>

The supervisory committee for Ph.D. student will select courses related to the research work of student. The students will be required to present a thesis based on original research work carried out under the supervision of HEC approved supervisor.

## Courses for B.S

Sr. No.	Category	No. of Courses	Credit
01	Compulsory Courses	09	24
02	General Courses	08	24
03	Foundation Courses	13	39
04	Major Courses	13	35
05	Electives Courses	04	12

## Layout/Framework

Category	Course Title	Credits
Compulsory	English I	3+0
	English II	3+0
	English III	3+0
	Pakistan Studies	2+0
	Islamic Studies	2+0
	Biosafety & Bioethics	2+0
	Mathematics -I (Pre-calculus)	3+0
	Biomathematics	3+0
	Introduction to Computer Science	2+1
	<b>Total</b>	<b>24</b>
General Courses	Physical Chemistry	3+0
	Inorganic Chemistry	2+1
	Organic Chemistry	2+1
	Ecology, Biodiversity & Evolution - I	3+0
	Ecology, Biodiversity & Evolution - II	2+1
	Biological Physics	3+0
	Two Social Science courses from following list:	3+0
	a. Sociology	
	b. Mass Communication	3+0
	c. Economics	3+0
	d. Marketing	3+0
	e. Environmental Policy	3+0





Category	Course Title	Credits
	f. Psychology	3+0
	g. Fine Arts	3+0
	h. Political Science	3+0
	i. International Affairs	3+0
	j. Public Administration	3+0
	k. Arabic	3+0
	<b>Total</b>	<b>24</b>
Foundation Courses	Microbiology	2+1
	Biochemistry-I	2+1
	Biochemistry-II	2+1
	Cell Biology	2+1
	Fundamentals of Genetics	3+0
	Probability & Biostatistics	3+0
	Analytical Chemistry & Instrumentation	2+1
	Molecular Biology.	3+0
	Introduction to Biotechnology	3+0
	Introduction to Immunology	3+0
	Methods in Molecular Biology	1+2
	Genetic Resources & Conservation	3+0
	Microbial Biotechnology	3+0
	<b>Total</b>	<b>39</b>
Major Courses	Principles of Biochemical Engineering	2+1
	Agriculture Biotechnology	2+1*
	Health Biotechnology	3+0*
	Environmental Biotechnology	3+0*
	Food Biotechnology	3+0*
	Genomics & Proteomics	3+0
	Introduction to Bioinformatics	1+2
	Industrial Biotechnology	3+0*
	Research Methodology Skill Enhancement	3+0
	Seminar-I	1+0
	Seminar-II	1+0
	Research Project OR Internship OR Special Paper -I (M)	1+0

Category	Course Title	Credits
	Research Project OR Internship OR Special Paper -II(M)	3+0
	<b>Total</b>	<b>35</b>
Elective Courses	Elective-I	3+0
	Elective - II	3+0
	Elective - III	3+0
	Elective - IV	3+0
	Note These courses will be selected from the list of elective courses.	
	<b>Total</b>	<b>12</b>

### Courses for M.Phil /MS

S. No.	Course code	Course Title	Credit Hours
1.	BIOT-701	Advances in Microbial Biotechnology	3(3-0)
2.	BIOT-702	Recombinant DNA Technology	3(3-0)
3.	BIOT-703	Advances in Biochemistry	3(3-0)
4.	BIOT-704	Advances in Molecular Genetics	3(3-0)
5.	BIOT-705	Techniques in Biotechnology	3(3-0)
6.	BIOT-706	Advances in Immunology	3(3-0)
7.	BIOT-707	Bio-safety and Bioethics, Applications	3(3-0)
8.	BIOT-708	Biostatistics	3(3-0)
9.	BIOT-709	Advances in Genomics	3(3-0)
10.	BIOT-710	Advances in Bioinformatics	3(3-0)
11.	BIOT-711	Applications of Nano-biotechnology	3(3-0)
12.	BIOT-712	Advances in Plant Biotechnology	3(3-0)
13.	BIOT-713	Advances in Animal Biotechnology	3(3-0)
14.	BIOT-714	Advances in Enzyme Biotechnology	3(3-0)
15.	BIOT-715	Medical Biotechnology	3(3-0)
16.	BIOT-716	Forensic Biotechnology	3(3-0)
17.	BIOT-717	Advances in Industrial Biotechnology	3(3-0)
18.	BIOT-718	Advances in Environmental Biotechnology	3(3-0)
19.	BIOT-719	Human Biotechnology	3(3-0)



20.	BIOT-720	Advances in Pharmaceutical Biotechnology	3(3-0)
21.	BIOT-721	Advances in Stem Cell Technology	3(3-0)
22.	BIOT-722	Advances in Tissue Culture	3(3-0)
23.	BIOT-723	Applications of Biotechnology	3(3-0)
24.	BIOT-724	Business Entrepreneurship	3(3-0)
25.	BIOT-725	Medical Microbiology	3(3-0)
26.	BIOT-726	Seminar	1(1+0)
27.	BIOT-727	Thesis M.Phil.	+(0+6)

### Courses for Ph.D

S. No.	Course code	Course Title	Credit Hours
1.	BIOT-751	Integrated Biological Resources Management	3(3-0)
2.	BIOT-752	Frontiers in Biotechnology	3(3-0)
3.	BIOT-753	Project Planning, Monitoring and Evaluation	3(3-0)
4.	BIOT-754	DNA-Protein Modules	3(3-0)
5.	BIOT-755	Cloning Modules	3(3-0)
6.	BIOT-756	Seminar I	1(1-0)
7.	BIOT-757	Seminar II	1(1-0)
8.	BIOT-758	Thesis Ph.D.	<b>50(50-0)</b>

### Student's Message



**Atiq U Zaman**  
M.Phil 4<sup>th</sup> Semester

I feel privilege and honour to be a student in the department of biotechnology MUST. Department is gave me confidence, skills and helped me in grooming my personality. I am not only gaining skills but also confidence, dedication, character building, ethics and finding path ways to mould my future. Excellent academic environment and interaction with faculty has given me tremendous confidence. Exposure to seminars and conferences has broadened my horizons. I feel pleasure to be part of department which is grooming environment of the research.



## Department of Botany



### Chairperson

**Dr. Nafeesa Zahid Malik.**

(Ph.D. UAAR, Pakistan)

Tel & Fax: 05828-920235

Email: chairman.botany@must.edu.pk

### Faculty:

Name	Designation	Last Degree	University/Country
1. Dr. Nafeesa Zahid Malik	Asstt. Prof.	Ph.D	UAAR, Pak.
2. Dr. Muhammad Ishtiaq Ch.	Asso. Prof.	Ph.D	Zhejiang Univ. China
3. Dr. Muhammad Ajaib	Asso. Prof.	Ph.D	GC University, Pak
4. Ms. Qumqum Noshad	Lecturer	M.Phil	QAU, Pak.
5. Mrs. Waheeda Mushtaq	Lecturer	M.Phil	MUST, Mirpur
6. Ms. Neelam Rashid	Lecturer	M.Phil	QAU, Pak.
7. Ms. Sadia Jehangir	Jr. Lecturer	M.Phil	QAU, Pak.
8. Mr. Nouman Rafique	Jr. Lecturer	M.Phil	UAF, Pak.
9. Ms. Rehana Anwar	Jr. Lecture	M.Phil	MUST, Pak
10. Ms. Mehwish Maqbool	Jr. Lecture	M.Phil	MUST, Pak



**Faculty Members, Department of Botany**



## Department of Botany:

The Department of Botany is located in Bhimber Campus of Mirpur University of Science & Technology (MUST). The department is offering education and applied research in different disciplines of Botany at levels of B.S, M.Sc. M.Phil. and Ph.D.

### BS (Hons) 4 Years Program

**B.S. (Hons)** program is a four-year degree programme. The goal of BS programme is to produce competent professionals in the field of Botany who will be capable to face the challenges of the changing world. In the program contents of B.S various foundation courses have been reviewed, modified and updated such as; Biodiversity and conservation, Plant Anatomy, Genetics, Biochemistry and Biostatistics etc. and the major courses as Physiology, Genetics, Ecology, Ethnobotany and cell biology etc. is incorporated. The four elective courses are left for specific requirement of the students of a university. The students are also taught computer, Islamic studies, Arabic, Pak Studies, Zoology and Chemistry as core and foundation courses. These courses are as per policy of HEC.

### M. Sc

.Botany is a two-year degree programme. The course is in line with unified curriculum prescribed by the Higher Education Commission (HEC). The programme consists of two main parts: (i) Compulsory courses and (ii) Elective Courses with different fields of specialization. These courses are broad enough to

encompass nearly all the major fields in Botany. These include Mycology, Fungal Biotechnology, Biodiversity Conservation, Plant Biotechnology, Environment Biology, Biochemistry, Medicinal Plant Biotechnology, Plant Pathology, Bioinformatics, Proteomics, Genomics, Ethnobotany, Advance Environmental Biotechnology, Ecology and Plant Systematics. It is worth mentioning that courses offered along with applied research in different fields of specialization are paramount for productivity of society and nation. The areas of specialization include Mushroom and Fungal Technology, Plant Pathology, Aquatic Ecology, Ecology, Phytosociology, Tissue Culture, Medicinal Plants, Microbiology, Environmental Biotechnology, Plant Stress Physiology, Ethnobotany, Edaphology, Plant Systematics, Plant Metabolism, Advanced Plant Physiology, Plant Biotechnology, Bioinformatics, Proteomics, Genomics Plant Biodiversity Conservation, Virology & Bacteriology and Applied research on local flora. Thesis is optional for the students. Though the thesis does not specify any limit, but the work produced will be inordinate to address any problem of environment, society and science in a comprehensive manner. The programme provides a firm grounding in major fields of study which opens up a wide range of opportunities for job as well as higher studies in national and international institutions. The Department contributes in developing a qualified teaching workforce, which are serving the Department of Education of Azad Kashmir and Pakistan in various positions. Apart from this, the graduates of this course have taken up their jobs in the research organizations of the country including PARC, NARC, WWF, IUCN, HRSP, NIAB, NIBGE and PSCIR. Thus, they are playing an important role in the development of the



society and country. The pharmaceutical industry is another place where the graduates of this programme

### **M. Phil. and Ph. D.**

The Department of Botany has launched M. Phil. and Ph. D. Programmes since 2012. The research degree of M. Phil. and Ph.D. will be of two and three years duration, respectively. In the first year, students will study taught courses consisting of two semesters (each of 16 weeks duration) in partial fulfillment of the degree as per criterion of HEC. Other time is used for thesis research work to be conducted by scholar. The course and research is geared towards providing research training in the various disciplines of Botany and its related disciplines. The major fields of research groups offered comprise of Mycology and Plant Pathology, Fungal Biotechnology, Environmental Biology, Medicinal Plant Biotechnology, Plant Systematics, Physiology, Genetic Engineering, DNA Technology, OMICs Technology and Plant Biodiversity Conservation, Commercialization of Local flora, Numerical Taxonomy, Proteomics, Tissue Culture, Ethnobotany, Chemotaxonomy, Ecology, Edaphology, Microbiology, Applied Forestry Research, Agronomics and Horticulture and Bioinformatics.

### **Admission criteria for different programmes of Botany:**

#### **1. B.S Botany**

The criterion to apply for the admission in B.S Botany is that applicant must have passed F. Sc. with Biology,

Physics and Chemistry with at least second division (45% Marks). An aptitude test is conducted and final merit is computed including the academia marks as per University Statue (Rules). Final eligibility (merit) for admission in the Department of Botany is aggregate of both and formulated by central admission committee of MUST.

#### **2. M. Sc. Botany**

The criterion to apply for the admission in M. Sc. Botany is that applicant must have passed B. Sc. with Botany, Zoology and Chemistry and Geography with at least second division (45% Marks). An aptitude test is conducted and final merit is computed including the academia marks as per University Statue (Rules). Final eligibility (merit) for admission in the Department of Botany is aggregate of both.

#### **3. M. Phil. Botany**

The criterion to apply for the admission in M. Phil. Botany is that applicant must have passed M.Sc. Botany at least second division (CGPA-2.5 or more/ as per HEC policy) with no third division during the whole academic career. An aptitude test and interview is conducted and final merit is formulated on aggregate based on academia, aptitude test and interview. The students have to pass NTS with a minimum 50% score (as per HEC requirement) and provide the certificate as per policy of University in stipulated time frame. The students are required to present a thesis based on original research work carried out under the supervision of a qualified teacher from the department. The students are required to undertake

study trips/field courses as part of their syllabi. The presentation of research work in national and international conferences and symposia is compulsory which bears one credit hour weightage, during the academic year.

#### 4. Ph.D. Botany

The criterion to apply for the admission in Ph.D. Botany is that the applicant must have passed M. Phil. (CGPA-3.0 or more/ as per policy of HEC) with no third division during the whole academic career. An aptitude test and interview is conducted and final merit is formulated on aggregate based on academia, aptitude test and interview. The students have to pass

GRE (international) Subject Test with minimum percentile score 60% (as per HEC requirement) and provide the certificate as per policy of University in stipulated time frame. The students are required to present a thesis based on original research work carried out under the supervision of a qualified teacher (HEC approved supervisor) from the department. The students are required to undertake study trips/field courses as part of their syllabi. The presentation of research work in national and international conferences and symposia is compulsory which bears one credit hour. The scholar has to present one seminar in the department with one credit hour value. The scholar has to publish one/two research papers in HEC recognized journals as per policy of HEC.





## 4-year Bs Degree Program

Total numbers of Credit hours	<b>124-136</b>
Duration	<b>4 years</b>
Semester duration	<b>16-18 weeks</b>
Semesters	<b>8</b>
Course Load per Semester	<b>12-18 Cr hr</b>
Number of courses per semester	<b>4-6 (not more than 3-</b>
Lab /Practical Courses per Semester)	

### Item No: 2: Approval of course codes for BS Botany 4-year program

There are some allied courses taught in BS Botany such as Mathematics; English; Pak Study and others. There is need to assign codes for these courses so that it can be allocated on result cards accordingly. The house is to present their esteemed point of view. The approved courses for BS are enlisted underneath.

### Scheme of Studies For 4 Year Integrated B.S Program

	Course Code	Course Title	Lect.Hrs	Lab.Hrs	Credit.Hrs
1ST SEMESTER	BOT-3101	Diversity of Plants	3	1	4
	ZOO-3102	Foundation Zoology	3	0	3
	MAT-3103	Math/STAT-1 (Statistical Packages)	3	0	3
	CHM-3104	Fundamental Chemistry	3	0	3
	ENG-3105	English-I (Functional English)	3	0	3
	PST-3106	Pakistan Studies	2	0	2
			<b>17</b>	<b>1</b>	<b>18</b>
2ND SEMESTER	BOT-3201	Plant Systematics, Anatomy & Development	3	1	4
	ZOO-3202	Zoology (Diversity of Animal Life –I)	3	0	3
	CHM-3203	Physical Chemistry	3	0	3
	ENG-3204	English-II (Communication Skills)	3	0	3
	ENG-3205	English-IV	3	0	3
	IST-3206	Islamic Studies	2	0	2
			<b>17</b>	<b>1</b>	<b>18</b>



	Course Code	Course Title	Lect.Hrs	Lab.Hrs	Credit.Hrs
3RD SEMESTER	BOT-4301	Cell Biology, Genetics & Evolution	3	1	4
	ZOO-4302	Zoology ( Principle of Animal Life-II)	3	1	4
	CHM-4303	Organic Chemistry	3	0	3
	ENG-4304	English-III (Technical Report Writing & Presentation Skills)	3	0	3
	COM-4305	Introduction to Computer	3	0	3
			<b>15</b>	<b>2</b>	<b>17</b>
4TH SEMESTER	BOT-4401	Plant Physiology and Ecology	3	1	4
	BOT-4402	Biodiversity and Conservation	3	1	4
	ZOO-4403	Zoology (Palaeontology and Evolution)	3	0	3
	CHM-4404	Analytical Chemistry	3	0	3
	BST-4405	Biostatistics	3	0	3
			<b>15</b>	<b>2</b>	<b>17</b>
5TH SEMESTER	BOT-5501	Bacteriology & Virology	2	1	3
	BOT-5502	Mycology & Plant Pathology	2	1	3
	BOT-5503	Phycology & Bryology	2	1	3
	BOT-5504	Diversity of Vascular Plants	2	1	3
	BOT-5505	Plant Systematics	2	1	3
			<b>10</b>	<b>5</b>	<b>15</b>
6TH SEMESTER	BOT-5601	Plant Anatomy	2	1	3
	BOT-5602	Genetics-I	2	1	3
	BOT-5603	Plant Biochemistry-I	2	1	3
	BOT-5604	Plant Ecology-I	2	1	3
	BOT-5605	Plant Physiology-I	2	1	3
			<b>10</b>	<b>5</b>	<b>15</b>





	Course Code	Course Title	Lect.Hrs	Lab.Hrs	Credit.Hrs
7TH SEMESTER	BOT-6701	Molecular Biology	2	1	3
	BOT-6702	Plant Biochemistry- II	2	1	3
	BOT-6703	Plant Ecology-II	2	1	3
	BOT-	Research Thesis/ Elective-I	-	-	3
	BOT-	Elective-II	2	1	3
	BOT-6713	Internship (Opt)	-	-	-
			<b>8</b>	<b>4</b>	<b>15</b>
8TH SEMESTER	BOT-6801	Plant physiology –II	2	1	3
	BOT-6802	Genetics-II	2	1	3
	BOT-6803	Environmental Biology	2	1	3
	BOT-	Research Thesis/ Elective-III	-	-	3
	BOT- ----	Elective-IV	2	1	3
			<b>8</b>	<b>4</b>	<b>15</b>

### Item No.3: List of Optional Papers for BS Botany (4 Years):

S.No	Course Title	Course Code
1	Ethnobotany	BOT-6704
2	Phytoremediation	BOT-6705
3	Plant Stress Physiology	BOT-6706
4	Conservation and Management of Plant Resources	BOT-6707
5	Plant Nutrition	BOT-6708
6	Phytosociology	BOT-6709
7	Economic Botany	BOT-6710
8	Flora of Azad Jammu and Kashmir	BOT-6711
9	Research Thesis	BOT-6712
10	Internship	BOT-6713
11	Research Techniques	BOT-6804
12	Plant Metabolism	BOT-6805
13	Plant Biotechnology	BOT-6806
14	Applied Mycology	BOT-6807
15	Plant Microbe Interaction	BOT-6808
16	Molecular Genetics	BOT-6809
17	Phytochemistry	BOT-6810
18	Palynology	BOT -6811
19	Applied Microbiology	BOT-6812



## Scheme of Study of M.Sc

Duration:

4 - 6 Semesters

Courses:

60 Credit Hours

Thesis/Two Elective papers:

6 Credit Hours

Comprehensive oral examination:

Satisfactory/Unsatisfactory basis

Internship/Practical training:

Satisfactory/Unsatisfactory basis

**Total:**

**66 Credit Hours**

## Core Courses:

	Course Code	Title	Lect. Hrs.	Lab Hrs.	Credit Hrs.
1ST SEMESTER	BOT-5101	Diversity of Non-Vascular Plants	3	1	4
	BOT-5102	Diversity and Anatomy of Vascular Plants	3	1	4
	BOT-5103	Plant Systematics	3	1	4
	BOT-5104	Plant Ecology	3	1	4
2ND SEMESTER	BOT-5201	Plant Biochemistry	3	1	4
	BOT-5202	Cell Biology	3	1	4
	BOT-5203	Plant Physiology	3	1	4
	BOT-5204	Genetics	3	1	4
3RD SEMESTER	BOT-6301	Environmental Biology	3	1	4
	BOT-6302	Biostatistics and Introduction to Computer	3	1	4
	BOT-6303	Research Methodology/Report Writing	2	-	2
		Elective Paper	3	1	4
		Elective Paper/Thesis	3	1	4
4TH SEMESTER	BOT-6401	Microbiology	3	1	4
	BOT-6402	Plant Biotechnology & Advanced Genetics	3	1	4
		Elective Paper	3	1	4
		Elective Paper/Thesis	3	1	4



## Approved List of Optional Courses for M.Sc.

Course Code	Title	Lect. Hrs.	Lab Hrs.	Credit Hrs.	Approved/ Not Approved
BOT-6306	Recent Trends in Biotechnology	2	1	3	Approved
BOT-6307	Plant Pathology	2	1	3	Approved
BOT-6308	Fresh Water Ecology	2	1	3	Approved
BOT-6309	Phytosociology	2	1	3	Approved
BOT-6310	Ethnobotany	2	1	3	Approved
BOT-6311	Plant Stress Physiology	2	1	3	Approved
BOT-6312	Plant Metabolism	2	1	3	Approved
BOT-6313	Medicinal Plants	2	1	3	Approved
BOT-6314	Physiological Genetics	2	1	3	Approved
BOT-6315	Plant Microbe Interaction	2	1	3	Approved
BOT-6316	Economic Botany	2	1	3	Approved
BOT-6317	Cell & Molecular Biology of Plants	2	1	3	Approved
BOT-6407	Edaphology	2	1	3	Approved
BOT-6408	Biodegradation	2	1	3	Approved
BOT-6409	Environmental Pollution	2	1	3	Approved
BOT-6410	Research Techniques and Lab Tools	2	1	3	Approved
BOT-6411	Wild Plants & Their economic uses	2	1	3	Approved
BOT-6412	Palynology	2	1	3	Approved
BOT-6413	Bioinformatics	2	1	3	Approved
BOT-6414	Plant Anatomy	2	1	3	Approved
BOT-6415	Virology and Bacteriology	2	1	3	Approved
BOT-6416	Molecular Genetics	2	1	3	Approved
BOT-6417	Mycorrhizae	2	1	3	Approved
BOT-6418	Thesis			6	Approved
BOT-6419	Grand Viva				Approved
BOT-6420	Internship				Approved
BOT-6421		2	1	3	Approved

**Item No: 5: Approval of compulsory internship training report of M.Sc. and BS students (during summer vacation, once in their career)**

Department of Botany will issue internship letter to their students where students are supposed to work as internee in different educational institutes or labs related to their discipline.

**Item No: 6: Approval of field trips for M.Sc.**

For the study of Floral diversity, different communities and ecosystem there should be field trips as a part of syllabus of ecology, plant systematics, ethnobotany, biodiversity and conservation, diversity of vascular and non-vascular plants. There is need for the approval of field trips for M.Sc.



## M.Phil./PhD Programs in Botany

Duration:	1.5-4 Year
Courses:	24 Credit Hours
Seminar	01 Credit Hours
Thesis:	06 Credit Hours
Total:	31 Credit Hours

## Scheme of Studies of M. Phil. Botany

### Eligibility

The criteria for admission in M. Phil. Botany is at least Second division in M.Sc. Botany and GAT-General of NTS with a minimum 50% score will be necessary at the time of admission to M. Phil. or within 1 year.

**Note:** The Supervisory committee for M. Phil Scholars selects major and minor courses pertaining to his/her Research Thesis. If the supervisory committee deems it fit, it may increase credit hours for M. Phil Scholars.

### Courses for M.Phil.

Course Code	Title	Lect. Hrs.	Lab Hrs.	Credit Hrs.
BOT-701	Advances in Plant Physiology	3	0	3
BOT-702	Advances in Biodiversity and Conservation	3	0	3
BOT-705	Advances in Stress Physiology	3	0	3
BOT-708	Ornamental Horticulture	3	0	3
BOT-710	Plant Tissue and Cell Culture	3	0	3
BOT-711	Advances in Environmental Biology	3	0	3
BOT-712	Bioenergetics And Molecular Enzymology	3	0	3
BOT-713	Advances in Lab Experimental Techniques	3	0	3
BOT-714	Reading and Conference	0	1	1
BOT-715	Advances in Genetics	3	0	3
BOT-716	Weed Ecology	3	0	3
BOT-717	Advances in Microbiology	3	0	3
BOT-719	Advances in Phytosociology	3	0	3
BOT-720	Recombinant DNA Technology	3	0	3
BOT-722	Plant Soil Water Relations	3	0	3
BOT-723	Plant Biotechnology and Genetic Eng.	3	0	3
BOT-725	Pharmaceutical Microbiology	1	0	1
BOT-728	Plant Applied Ethnobotany	3	0	3
BOT-735	Advances in Flowering Plant Taxonomy	3	0	3
BOT-7001	Seminar	1	0	1
BOT-7002	Thesis M.Phil	0	6	6



## Scheme of Studies of PhD Botany

### Eligibility

For admission to PhD, the minimum CGPA should be 3.00 or 1st division in MS/MPhil. In addition, the candidate must pass GRE subject Test with minimum percentile score 60% before submission of PhD Dissertation.

### List of Core Courses

Course Code	Title	Lect. Hrs.	Lab Hrs.	Credit Hrs.
BOT-724	Biostatistics and Computer Application	3	0	3
BOT-736	Integrated Biological Resource Management	3	0	3
BOT-737	Project Planning, Monitoring and Evaluation	3	0	3

### List of Optional Courses

Course Code	Title	Lect. Hrs.	Lab Hrs.	Credit Hrs.
BOT-703	Plant Chemotaxonomy	3	0	3
BOT-704	Advances in Edaphology	3	0	3
BOT-706	Fungal Ecology and Biotechnology	3	0	3
BOT-707	Advances in Molecular Biology of Plants	3	0	3
BOT-709	Phytogeography	3	0	3
BOT-718	Advances in Phycology	3	0	3
BOT-721	Soil Fertility and Plant Nutrition	3	0	3
BOT-727	Wild plants and their economic uses	3	0	3
BOT-729	Research Techniques	3	0	3
BOT-730	Advances in Proteomics	3	0	3
BOT-731	Advances in Bioinformatics	3	0	3
BOT-732	Statistical Genomics	3	0	3
BOT-733	Plant Growth and Development	3	0	3
BOT-734	Advances in Biosystematics	3	0	3
BOT-7998	Seminar I	1	0	1
BOT-7999	Seminar II	1	0	1
BOT-8000	Thesis PhD	0	50	50

## Scheme of Studies of PhD. Botany

Duration:	3-8 Years
Courses:	18 Credit Hours
Seminar	02 Credit Hours
Thesis:	50 Credit Hours
Total:	70 Credit Hours





Teacher and students working in Lab



Teacher and Student working in Laboratory



Teacher and students working in Herbarium



## Future Prospects for Graduates of Botany:

The education and research programmes offered and conducted by the Department provide a firm and sound basis in all major fields of Biological Study (Plant Sciences). The students who will graduate from the University will cater good job opportunities and assignments in various departments such as: Education, Agriculture, Forestry, Tourism, Administration, Wildlife and Nature Conservation (Environment) of Azad Jammu & Kashmir and Pakistan on various positions. This well qualified, literate and research skilled workforce is able to make their avenues in the research organizations of Pakistan including, PARC, NARC, PCSIR and NGOs like WWF, Conservation and Management. It is a boosting step towards the development of the country

and its steady pace to stand at par with other nations of the world. Pharmaceutical firms and other Bioinformatics (Information Technology Parks) are other places where the graduates of this programme are easily absorbed and offered respectable jobs. Furthermore, studying in Department of Botany trim and polish the intuitive talent and craft of youngsters to utilize natural resources of indigenous area for local needs and country's economic boost up. The graduates of Botany not only gain the knowledge of the subject but also they learn the skill and art of self-sustainability by using available domestic and local flora and biological resources for commercialization by planning different projects with collaboration of other departments and NGOs and converting into practical products. In short, the course offers a promising future to its graduates and scholars.

## Student's Messages



**Maria Ghazanffar**

BS. Botany,  
2nd Semester

It is a great honor for me to be a B.S student of the Department of Botany (MUST). The environment here is healthy and conducive for learning. Good opportunities are there to obtain the latest knowledge in the field of botany. I am not only gaining skills but also confidence, dedication, character building and ethics. The attitude and devotion of the faculty members and admin staff towards students is remarkable. Certainly I have made the right choice to structure myself for future endeavors.

## Student's Messages



**Mussadaq Mazher**

M.Sc. Botany,  
2nd Semester

It is great pleasure and honour for me to be a student of M.Sc. Botany MUST. My Teachers are very competent, professional and hardworking. They teach us professional ethical and moral knowledge. we learn a lot from them which boost to become a trained and professional botanist and human beings to make work for society and nation.

## Student's Messages



**Omer Qayyum**

M.Phil. Scholar Botany,  
2nd Semester

It is a great pleasure to be a student of M.Phil. in the Department of Botany MUST. I am highly impressed with the sound and up to date knowledge delivered to the students. Skilled teachers are highly skilled and very cooperative. I have learnt latest techniques used in recombinant DNA technology. Excellent academic environment and interaction with faculty has given me tremendous confidence. Exposure to seminars and conferences has broadened my horizons. I have sweet memories, a very faithful friendship and academic achievements.

## Student's Messages



**Samia Abid**

Ph.D. Scholar

It is an honor and indeed privilege for me to be the Ph.D. scholar of MUST. This feeling made me more technical, wiser, confident and responsible. I have done my M.Sc. and M.Phil. from this University as well as I am so much satisfied with our faculty and lab equipment's. Faculty of the Department is fully equipped with the latest research skills and impressive theoretical knowledge. Excellent self-grooming environment, dynamic faculty and amazing research opportunities welcome the new comers.



## Department of Chemistry



### Chairman

**Prof. Dr. Muhammad Aziz Choudhary**

Tel: +92-5827-961100

Email: chairperson@must.edu.pk

### Faculty:

	<b>Name</b>	<b>Designation</b>	<b>Last Degree</b>	<b>Univ./Country</b>
1.	Dr. Habib-ur-Rehman( S.I)	VC/Meritorius Prof.	Ph.D, Post Doc.	Pak, USA
2.	Dr. Mohammad Aziz Ch.	Professor	Ph.D, Post Doc.	Pak.,USA
3.	Dr. Tahseem Ghous	Associate Prof.	Ph.D, Post Doc.	UK
4.	Dr. Tashfeen Akhtar	Asstt. Prof.	Ph.D	Pak.
5.	Dr. Javeed Akhtar	Associate Prof.	Ph.D	UK
6.	Dr. Muhammad Aslam	Asstt. Prof.	Ph.D	Pak.
7.	Dr. Zahoor Ahmed	Asstt. Prof.	Ph.D	China
8.	Dr. Shahid Aziz	Asstt. Prof.	Ph.D (IPFP)	Pak.
9.	Dr. Khalil Ahmed	Asstt. Prof.	Ph.D Germany	Post Doc. China
10.	Mr. Arshad Farooq	Asstt. Prof.	M.Phil	Pak.
11.	Mrs. Rashida Nazir	Lecturer	M.Phil	Pak.
12.	Dr. Asma Naz	Lecturer	M.Phil	Pak.
13.	Ms. Madiha Tariq	Lecturer	M.Phil	Pak.



**Faculty Members, Department of Chemistry**





## Mission Statement

“To develop the human resources with the capability to comprehend theoretical and applied aspects of different branches of chemistry by providing them conducive environment of teaching and learning, and expand their cognitive frontiers by introducing internationally recognizable research program”

## Introduction

The Department has qualified Faculty, equipped laboratories, good quality library and furnished classrooms. It offers M.Sc, M.Phil. and Ph.D degree programs strictly following the HEC criterions. The main focus of M.Sc is to develop the theoretical understanding and experimental skills in fundamental areas of Chemistry i.e. Physical, Inorganic, Organic and Analytical Chemistry. It also endows the students with the knowledge of applied courses, e.g. the Instrumental Techniques, Natural Products, Spectroscopy and Current Materials (Material Chemistry). It helps our M.Sc graduates to successfully compete to find jobs in institutes of Education and Chemical Industries. They also find the exposure of higher learning at National and International level.

The focus of M.Phil and Ph.D programs is to inculcate the advanced theoretical and applied knowledge with ensuing productive research. The scholars are grown in diverse domains of research under the guidance of the Faculty Members. The main areas of their innovations and publications are; Organic and Inorganic Synthesis, Conductive and Condensation Polymers Materials, Nano-materials/technology,

Catalysis, Natural Products, and Environmental and Bio Analysis. The Scholars are being trained to operate the Fundamental and Advanced Research Instruments to improve their insight, and understand their working principles. The currently available Instruments at the Departments are double beam UV-Visible and Fluorescent Spectrophotometers, Fourier-transform infrared (FTIR) spectrometer, HPLC, Advanced Microwave Synthesizer, Annealing and Calcinating Appliances, TGA, DSC and Dynamic Light Scattering Machines. Department has good infrastructure for the Scholars to carry out their experiment at defined conditions of temperature, pressure and atmosphere, and publish their findings in reputed research journals. Their whole research training enables them to shape their career in Research and Development Sectors, Pharmaceutical and Plastic Industries, Sensor Technology and Institutes of Higher Education.

The Department is also aimed to enrich its Students and Scholars with honesty, truthfulness, mutual cooperation, patience and hardworking. Such motivations enables the Students and Scholars to join the Public and Private Sectors as responsible entity. Thus, the able Faculty, good infrastructure and robust academic and research activities enriched with informal ethics make the Department and University to earn an international prestige.

## Programs

The Department is offering the following degree programs:

- M.Sc
- M.Phil
- Ph.D





## Admission Requirement s

- **M.Sc:** B.Sc with Chemistry excluding Geography, at least second division.
- **M.Phil/ M.S:** As per HEC policy.
- **Ph.D:** As per HEC policy.

## Job Opportunity for Graduates

- Teaching
- Pharmaceuticals industries

- Research and Development organizations
- Polymer Industries
- Environmental Protection Agencies

## Scheme of Studies for M.Sc Chemistry

Duration: 4-6 Semesters  
 Theory/Lab Courses: 68 Credit Hours  
 Comprehensive Oral Examination: \*S/U Basis  
**Total: 68 Credit Hours**  
 \*: Satisfactory/Unsatisfactory

## Scheme of Studies; BS 4-Year Program in Chemistry

	Course Code	Course Title	Theory Hrs.	Lab Hrs.
SEMESTER-1	CHEM-1121	Inorganic Chemistry	3	1
	ENG-100	English-I	3	0
	MATH-100	Mathematics-I	3	0
	COMP-100	Computer Applications	3	0
	ZOO– 3131	Principles of Animal Life – I	3	0
	BOT – 3101	Diversity of Plant	3	0
		Geography	3	0
SEMESTER-2	ENG-200	English-II (Functional)	3	0
	GEN-200	Islamic Studies / Ethics	2	0
	MATH-200	Mathematics-II	3	0
	STAT-100	Statistics	3	0
	CHEM-1241	Organic Chemistry	3	1
	ZOO-3202	Plant Systematic	3	0
		Principles of Animal life – II	3	0
		History of Science	3	0



	Course Code	Course Title	Theory Hrs.	Lab Hrs.
SEMESTER-3	ENG-300	English-III (Report Writing)	3	0
	GEN-300	Pakistan Studies	2	0
	CHEM-2398	Environmental Chemistry	3	0
	CHEM-2301	Physical Chemistry	3	1
	BOT – 4301	Diversity of Animal Life – I	3	0
		Physics-I	3	0
		Cell Biology, Genetics & Evaluation	3	0
		Household Management	3	0
SEMESTER-4	AR-0001	Arabic	3	0
	CHEM-246	Analytical Chemistry	2	1
	CHEM-2491	Applied Chemistry	2	0
	CHEM-2481	Biochemistry	2	1
	ZOO– 2404	Diversity of Animal Life – II)	3	0
	BOT-4401	Plant Physiology & Ecology	3	0
		Entrepreneurship	3	0
		Ethics	3	0

**Only four disciplines to be selected for 5th and 6th semesters each, with option between Biochemistry and Analytical Chemistry**

	Course Code	Course Title	Cr Hrs.	Description
SEMESTER-5	CHEM-3501	Physical Chemistry-I	3(3,0)	Theory
	CHEM-3502	Physical Chemistry Lab-I	1(0,1)	Laboratory
	CHEM-3521	Inorganic Chemistry-I	3(3,0)	Theory
	CHEM-3522	Inorganic Chemistry Lab-I	1(0,1)	Laboratory
	CHEM-3541	Organic Chemistry-I	3(3,0)	Theory
	CHEM-3542	Organic Chemistry Lab-I	1(0,1)	Laboratory
	CHEM-3561	Analytical-I	3(3,0)	Theory
	CHEM-3562	Analytical Lab-I	1(0,1)	Laboratory
	CHEM-3581	Biochemistry-I	3(3,0)	Theory
	CHEM-3682	Biochemistry Lab-I	1(0,1)	Laboratory

**Total Credit Hours: (12+3=15)**



	Course Code	Course Title	Cr.Hrs.	Description
SEMESTER-6	CHEM-3601	Physical Chemistry-II	3(3,0)	Theory
	CHEM-3602	Physical Chemistry Lab-II	1(0,1)	Laboratory
	CHEM-3621	Inorganic Chemistry-II	3(3,0)	Theory
	CHEM-3622	Inorganic Chemistry Lab-II	1(0,1)	Laboratory
	CHEM-3641	Organic Chemistry-II	3(3,0)	Theory
	CHEM-3642	Organic Chemistry Lab-II	1(0,1)	Laboratory
	CHEM-3661	Analytical Chem-II	3(3,0)	Theory
	CHEM-3662	Analytical Lab-II	1(0,1)	Laboratory
	CHEM-3681	Biochemistry-II	3(3,0)	Theory
	CHEM-3682	Biochemistry Lab-II	1(0,1)	Laboratory
	CHEM-3699	Applied Computer for Chemist	2(1,1)	Theory/ Lab

**Total Credit Hours: (12+3=15)**

\* Only four disciplines to be selected for 5th and 6th semesters each, with option between Biochemistry and Analytical Chemistry

SEMESTER-7	CHEM-47aa	Physical Chemistry	3(3,0), 3(0,3)	Theory + Lab
	CHEM-47bb	Inorganic Chemistry	3(3,0), 3(0,3)	Theory + Lab
	CHEM-47cc	Organic Chemistry	3(3,0), 3(0,3)	Theory + Lab
	CHEM-47dd	Analytical Chemistry	3(3,0), 3(0,3)	Theory + Lab
	CHEM-47ee	Biochemistry	3(3,0), 3(0,3)	Theory + Lab

**Total Credit Hours: (12+3=15)**

Students may opt for any one of the five sections namely, Physical, Inorganic, Organic, analytical and Biochemistry

SEMESTER-8	CHEM-48aa	Physical Chemistry	3 (3,0), 3(0,3)	Theory + Lab
	CHEM-48bb	Inorganic Chemistry	3 (3,0), 3(0,3)	Theory + Lab
	CHEM-48cc	Organic Chemistry	3 (3,0), 3(0,3)	Theory + Lab
	CHEM-48dd	Analytical Chemistry	3 (3,0), 3(0,3)	Theory + Lab
	CHEM-48ee	Biochemistry	3 (3,0), 3(0,3)	Theory + Lab
		(OR)		
	CHEM-48bb	Research Report	3(0,3)	Research

\*Three courses will be opted from the selected discipline and there will be option between research report or a course from any other discipline.





## Compulsory/Elective Faculty Courses for M.Sc. Chemistry

	Course Code	Title	Credit Hrs.
1ST SEMESTER	CHM-5101	Physical Chemistry- I	3
	CHM-5121	Inorganic Chemistry- I	3
	CHM-5141	Organic Chemistry –I	3
	CHM-5161	Analytical Chemistry- I OR	3
	CHM-5181	Biochemistry- I	3
	CHM-0198	Mathematics for Chemist	2
	CHM-5102	Physical Chemistry Lab-I	1
	CHM-5122	Inorganic Chemistry Lab - I	1
	CHM-5142	Organic Chemistry Lab –I	1
	CHM-5162	Analytical Chemistry Lab - I OR	1
	CHM-5182	Biochemistry Lab - I	1
2ND SEMESTER	CHM-5201	Physical Chemistry- II	3
	CHM-5221	Inorganic Chemistry- II	3
	CHM-5241	Organic Chemistry –II	3
	CHM-5261	Analytical Chemistry-II OR	3
	CHM-5281	Biochemistry- II	3
	CHM-5298	Environmental Chemistry	2
	CHM-5202	Physical Chemistry Lab- II	1
	CHM-5222	Inorganic Chemistry Lab- II	1
	CHM-5242	Organic Chemistry Lab–II	1
	CHM-5262	Analytical Chemistry Lab-II OR	1
	CHM-5282	Biochemistry Lab- II	1
3RD SEMESTER	CHM-0398	Computer in Chemistry (1+1)	2
	CHM-6399	Elective Course	3
	CHM-	Elective Course	3
	CHM-	Elective Course	3
	CHM-	Elective course	3
	CHM-	Advance Lab-III	3





<b>4TH SEMESTER</b>	CHM-6498	Comprehensive oral Examination	S/U
	CHM-6499	Research Project OR	3
		Advance Lab	3
	CHM-	Elective Course	3
	CHM-	Elective Course	3
	CHM-	Elective course	3

### List of Elective Courses for 3rd Semester Group- I (Physical Chemistry)

Course Code	Title	Credit Hrs.
CHM-6301	Chemical Kinetics	3
CHM-6302	Quantum Mechanics	3
CHM-6303	Photochemistry	3
CHM-6304	Molecular Spectroscopy	3
CHM-6305	Polymer Chemistry	3
CHM-6306	Electrochemistry	3
CHM-6310	Physical Chemistry Lab-III	3

### Only 9-12 Credits(Theory Courses may be offered) OR Group-II (Inorganic Chemistry)

Course Code	Title	Credit Hrs.
CHM-6321	Coordination Chemistry	3
CHM-6322	Group Theory & Spectroscopy	3
CHM-6323	Inorganic Polymers	3
CHM-6324	Inorganic Chemistry-III	3
CHM-6325	Industrial Chemistry	3
CHM-6330	Inorganic Chemistry Lab. -III	3



**Only 9-12 Credits (Theory Courses may be offered)**

**OR**

**Group- III (Organic Chemistry)**

Course Code	Title	Credit Hrs.
CHM-6341	Reaction Mechanism-I	3
CHM-6342	Spectroscopy-I	3
CHM-6343	Stereochemistry	3
CHM-6344	Name Reactions in Organic Chemistry	3
CHM-6345	Chemistry of Heterocyclic Compounds	3
CHM-6346	Organic Synthesis-I	3
CHM-6350	Organic Chemistry Lab.-I	3

**Only 9-12 Credits ( Theory Courses may be offered)**

**OR**

**Group-IV (Analytical Chemistry)**

Course Code	Title	Credit Hrs.
CHM-6461	Spectroscopic Methods of Analysis	3
CHM-6462	Thermal Methods of Analysis	3
CHM-6463	Nuclear Techniques	3
CHM-6364	Introduction to Chromatography	3
CHM-6370	Analytical Chemistry Lab. -III	3

**Only 9-12 Credits (Theory Courses may be offered)**

**OR**

**Group- V (Biochemistry)**

Course Code	Title	Credit Hrs.
CHM-6381	Principles of Biochemistry	3
CHM-6382	Enzymology	3
CHM-6383	Clinical Biochemistry	3
CHM-6384	Protein Chemistry	3
CHM-6385	Cell Biology	3
CHM-6390	Biochemistry Lab. -III	3

**Only 9-12 Credits (Theory Courses may be offered)**

### List of Elective Courses for 4th Semesters

#### Group- I (Physical Chemistry)

Course Code	Title	Credit Hrs.
CHM-6401	Surface Chemistry and Catalysis	3
CHM-6402	Colloidal and Solution Chemistry	3
CHM-6403	Electrochemistry	3
CHM-6404	Radiation and Nuclear Chemistry	3
CHM-6405	Chemical Thermodynamics	3
CHM-6406	Statistical Thermodynamics	3
CHM-6407	Solid State Chemistry	3
CHM-6408	Statistical Mechanics	3
CHM-6410	Advanced Physical Lab	3





**Only 9-12 Credits (Theory Courses may be offered) OR**  
**Group- II (Inorganic Chemistry)**

Course Code	Title	Credit Hrs.
CHM-6421	Inorganic Reaction Mechanism	3
CHM-6422	Organometallic Chemistry	3
CHM-6423	Bioinorganic Chemistry	3
CHM-6424	Chemical Crystallography	3
CHM-6425	Nuclear Chemistry	3
CHM-6426	Material Chemistry	3
CHM-6430	Advanced Inorganic Lab	3

**Only 9-12 Credits (Theory Courses may be offered) OR**  
**Group- III (Organic Chemistry)**

Course Code	Title	Credit Hrs.
CHM-6441	Reaction Mechanism - II	3
CHM-6442	Spectroscopy-II	3
CHM-6443	Natural Products	3
CHM-6444	Introduction to Organic Polymers	3
CHM-6445	Pericyclic Reactions and Photochemistry	3
CHM-6446	Basic Organometallic Chemistry	3
CHM-6447	Organic synthesis-II	3
CHM-6450	Advanced Organic Lab	3

**Only 9-12 Credits (Theory Courses may be offered) OR**  
**Group- IV (Analytical Chemistry)**

Course Code	Title	Credit Hrs.
CHM-6461	Advanced Hyphenated Chromatography	3
CHM-6462	Advanced Mass Spectrometry	3
CHM-6463	Atomic and Molecular Spectroscopy	3
CHM-6464	Atomic Spectroscopy	3
CHM-6465	Magnetic Resonance Spectroscopy	3
CHM-6470	Advanced Analytical Chemistry Lab.	3

## Only 9-12 Credits (Theory Courses may be offered) OR Group- V (Biochemistry)

Course Code	Title	Credit Hrs.
CHM-6481	Medical Microbiology	3
CHM-6482	Nutritional Biochemistry	3
CHM-6483	Nucleic Acids	3
CHM-6484	Vitamins and Hormones	3
CHM-6485	Toxicology	3
CHM-6490	Advanced Biochemistry Chemistry Lab.	3

## Only 9-12 Credits Theory Courses may be offered

### Scheme of Studies for M.Phil Chemistry

Duration: 4-6 Semesters  
 Courses: 24 Credit Hours  
 Thesis: 06 Credit Hours  
 Seminar: 01 Credit Hour  
 Total: 31 Credit Hours

### Scheme of Studies for Ph.D in Chemistry

- As per HEC rules







## M.Phil and Ph.D Courses

### I. Physical Chemistry

Course Code	Title	Credit Hrs.
CHM-701	Physical Chemistry of Polymers	3
CHM-702	Advanced Quantum Chemistry	3
CHM-703	Electrode Process	3
CHM-704	Magnetic Resonance Spectroscopy	3
CHM-705	Advanced Chemical Kinetics	3
CHM-706	Advanced Molecular Spectroscopy	3
CHM-707	Advanced Photochemistry	3
CHM-708	Advanced Surface Chemistry	3
CHM-709	Advanced Solution Chemistry	3
CHM-710	Chemistry of Advanced Materials	3
CHM-711	Advanced Statistical Mechanics	3
CHM-712	Solid State Chemistry	3
CHM-713	Colloid Chemistry	3
CHM-714	Advanced Nuclear and Radiation Chemistry	3
CHM-715	Applied Chemical Thermodynamics	3
CHM-716	Electroanalytical Methods and Techniques	3

### II. Inorganic/Analytical Chemistry

Course Code	Title	Credit Hrs.
CHM-721	Multinuclear NMR Spectroscopy	3
CHM-722	Diffraction Methods of Analysis	3
CHM-723	Advanced Analytical Instrumental Techniques	3
CHM-724	Advanced Thermal Analysis	3
CHM-725	Water and Soil Chemistry	3
CHM-726	Analysis and Characterization of Polymers	3
CHM-727	Advanced Atomic Spectroscopy	3
CHM-728	Atmospheric Chemistry	3
CHM-729	Chromatographic Methods of Analysis	3
CHM-730	Special Topics in Analytical Chemistry	3
CHM-731	X-Ray Methods of Analysis	3



Course Code	Title	Credit Hrs.
CHM-732	Inorganic Electronic Spectroscopy	3
CHM-733	Kinetics and Mechanisms of Inorganic Reactions	3
CHM-734	Organo-transition Metal Chemistry	3
CHM-735	Bio-Inorganic Chemistry	3
CHM-736	Physical Methods in Inorganic Chemistry	3
CHM-737	Inorganic Material Chemistry	3
CHM-738	Catalysis	3
CHM-739	Special Topics in Inorganic Chemistry	3

### III. Organic Chemistry

Course Code	Title	Credit Hrs.
CHM-741	Protecting Groups in Organic Synthesis	3
CHM-742	Organic Synthesis-Retrosynthetic Approach	3
CHM-743	Advanced Stereochemistry	3
CHM-744	Physical Organic Chemistry	3
CHM-745	Nuclear Magnetic Resonance in Organic Chemistry	3
CHM-746	Advances in Chromatographic Techniques	3
CHM-747	Chemistry of Isoprenoids and Steroids	3
CHM-748	Chemistry of Glycosides	3
CHM-749	Biosynthesis of Natural Products	3
CHM-750	Chemistry of Organometallic Compounds	3
CHM-751	Reactive Intermediates in Organic Chemistry	3
CHM-752	Advanced Heterocyclic Chemistry	3
CHM-753	Advanced Mass Spectrometry	3
CHM-754	Organic Photochemistry	3
CHM-755	Organic Polymer Chemistry	3
CHM-756	Pericyclic Reactions	3
CHM-757	Advanced Stereoselective Synthesis (Cr. 3)	3
CHM-758	Modern Name Reactions in Organic Synthesis (Cr. 3)	3
CHM-759	Special Topics in Organic Chemistry (Cr. 3)	3



#### IV. Dissertation/Research/Seminar (Only for M.Phil Students)

Course Code	Course Title	Credit Hrs.
CHM-790	Seminar on Dissertation/Research	01
CHM-791	Dissertation/Research	06

#### Student's Messages



**Afifa Avais**  
M.Sc

MUST is a source of pride for Mirpur and I feel pleasure to be the student of M.Sc. at the Department of Chemistry. It is no lesser than a huge multifaceted blessing of God. MUST has opened the doors of modern science education for every one and many of them have got the opportunity to study in professional environment which is indispensable for academic excellence and bright future. Highly qualified Doctors and intellectuals, with their full devotion have proved themselves the best mentors. I feel lucky enough to be the part of this academic haven. It is my fervent hope and wish that education imparted and received in MUST would enable its students to be a better part of society.



**Shabiha Riaz**  
M.Phil 2nd Semester

MUST is Alma matter for my education. I feel privilege and honor to be M.Phil scholar at the Department of Chemistry. Here, the Laboratories are well established and fully equipped with latest research facilities and instruments. Department is providing a conducive and innovative learning environment to enhance our ability and skills to cope with the emerging challenges in future.



**Sanum Mushtaq**  
Ph.D, 2nd Semester

MUST is journey of self-exploration for me. The environment here has proved to be very fascinating and conducive to learning. The faculty of Chemistry Department is polishing my practical skills to make me competent. Exposure to seminars and conferences has broadened my horizons. Certainly, I have made the right choice of MUST to structure myself for future endeavours.

## Department of CS & IT



### Chairman

**Mr. Kamran Hameed**

Assistant Professor

Tel: +92-5827-961028

Fax: +92-5827-961028

Email: chairman.csit@must.edu.pk

### Faculty:

	<b>Name</b>	<b>Designation</b>	<b>Last Degree</b>	<b>Univ./Country</b>
1.	Mr. Kamran Hameed	Asstt. Prof.	MS(CSE)	GIKI, Pak.
2.	Syed Yasser Arafat	Asstt. Prof.	MS(CS)	IIUI, Pak.
3.	Mr. Yasir Mehmood	Asstt. Prof.	MS(CS)	FAST, Pak.
4.	Ms. Samreen Ayaz	Asstt. Prof.	MS(CS)	AIOU, Pak.
5.	Mr. Faisal Riaz	Asstt. Prof.	MS (CS)	IQRA, Pak.
6.	Dr. Rehana Yasin	Asstt. Prof.	Ph.D (CS)	Uni. of Birmingham, U.K
7.	Ms. Sofia Ghafoor	Lecturer	M.Sc.(Elec.)	QAU, Pak.
8.	Ms. Adeela Ashraf	Lecturer	MCS	UAJK, Pak.
9.	Ms. Rehana Khatoon	Lecturer	MCS	UAJK, Pak.
10.	Ms. Sabeen Zaib	Lecturer	MCS	UAJK, Pak.
11.	Ms. Saeeda Kousar	Lecturer	MCS	UAJK, Pak.
12.	Mr. Abdul Ghafoor	Lecturer	MS(CS)	UAJK, Pak.
13.	Ms. Shafaq Murtaza	Lecturer	MS(CS)	FAST, Pak.
14.	Ms. Asma Jabeen	Lecturer	MS(CS)	UAJK, Pak.
15.	Mr. Nahman Tariq	Lecturer	M.Sc. (FC)	Uni. of Bradford, U.K
16.	Mr. Iftikhar Ahmed	Lecturer	MS(CS)	IIUI, Pak.
17.	Ms. Sameea Arshid	Lecturer	MS(CS)	IIUI, Pak.
18.	Ms. Farzana Riaz	Lecturer	MS (CE)	MAJU, Pak
19.	Ms. Samina Khalid	Lecturer	MS(SE)	BUI, Pak.
20.	Mr. Adnan Raiz	Lecturer	MS(CS)	BEH, Sweden.
21.	Ms. Farah Karim	Lecturer	MS(IT)	NUST, Pak.
22.	Mr. Muhammad Adnan	Lecturer	MS(CS)	BTH, Sweden
23.	Mr. Mohsen Ansari	Lecturer	MS(CS)	QAU, Pak.
24.	Mr. Ghias Hamid	Lecturer	MS(CS)	IQRA., Pak.
25.	Ms. Sobia Sher	Lecturer	BS(CS)	UAJK, Pak.
26.	Ms. Rabia Rauf	Lecturer	BS(IT)	UAJK, Pak.
27.	Ms. Nabila Karamat	Lecturer	M.Sc. (CS)	Coventry Uni., UK
28.	Ms. Mehreen	Lecturer	M.Sc. (CS)	Coventry Uni., UK
29.	Ms. Sania Khadam	Junior Lect.	BS(CS)	UAJK, Pak.
30.	Ms. Somyia Akram	Junior Lect.	MCS	IIUI, Pak.



**Faculty Members, Department of Computer Science & Information Technology (CS&IT)**

## Introduction

The Department of Computer Science & Information Technology (CS&IT) was established in 2001 at Mirpur as a sub-campus of University of AJ&K, Muzaffarabad. This department has been merged into Mirpur University of Science and Technology, Mirpur (A.K). The department offers an excellent learning environment, laboratories equipped with latest computers (all connected through Local Area Network) with internet facility, most recent books and qualified faculty. The department developed the curricula of academic programs at various levels to meet the national and international standards as defined by Higher Education Commission. The Department offers BS (Computer Science), BS (Information Technology) four years degree programs and MCS and MS (CS) two years degree programs. The BSCS and BSIT degree programs are

accredited by HEC, National Computing Education Accreditation Council (NCEAC).

## Objective/Mission

The objective of the studies is acquiring skills and knowledge to carry out research in C o m p u t e r Science/information technology and apply the expertise in any new or existing domain of human life. The Department focuses on producing computer and IT professionals who are able to explore new dimensions in the computing domain and look for fresh areas in which information technology may be applied.

## Project and Assignments

Regular assignments and presentations are the main feature of the course work. Students are required to





undertake a major project in their final semester. Marks obtained in class assignments (quizzes, presentations and viva) contribute to final examination result.

## **Seminars and Workshops**

Department often arranges workshops and seminars by inviting Computer and IT-professionals to promote the research activities or to stay up-to-date with market developments.

## **Labs Facility**

The department has air-conditioned laboratories equipped with latest computers. These labs provide students with the latest software based training to improve the professional computer and IT-skills essential for modern technical environments. Students utilize these labs facilities according to a pre-determined schedule as well as during their free times in order to carry out their practical and research work. In future department plans to establish four more computer labs.

## **Library**

The Department library contains most recent books, journals and other material that fulfills the requirements of any of the courses offered. The library material and resources are continuously updated according to new publications.

## **Co-Curricular Activities**

Maintaining the tradition of sports being part of the

education, the department actively supports students to take part in co-curricular activities by organizing Milads, debates, study tours and university sports-week competitions. Bodily strength is as much needed as intellectual activity in ensuring success in life. Education aims at the physical, mental fitness, therefore, the students are encouraged to participate in sporting activities. The students of this Department participated / competed in different software competitions at national level.

## **Job Prospects for Graduates**

The broad scope of computer science and information technology invites students to explore the technical world of education. On completion of degree, successful students have a wide range of options to embark on a career as system analyst, IT manager or Software developer. Graduates of the department have proved themselves as Software engineers, Web developers, System administrators and Network Administrators in different areas of expertise.

## **Academic Programs**

The Department offers degree programs, which are integration of basic as well as modern technologies. The department conducts the following academic programs:

### **1. Undergraduate Programs:-**

- Bachelor of Science in Computer Science, BS(CS)
- Bachelor of Science in Information Technology, BS(IT)



- Master of Computer Science, MCS

## 2. Graduate Programs

- MS(CS)

### Eligibility and Selection Criteria BS(CS)/BS(IT)

A candidate is eligible to apply BS(CS) / BS(IT) program having any of the following criteria from recognized Board / institute with at least 50% marks in intermediate.

- F.Sc. (Pre-Engineering)
- F.Sc. (Pre-Medical)
- Intermediate in general science (Mathematics / Statistics / Economics)
- Intermediate in Computer Science (ICS)

- Intermediate in Commerce
- Diploma in IT/Electronics equivalent to Intermediate
- The merit for admission for BS (CS) / BS (IT) shall be determined as under:
- 10% Marks in SSC + 50% Marks in Intermediate + 40% Test

### Scheme of Study

Duration:	8-12 Semesters
Courses:	130 Credit Hours
Oral Comprehensive Examination	S/U Basis
Internship:	S/U Basis
Project:	06 Credit Hours
<b>Total Credits:</b>	<b>136 Credit Hours</b>



## Courses for BS(CS)

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester 1	BCS-1101	Intro. To information and Communication Technology	2	1	3	-
	BCS-1102	Programming Fundamental	3	1	4	-
	MAT-1103	Calculus and Analytical Geometry	3	0	3	-
	ELE-1104	Basic Electronics	3	0	3	-
	ENG-1105	English Composition & Comprehension	3	0	3	-
	HUM-1106	Pakistan Studies	2	0	2	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-2	BCS-1201	Object Oriented Programming	3	1	4	BCS-1102
	BCS-1202	Digital Logic Design	3	0	3	-
	BCS-1203	Discrete Structures	3	0	3	-
	MAT-1204	Linear Algebra	3	0	3	-
	ENG-1205	Technical and Business Writing	3	0	3	-
	HUM-1206	Islamic Studies	2	0	2	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-3	BCS-2301	Data Structure and Algorithms	3	1	4	-
	BCS-2302	Computer Architecture and Organization	3	0	3	-
	MGS-2303	Human Resource Management	3	0	3	-
	MAT-2304	Statistics and Probability	3	0	3	-
	ENG-2305	Communication Skills	3	0	3	-
	HUM-2306	Arabic	3	0	3	-



	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-4	BCS-2401	Database Systems	3	1	4	-
	BCS-2402	Operating Systems	3	0	3	-
	MSG-2403	Micro Processor and Assembly Language	2	1	3	-
	BCS-2404	Computer Graphics	2	1	3	-
	MAT-2405	Multivariate Calculus	3	0	3	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-5	BCS-3501	Web Design and Development	2	1	3	-
	BCS-3502	Data Comm. & Computer Networks	3	0	3	-
	BCS-3503	Design and Analysis of Algorithms	3	0	3	-
	BCS-3504	Theory of Automata	3	0	3	-
	MAT-3505	Differential Equations	3	0	3	-
	BCS-3506	Financial Accounting	3	0	3	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-6	BCS-3601	Human Computer Interaction	3	0	3	-
	BCS-3602	Software Engineering	3	0	3	-
	BCS-3603	Mobile Computing	3	0	3	-
	BCS-3604	Artificial Intelligence	3	0	3	-
	BCS-3605	Data Mining	3	0	3	-
	HUM-3606	Psychology	3	0	3	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-7	BCS-4701	Fuzzy Logic	3	0	3	-
	BCS-4702	Compiler Construction	3	0	3	-
	BCS-4703	Numerical Computing	3	0	3	-
	BCS-4704	Digital Image Processing	3	0	3	-
	BCS-4705	System Programming	2	1	3	-
	BCS-4706	Final Year Project (1)	-	-	S/U	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-8	BCS-4801	Information Security	3	0	3	-
	BCS-4802	Software Project Management	3	0	3	-
	BCS-4803	Professional Practices	2	0	2	-
	BCS-4804	Final Year Project (2)	0	0	6	-
	BCS-4805	Oral Comprehensive Examination	-	-	S/U	-
	BCS-4806	Internship/ Practical Training	-	-	S/U	-

## Scheme of Study in Bachelor of Science in Information Technology for BS (IT)

Scheme of Studies / Semester wise Course Details with Credit Hours

Duration:	8-12 Semesters
Courses:	130 Credit Hours
Oral Comprehensive Examination:	S/U Basis
Internship:	S/U Basis
Project:	06 Credit Hours
<b>Total:</b>	<b>136 Credit Hours</b>





## Courses for BS(IT)

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-1	BIT-1101	Fundamentals of ICT	2	1	3	-
	BIT-1102	Programming Fundamentals	3	1	4	-
	MAT-1103	Calculus and Analytical Geometry	3	0	3	-
	MGS-1104	Financial Accounting	3	0	3	-
	ENG-1105	English Comprehension	3	0	3	-
	HUM-1106	Pakistan Studies	2	0	2	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-2	BIT-1201	Object Oriented Programming	3	1	4	BIT-1102
	BIT-1202	Intro to Computer Architecture	3	0	3	-
	BIT-1203	Discrete Structures	3	0	3	-
	MGS-1204	Human Resource Management	3	0	3	-
	ENG-1205	Technical and Business Writing	3	0	3	-
	HUM-1206	Islamic Studies	2	0	2	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-3	BIT-2301	Data Structures and Algorithm	3	1	4	-
	BIT-2302	Computer Communication and Networks	3	0	3	-
	BIT-2303	Operating System Concepts	3	0	3	-
	MAT-2304	Statistics and Probability	3	0	3	-
	ENG-2305	Communication Skills	3	0	3	-
	HUM-2306	Arabic	3	0	3	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-4	BIT-2401	Database Systems	3	1	4	-
	BIT-2402	Software Engineering-I	3	0	3	-
	BIT-2403	Internet Architecture & Protocols	3	0	3	-
	BIT-2404	Information System	3	0	3	-
	MGS-2405	Organizational Behavior	3	0	3	-
	MAT-2406	Linear Algebra	3	0	3	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-5	BIT-3501	Web Design and Development	2	1	3	-
	BIT-3502	DB Administration & Management	3	0	3	-
	BIT-3503	Multimedia Technologies	3	0	3	-
	BIT-3504	Telecommunication Systems	3	0	3	-
	BIT-3505	Software Engineering II	3	0	3	BIT-2402
	BIT-3506	Technology Management	3	0	3	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-6	BIT-3601	Human Computer Interaction	3	0	3	-
	BIT-3602	Object Oriented Analysis & Design	3	0	3	-
	BIT-3603	Distributed Database Systems	3	0	3	BIT-2401
	BIT-3604	E-Commerce	3	0	3	-
	BIT-3605	Systems and Network Administration	3	0	3	-
	BIT-3606	Distributed Computing	3	0	3	-



	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-7	BIT-4701	Mobile Computing	3	0	3	-
	BIT-4702	Network Security	3	0	3	-
	BIT-4703	Data Mining	3	0	3	-
	BIT-4704	Artificial Intelligence	3	0	3	-
	BIT-4705	IT Project Management	3	0	3	-
	BIT-4706	Capstone Project Part -1	-	-	S/U	-

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.	Pre-Req
Semester-8	BIT-4801	System Integration & Architecture	3	0	3	-
	BIT-4802	Professional Practices	2	0	2	-
	BIT-4803	Capstone Project Part 2	-	-	6	-
	BIT-4805	Oral Comprehensive Examination	-	-	S/U	-
	BIT-4806	Internship/ Practical Training	-	-	S/U	-

### Eligibility and Selection Criteria for Master of Computer Science (MCS)

A candidate is eligible to apply MCS program having any of the following criteria from recognized university/institute with at least 2nd division (45% marks).

- Bachelor of Mathematics
- Bachelor of Physics
- Bachelor of Computer Science
- Bachelor of Commerce
- Bachelor of Statistics
- Bachelor of Economics
- Bachelor of Engineering

- BA with Economics / Statistics / Computer / Mathematics

The merit for admission for MCS shall be determined as under:

50% Marks in Bachelor + 50 % Test

### Scheme of Study for MCS

Duration:	4-6 Semesters:
Courses:	66 Credit Hours
Oral Comprehensive Examination	S/U Basis
Internship/ Practical Training:	S/U Basis
Project:	06 Credit Hours
<b>Total:</b>	<b>72 Credit Hours</b>

## Courses for MCS

Semester-1	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	MCS-111	Intro. Computer Programming	2	1	3
	MCS-112	Discrete Structures	3	0	3
	MCS-113	Web Design & Development	2	1	3
	MCS-114	Fundamentals of Algorithms	3	0	3
	MCS-115	Database Systems	2	1	3
	MCS-116	Tech. & Business Report Writing	3	0	3
	<b>Total</b>				<b>18</b>

Semester-2	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	MCS-121	Object Oriented Programming	2	1	3
	MCS-122	Theory of Automata	3	0	3
	MCS-123	Data Communication	3	0	3
	MCS-124	Data Structures & Algo. Analysis	2	1	3
	MCS-125	Intro. to Computer Architecture	3	0	3
	MCS-126	Software Engineering-I	3	0	3
	<b>Total</b>				<b>18</b>

Semester-3	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	MCS-231	Computer Graphics & Animations	2	1	3
	MCS-232	Software Engineering-II	3	0	3
	MCS-233	Distributed Database Systems	2	1	3
	MCS-234	Operating Systems	3	0	3
	MCS-235	Compiler Construction	3	0	3
	MCS-236	Visual Programming	2	1	3
	<b>Total</b>				<b>18</b>



	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hr s.
Semester-4	MCS-241	System Programming	2	1	3
	MCS-242	Artificial Intelligence	3	0	3
	MCS-243	Computer Networks	3	0	3
	MCS-244	Modern Programming Language	2	1	3
	MCS-245	Software Project	0	0	6
	MCS-246	Reading & conference	0	0	S/U
	MCS-247	Oral Comprehensive Examination	-	-	S/U
	MCS-248	Internship / Practical Training	-	-	S/U
<b>Total</b>					<b>18</b>

### Scheme of Study for MS (CS)

Duration:	4-6 semesters
Courses:	24 credit Hrs
Reading Seminars:	01 credit hour (in 2 <sup>nd</sup> semester + Comprehensive exam. before the commencement of 3 <sup>rd</sup> semester)
Thesis:	06 credit Hrs
<b>Total:</b>	<b>31 credit Hrs</b>

Category or Area	Credit Hours
Core	12
Electives	12
Reading Seminars	01
Thesis	06
<b>Total Credit Hours</b>	<b>31</b>

### Eligibility

- BS (CS/IT) 4 Years Degree Program (min 136 credit hours), or
- M.Sc. (Computer Sciences) or MCS / MIT 2 years degree program

### Admission Requirements

- As per HEC/University Policy



## Scheme of Studies for MS Computer Science

Courses will be offered subject to the suitability and availability of the faculty. However, the students will have to defend their thesis proposal / synopsis at the end of their third semester, as a full time student.

Code	Core Course	Cr. Hrs
CS-5101	Advanced Analysis of Algorithms	3
CS-5102	Advanced Theory of Computation	3

Code	Mandatory Courses	Cr. Hrs
CS-5103	Research Methods	3

Code	Reading Seminar	Cr. Hrs
CS-6102	Reading CS Seminar	1

Code	Thesis	Cr. Hrs
CS-6101	MS Thesis	6

### Elective Courses

Code	Computer Networks and Security	Cr. Hrs
CS-5104	Advanced Network Programming	3
CS-5105	Advanced Computer Networks	3
CS-5106	Introduction to Cryptography and Security	3
CS-5107	Mechanisms	3
CS-5201	Advanced Wireless Networks	3
CS-5202	Advanced Network Security	3
CS-5203	Network Performance Evaluation	3
CS-5204	Advanced Wireless and Mobile Computing	3



Code	Artificial Intelligence	Cr. Hrs
CS-5108	Design of Intelligent Systems	3
CS-5109	Decision Support Systems	3
CS-5205	Machine Learning	3
CS-5206	Advanced Neural Networks	3
CS-5207	Natural Language Processing	3
CS-5208	Agents	3
CS-5209	Robotics	3
CS-5210	Pattern Recognition	3
CS-5211	Computational Intelligence	3

Code	Software Engineering	Cr. Hrs
CS-5110	Advanced Software Engineering	3
CS-5111	Advanced Software Project Management	3
CS-5212	Object-Oriented Software Engineering	3
CS-5213	Software Quality Assurance and Testing	3
CS-5214	Software Requirements Engineering	3
CS-5215	Software Architectures	3
CS-5216	Software Patterns	3

Code	Digital Signal and Image Processing / Computer Vision	Cr. Hrs
CS-5112	Advanced Digital Image Processing	3
CS-5113	Advanced Digital Signal Processing	3
CS-5114	Computer Vision	3
CS-5217	Digital Watermarking and Steganography	3
CS-5218	Multi-view Geometry	3
CS-5219	3D Computer Vision	3
CS-5220	Multispectral Image Processing	3

Code	Thesis	Cr. Hrs
CS-5115	Advanced Computer Architecture	3
CS-5116	Advanced Operating System	3

## Department of Mathematics



### Chairperson

**Dr. Rashida Hussain**

Associate Professor

Tel: +92-5827-961122

E-mail: chairperson.maths@must.edu.pk

### Faculty:

Name	Designation	Last Degree	Univ./Country
1 Dr. Rashida Hussain	Associate Professor	Ph.D & Post Doc	University of Graz Austria
2 Dr. Amir Saghir	Associate Professor	Ph.D	China
3 Mr. Suleman Khan	Assistant Professor	M.Phil	QAU, Islamabad
4 Dr. Imtiaz Ahmad	Assistant Professor	Ph.D	China
5 Dr. Syed Zakir Hussain Bukhari	Assistant Professor	Ph.D	COMSATS
6 Dr. Shah Muhammad	Assistant Professor	Ph.D	Netherland
7 Dr. Asghar Ali	Assistant Professor	Ph.D	Austria
8 Dr. Kalim-Ul-Haq Tariq	Assistant Professor	Ph.D	China
9 Dr. Tassaddaq Hussain	Assistant Professor	Ph.D	NCBA, Pakistan
10 Dr. Tamoore Salahudin	Assistant Professor	Ph.D	QAU, Islamabad
11 Ms. Syeda Naveed Kazmi	Lecturer	M.Phil	MAJU, Islamabad
12 Ms. Asia Latif	Lecturer	Ph.D in progress	MUST, Mirpur
13 Mr. Moeen Taj	Lecturer	M.Phil	UAJK, Muzaffarabad
14 Mr. Anwar Ahmed	Lecturer	M.Phil	QAU, Islamabad
15 Ms. Ghazala Gulshan	Lecturer	Ph.D in progress	MUST, Mirpur
16 Ms. Sapna Makhdoom	Lecturer	Ph.D in progress	QAU, Islamabad
17 Muhammad Ashfaq	Jr. Lecturer	Ph.D in progress	MUST, Mirpur
18 Ms. Kashmaila Hussain	Jr. Lecturer	Ph.D in progress	MUST, Mirpur
19 Ms. Ayesha Naseem	Jr. Lecturer	M.Phil	MUST, Mirpur
20 Ms. Sara Riaz	Jr. Lecturer	M.Phil in progress	MUST, Mirpur
21 Mr. Mohsin Iqbal	Jr. Lecturer	M.Sc	Peshawar University
22 Mr. Raffaqt Hussain	Jr. Lecturer	M.Phil	QAU, Islamabad
23 Ms. Asma Rasheed	Jr. Lecturer	M.Sc	UAJK
24 Ms. Tayyaba Rasool	Jr. Lecturer	Ph.D in progress	MUST, Mirpur





## **Vision:**

The vision of the Mathematics Department is very much aligned with the vision of the MUST and the Faculty of Sciences, particularly affirming the teaching and research and building a close working relationship between faculty and students to achieve common goals.

## **Mission**

The Department of Mathematics aims to provide lifelong education by empowering its students through dedicated teaching to formulate mathematical problems and communicate their solutions. The department is determined to equip its students with necessary background, tools and techniques to start careers in research and development, teaching, and industry. The department is striving to highlight the applications of Mathematics in various disciplines of modern sciences and engineering through a balanced teaching program and conducive learning environment. The department focuses on producing graduates of high quality and standard with all round scientific, communication, management and organization skills who specifically possess the imagination, innovation, ingenuity and high morals to meet the challenges and rigors of a demanding job markets within Pakistan and abroad as well.

## **Introduction**

The Department of Mathematics was established in 2009 with the commencement of M.Sc program. The MPhil and BS (4-Years) programs were launched in

2010 and 2012, respectively. In Fall 2014, the department has started PhD program. Four batches of M.Sc and three batches of MPhil have completed their degrees. Moreover, the department is rendering active services for teaching Mathematics courses in other departments of the university at undergraduate and graduate levels. The department is providing opportunities to its students and scholars to share the wisdom of various renowned mathematicians from different institutions in Pakistan. Students are encouraged to participate in conferences, seminars, Olympiads, etc. The department is in process of building collaboration with the Mathematics department of Kashmir University Awantipora, Srinagar. As far as the facilities are concerned, the department has a library with 2800 books on diverse subjects and a common computer lab consisting of 50 PCs. The department has a cess to HEC Digital Library. The students are encouraged to participate in sports, debating and literary events. The students of the department have won many competitions in the university.

In the current era of science and technology, knowledge and understanding of Mathematics is a gateway and key to success. The journey of Mathematics could be considered as a journey from the abstract to the concrete. The problem solving in classroom leads to the problems solving in laboratory and eventually in the industry. The department is determined to provide its students the training that inculcates creative and innovative thinking and makes them capable of understanding complex problems and find their solutions. It is an essential part of department's vision.



The programs offered in the department are not only a balanced blend of theoretical and practical knowledge related to the fields of Mathematics, Physics, Engineering and Technology as per requirement of the country and abroad but also include various subjects dealing with the development of communication and presentation skills. There are also subjects of behavior and attitude learning to develop interpersonal skills in the students.

The main focus of the programs offered in the department is not entirely on Applied Mathematics. Significant importance is given to Pure Mathematics which essentially plays a vital role in the general framework of Applied Mathematics, Computer Science, Engineering and various other disciplines. The subjects of Programming Languages and Numerical Analysis cover some areas of Computational Mathematics. In BS program, subjects of English, Physics, Statistics, Sociology and Psychology are introduced with diverse and multiple objectives.

### **Programs:**

The Department offers BS (Four Years), M.Sc (Two Years), MPhil and PhD programs.

### **BS Four Year Program**

**Vision:** The BS Program in Mathematics aims at providing students with a solid foundation in the major areas of mathematics, an appreciation for the structures and theories of advanced mathematics, and a deeper understanding of the role of mathematics in engineering and sciences.

The Department strives to produce graduates who exhibit knowledge, comprehension, and creativity in the practice of mathematics as they pursue their careers in teaching, business, government, or in industry.

### **Admission Requirements for B.S**

- F.Sc. (Pre-Engineering), ICS with Mathematics and any one of Physics or Statistics or Economics, and FA with Mathematics, Statistics and Economics
- No D-grade in Matric or Intermediate
- Entry Test will be conducted by the University with the following breakup: Mathematics (80%), English (20%) Merit shall be determined on 10% of SSC, 50% of Intermediate and 40% of Entry Test marks.
- Entry Test of Mathematics for admission in Engineering can also be taken into account with 30% weightage provided that the candidate has applied for admission in Mathematics separately.

### **Duration of the Program: 8-10 Semesters Credits (Credit Hours)**

- Course Work: 128 Credits
- Project (Mandatory): 06 Credits
- Conferences / Seminars / Readings: Satisfactory/Unsatisfactory (S/U)
- Comprehensive Oral Examination: 1 Credit Hour
- **Total Credits: 130**





## Courses

BS Scheme of Studies (Structure)	Sr. No.	Category	No. of Courses	Credits
	01	Compulsory Requirements	08	20
	02	General Courses	06	18
	03	Foundation Courses	15	43
	04	Major Courses including Project	12	34
	05	Electives Courses	05	15
		<b>Total</b>	<b>46</b>	<b>135</b>

## Semester-Wise Breakup

Semester-I	Code	Title	Credits (Lab. + Lecture)
	ISL -1101	Islamic Studies	0+2
	ENG -1102	English-I	0+3
	COM-1103	Introduction to Computer	1+2
	PHY -1104	Physics-I	0+3
	MAT-1105	Calculus-I	0+4
	MAT-1106	Foundation of Mathematics	0+3

Semester-II	Code	Title	Credits (Lab. + Lecture)
	HUM-1201	Arabic	0+2
	ENG -1202	English-II	0+3
	HUM-1203	Pakistan Studies	0+2
	PHY -1204	Physics-II	0+3
	MAT-1205	Calculus-II	0+4
	MAT-1206	Linear Algebra-I	0+3

Semester-III	Code	Title	Credits (Lab. + Lecture)
	HUM-2301	Introduction to Sociology	0+3
	ENG -2302	English-III: Technical Writing and presentation skills	0+3
	MAT-2303	Probability Theory	0+3
	MAT -2304	Mechanics-I	0+4
	MAT-2305	Calculus-III	0+2
	MAT-2306	Linear Algebra-II	0+3
	HUM-2308	HR Management	S/U



Semester-IV	Code	Title	Credits (Lab. + Lecture)
	MAT-2402	Introduction to Differential Equations	0+2
	MAT-2403	Mathematical Statistics	0+3
	MAT-2404	Mechanics-II	0+3
	MAT-2405	Metric Spaces	0+2
	MAT-2406	Number Theoryt	0+3
		One Optional	
	PSY- 2401	Education Psychology	0+3
	HUM-2408	Organizational Behavior	0+3
	MAT-2409	Business Mathematics	0+3
	HUM-2410	Entrepreneurship	0+3
Semester-V	Code	Title	Credits (Lab. + Lecture)
	MAT-3501	Real Analysis-I	0+2
	MAT-3502	Ordinary Differential Equations	0+3
	MAT-3503	Differential Geometry-I	0+3
	MAT-3504	Analytical Mechanics	0+3
	MAT-3505	Topology	0+3
	MAT-3506	Abstract Algebra	0+3
Semester-VI	Code	Title	Credits (Lab. + Lecture)
	MAT-3601	Real Analysis-II	0+3
	MAT-3602	Partial Differential Equations	0+3
	MAT-3603	Numerical Analysis	0+3
	MAT-3604	Complex Analysis	0+2
	MAT-3605	Tensor Analysis	0+3
	MAT-3606	Scientific Programming	2+1



Semester-VII	Code	Title	Credits (Lab. + Lecture)
	MAT-4702	Mathematical Physics	0+3
	MAT-4704	Functional Analysis	0+3
	MAT-4708	Final Year Project-I	0+3
	MAT-4716	Conference/Seminar/Readings-II	S/U

### Two Optional Courses

Two Optional Courses	Code	Title	Credits (Lab. + Lecture)
	MAT-4701	Measure Theory	0+3
	MAT-4703	Numerical Methods II	0+3
	MAT-4705	Fluid Mechanics-I	0+3
	MAT-4706	Advanced Abstract Algebra	0+3
	MAT-4707	Discrete Structure	0+3
	MAT-4709	Quantum Mechanics-I	0+3
	MAT-4710	Ring Theory	0+3
	MAT-4711	Analytical Dynamics	0+3
	MAT-4712	Operations Research	0+3
	MAT-4713	Convex Analysis	0+3
	MAT-4714	Advance Topics in Complex Analysis	0+3
	MAT-4715	Electromagnetic Theory-I	0+3
	MAT-4717	Differential Geometry-II	0+3
	MAT-4718	Approximation Theory	0+3
	MAT-4719	Advance Topology	0+3

Semester-VII	Code	Title	Credits (Lab. + Lecture)
	MAT-4803	Integral Equations	0+3
	MAT-4807	Comprehensive Oral Examination	0+1
	MAT-4808	Final Year Project II	0+3
	MAT-4816	Conference/Seminar/Readings-II	S/U

Two Optional Courses	Code	Title	Credits (Lab. + Lecture)
	MAT-4801	Mathematical Systems Theory	0+3
	MAT-4802	Mathematical Modeling	0+3
	MAT-4804	Optimization Theory	0+3
	MAT-4805	Fluid Mechanics-II	0+3
	MAT-4806	Algebraic Topology	0+3
	MAT-4809	Quantum Mechanics-II	0+3
	MAT-4810	Introduction to Combinatorics	0+3
	MAT-4811	Variational Inequalities	0+3
	MAT-4812	Theory of Elasticity	0+3
	MAT-4813	Special Theory of Relativity	0+3
	MAT-4814	Introduction to Geometric Function Theory	0+3
	MAT-4815	Electromagnetic Theory-II	0+3

**Note:** The choice of the optional courses depends upon the availability of teacher.

## M.Sc. Program Mathematics

### Vision

The vision of the M.Sc Program in Mathematics is the same as that of the BS Program. The program is designed to train the students so that they have understanding of the basic mathematical concepts and they can exhibit their knowledge and mathematical wisdom in solving problems from different fields like engineering, computer science, basic sciences, business, government, and industry.

### Admission Requirements for M.Sc

- B.Sc. with Mathematics A & B Courses or BS.Ed. with Physics and Mathematics
- No third division in Matric, Intermediate, or B.Sc
- Entry Test (conducted by the University)



**Duration:** 4-6 Semesters

**Credits (Credit Hours)**

- Course Work and Project: (59 +06) Credits
- Conference/Seminars/Readings: 01 Credit Satisfactory/Unsatisfactory(S/U)
- Comprehensive Oral Examination: 01 Credits Hrs
- Total: 66 Credits**

**M Sc Scheme of Studies (Structure)**

Sr. No.	Category	No. of Courses	Credits
01	Foundation Courses	08	22
02	Major Courses	07	20
03	Electives Courses or Electives Courses and Project	05+Project	15+06

**Semester-Wise Breakup**

	Code	Title	Credits
Semester-I	MAT-5101	RealAnalysis-I	03
	MAT-5102	Ordinary Differential Equations	03
	MAT-5103	Differential Geometry-I	03
	MAT-5104	Analytical Mechanics	03
	MAT-5105	Topology	03
	MAT-5106	Abstract Algebra	03

	Code	Title	Credits
Semester II	MAT-5201	RealAnalysis-II	03
	MAT-5202	Partial Differential Equations	03
	MAT-5203	Numerical Methods I	03
	MAT-5204	ComplexAnalysis	03
	MAT-5205	Tensor Analysis	02
	MAT-5206	Scientific Programming	1+2



Semester-III	Code	Title	Credits
	MAT-6302	Mathematical Physics	03
	MAT-6304	Functional Analysis	03
	MAT-6308	Project-I	03
	MAT-6317	Conference/Seminar/Readings-I	S/U
	<b>Two Optional Courses</b>		
	MAT-6301	Measure Theory	03
	MAT-6303	Numerical Methods II	03
	MAT-6305	Fluid Mechanics-I	03
	MAT-6306	Advanced Abstract Algebra	03
	MAT-6307	Number Theory	03
	MAT-6309	Quantum Mechanics-I	03
	MAT-6310	Ring Theory	03
	MAT-6311	Probability Theory	03
	MAT-6312	Operation Research	03
	MAT-6313	Differential Geometry II	03
	MAT-6314	Advanced Topics in Complex Analysis	03
	MAT-6315	Electromagnetic Theory I	03
	MAT-6316	Complex Analysis	03
	MAT-6318	Advanced Topology	03
	MAT-6319	Approximation Theory	03
	MAT-6320	Analytical Dynamics	03
Semester-IV	Code	Title	Credits
	MAT-6403	Integral Equations	03
	MAT-6407	Comprehensive Oral Examination	01
	MAT-6408	Project II	03
	MAT-6417	Conference/Seminar/Readings-II	S/U





Semester-III	Code	Title	Credits
	<b>Three Optional Courses</b>		
	MAT-6401	Mathematical Systems Theory	03
	MAT-6402	Mathematical Modeling	03
	MAT-6304	Mathematical Statistics	03
	MAT-6405	Fluid Mechanics-II	03
	MAT-6406	Algebraic Topology	03
	MAT-6406	Quantum Mechanics-II	03
	MAT-6410	Introduction to Combinatorics	03
	MAT-6411	Variational Inequalities	03
	MAT-6412	Optimization Theory	03
	MAT-6413	Special Theory of Relativity	03
	MAT-6414	Introduction to Geometric Function Theory	03
	MAT-6415	Electromagnetic Theory-II	03
	MAT-6416	Theory of Elasticity	03
	<b>Note:</b> Three Courses from the 3rd Semester and two from the 4th Semester are optional. The choice of the optional courses depends on the availability of the Teachers.		

## M.Phil/Ph.D Programs in Mathematics

### Vision

The MPhil Program in Mathematics aims at establishing a broad-based, innovative, dynamic and conducive environment compatible with international norms and standards for young scholars and researchers who specifically possess the imagination, novelty, ingenuity and creativity to meet the challenges and rigors of present day and future. These scholars must be capable of identifying, formulating and analyzing problems critically and find ways and means to find the solutions.

### Admission Requirements for M.Phil

- M.Sc Mathematics
- CGPA (In semester system) or Equivalent Percentage (In annual system) in M.Sc as per HEC Guide lines
- Entry Test (conducted by the University)

## M.Phil Scheme of Studies

- Duration: 4-6 Semesters
- Course Work:(1st two semesters) 24 Credit Hours
- Thesis(Last two semesters): 06 Credit Hours
- Conference/Seminar: 01 Credit Hour
- **Total: 31Credit Hours**

## Ph.D Programs in Mathematics

### Vision

Vision: Mathematics and mathematical research play an indispensable role in every technical discipline. The PhD Program in Mathematics aims at building a research environment in the department at par with the international standards which will help the researchers apply their knowledge and expertise to address the ever

changing demands of the society..

## Admission Requirements for Ph.D

- MPhil or Equivalent with Mathematics with minimum CGPA 3 on a scale of 4 as per HEC Guide lines
- No D grade in the Academic Career
- Consent from the Supervisor within the Department

## Ph.D Scheme of Studies

- Duration: 8-10 Semesters
- Course Work: 18 Credit Hours
- Thesis: 25 Credit Hours
- Conference/Seminar: 02 Credit Hour
- Examination (Written & Oral): S/U Basis
- **Total: 45 Credit Hours**





## List of Courses for M.Phil/Ph.D Program

Code	Title	Credits
MAT-7101	Advanced Functional Analysis-I	03
MAT-7102	Advanced Measure Theory-I	03
MAT-7103	Advanced Topology-I	03
MAT-7104	Lie Algebra	03
MAT-7105	Topological Groups	03
MAT-7106	Topological Vector Spaces	03
MAT-7107	Theory of Group Graphs	03
MAT-7108	Theory of Group Actions	03
MAT-7109	Theory of Complex Manifolds	03
MAT-7110	Approximation Theory	03
MAT-7111	Complex Analysis of Several Variables	03
MAT-7112	Advanced Partial Differential Equations	03
MAT-7113	Magnetohydrodynamics-I	03
MAT-7114	Electrodynamics-I	03
MAT-7115	Advanced Analytical Dynamics-I	03
MAT-7116	General Relativity	03
MAT-7117	Astrophysics	03
MAT-7118	The Classical Theory of Fields	03
MAT-7119	Mathematical Techniques for Boundary Value Problems	03
MAT-7120	Viscous Fluids	03
MAT-7121	Sampling Techniques-I	03
MAT-7122	Multivariate Analysis- I	03
MAT-7123	Finite Mixture Distributions-I	03
MAT-7124	Advanced Complex Analysis	03
MAT-7125	Advanced Convex Analysis	03



Code	Title	Credits
MAT-7126	Advanced Optimization Theory	03
MAT-7127	Variational Inequalities-I	03
MAT-7128	Nonlinear Systems and Control	03
MAT-7129	Perturbation Methods-I	03
MAT-7130	Semi-groups in Geometric Function Theory	03
MAT-7131	Conformal Mappings	03
MAT-7132	Numerical Solutions of PDEs	03
MAT-7133	Advanced Mathematical Statistics	03
MAT-7134	Introduction to Finite Element Methods	03
MAT-7135	Graph Theory	03
MAT-7201	Advance Functional Analysis-II(pre-requisite MAT-7101)	03
MAT-7202	Advanced Measure Theory –II (pre-requisite MAT-7102)	03
MAT-7203	Advanced Topology-II(pre-requisite MAT-7103)	03
MAT-7204	Banach Algebras(pre-requisite MAT-7103)	03
MAT-7205	Loop Groups(pre-requisite MAT-7201)	03
MAT-7206	C* -Algebras (Pre-requisite MAT-7201)	03
MAT-7207	Topological Algebras (Pre-requisite MAT-7201)	03
MAT-7208	Advanced Integral Equations	03
MAT-7209	Magneto Hydro Dynamics-II (Pre-requisite MAT-7113)	03
MAT-7210	Electrodynamics-II (Pre - requisite MAT-7114)	03
MAT-7211	Advance Analytical Dynamics (Pre-requisite MAT-7115 )	03
MAT-7212	Cosmology (pre-requisite MAT-7120)	03
MAT-7213	Compressible Fluid Flow (Pre-requisite MAT-7120)	03
MAT-7214	Numerical Solutions of partial Differential Equations	03
MAT-7215	Group Methods for differential equations	03
MAT-7216	Sampling Techniques-II (Pre-requisite MAT-7121)	03
MAT-7217	Multivariate Analysis (Pre-requisite MAT-7122)	03



Code	Title	Credits
MAT-7218	Finite Mixture Distributions-II (Pre-requisite MAT-7123)	03
MAT-7219	Stochastic Differential Equations	03
MAT-7220	Stochastic Processes	03
MAT-7221	Fixed Point Theory and Applications	03
MAT-7222	Integral Inequalities	03
MAT-7223	Differential Subordination Theory and Applications	03
MAT-7224	Geometric Function Theory	03
MAT-7225	Selected Topics in Pure Mathematics	03
MAT-7226	Advanced Mathematical Modeling Differential	03
MAT-7227	Selected Topics in Applied Mathematics	03
MAT-7228	Optimal Control	03
MAT-7229	Perturbation Methods-II	03
MAT-7230	Harmonic Function Theory	03
MAT-7231	Linear Matrix Theory	03
MAT-7232	Design Methods and Control Systems	03
MAT-7233	Parameter Estimation and Sensitivity Analysis	03
MAT-7234	General Theory of Relativity	03

### Messages of Students



**Namra Akram,**  
Ph.D Scholar

I got M.Sc and M.Phil degree in Mathematics from MUST with distinction. It "s my pleasure to be a part of the Department as MPhil Scholar. The Department is providing a conducive and innovative learning environment to enhance our ability and skills to cope with the emerging challenges in future and also improving our way of thinking and behaviour to compete the world in real sense.



**Kamran Khan,**  
BS, Mathematics

It is honor for me to be a part of the Department in pursuing for BS degree. The Department has been providing us a rich training, practical approach and knowledge to the latest techniques and tools. Innovative and learning environment with diversity would lead us to meet the emerging challenges as professionals in future.



## Department of Physics



### Chairman

**Dr. Muhammad Irfan**

Tel: +92-5827-961111

E-mail: irfanphy@yahoo.com

Chairperson.physics@must.edu.pk

### Faculty:

	Name	Designation	Last Degree	Univ./Country
1.	Dr. Shaukat Mahmood	Professor	Ph.D	QAU, Pak.
2.	Dr. Muhammad Irfan	Associate. Prof.	Ph.D	QAU, Pak.
3.	Dr. Muhammad Ayub	Assistant Prof.	Ph.D	GCU, Pak.
4.	Dr. Azhar Hussain	Assistant Prof.	Ph.D	GCU, Pak.
5.	Mr. Mohammed Zaffar	Lecturer	M.Phil	PU, Pak.
6.	Mr. Tariq Aziz	Lecturer	M.Phil	COMSATS IIT, Pak.
7.	Mr. Naveed Ahmad	Lecturer	M.Phil	FUUAST, Pak.
8.	Mr. Abdul Jabbar	Lecturer	M.Phil	MUST, Pak.
9.	Mr. Arslan Ali	Lecturer	M.Phil	MUST, Pak.
10.	Ms Maria Khalil.	Junior Lect.	M.Phil	MUST, Pak.



Faculty Members, Department of Physics





## Mission Statement

"The mission of the Department of Physics is to serve the country by educating the students enrolled in its programs through quality teaching which provide a firm grounding in theoretical and experimental foundation in the field of Physics. In particular, the department seeks to produce graduates who have strong analytical and critical thinking skills, dedication to lifelong learning, and the ability to communicate effectively."

## Vision

Our vision is to make this department internationally recognized and ranked within the top tier of physics departments in public universities of comparable size.

## Introduction

The Department of Physics was established in September, 2009 with the objective to prepare students for academic and industrial careers at the forefront of science and technology in the country. The department offers M.Sc M.Phil and Ph.D degree programs. The contents of the taught courses represent a balance unify of both theoretical and practical knowledge with a view of feeding a skilled work to meet the modern standards of the country in the field of physics and technology. The Department has five teaching Laboratories, one each for Electronics, Solid State Physics, Nuclear Physics, Computational Physics and Modern Physics. The research is an integral part of the programs, for promoting a research culture in the country in general

and the University in particular. In this connection, the department has also entered into collaboration and knowledge integration with a number of other universities and research institutes to carry out joint research projects.

Apart from teaching laboratories the Department is also setting up some research laboratories reflecting an enthusiasm for developing and strengthening of research tradition in the University. In addition to these research facilities, the Department has a well-stocked library containing more than two thousand books on Physics and related subjects. These collections concentrate on the most current teaching and research interest and make available the background knowledge to those who are interested in making headway in their respective field of research. Moreover, the Department is also provided with Internet facility, which connects us with the rest of the world, and the students can access international journals and the digital libraries. This is aimed to provide opportunity to the student to keep abreast with latest development in their respective fields.

## Programs

We offer the following degree programs

- BS
- M.Sc
- M.Phil
- Ph.D

## Job Opportunities for Graduates

The graduates of the department may be absorb in the various establishments like education, departments

related to research and development (R&D), PAEC, NESCOM, KRL, SUPARCO, Tele communication, PIA, Pakistan Navy, Pakistan Air Force, Pakistan Army and so many others.

## Admission Requirements

### BS Physics 4-Year Program

- The eligibility criterion for admission in BS Physics is F.Sc. or A Level with Physics and Mathematics are compulsory, at least in 2nd division.

### M.Sc Physics

- The eligibility criterion for admission in M.Sc Physics is B.Sc or Bs.Ed with Physics, Mathematics applied and pure (Math-A & -B) or Physics, Mathematics general course at least in 2nd division.

### M.Phil Physics

- The eligibility criterion for admission in M.Phil Physics is M.Sc in Physics, at least in 2nd division (CGPA-2.5/4 or more/ as per HEC policy).
- The GAT-General ([www.nts.org.pk/gat/gat.asp](http://www.nts.org.pk/gat/gat.asp)) conducted by the National Testing Service (NTS) with a minimum 50% cumulative score will be required at the time of admission to M.Phil. The GAT-General test is valid for a period of two years.

### Ph.D Physics

- As per HEC Policy

### Scheme of Studies for BS Physics 4-Year Program:

Duration	8-12 Semesters
Course Work	128 Credits Hrs.
Thesis	6 Credits Hrs. (Optional)
Total	134 Credits

### Scheme of Studies for M.Sc Physics

Duration	4-6 Semesters
Theory	54 Credits Hrs.
Lab.	12 Credits Hrs.
Thesis	6 Credits Hrs. (Optional)
Comprehensive oral examination	*S/U Basis
Total	<b>66 Credits</b>

\*: Satisfactory/Unsatisfactory





## Scheme of Studies (Structure) for BS Physics:

	Course Code	Title	Cr. Hrs.
<b>Semester-1</b>	PHY-1101	English-I (C)	3
	PHY-1102	Islamic Studies (C)	2
	PHY-1103	Introduction to Computing (C)	2+1
	PHY-1104	Mechanics (F)	4
	PHY-1105	Calculus-I (C)	3
	PHY-1106	Lab-I (F)	2
<b>Semester-2</b>	PHY-1201	English-II (C)	3
	PHY-1202	Pakistan Studies (C)	2
	PHY-1203	Electricity and Magnetism (F)	4
	PHY-1204	Calculus-II (C)	3
	PHY-1205	Programming Fundamentals (G)	3
	PHY-1206	Lab-II (F)	2
<b>Semester-3</b>	PHY-2301	English-III (C)	3
	PHY-2302	Waves and Oscillations (F)	3
	PHY-2303	Linear Algebra (G)	3
	PHY-2304	Modern Physics (F)	3
	PHY-2305	Physical Chemistry (G)	3
	PHY-2306	Lab-III (F)	2
<b>Semester-4</b>	PHY-2401	Arabic (C)	3
	PHY-2402	Introduction to Quantum Physics (F)	3
	PHY-2403	Heat and Thermodynamics (F)	3
	PHY-2404	Differential Equations (G)	3
	PHY-2405	Probability and Statistics (G)	3
	PHY-2406	Lab-IV (F)	2
<b>Semester-5</b>	PHY-3501	Mathematical Methods of Physics-I (M)	3
	PHY-3502	Classical Mechanics (M)	3
	PHY-3503	Basic Electronics (M)	3
	PHY-3504	Electromagnetic Theory-I (M)	3
	PHY-3505	Lab-V (Electronics) (M)	3



	Course Code	Title	Cr. Hrs.
<b>Semester-6</b>	PHY-3601	Mathematical Methods of Physics-II (M)	3
	PHY-3602	Electromagnetic Theory-II (M)	3
	PHY-3603	Solid State Physics (M)	3
	PHY-3604	Atomic and Molecular Physics (M)	3
	PHY-3605	Lab-VI (Solid State Physics) (M)	3
<b>Semester-7</b>	PHY-4701	Nuclear Physics (M)	3
	PHY-4702	Quantum Mechanics-I (M)	3
	PHY-4703	Computational Physics (M)	3
	PHY-4704	Lab-VII (Nuclear Physics) (M)	3
	PHY-47 (05-07)	Elective Course-I (E)	3
	PHY-4708 / PHY-47 (09-15)	Final Year Project/ Optional Course	3
<b>Semester-8</b>	PHY-4801	Statistical Mechanics and Thermal Physics (M)	3
	PHY-4802	Quantum Mechanics-II (M)	3
	PHY-4803	Lab-VIII (General Physics) (M)	3
	PHY-48 (04-06)	Elective Course-II (E)	3
	PHY-4807 / PHY-48 (08-13)	Final Year Project/ Optional Course	3
	PHY-48 (08-13)	Optional Course	3

**Note:**

All courses and labs from semester V and on ward semesters will be same for B.S and M.Sc. programs.



## I- Compulsory Courses for M.Sc Physics

Semester-1	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	PHY- 5101	Method of Mathematical Physics-I	3	-	3
	PHY- 5102	Classical Mechanics	3	-	3
	PHY- 5103	Basic Electronics	3	-	3
	PHY- 5104	Electromagnetic Theory-I	3	-	3
	PHY- 5105	Laboratory Course-I (Electronics)	1 Credit Hr = 3 Hrs.		3
	Total				15
Semester-2	PHY- 5201	Method of Mathematical Physics-II	3	-	3
	PHY- 5202	Electromagnetic Theory-II	3	-	3
	PHY- 5203	Solid State Physics	3	-	3
	PHY- 5204	Atomic Physics	3	-	3
	PHY- 5205	Laboratory Course-II (Solid State Physics)	1 Credit Hr = 3 Hrs.		3
	Total				15

## II- Compulsory, Optional and Elective Courses for M.Sc Physics

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
Semester-3	PHY- 6301	Nuclear Physics	3	-	3
	PHY- 6302	Quantum Mechanics – I	3	-	3
	PHY- 6303	Computational Physics	3	-	3
	PHY- 6304	Laboratory Course-II (Nuclear Physics)	1 Crd. Hr = 3 Hrs.	3	
	PHY- 6305 / PHY-64(3-4)0	Laser / Thesis	---	----	3/3
	----	Elective Course – I	3	-	3
	<b>Total</b>				<b>18</b>

Semester-4	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	PHY- 6401	Statistical Mechanics and Thermal Physics	3	—	3
	PHY- 6402	Quantum Mechanics-II	3	-	3
	PHY- 6403	Laboratory Course-IV (General Physics)	1 Cr. Hr =3Hrs.	3	3
	PHY- 6404 / PHY-64(3-4)0	Plasma Physics / Thesis	3/--	----	3
	PHY- 64--	Optional Course	3	-	3
	-----	Elective Advance Course II	3	-	3
	PHY-6425	Comprehensive Oral Exam	-	-	S/U
Total					18

### III- Thesis

3rd and 4th Semester	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	PHY- 6 (3-4)0	Thesis	-	-	3+3=6







#### IV-Elective Advance Course I

3 <sup>rd</sup> Semester	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	PHY-6306	Advance Course-I (Electronics)	3	-	3
	PHY-6307	Advance Course-I (Solid State Physics)	3	-	3
	PHY-6308	Advance Course-I (Nuclear Physics)	3	-	3

#### V-Elective Advance Course II

4 <sup>th</sup> Semester	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	PHY-6405	Advance Course-II (Electronics)	3	-	3
	PHY-6406	Advance Course-II (Solid State Physics)	3	-	3
	PHY-6407	Advance Course-II (Nuclear Physics)	3	-	3

**Note:** The elective course opted in semester 3<sup>rd</sup> and 4<sup>th</sup> must be related to each other.



## VI-Optional Courses

Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
PHY- 6408	Research Methodology	-	-	3
PHY- 6409	Particle Physics	3	-	3
PHY- 6410	Thin Films	3	-	3
PHY- 6411	Medical Physics	3	-	3
PHY- 6412	Non-Destructive Testing of Materials	3	-	3
PHY- 6413	Polymer Physics	3	-	3
PHY- 6414	Semiconductors Physics	3	-	3
PHY- 6415	Bio- Physics	3	-	3
PHY- 6416	Quantum Optics	3	-	3
PHY- 6417	Computer Simulation	3	-	3
PHY- 6418	Optoelectronics	3	-	3
PHY- 6419	Cosmology and Relativity	3	-	3
PHY- 6420	Environmental Physics	3	-	3
PHY- 6421	Renewable Energy Sources	3	-	3
PHY- 6422	Fluid dynamics	3	-	3
PHY- 6423	Introduction to Nano Technology	3	-	3
PHY- 6424	Renewable Energy	3	-	3

**Note:** The selection of optional courses shall be related to the availability of qualified staff and laboratory facilities.



## Scheme of Study for M.Phil in Physics

Duration:	4-6 Semesters
Courses:	24 Credits
Thesis:	06 Credits
Seminar:	01 Credit
Total:	31 Credits

### M.Phil Program

M.Phil student may opt courses up to total 24 credits relevant to their chosen area of specialization and subject to the course offered by Department on the availability of the teaching staff and laboratory facilities from the following list of courses; 12 credit hours courses from each series in two semesters as per rule define by University/Department of Physics from time to time. Remaining 06 Credit hours are assigned to the thesis work to be done by student under the supervision of appointed supervisor among from the faculty members of Physics Department.

### Course Series -I

	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
Semester-1	PHY-7101	Method of Mathematical Physics	3	-	3
	PHY- 7102	Electro Dynamics	3	-	3
	PHY-7103	Advance Quantum Mechanics	3	-	3
	PHY-7104	Methods and Techniques of Experimental Physics	3	-	3
	PHY-7105	Physics of Semiconductors	3	-	3
	PHY-7106	Nuclear Physics-I	3	-	3
	PHY-7107	Material Science-I	3	-	3
	PHY-7108	Plasma Physics-I	3	-	3
	PHY-7109	Physics of Thin Films-I	3	-	3

## Admission Requirement for Ph.D

- M.Phil or Equivalent in Physics with minimum CGPA 3.00/4.00
  - No third division in the Academic Career
  - Consent from the Supervisor within the Department
  - Subject GRE with minimum qualifying score 60%
- Duration:** 8-10 Semesters

### Ph.D Scheme of Studies

Course Work:	18 credits (First Two Semesters)
Thesis:	25 credits
Conference/Seminar:	02 credit
Comprehensive Examination (Written):	S/U basis
Total:	45 credits

### M.Phil and Ph.D Courses

All courses offered for M. Phil. Program may be offered to the Ph.D. students depending upon their requirements.

## Course Series -II

Semester-2	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
	PHY-7201	Atomic and Molecular Spectroscopy	3	-	3
	PHY-7202	Particle Physics	3	-	3
	PHY-7203	Methods and Techniques of Experimental Physics	3	-	3
	PHY-7204	Physics of Semiconductors Devices	3	-	3
	PHY-7205	Nuclear Physics-II	3	-	3
	PHY-7206	Material Science-II	3	-	3
	PHY-7207	Plasma Physics-II	3	-	3
	PHY-7208	Physics of Thin Films-II	3	-	3
	PHY-7209	Dielectric Properties of Solids	3	-	3
	PHY-7210	Material Studies by Electron Emission	3	-	3
	PHY-7211	Defects in Materials and Measuring Techniques	3	-	3
	PHY-7212	Surface Science and Scanning Electron Microscopy	3	-	3
	PHY-7213	Nano-Science and Technology	3	-	3
	PHY-7214	Experimental Plasma Physics	3	-	3
	PHY-7215	Seminar/Assignment/Review Articles	1	-	1



## M.Phil Semester-3<sup>rd</sup> & 4<sup>th</sup>

Course Code	Title	Lec. Hrs.	Lab. Hrs.	Cr. Hrs.
PHY-7400	M.Phil Thesis	06	-	06

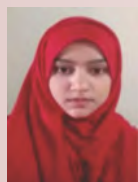
- During the second year (i.e. Semester 3<sup>rd</sup> and 4<sup>th</sup>), every student of M.Phil shall write and submit a thesis on the topic to be approved by the Departmental Supervisory Committee and then by Board of Advance Studies.

## Students' Messages



**Qais Iqbal**  
M. Phil Physics  
2nd Semester

It is honour for me to be a part of MUST. Studying at MUST has given me new ideas and broad vision. The attitude of faculty members of Physics Department toward students is remarkable. Environment of MUST is conducive and character building. As a part of MUST I want to say only one thing: "Work hard and be honest"



**Sehar Mushtaq**  
M.Sc Physics  
2nd semester

Physics is my passion and my ambitions have always been very clear. MUST help me in enjoying the diversity of the subjects, projects, varied and includes all factors which keep it interesting. This degree is very relevant to the work I want to do and one that will strengthen my knowledge and skills for future jobs and opportunities. This degree has need of well-established laboratories and cooperative faculty manner. MUST is the most appropriate institute for females to have a great time with their studies.

## Department of Zoology



### Chairman

**Prof. Dr. Mushtaq Ahmed**

Tel: +92-5827-961112

Email: chairman\_zoology@must.edu.pk

### Faculty

	Name	Designation	Last Degree	Univ./Country
1.	Dr. Mushtaq Ahmed	Professor	Ph. D	Univ. of London, UK
2.	Dr. Ansar Ahmed Abbasi	Asst. Professor	Ph. D	UAK, Pak
3.	Dr. Anser Ali	Asst. Professor	Ph.D, Post Doc	KU, S.Korea
4.	Dr. Khalid Hameed	Lecturer	Ph.D	PMAS, AAUR, Pak
5.	Mr. Usman Ali	Lecturer	M. Phil	PMAS, AAUR, Pak
6.	Mr. Rizwan Ullah	Lecturer	M. Phil	QAU, Pak,
7.	Mrs. Ummara Malik	Lecturer	M. Phil	QAU, Pak
8.	Mrs. Sundus Sajid	Jr. Lecturer	M. Phil	QAU, Pak
9.	Miss Sundas Farooq	Jr. Lecturer	M. Phil	MUST, Pak
10.	Mr. Rameez Nisar	Jr. Lecturer	M. Phil	MUST, Pak
11.	Mrs. Samina Noor	Jr. Lecturer	M. Phil	MUST, Pak
12.	Mrs. Attoba Mushtaq	Jr. Lecturer	M. Phil	MUST, Pak



Faculty Members, Department of Zoology





## Introduction

The Department of Zoology is one of the most active departments in the Mirpur University of Science and Technology (MUST), involving study of organisms and their genetic, morphological and physiological attributes, environmental features, and role in conservation of environment. Humans have created a rapidly-changing world to which animals have had to adapt. Understanding the amazing diversity of animals that share our planet helps us to understand our origins, as well as predict future evolution. Zoology is a combination of various disciplines such as Biochemistry, Developmental Biology, Ecology, Biotechnology, Fisheries and Freshwater Biology, Genetics, Immunology, Cell and Molecular Biology, Microbiology, Plasma Biology, Physiology, Parasitology and Wildlife. This subject has significant role in human resources development, food security, environmental conservation, sustainable development and ultimately in alleviation of poverty. The department has a unique feature of degree programs, since it presents a balanced blend of the classical as well as modern trends of the new era. Every discipline has a unique importance in its place, for example microbiology represents the basic and advance knowledge of viruses, bacteria and microorganisms which are mostly pathogenic and its impact on the other related fields is immense, i.e. agriculture, food pollution etc. Biotechnology and molecular genetics are emerging broad field that employ an industrial technology on the biological synthesis of important compound specially proteins, genetic engineering of animals and understanding the molecular mechanism of various genetic disorders.

Our environment plays a key role in maintaining our good health, to reduce environmental pollution caused by the anthropogenic activities, study of Environmental Biology, Bioremediation, and Environmental Biotechnology is obligatory. The Department of Zoology has well equipped laboratory which provide practical exposure to strengthen the theoretical knowledge. In addition to central library students have free access to wide collection of reference books, journals and relevant reading material archived in the departmental library and HEC's Online Digital Library. Apart from class studies department encourages and facilitates the students for research surveys, trips and zoo visits. We have student counseling and discipline committees to assist our students during their stay at the department and give them guidelines to achieve their goals.

## VISION

To be a top department in the university in capacity building of the students through high quality education and research dealing with local, regional and global needs and enabling them to contribute prolifically to the welfare of the society.

## MISSION

- Department aims to provide a conducive environment for teaching and research activates, maintaining a balance between class and laboratory doings that they nutrify each other.
- The overarching goal of the Department of Zoology is enabling students through contextual



learning and analytical skills to cope with the contemporary challenges in the field of zoology.

- Department strives to inculcate high moral values, professionalism and broad communication skills in the students and making them valuable addition to the society.

## OBJECTIVES

1. Development of a vibrant and sound teaching system based on the experience and vision gathered from world reviews, literature, innovations, proceedings, symposia etc.
2. Designing and persistently updating the curricula to provide a wide comprehension in major fields of zoology including core, elective and special courses.
3. Establishment of well equipped teaching and research laboratories depending on the available resources, maintaining a high level of scientific excellence in teaching, research, theses and publications.
4. To focus on cutting edge and emerging research problems relevant to national and global needs in the field of zoology.
5. To inculcate ethical values in students, community-based and outreach activities to a possible extent for the betterment of the nation.

## BS-4 YEARS PROGRAM IN ZOOLOGY

### INTRODUCTION

Zoology as a subject is multidisciplinary in nature, involves the study of living beings and their genetic,

morphological and physiological attributes, their surrounding environment, and their role in conservation of environment. Zoology is a combination of various disciplines such as Molecular Biology, Biochemistry, Biotechnology, toxicology, Genetics, Physiology, Ecology, Developmental Biology, Microbiology, Parasitology, Entomology, Freshwater Biology, Fisheries, and Wildlife etc. This subject has significant role in human resources development, food security, environmental conservation, sustainable development and ultimately in alleviation of poverty.

**Eligibility Criteria:** F. Sc. Pre medical/ A level (with Biology and Chemistry)

## OBJECTIVES AND OUTCOMES OF TEACHING ZOOLOGY AT BS-4 YEARS

1. To impart knowledge about the major disciplines of Zoology. It will enable the students to understand the principles of organizations and inter-relationships in the biological systems with particular reference to animal diversity.
2. To teach different methods of exploration, investigation, organization of data and its utilization in practical life.
3. To train students for advanced studies and specialization on recently emerging technological and multidisciplinary fields such as Genetic Engineering, Biodiversity, Environmental Science, Wildlife and conservation, Fisheries and aquaculture, Pests and pest management, Biotechnology, etc. After completing the degree / students will be able to apply their knowledge to their respective fields effectively.



4. To equip students with knowledge and skills for better planning and management of animal resources, environment, health, medicine, agriculture and population in the country.
5. To develop the scientific culture and demonstrate professional skills in teaching /research/managerial positions in wide range of professions in national and international organizations.

### Career Opportunities

After obtaining the BS degree in Zoology, the graduates will be able to get jobs in wide range of professions including:

Positions in various government and non governmental organizations, teaching and research, administration and management, aquaculture,

fisheries, forestry, agriculture, biological control program, integrated pest management, lab diagnostics, poultry, plant protection, wildlife, livestock and other areas.

- Total number of Credit hours 135
- Duration 4 years
- Semester duration 15-18 weeks
- Semesters 8
- Course Load per Semester 15-18 Cr hr
- Number of courses per semester 5-6

### Scheme of studies for BS-4 Years (8 semesters) Program in Zoology

Duration	8-12 Semesters
Courses	129 Credits
Research Project/Special Papers	06 Credits
Total credits	135

	Course Code	Course Title	Cr. Hrs.	Status
Semester-1	ENG-1107	English-I	3+0	Compulsory
	PS-1117	Pakistan Studies	2+0	Compulsory
	MAT-1115	Mathematics-I	3+0	Compulsory
	BOT-1103	Botany-I	2+1	General
	CHE-1104	Chemistry-I	2+1	General
	ZOL-1101	Principles of Animal Life-I	3+1	Foundation-I
Semester-2	ENG-1207	English-II	3+0	Compulsory
	ISL-1212	Islamic Studies / Ethics	2+0	Compulsory
	STA-1220	Statistics/bioeconomics	2+1	Compulsory
	BOT-1203	Botany-II	2+1	General
	CHE-1204	Chemistry-II	2+1	General
	ZOL-1201	Principles of Animal Life-II	3+1	Foundation-II



	Course Code	Course Title	Cr. Hrs.	Status
<b>Semester-3</b>	ENG-2107	English-III (Technical writing and presentation skills)	2+0	Compulsory
	ARA-2101	Arabic	2+0	Compulsory
	BOT-2103	Botany-III	2+1	General
	CHE-2104	Chemistry-III	2+1	General
	ZOL-2101	Animal Diversity-I	3+1	Foundation-III
	ZOL-2102	Animal Form and Function-I	3+1	Foundation-IV
<b>Semester-4</b>	COM-2205	Introduction to Computer	2+1	Compulsory
	BOT-2203	Botany-IV	2+1	General
	ZOL-2201	Animal Diversity-II	3+1	Foundation-V
	ZOL-2202	Animal Form and Function-II	3+1	Foundation-VI
	CHE-2204	Chemistry-IV	2+1	General
<b>Semester-5</b>	ZOL-3101	Molecular Cell Biology	3+1	Major-I
	ZOL-3102	Animal Physiology	3+1	Major-II
	ZOL-3103	Genetics	3+1	Major-III
	ZOL-3104	Environmental Biology	2+1	Major-IV
	ZOL-3105	Evolution	2+0	Foundation-VII
<b>Semester-6</b>	ZOL-3201	General Biochemistry	3+1	Foundation-VIII
	ZOL-3202	Developmental Biology	3+1	Major-V
	ZOL-3203	Principles of Animal Taxonomy	2+1	Major-V
	ZOL-3204	Biostatistics	2+1	Major-VI
	ZOL-3205	Paleontology	2+1	Major-VII
<b>Semester-7</b>	ZOL-41**	Elective-I	2+1	Elective
	ZOL-41**	Elective-II	2+1	Elective
	ZOL-41**	Elective-III	2+1	Elective
	ZOL-41**	Elective-IV	2+1	Elective
	ZOL-41**	Elective-V	2+1	Elective
	ZOL-4224	Research Project (research work will be started in semester VII and the credit will be given in semester VIII)		Major



	Course Code	Course Title	Cr. Hrs.	Status
Semester-8	ZOL-42**	Elective-VI	2+1	Elective
	ZOL-42**	Elective-VII	2+1	Elective
	ZOL-42**	Elective-VIII	2+1	Elective
	ZOL-42**	Elective-IX	2+1	Elective
	ZOL-42**	Elective-X	2+1	Elective
	ZOL-4223	Comprehensive Oral Examination	0+6*	S/U Basis
	ZOL-4224	Research Project		

**\*Note:** students who opt special papers in lieu of Research will have to opt five elective papers from the field of specialization while research students will opt three elective papers which will be closely related to their field of research.

#### LIST OF LIST OF ELECTIVE/OPTIONAL/SPECIAL COURSES FOR BS-4 YEARS PROGRAM IN ZOOLOGY VII SEMESTER

Course Code	Course Title	Lec.Hrs	Lab.Hrs	Cr. Hrs.
ZOL-4101	Zoogeography	2	1	3
ZOL-4102	Reproductive Physiology	2	1	3
ZOL-4103	Clinical Endocrinology	2	1	3
ZOL-4104	Neurophysiology	2	1	3
ZOL-4105	Immunology	2	1	3
ZOL-4106	Hematology	2	1	3
ZOL-4107	Biotechnology-I	2	1	3
ZOL-4108	Biotechnology-II	2	1	3
ZOL-4109	General Toxicology	2	1	3
ZOL-4110	Human Genetics	2	1	3
ZOL-4111	General Microbiology	2	1	3
ZOL-4112	General Parasitology	2	1	3
ZOL-4113	Invertebrata	2	1	3
ZOL-4114	General Entomology	2	1	3
ZOL-4115	Principles of Fish Biology	2	1	3
ZOL-4116	Fisheries & Aquaculture	2	1	3
ZOL-4117	Limnology-A	2	1	3
ZOL-4118	Principles of Herpetology	2	1	3
ZOL-4119	Biodiversity	2	1	3



Course Code	Course Title	Lec.Hrs	Lab.Hrs	Cr. Hrs.
ZOL-4120	Histology	2	1	3
ZOL-4121	Biological Techniques	1	2	3
ZOL-4122	Research Methodology	2	1	3
ZOL-4224	Research Project	0	0	0

**LIST OF ELECTIVE/OPTIONAL/SPECIAL COURSES FOR BS-4 YEARS  
PROGRAM IN ZOOLOGY VIII SEMESTER**

Course Code	Course Title	Lec.Hrs	Lab.Hrs	Cr. Hrs.
ZOL-4201	Physiological Systems and Adaptations	2	1	3
ZOL-4202	Molecular Physiology	2	1	3
ZOL-4203	Endocrinology	2	1	3
ZOL-4204	Animal Behaviour	2	1	3
ZOL-4205	Economic Zoology	2	1	3
ZOL-4206	Bioremediation & Environmental Biotechnology	2	1	3
ZOL-4207	Biochemistry – II	2	1	3
ZOL-4208	Molecular Biology	2	1	3
ZOL-4209	Medical Microbiology	2	1	3
ZOL-4210	Applied Microbiology	2	1	3
ZOL-4211	Medical Parasitology	2	1	3
ZOL-4212	Helminthology	2	1	3
ZOL-4213	Vector Biology	2	1	3
ZOL-4214	Animal Pests and Disease Producing Organisms	2	1	3
ZOL-4215	Fish Physiology	2	1	3
ZOL-4216	Ichthyology (Fish Morphology)	2	1	3
ZOL-4217	Limnology-B	2	1	3
ZOL-4218	Vertebrata	2	1	3
ZOL-4219	Ornithology	2	1	3
ZOL-4220	Mammalogy	2	1	3
ZOL-4221	Wildlife	2	1	3
ZOL-4222	Environmental Issues	2	1	3
ZOL-4223	Comprehensive Oral Examination		S/U Basis	
ZOL-4224	Research Project	0	0	6





## Future Prospects for Zoology Graduate

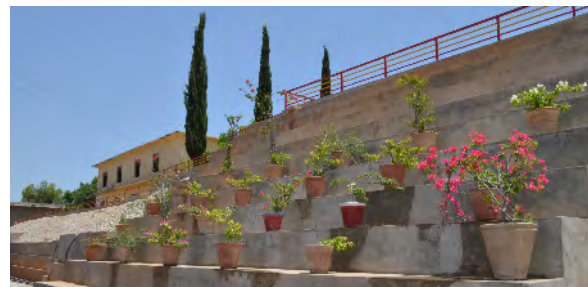
A Zoology graduate after M. Sc or M. Phil has a diverse experience and competence for employment or for further training is very wide, and some of the opportunities include teaching and research in universities, colleges and biological institutes, medical research, environmental protection, biological conservation, wildlife, aquaculture, marine biology, crop protection, work in museums and science publishing.

### 2) M. Sc Zoology Scheme of studies for M. Sc Zoology

Duration:	4-6 Semesters
Courses:	58 Credit Hours
Thesis:	6 Credit Hours
Comprehensive Oral Examination:	S/U basis
<b>Total:</b>	<b>64 Credit Hours</b>

### Eligibility

Candidates who have passed and secured at least second division (45%) marks in B. Sc Zoology (Main) Degree examination of Universities in Pakistan or



equivalent examinations of any foreign University are eligible to apply for the M. Sc Zoology course. Regulations regarding the reservation of the seats are as per the rules of Mirpur University of Science and Technology (MUST).

### Entrance Examination

Besides fulfilling the above eligibility condition, the candidates have to appear for the entrance examination conducted by the Department. The examination is based on the syllabus covered in the Degree qualifying examinations. The question paper contains questions (objective type – multiple choices) of one hour duration. The venue, date & time of the entrance examination will be intimated through admit card. 65% weightage will be given to the marks obtained in qualifying degree examination and 35% weightage will be given to entrance examination.

## Compulsory Courses

	Course Code	Title	Lec. Hrs	Lab. hrs	Credit. hrs
First Semester	ZOL. 5101	Molecular Cell Biology	03	01	4
	ZOL. 5102	Animal Physiology	03	01	4
	ZOL. 5103	Genetics	03	01	4
	ZOL. 5104	Environmental Biology	02	01	3
	ZOL. 5105	Evolution	02	-	2
Second Semester	ZOL. 5201	General Biochemistry	03	01	4
	ZOL. 5202	Developmental Biology	03	01	4
	ZOL. 5203	Principles of Animal Taxonomy	02	01	3
	ZOL. 5204	Biostatistics	02	01	3
	ZOL. 5205	Paleontology	02	01	3

## Elective Faculty Courses for M.Sc Zoology 3rd and 4th Semester

Note: A student who will opt research thesis is supposed to do research thesis of 6-credit hrs and Course work of 24-credit hrs in 3rd and 4th semester. A student who will not opt research thesis is supposed to complete Course work of 30-credit hrs in 3rd and 4th semester.

	Course Code	Title	Lec. Hrs	Lab. hrs	Credit. hrs
3rd Semester	ZOL-6301	Zoogeography	2	1	3
	ZOL-6302	Reproductive Physiology	2	1	3
	ZOL-6303	Clinical Endocrinology	2	1	3
	ZOL-6304	Neurophysiology	2	1	3
	ZOL-6305	Immunology	2	1	3
	ZOL-6306	Haematology	2	1	3
	ZOL-6307	Biotechnology-I	2	1	3
	ZOL-6308	Biotechnology-II	2	1	3
	ZOL-6309	General Toxicology	2	1	3



ZOL-6310	Human Genetics	2	1	3
ZOL-6311	General Microbiology	2	1	3
ZOL-6312	General Parasitology	2	1	3
ZOL-6313	Invertebrata	2	1	3
ZOL-6314	General Entomology	2	1	3
ZOL-6315	Principles of Fish Biology	2	1	3
ZOL-6316	Fisheries & Aquaculture	2	1	3
ZOL-6317	Limnology-A	2	1	3
ZOL-6318	Principles of Herpetology	2	1	3
ZOL-6319	Biodiversity	2	1	3
ZOL-6320	Histology	2	1	3
ZOL-6321	Biological Techniques	1	2	3
ZOL-6322	Research Methodology	2	1	3
ZOL-6323	Thesis	0	0	0

## ii) List of Elective Courses for M. Sc Zoology 4th Semester

4th Semester	Course Code	Title	Lec. Hrs	Lab. Hrs.	Credit Hrs.
	ZOL. 6401	Physiological Systems and Adaptations	2	1	3
	ZOL. 6402	Molecular Physiology	2	1	3
	ZOL. 6403	Endocrinology	2	1	3
	ZOL. 6404	Animal Behavior	2	1	3
	ZOL. 6405	Economic Zoology	2	1	3
	ZOL. 6406	Bioremediation & Environmental Biotechnology	2	1	3
	ZOL. 6407	Biochemistry – II	2	1	3
	ZOL. 6408	Molecular Biology	2	1	3
	ZOL. 6409	Medical Microbiology	2	1	3
	ZOL. 6410	Applied Microbiology	2	1	3
	ZOL. 6411	Medical Parasitology	2	1	3
	ZOL. 6412	Helminthology	2	1	3
	ZOL. 6413	Vector Biology	2	1	3
	ZOL. 6414	Animal Pests and Disease Producing Organisms	2	1	3
	ZOL. 6415	Fish Physiology	2	1	3
	ZOL. 6416	Ichthyology (Fish Morphology)	2	1	3
	ZOL. 6417	Limnology-B	2	1	3

ZOL. 6418	Vertebrata	2	1	3
ZOL. 6419	Ornithology	2	1	3
ZOL. 6420	Mammalogy	2	1	3
ZOL. 6421	Wilde Life	2	1	3
ZOL. 6422	Environmental Issues	2	1	3
ZOL. 6423	Comprehensive oral examination	0	0	S/U basis
ZOL. 6424	Thesis	0	0	6

### 3. M. Phil Zoology

#### Admission Requirements

CGPA 2.50/4.00 in M.Sc. Zoology, Biology, Molecular Biology and Biotechnology with no third division in the academic career and an aptitude test will be conducted by the University. GAT General conducted by NTS with minimum 50% cumulative score. The final merit will be formulated on aggregate basis. The students will be required to present a thesis based on original research work carried out under the supervision of qualified supervisor from the department.

#### Scheme of Study

Duration:	4-6 Semesters
Courses :	24 Credit Hours
Seminar:	01 Credit Hour
Thesis :	06 Credit Hours
<b>Total:</b>	<b>31 Credit Hours</b>

**Note:** Practicals will be conducted according to the availability of materials and equipments. The supervisory committee for M.Phil Students will propose courses relevant to the work of students



#### 4. Ph.D Zoology

##### Admission Requirements:

As per HEC Rules.

##### Scheme of study:

Duration	8-10 Semesters
Courses	18 Credits
Seminar & Symposia	02 Credits
Thesis	25 Credits
Total Credits	45 Credits

**Note:** The supervisory committee for Ph. D. Students will propose courses relevant to the work of students. All courses offered for M. Phil. Program may be offered to the Ph.D. students depending upon their requirements.



### i) List of elective Courses for M. Phil/Ph. D Zoology 1st Semester

1 <sup>st</sup> Semester	Course Code	Title	Lec. Hrs.	Lab. Hrs.	Crd. Hrs.
	ZOL-701	Human Embryology and Teratology	3	0	3
	ZOL-702	General and Comparative Endocrinology	3	0	3
	ZOL-703	Advances in Molecular Cell Biology	3	0	3
	ZOL-704	Advances in Molecular Genetics	3	0	3
	ZOL-705	Advances in Human Genetics	3	0	3
	ZOL-706	Bioethics	3	0	3
	ZOL-707	Bioinformatics	3	0	3
	ZOL-708	Cancer Genetics	3	0	3
	ZOL-709	Systemic Toxicology	3	0	3
	ZOL-710	Fundamentals of Microbiology	3	0	3
	ZOL-711	Biology and Control of Vertebrate Pests	3	0	3
	ZOL-712	Fish Physiology and Breeding	3	0	3
	ZOL-713	Advances in Aquaculture	3	0	3
	ZOL-714	Conservation Biology of Wildlife	3	0	3
	ZOL-715	Wildlife Diversity of Pakistan and AJ&K	3	0	3
	ZOL-716	Advances in Environmental Biology	3	0	3
	ZOL-717	Fundamentals of Biotechnology	3	0	3
	ZOL-718	Instrumental Techniques	3	0	3
	ZOL-719	Advances in Developmental Biology	3	0	3
	ZOL-720	Advances in Medical Parasitology	3	0	3
	ZOL-721	Advances in Reproductive Physiology	3	0	3
	ZOL-722	Recombinant DNA Technology	3	0	3
	ZOL-723	Advances in Microbiology	3	0	3
	ZOL-724	Wildlife Conservation of Pakistan and Azad Jammu & Kashmir	3	0	3
	ZOL-725	Diagnostic Techniques in Molecular Genetics	3	0	3
	ZOL-726	Applied and Experimental Statistics			
	ZOL-727	Comparative Physiology	3	0	3
	ZOL-728	Comparative Vertebrate Endocrinology	3	0	3





## List of Elective Courses for M. Phil in Zoology

Course Code	Title	Lec. Hrs.	Lab. Hrs.	Crd. Hrs.
ZOL-729	Physiology of Co-ordination	3	0	3
ZOL-730	Molecular Physiology of Gene Expression and Function	3	0	3
ZOL-731	Environmental Biotechnology	3	0	3
ZOL-732	Application of Biotechnology			
ZOL-733	Population Genetics	3	0	3
ZOL-734	Biochemistry of Drug Action	3	0	3
ZOL-735	Applied Entomology	3	0	3
ZOL-736	Behavioural Ecology	3	0	3
ZOL-737	Biology of Birds and Mammals in Pakistan and AJK	3	0	3
ZOL-738	Principles of Wildlife Management	3	0	3
ZOL-739	Advances in Immunology	3	0	3
ZOL-740	Industrial and Pharmaceutical Microbiology	3	0	3
ZOL-741	Medical Biotechnology	3	0	3
ZOL-742	Microbial Genomics	3	0	3
ZOL-743	Principle and Kinetics of Toxicology	3	0	3
ZOL-744	Regulation of Gene Expression			
ZOL-745	Protected Areas Management, Ecological Restoration and Sustainable Development	3	0	3
ZOL-746	Biological Toxicology	3	0	3
ZOL-747	Enzyme Technology	3	0	3
ZOL-748	Environmental Health	3	0	3
ZOL-749	Research Methodology and Scientific Writing	3	0	3
ZOL-750	Fish Bioenergetics	3	0	3
ZOL-751	GIS Techniques	3	0	3
ZOL-752	Restoration Ecology and Sustainable Development	3	0	3
ZOL-753	Advances in Plasma Biology	3	0	3
ZOL-754	Plasma Medicine	3	0	3
ZOL-755	Biological Tools, Techniques and Research Design	3	0	3

### iii) M. Phil 3<sup>rd</sup>

4 <sup>th</sup> Semester			Lec.Hrs	Lab.Hrs	Credit Hrs.
	ZOL-8301	Thesis	0	0	06
	ZOL-8302	Seminar	0	0	1

### List of Courses for PhD in Zoology

Course Code	Coures	Lec. Hrs.	Lab. Hrs.	Crd. Hrs.
ZOL-801	Integrated Biological Resource Management	3	0	3
ZOL-802	Project Writing Monitoring and Evaluation	3	0	3
ZOL-803	Advances in Molecular Biology	3	0	3
ZOL-804	Genomics	3	0	3
ZOL-805	Molecular Biology of RNA	3	0	3
ZOL-806	Cancer Biology	3	0	3
ZOL-807	Oncology and Growth Control	3	0	3
ZOL-808	Clinical Microbiology	3	0	3
ZOL-809	Forensic Science	3	0	3
ZOL-810	Plasma Treatment and Laboratory Technology	3	0	3

### PhD 3<sup>rd</sup> and onward Semesters

Course Code	Coures	Cr. Hrs	Status
ZOL-7998	Seminar-I	1	Compulsory
ZOL-7999	Seminar-II	1	Compulsory
ZOL-8000	Thesis	50	Compulsory
	<b>Total Credits</b>	<b>52</b>	

**Note:** The supervisory committee for Ph. D. Students will propose courses relevant to the work of students. All courses offered for M. Phil. Program may be offered to the Ph.D. students depending upon their requirements.



**Sania Mumtaz**  
M. Phil 2nd Semester  
Department of Zoology

I feel Proud and Privilege as a Scholar of Department of Zoology, as this environment has highly qualified and competent faculty. All faculty members are cooperative and highly skilled in their respective fields. The overall environment of the Department is matchless. I would like to suggest young students to join this department as this subject has Multidisciplinary Applications.



**Hina Kanwal**  
M.Sc 2nd semester  
Department of Zoology

I feel privilege and honor to be a student in department of Zoology (MUST). This experience is unique, mind enlightening and strumming to be a pupil of well experienced able and devoted teachers, who have not only awarded me an unsolvable treasure of knowledge but also have diverted my mind on positive track of life. They helped 'me to cope with challenges of advanced era.





# Faculty of Health & Medical Sciences



# Akson College of Pharmacy

Joint venture with  
Mirpur University of Sciences & Technology



## Principal

**Dr. Mian M. Zeeshan Javaid**  
Tel: +92-5827-451188  
Email: principal.akson@must.edu.pk

### Faculty:

	Name	Designation	Last Degree	Uni. /Country
1.	Dr. Mian Zeeshan Javaid	Asstt. Prof.	Ph.D.	IUB, Pak
2.	Kashif Sohail	Asstt. Prof.	Ph.D(Sch.)	BZU, Pak
3.	Muhammad Taufiq Ahmad	Asstt. Prof.	Ph.D(Sch.)	GCUF, Pak
4.	Qazi Amir Ijaz	Asstt. Prof.	Ph.D(Sch.)	PU, Pak
5.	Amen Saeed	Asstt. Prof.	M.Phil	MUST, Pak
6.	Faisal Razzaq	Lecturer	M.Phil	UOL, Pak
7.	Talal Shaheer	Lecturer	M.Phil	HU, Pak
8.	Muhammad Kamran Khan	Lecturer	M.Phil	BZU, Pak
9.	Syeda Shaher Bano	Lecturer	M.Phil	RIU, Pak
10.	Sohail Riaz	Lecturer	M.Phil	UOB, Pak
11.	Misbah Anjum	Research Associate	Pharm. D.	MUST,Pak



Faculty Members, Akson College of Pharmacy



## Mission

“To provide quality pharmacy education & research that contributes significantly to improve health care system of the society, through intra disciplinary approach.”

## Objectives

- To provide comprehensive pharmacy education to cope the challenges of pharmaceutical care of our health apparatus.
- To produce quality pharmacists capable of steering the helm of affairs of our pharmaceutical industry.
- To foster an environment that enables graduates to acquire knowledge, analytical skills, problem solving attitude and ethical values necessary to enter pharmacy practice and provide patient centered pharmacy services.
- To promote collaboration with other health professions to materialize the concept of rational and cost effective drug use for health promotion and illness prevention of the society.
- To educate the community about misuse/mishandling/compliance of medicines through various civic engagement modules.

## Introduction

Akson College of Pharmacy was established as “College of Pharmacy” in 2011 keeping in view the pivotal role of pharmacy professionals in the health system. In developing countries inability of public sector to meet the requirement of public health needs due to meager resources is a norm and pharmacy profession is not an exception. Akson College of

Pharmacy is an excellent and dedicated Public-Private” endeavor of Akson group and Mirpur University of Science and Technology (MUST) to cope prevalent health challenges of society, recognized by Pharmacy Council of Pakistan (Letter No. F.No.2-06/2010-PCP September 22, 2017).

At present the college is located at old industrial estate, Sector D/1, Mirpur. As an institution for the health professionals which is committed to rear up graduates in a competitive, learning and professional environment, our mission is to be recognized as nationally and internationally in pharmaceutical education, research and civic engagements. We aim to accomplish our goals by conducting competitive clinical, basic, social and administrative science research under a team of dedicated faculty and professional staff.

## Job Opportunities for Pharmacists:

Pharmacists are playing vital role in the communities of advanced countries. Recent career opportunities in Pakistan include;

- Regulate Drug affairs
- Employment within primary care groups
- As pharmaceutical advisor to health authorities, drug regulatory bodies, health planners and policy makers
- In education institutions and international epidemiological research organizations
- As research scientists in Research & Development departments for new drug developments
- As community pharmacist to ensure safe, cost effective and rational use of drugs along with follow up prescription advices to the patients as





well as the important role in drug testing laboratories

- In government regulated hospitals and private clinics as hospital and clinical pharmacists
- As research scientists in nuclear and forensic science agencies
- Within pharmaceutical industries as production pharmacists and as marketing managers for sale promotion of drugs
- As federal & provincial drug inspectors and drug controllers to regulate drug affairs.

## Lab Facilities

Laboratories are the backbone of any technical institute. Akson College of Pharmacy has developed nine (09) state of the art and well equipped laboratories for each specialized subject of pharmaceutical sciences; enabling leading-edge drug development and life sciences research (Pharmaceutics, Pharmaceutical Chemistry, Basic Medical Sciences, Microbiology, Pharmacognosy,



Industrial Pharmacy, Instrumentation & Quality Control) and one (01) IT lab to improve and sharpen the professional skills of students. All laboratories are constructed & designed as per Pharmacy Council of Pakistan (PCP) specifications and are equipped with primary aid facility along with safety equipment's. The regular inventory of the chemicals, glassware, hardware and minor equipments is maintained during the academic calendar year. There is a separate state-of-the art animal house which is ready for experimentation on animals.



## Library

College library is stocked with most recent editions of the books recommended by Higher Education Commission and Pharmacy Council of Pakistan. Library provides faculty and students with resources and services in a quiet, comfortable environment. Moreover to cater the student's virtual need and activities, well established computer lab with internet facility is provided. Literature books, scientific journals and magazines are present to indulge the student passion for reading and learning.

## Program

- Pharm.D. (Doctor of Pharmacy)

## Admission Requirements

- F.Sc (Pre-medical) or Equivalent with minimum of 60% marks
- or
- B.Sc. (Botany, Zoology, Chemistry) with minimum 45% marks along with 1st division in F.Sc.

### • Scheme of Studies (Pharm.D.)

Education System	Semester
Mode of Study	Regular
Session Type	Morning
Total Duration	10-14 Semesters
Theory:	01 Credit Hour
Lab:	03 Credit Hours
Internship/Practical Training:	S/U Basis
Comprehensive Oral Examination:	S/U Basis
<b>Total:</b>	<b>201 Credit Hours</b>





## Core Courses

### 1st Professional Pharm. D.

	Course Code	Title	Lect. Hrs.	Lab. Hrs.	Cr. Hrs.
1st Semester	ENG 300	English-A (Functional English)	2	0	2
	PHARM 310	Pharmaceutics-IA (Physical Pharmacy)	3	1	4
	PHARM 311	Pharmaceutical Chemistry-IA (Organic)	3	1	4
	PHARM 312	Pharmaceutical Chemistry-IIA (Biochemistry)	3	1	4
	PHARM 313	Physiology-A	3	1	4
	PHARM 314	Anatomy & Histology	3	1	4
	<b>Total</b>				<b>22</b>

	Course Code	Title	Lect. Hrs.	Lab. Hrs.	Cr. Hrs.
2nd Semester	ENG 301	English-B (Communication & Writing skills)	4	0	4
	PHARM 315	Pharmaceutics-IB (Physical Pharmacy)	3	1	4
	PHARM 316	Pharmaceutical Chemistry-IB (Organic)	3	1	4
	PHARM 317	Pharmaceutical Chemistry-IIB (Biochemistry)	3	1	4
	PHARM 318	Physiology-B	3	1	4
	<b>Total</b>				<b>20</b>

## Student's Message



**Aimen Qaisar**  
Pharm. D.  
9th Semester

As a parent institution for my graduation, this is immense pleasure and honor for me to be part of Akson & MUST. Either educational activities or co-educational matters I am optimistic and enthusiastic that the time I am spending here will raise up the ante in both professional as well as personal skills and attitude for my bright future.

## 2nd Professional Pharm. D.

	Course Code	Title	Lect. Hrs.	Lab. Hrs.	Cr. Hrs.
1st Semester	IS 402	Islamic Studies / Ethics	3	0	3
	PHARM 410	Pharmaceutics-IIA (Dosage Forms Science)	3	1	4
	PHARM 411	Pharmaceutics-IIIA(Pharmaceutical Microbiology & Immunology)	3	1	4
	PHARM 412	Pharmacology and Therapeutics-IA	3	1	4
	PHARM 413	Pharmacognosy-IA (Basic)	3	1	4
	PHARM 414	Pharmacy Practice-IA (Pharmaceutical Mathematics)	3	0	3
	<b>Total</b>				<b>22</b>
2nd Semester	PS 403	Pakistan Studies	2	0	2
	PHARM 415	Pharmaceutics-IIB (Dosage Forms Science)	3	1	4
	PHARM 416	Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology)	3	1	4
	PHARM 417	Pharmacology and Therapeutics-IB	3	1	4
	PHARM 418	Pharmacognosy-IB (Basic)	3	1	4
	PHARM 419	Pharmacy Practice - IB (Bio-statistics)	3	0	3
	<b>Total</b>				<b>21</b>

## 3rd Professional Pharm. D

	Course Code	Title	Lect. Hrs.	Lab. Hrs.	Cr. Hrs.
1st Semester	AR 504	Arabic	3	0	3
	PHARM 510	Pharmacy Practice-IIA (Dispensing Pharmacy)	3	1	4
	PHARM 511	Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis)	3	1	4
	PHARM 512	Pharmacology and Therapeutics-IIA	3	1	4
	PHARM 513	Pharmacognosy-IIA (Advanced)	3	1	4
	PHARM 514	Pathology	3	1	4
	<b>Total</b>				<b>23</b>



	Course Code	Title	Lect. Hrs.	Lab. Hrs.	Cr. Hrs.
2 <sup>nd</sup> Semester	PHARM 515	Pharmacy Practice-IIB (Community, Social & Administrative Pharmacy)	3	0	3
	PHARM 516	Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis)	3	1	4
	PHARM 517	Pharmacology and Therapeutics-IIB	3	1	4
	PHARM 518	Pharmacognosy-IIB (Advanced)	3	1	4
	PHARM 519	Pharmacy Practice-III (Computer and its Applications in Pharmacy)	3	1	4
	<b>Total</b>				<b>19</b>

#### 4th Professional Pharm. D.

	Course Code	Title	Lect. Hrs.	Lab. Hrs.	Cr. Hrs.
1 <sup>st</sup> Semester	PHARM 610	Pharmacy Practice-IVA (Hospital Pharmacy)	3	0	3
	PHARM 611	Pharmacy Practice-VA (Clinical Pharmacy-I)	3	1	4
	PHARM 612	Pharmaceutics-IVA (Industrial Pharmacy)	3	1	4
	PHARM 613	Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics)	3	1	4
	PHARM 614	Pharmaceutics-VIA (Pharmaceutical Quality Management)	3	1	4
	<b>Total</b>				<b>19</b>
2 <sup>nd</sup> Semester	PHARM 615	Pharmacy Practice-IVB (Hospital Pharmacy)	3	0	3
	PHARM 616	Pharmacy Practice-VB (Clinical Pharmacy-I)	3	1	4
	PHARM 617	Pharmaceutics-IVB (Industrial Pharmacy)	3	1	4
	PHARM 618	Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics)	3	1	4
	PHARM 619	Pharmaceutics-VIB (Pharmaceutical Quality Management)	3	1	4
	<b>Total</b>				<b>19</b>



## 5th (Final) Professional Pharm. D.

	Course Code	Title	Lect. Hrs.	Lab. Hrs.	Cr. Hrs.
1 <sup>st</sup> Semester	PHARM 710	Pharmaceutics-VIIA (Pharmaceutical Technology)	3	1	4
	PHARM 711	Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II)	3	1	4
	PHARM 712	Pharmacy Practice-VIIA (Forensic Pharmacy)	3	0	3
	PHARM 713	Pharmacy Practice-VIIIA (Pharmaceutical Management & Marketing)	3	0	3
	PHARM 714	Pharmaceutical Chemistry-IVA (Medicinal Chemistry)	3	1	4
	<b>Total</b>				<b>18</b>
2 <sup>nd</sup> Semester	PHARM 715	Pharmaceutics-VIIB (Pharmaceutical Technology)	3	1	4
	PHARM 716	Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II)	3	1	4
	PHARM 717	Pharmacy Practice-VIIB (Forensic Pharmacy)	3	0	3
	PHARM 718	Pharmacy Practice-VIIIB (Pharmaceutical Management & Marketing)	3	0	3
	PHARM 719	Pharmaceutical Chemistry-IVB (Medicinal Chemistry)	3	1	4
	<b>Total</b>				<b>18</b>

## Student's Message



**Hasnain Ali Rasool Mir**  
Pharm. D.  
7th Semester

It's quite delightful moment for me to express my gratitude for my college. Intelligence plus character that is the good of true education and I am truly lucky that Akson College provides me the opportunity of not only character building but also professional development. Studying in Akson means developing our greatest abilities because in each of us there is a hope and dreams which fulfilled, can be translated into benefit for everyone and greater strength for our nation.





*Directorates*

## ALI AHMED SHAH CENTRAL LIBRARY



**CHIEF LIBRARIAN**  
**Muhammad Yaseen Khan**  
 Tel: +92-5827-961053  
 Email: chieflibrarian@must.edu.pk

### Staff:

- |                             |                      |
|-----------------------------|----------------------|
| 1. Senior Librarian         | Tehmina Tabasum      |
| 2. Senior Librarian         | Maria Zaheer         |
| 3. Librarian                | Muhammad Saleem Khan |
| 4. Librarian                | Muqarrab Hussain     |
| 5. Senior Library assistant | Sakina Aziz          |
| 7. Library assistant        | Yasmeen Akhtar       |
| 8. Library Assistant        | Jamil ur Rehman      |
| 9. Staff                    | Abbas Ali            |





## INTRODUCTION

The University library came into being with the establishment of the University. The important function of the University Library is serving the faculty, students, researchers and staff of the University. Ali Ahmed Shah Library has a variety of material including Computer Science, Engineering, Mathematics, Management Sciences, and Earth Science, Social Sciences, General books, Fictions, Pakistan Study and Reference books. Total number of central library collection is 19899. Ali Ahmed Shah Central Library also offers the Book Bank services to the users and having the collection of 3200 books. Library regularly receives the six daily newspapers to provide day to day information to their users. Access to electronic journals is available on-line within the university campus under Digital Library Program; a Project of Higher Education Commission, most of these resources are available full text. The library has also been equipped with all the latest Information Communication Technologies (ICTs) such as computers, multimedia, digital cameras, photocopier and high speed internet connectivity to facilitate the faculty/ students. Mirpur University of Science and Technology (MUST) has the dual system of library services apart from the central library. Each and every department has its own library.

## MISSION

The mission of the University Library is to support academic and scholarly needs of our users, in their core academic and research requirements through utilizing the best possible resources and extend this

service to the community beyond the Mirpur University of Science and Technology, in so far as possible.

## SERVICES

Services include two types of services; technical services and reader services in almost every type of library.

## READER SERVICES

Reader service is a service which involves suggesting fiction and nonfiction titles to a reader



through direct or indirect means. This service is a fundamental in a University library to cope up with the needs of the users. Ahmed Ali Shah library executes the reader's services including the Open Access System, Circulation Service, Reference Service, Book Bank and Digital Library.

## TECHNICAL SERVICES

Technical services are very important in any type of the library. These services are helpful in searching and retrieving the book from the library. Technical services include selection and acquisition of material, accessioning of materials, classifying material and entering into a database/library software and allotting subject headings. Ahmed Ali Shah library executes the technical services including acquisition of material, accessioning of materials, adhering the DDC 23rd edition, entering a book into a database and allotment of Subject Headings.

## STRENGTHENING OF EXISTING FACILITIES

Library Management System (LMS) Campus Module

Collection Building on the basis of user's needs/requirements

Collection Management & Easy Access for End Users

Searching Assistance, Guidance & Referring Service

Book Reservation

Setting up New Arrival Section

## FUTURE PROGRAM

Creation of new Reference Section (including the indigenous Research projects & Thesis of MUST students)

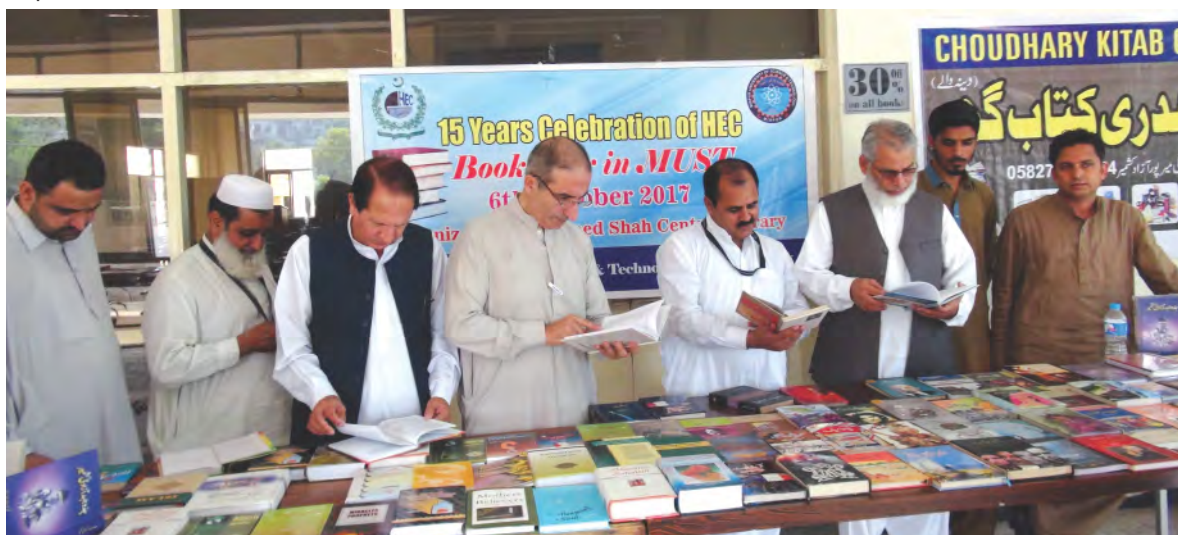
Introduction of OPAC of Ali Ahmed Shah Central Library MUST Mirpur

Setting up the new Library Web page

Introduction of D Space, Open Source Software for establishment of E-Library repository of MUST, Mirpur

Newspaper Clipping

Conversion from LMS to KOHA Software





## Advanced Studies & Research Board (ASRB)



### Director

**Dr. Javeed Akhtar**

Tel: +92-5827-961116

Email: director.asrb@must.edu.pk



**Dr. Raja Tahir Mehmood**

Assistant Director,  
(ASRB), MUST

### Activities

Office of the Advanced Studies & Research Board (ASRB) is performing following functions and duties at the Mirpur University of Science & Technology (MUST):

- Monitor academic as well as research progress of the graduate students.
- Maintain and update files of graduate's students.
- Maintain and update academic regulations for graduate students.
- Scrutinize the synopses of thesis, course work programmes, supervisor for M.Phil. scholars and supervisory committees of PhD scholars

and manage their approval through the board.

- Scrutinize the thesis of postgraduate students to ensure their proper format as laid down by the university.
- Streamline the latest development within post graduate degree programs of the university.
- Keep liaison with other universities, research organizations and the HEC for update.
- Prepare agenda and conduct meetings of AS&RB.
- Execute the policies and decisions of AS&RB.
- Scrutinize all incentive cases for Publication and Thesis Supervision of faculty members and conduct meetings for approval.



Prof. Dr. Habib-ur-Rehman chairing the Meeting of AS&RB

## NTC (Network & Telecommunication Centre)



### Director

**Imtiaz Ahmad Bhat**

Tel: +92-5827-960096

Email: director.ntc@must.edu.pk

imtiaz@must.edu.pk

### •Staff:

- |   |                          |
|---|--------------------------|
| • Assistant Director                            | Mr. Danish Riaz          |
| • Assistant Director                            | Mr. Sohaib Bukhari       |
| • Assistant Director                            | Mr. Faisal Latif         |
| • Network Administrator                         | Mr. Muhammad Amir Rashid |
| • Programmer                                    | Mr. Nadeem Ali Tika      |
| • Chief Technician                              | Mr. Zain Khan            |
| • Lab Supervisor/Video Conferencing Coordinator | Mr. Zubair Ramzan        |
| • Junior Programmer                             | Mr. Arsalan Ali          |
| • Junior Programmer                             | Mr. Saeed Ahmed          |
| • Assistant                                     | Mrs. Huma Zafar          |
| • Network Assistant                             | Mr. Furqan Mumtaz        |
| • Assistant System Admin                        | Mr. Shabab Tariq         |
| • Surveillance Assistant                        | Mr. Ramzan Ishaq         |
| • LAB Assistant                                 | Mr. Muhammad Khateeb     |
| • LAB Assistant                                 | Mr. Muneeb Farrukh       |
| • Junior Clerk                                  | Mr. Ehsan-ul-Haq         |







## **NTC (Network & Telecommunication Centre)**

Realizing the importance of advancement in the technology, NTC (Network and Telecommunication Centre) as a separate department, was established in June, 2010. The establishment of NTC department is aimed at enhancing the facility of network and telecommunication for the University. NTC at MUST Mirpur, is a team of highly dedicated and professional members, responsible for providing IT, computing, corporate trainings and consultancy services not only to the MUST campus but also to public and private organizations.

### **Mission Statement:**

To provide the best, innovative, reliable and integrated IT solutions/support. We are committed to support/meet user requirements at MUST, Mirpur by delivering ethical, reliable, and high quality solutions of strategic value.

### **Areas of Activity/Services:**

In the era of technology, network and telecommunication are providing key role to run business of any organization smoothly. Network and telecommunication not only enable you to connect and communicate locally at your office but also across the globe.

The NTC's responsibilities include maintaining a stable electronic working environment; collaborating with other staff to use information technology to better serve the University;

identifying emerging technologies to meet the University's changing needs; protecting the University's investments in technology; and providing training to staff on the proper use of software programs and equipment.

More specifically, Network and Telecommunication Centre is responsible for network and telecommunication services at Mirpur University of Science and Technology.

### **Facilities and Services we provide are:**

- Network design, installation, performance monitoring, troubleshooting, and maintenance
- Telecom Exchange installation, troubleshooting, and maintenance
- System installation, activation, troubleshooting, and maintenance
- Development, design, and maintenance of university Website
- In-house software development
- 160 Mbps bandwidth which includes PERN HEC connection facilitating learning and research at MUST, Mirpur. 10 Mbps as backup from SCO
- Campus wide wireless internet (Wi-Fi) access
- Highly sophisticated and professionally designed data centre
- ICT support
- Digital Library in Coordination with Chief Librarian
- Video Conferencing



- Turnitin Accounts for Plagiarism check
- Statistical info about the University
- Assistance in IT procurement
- Inter department optical fiber connectivity
- University e-mail services
- Microsoft Education Alliance Agreement
- Unified Communication
- Website and Data Hosting Services

### **HEC Special Projects with NTC Coordination Pakistan Educational Research Network (PERN)**

PERN - Pakistan Education and Research Network is a national research and education network of Pakistan which connects premier educational and research institutions of the country. PERN focuses on collaborative research, knowledge sharing, resource sharing, and distance learning by connecting people through the use of Intranet and Internet resources. Current bandwidth of the PERN has been increased 60 Mbps to 160 Mbps that fulfills the requirement for all the departments. This network is also used by VEPP (Virtual Education Project of Pakistan) to offer courses taught by renowned professors around the globe.

### **Digital Library Access**

HEC National Digital Library (DL) is a program to provide researchers within public and private universities in Pakistan and non-profit research and development organizations with access to international scholarly literature based on electronic (online) delivery, providing access to high quality, peer-reviewed journals, databases, articles and e-Books across a wide range of disciplines. The e-

books support program will allow researchers to access most of the important text and reference books electronically in a variety of subject areas. Around 75,000 number of electronic content has been made available through the Digital Library Program.

### **CISCO Academy/Short Courses**

MUST is a Registered CISCO Academy for CCNA, CCNA Security and CCNP.

### **Microsoft Testing Centre/Academy**

MUST is a Registered Microsoft Academy and Certified Testing Center for MOS (Microsoft office Specialist)

### **Strengthening of Existing Facilities/ Milestones achieved**

- 1- PERN bandwidth enhanced from 60 Mbps to 160 Mbps
- 2- 10 Mbps backup link from SCO
- 3- 96% Campus wide Wireless (Wi-fi) internet access
- 4- Fiber link connectivity of Bhimber campus with City campus Data Center
- 5- Internet connectivity in Girls Hostel at Bhimber Campus
- 6- CCTV and IP Cameras installed in City campus and Bhimber campus for Surveillance.
- 7- Academic Procedures have been Automated by implementing CMS
- 8- Online Admission system
- 9- In house Staff and Student Cards printing system
- 10- Developed and Deployed Alumni website

- 11- Complaint Management System/Ticketing System
- 12- Collaborated with HEC for the provision of Video Conference Solution at Ghazi Elahi Baksh Degree College for Women.

#### **Public Private Projects and Civic engagements**

- 1- Driving Licence printing Turnkey Solution for Mirpur, Bhimber, and Kotli
- 2- Developed and Deployed Police driving licence verification website
- 3- Technical support/Consultancy to Board of Intermediate and Secondary Education (BISE) Mirpur AJ&K NTC.
- 4- ERP (Enterprise resource planning) for KORT
- 5- HR and Payroll Automation for MUST

#### **Future Projects**

- Online Learning Management System
- Biometric Attendance System
- Student's dedicated file space along with profiles
- Workshops and Trainings for staff and students



## Office of Research, Innovation and Commercialization (ORIC)



### Director

**Mr. Asif Javed**

Tel: +92-5827-961114

E-mail: asif@must.edu.pk

### Introduction

HEC aims to develop and sustain a dynamic and internationally competitive research sector in Pakistan that makes a major contribution to economic prosperity, national well-being and the expansion of knowledge. Promotion of Research is one of the core strategic aims of HEC. Through the initiatives launched by HEC the quality & research output emanating from the universities and institutions in country have shown tremendous improvements. In pursuit of this end HEC has started working to organize the research activities under one umbrella by establishing Office of Research, Innovation and Commercialization (ORIC). In pursuance of the direction of HEC the university took the policy decision to establish this important office by issuing a notification No. Registrar/6328-68/2011 dated: 01-06-2011. The minimum criteria for the establishment of ORIC have been completed in April 2013 with the aim of linking university research directly with educational, social and economic priorities of MUST and its broader community.. The office is running its activities on ground floor DBMS building, situated at main campus, Mirpur.

### Objectives/Mission

The mission of ORIC is to develop, expand, chance and manage the university's research programs and to link research activities directly to the educational, social and economic process of the university and its broader community. The office is also responsible for assuring that the quality of research reflect the highest international standards and advances the stature of the university, among the world's best research institutions. In pursuit of this mission, the Office of Research has the responsibility of guaranteeing that all research programs and policies reflect the core values of academic freedom, professional integrity and ethical conduct and full compliance with all policies, legal requirements and operational standards of the university

### Facilities

Offices of Research, Innovation & Commercialization (ORIC) is divided into the following to facilitate MUST



## Research Operations

ORIC is promoting development of public-private partnerships:-

- Identify research grant opportunities for faculty to apply.
- Facilitate faculty to apply for research grants.
- Research administration, budgeting and auditing.
- Accounting and human resources management.
- Maintenance of facilities and equipment.
- Implementation of research contracts and human resources.
- Legal, administrative and financial management support of research grants

## Research Development

ORIC is developing programs and activities that will:-

- Increase funding for research from all public and private sources.
- University internal funding for small projects
- Establish and maintain excellent relationships with donors and stakeholders.
- Oversee proposal development and submission.
- Support commercialization, licensing, etc, of university research products

## University – Industrial Linkages

ORIC is developing links with several industries of AJK & Pakistan

- In support of university research initiatives.
- Link the university's research community with the needs and priorities of the corporate sector.
- Develop opportunities for applied research and

- explore opportunities for technology transfer.
- Commercialization of university research.
- To follow-up of commercialization process of research products.

Contact Office of Research, Innovation and Commercialization (ORIC) for assistance and guidance on the following research related activities;

- Funding Opportunities
- Presentation of Research Work
- Organizing a Seminar, Workshop and Seminar etc.
- Patenting the Research Work
- Industrial Linkages, Commercialization of Research.

## Potential Donors (National and International):

- Higher Education Commission ([www.hec.gov.pk](http://www.hec.gov.pk))
- Pakistan Science Foundation ([www.psf.gov.pk](http://www.psf.gov.pk))
- National ICT R&D Fund (<http://www.ictrdf.org.pk>)
- Pak-US Joint Academic & Research Program (<http://publisher.hec.gov.pk/www.hec.gov.pk/pak-us-rd>)
- TWAS-COMSTECH Joint Research Grants (<http://twas.ictp.it/prog/grants/>)
- Human Frontier Science Program ([www.hfsp.org](http://www.hfsp.org))
- International Foundation for Science (<http://www.ifs.se>)
- Australian Agency for International Development (AusAID) (<http://www.ausaid.gov.au>)
- East WEST center ([www.eastwestcenter.org](http://www.eastwestcenter.org))
- European Research Council (ERC) (<http://erc.europa.eu>)



- E U F u n d i n g a n d G r a n t s ([http://ec.europa.eu/index\\_en.htm](http://ec.europa.eu/index_en.htm))
- International Development Research Center (<http://www.idrc.ca>)
- Japan International Cooperation Agency (JICA) (<http://www.jica.go.jp>)
- Sigma Xi – The Scientific Research Society (<http://www.sigmaxi.org>)
- The Asia Foundation: ([www.asiafoundation.org](http://www.asiafoundation.org))
- UN Economic and Social Commission for Asia and Pacific ([www.unescap.org](http://www.unescap.org))
- The Islamic Educational, Scientific & Cultural Organization (ISESCO) ([www.isesco.org](http://www.isesco.org))

## Plans

Future plans of ORIC are

- Research Development Groups from each department to enhance the research environment
- Intellectual Property Rights office for Trademark, Copyrights and Patent registration
- Incubation Center for new ideas and startups
- Commercialization of previous and current useful projects
- Professional services center at MUST
- Trainings for Faculty/ Students about Intellectual Property Rights.

## Schemes in Progress

- Research Development Center (several departments
- submitted their research groups) Incubation Center (location is proposed for incubation center)
- Internet project funding
- Product commercialization
- Startup Ideas Competition
- Collaboration with Partner Industry

## Team Members

### Manager Research Operations & Development

Khawaja Farooq Abdullah

### Manager University Industry Linkage / Technology Transfer

Atif Sadiq

### Manager Intellectual Property/Legal Services

Ahsan Iqbal

### Publication and communication specialist

Munwar Hussain Qureshi

### Research Associate

Sumyia Akram

### DEO

Mr. Zia Mir



Staff of ORIC



## Planning & Development Department (P&D)



### Director

**Engr. Muhammad Iqbal Ch.**

Tel: +92-5827-961030

Fax: +92-5827-961030

Email: director\_pnd@must.edu.pk

### Staff:

- |                           |                     |
|---------------------------|---------------------|
| • Ms. Samina Kousar       | Deputy Director     |
| • Mr. Kahlid Mujtaba      | Assistant Director  |
| • Ms. Tahira Batool       | Assistant Director  |
| • Mr. Faisal Kabir        | Assistant           |
| • Mr. Temoor Ahmed        | Data Entry Operator |
| • Mr. Saghir Ahmed        | Junior Clerk        |
| • Mr. Mohsin Saleem       | Office Attendant    |
| • Mr. Ghulam Mohay-ud-Din | Driver              |



### Introduction:

The role of Planning & Development Department is to assess the current and future needs for physical and academic infrastructure and HR needs and prepare plans accordingly. Planning & Development Department of Mirpur University of Science and Technology (MUST), Mirpur works under supervision, guidance and leadership of the Vice Chancellor, MUST and the University's statutory bodies. The Planning & Development Department is headed by the Director (P&D); who is supported by Deputy Director, Assistant Director and other staff.

### Facilities:

- Preparation of sound projects in areas and fields lacking adequate facilities.
- Coordinating and organizing research and development surveys for decision making.
- Assisting in defining the university's vision, and undertaking strategic planning.
- Coordinate in assessing the material, capital and human resources of the university and formulating proposals of augmenting such resources.
- Facilitating capacity building of departments of MUST involved in development.
- Any other function assigned by the Vice chancellor.

### Plans:

To provide state of Art technical and construction work for University and provide best facilities for research and innovations.

### Schemes in Progress:

1. Project Entitled "Up-gradation of University College of Engineering & Technology Mirpur into Mirpur University of Science & Technology (MUST), Mirpur"
2. Project Entitled "Establishment of Library & Students Service Center Mirpur University of Science & Technology (MUST), Mirpur"

### New Schemes:

- Project Entitled "Construction of Girls Hostel Building for Mirpur University of Science and Technology (MUST), Mirpur".

#### ➤ Establishment of Campus at Pallandri AJ&K:

The Honorable President of Azad Jammu & Kashmir/ Chancellor of the Mirpur University of Science & Technology (MUST) has directed this University to open its Campus at Pallandri AJ&K. The University intends to open its Campus at Pallandri, AJ&K to implement the direction of the Honorable President. At present the Campus will be established in the buildings of the Khan Ahmad Khan Post Graduate College Pallandri for Boys. Later, the Campus will be established of the site allocated by the GOAJ&K. The AJK Government has also notified for the establishment of new campus at Pallandri. For this propose, GOAJ&K has allocated/ transferred 523 Kanal and 09 Marla land for the establishment of the Campus. Now initially, the following departments have been introduced in the MUST Campus Pallandri in the existing buildings of the Khan Ahmad Khan Post Graduate College Pallandri for Boys transferred by the GOAJ&K.

1. BS Tourism and Hotel Management.
2. BS Environment Engineering.



3. BS Forestry.
4. BS Mathematics
5. BS English.

For this purpose, the estimates for the repair/ renovation of existing buildings have been approved and the classes will be started during session 2018-19.

➤ **Project Concept Note regarding “Up-gradation of University College of Engineering & Technology Mirpur into Mirpur University of Science & Technology, Mirpur (Phase-II)”**

The Higher Education Commission has planned to prepare and consolidate a budget proposal for financial year 2018-19 in line with the government priorities and vision 2025 to develop the higher education sector. In this regard a proposal/ concept note of new development scheme of the Mirpur University of Science & Technology has been demanded by the Higher Education Commission. Accordingly, 27 new departments for faculties of Engineering, Sciences and Arts and some other miscellaneous/ allied facilities have been proposed at JarriKus for Phase-II of the Project “Up-gradation of University College of Engineering & Technology Mirpur into Mirpur University of Science &

Technology, Mirpur”.

**Targets Achieved:**

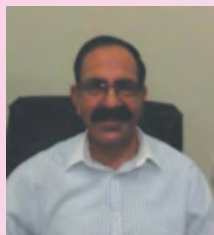
**Up-gradation of University College of Engineering & Technology Mirpur into Mirpur University of Science & Technology (MUST), Mirpur (Phase-I)**

1. Construction phase of the project has been commenced in early 2017 and construction is being carried out on accelerated pace. Almost 50% work of Boys and Girls Hostels, Faculty Residence, Professional Development Center, Library, Academic Buildings, Boundary Wall and Main Gate has been completed. Contract comprising 5.35 kms Roads, Land Development, Water Supply and Sewerage has been launched and all the works will be completed by June, 2019.

2. University Scholarship Management Committee (USMC) has identified 24 Ph.D. and 17 MS Scholars under Faculty Development Program. These Scholars were sent to renowned Universities of the world so as they can serve the nation on return. Uptil now 03 Ph.D. and 08 MS degree holders have joined back and started their services in the relevant departments of the University.



## Project Coordinator Office



### Director

**Abdul Qayum Tahir (MPA)**

Tel: (92) 5827-961065

Cell #: (92) 0300-8113335

Email: directorpdmust@gmail.com

### Mission:

“Through dedication and leadership, the Project Coordinator Office has to provide expert services, facilitate governance, and promote the value of project management across the University”.

### Introduction:

The role of Project Coordinator Department is to assess the current and future needs for physical and academic infrastructure and HR needs and prepare plans accordingly. Project Coordinator Department of Mirpur University of Science & Technology (MUST), Mirpur works under supervision, guidance and leadership of the Vice Chancellor, and the University's statutory bodies. The Project Coordinator Department is headed by the Director (Project Coordinator); who is supported by Private Secretary and other staff.

### Facilities:

- Preparation of sound projects in areas and fields lacking adequate facilities.
- Coordinating and Organizing research and development surveys for decision making.
- Assisting in defining the university's vision, and undertaking strategic planning.
- Coordinate in assessing the material, capital and human resources of the university and formulating proposals of augmenting such resources.
- Facilitating capacity building of departments involved in development.
- Any other function assigned by the Vice Chancellor

### Publication of University Callendar:

- Publication of Callendar of Mirpur University of Science & Technology (MUST), Mirpur Volume – I (2009-14).
- Publication of Callendar of Mirpur University of Science & Technology (MUST), Mirpur Volume – II (2009-15).



## Quality Assurance



### Director

**Dr. Imtiaz Ahmad**

Tel: +92-5827-961020

Fax: +92-5827-961020

Email: [director.qec@must.edu.pk](mailto:director.qec@must.edu.pk)

### Impact of Quality Assurance in the University

The Quality is the benchmark through which an institution can guarantee with confidence and certainty, that the standards of its educational provision are being maintained and enhanced. Quality has become an in-expendable part of augmentation plan of Higher Education espoused by the Higher Education Commission (HEC) of Pakistan.

The Quality Enhancement Cell (QEC) is working in the university since the establishment of the university. The quality of the degree programmes is ascertained through the set criteria and measurable standards. Mirpur University of Science and Technology (MUST), Mirpur is moving ahead on the path of tremendous progress in higher learning sector using human and financial resources. In order to facilitate the access and enhance the quality programs, self-assessment system is implemented in the University. The process is directed at rising elevating the quality of education compatible to the international standards. The Mirpur University of Science and Technology (MUST), Mirpur is a student focused University with quality consciousness. All the stakeholders including students, teachers and staff

are committed to achieve excellence, while meeting the national and international quality standards. It has been fully realized by the management that innovation in teaching, research, learning and management is the basic requirement of the modern higher education institutions in a globalized world. In this connection, a well-defined quality assurance establishment is in place.

### QEC Vision

"Quality Education for Societal and National Development through Innovation, Facilitation and Accountability"

### QEC Mission

"To Focus on Modern Trends of Globalization in Teaching, Learning and Research for Sustainable Academic Development through Autocorrected Procedure for Quality Improvement in the MUST"

### Quality Enhancement Cell Staff

#### Director

Dr. Imtiaz Ahmad

E-mail: [director.qec@must.edu.pk](mailto:director.qec@must.edu.pk)





### Deputy Director

Mr. Nisar Ahmed Gorsí

E-mail: [dy.hec@must.edu.pk](mailto:dy.hec@must.edu.pk)

### Assistant Director

Mr. Muhammad Majid Qureshi

E-mail: [ad.hec@must.edu.pk](mailto:ad.hec@must.edu.pk)

## MUST Retains W-Category in the HEC's University Quality Guide 2017

### Mirpur University of Science and Technology (MUST) retains W-Category in HEC's University Quality Guide 2017.

Mirpur University of Science and Technology (MUST), Mirpur retains W-Category (85-100%) by securing 91.52% in the Pakistan's most widely read

university ranking. This league table is made up of seven indicators including Quality Assurance, Teaching and Research, Student-staff ratios, SAR report completion, Civic Engagements, Awareness Seminars/Workshops and Membership of International Bodies around the globe. The result is the latest HEC-QAA league table success for MUST. It is worthwhile to mention here that this is the third consecutive year MUST has featured in the W-Category in this guide, which ranks Universities across Pakistan.

"We are extremely delighted to achieve our highest ever ranking and it really cements MUST's place as a top University in Pakistan, making its place in the HEC-QAA league tables. I am very thankful to worthy Vice Chancellor and extremely proud of all MUST colleagues, students and the students societies for all they do to make MUST such a splendid place in which to live, work and study."

### Membership of Association/ Networks

Name of Agency	Location	Membership Status
AQPN	China	Under process
INQAAHE	Netherland Hague	Active
AQAAIW	Malaysia	Under process
Tallories Network	USA	Active

### Accreditation of Programmes from Relevant Councils

Name of Degree Programmes	Faculty Name	Accreditation Council/ Body
B.Sc. Electrical Engineering	Engineering	Pakistan Engineering Council (PEC)
B.Sc. Civil Engineering	Engineering	Pakistan Engineering Council (PEC)





Name of Degree Programmes	Faculty Name	Accreditation Council/ Body
B.Sc. Mechanical Engineering	Engineering	Pakistan Engineering Council (PEC)
B.Sc. Software Engineering	Engineering	Pakistan Engineering Council (PEC)
B.Sc. Computer Systems Engineering	Engineering	Pakistan Engineering Council (PEC)
B.Sc. Electrical Engineering	Engineering	Pakistan Engineering Council (PEC)
Bachelor/ Master of Business Administration	Arts	National Business Education Accreditation Council (NBEAC)
Law	Arts	Pakistan Bar Council (PBC) Azad Kashmir Bar Council
Computer Science & Information Technology	Science	National Computing Education Accreditation Council (NCEAC)
AKSON College of Pharmacy	Health & Medical Sciences	Pakistan Pharmacy Council (PCP)
Education	Arts	National Accreditation Council for Teaching Education



**QEC Staff**

## Directorate of Student's Affairs



### Director

**Engr. Shahid Amin**

Tel: +92-5827-961045

Fax: +92-5827-961045

E-mail: [dsa@must.edu.pk](mailto:dsa@must.edu.pk)

The student affairs office serves as a liaison between students, faculty and administration. The primary function of student affairs office is to be of assistance to students in any way possible. It leads, directs and administers overall functions of student counseling, hostel residence, student societies and discipline. The important function of student affairs office is to enhance the quality of student life both in and outside the classroom.

### Student Support Facilities

#### Internet

MUST fully realizes the importance of providing around the clock internet access to students and faculty members in order to facilitates them in their academic and research pursuits WiFi Internet connection is available to all students and faculty at the offices and hostels



**Staff of DSA Office**



## Library

MUST houses a state-of-the-art library with a rich collection of books. It provides excellent services and facilities to fulfil information needs to its readers. Besides Departmental Libraries, MUST has a Central Library housed in the Electrical Engineering Block with adequate learning resources in different disciplines.

## Transport

A large fleet of vehicles provides morning/evening commuting facilities to the main point in Mirpur City. The transport facility is also available for students studying at Bhimber Campus. Besides pick and drop facility, transport is provided to students for their study trips on the recommendation of respective Deans of the Faculties.

## Cafeteria and Shopping Complex

Aesthetically designed cafeteria and shopping

complex have been constructed in the central wings of the campus. Shopping complex will offer the following services Stationery Shop

- Book Shop
- Barber Shop
- Photoshop
- Cellular Shop
- Washer man

## Medical/First Aid Facilities

Mirpur University of Science and Technology has hired fully equipped ambulance to handle any emergency and evacuation to nearest hospital.

## Prayer Facility

A Hall in the Electrical Engineering Department is dedicated for prayers.



**Celebration of Kashmir Day**



## Counseling and Career Advisory

Counseling and career advisory is a unit of MUST that provides primary mental health services. MUST is the only university in the AJ&K offering this service that extends to all MUST students, Faculty, Personnel and families of those associated with and outside the campus. Student counseling services are geared to provide students with an avenue to discuss their personal and academic concerns with competent counselors, without vacillation.

## Scholarships

MUST have given scholarship to deserving students on the basis of their financial and educational background. Some scholarships from donor agencies as mentioned below are also available to students. MUST has committed to increase the number of scholarships. Student, selected for admission to various courses Programs can apply for departmental merit scholarships paid to three merit holders. In the final year, scholarship is awarded on merit of the

pervious term. The scholarship is granted for a maximum period of 12 calendar months. Some scholarships from donor agencies as mentioned below are also available to students;

- Need Base Scholarship
- IEE Pakistan (Saudi Arabia Centre)
- University Scholarship
- Dr. Atta-ur-Rehman Science Scholarships
- Pakistan Engineering Council
- Pakistan Engineering Congress
- Scholarship offered by Higher Education
- The Ministry of Kashmir Affairs provides scholarships to the deserving students.
- Fauji Foundation
- Pakistan Bait-ul-Mal
- Ashai Trust
- Qarz-e-Hasna from all Banks
- Waqf-E-Kuli Khan
- Syed Nazir Hussain Shah Education Trust.
- Azad Jammu & Kashmir Government is very generous in sanctioning Zakat scholarships. Majority of students is getting full benefit of this facility.





**Note:** A student is eligible for one scholarship at a time only. The scholarship committee invites applications from the students for the grant of scholarships on merit basis.

## Guardian Council

MUST is an organization which is not only teaching and tutoring students but also reshaping their minds to become sophisticated and responsible representatives of our society. We believe that work and integrity are not to be compromised. We ourselves determine our level of excellence. A guardian council in each department has been established to have complete information about following attributes of the students:

- Economic Situation
- Health Factor
- Psychological Problems
- Studies Report
- Interaction with other students
- Participation in Class
- Habits
- Life Style

## MUST Students Bodies

Students are afforded ample opportunities to acquire and polish various social and professional skills. For this purpose, vibrant societies exist at MUST. Under the supervision of Director Student Affairs such as:

- Girls Scholar Society
- Environmental Protection Society

- Blood Donation Society
- Art and Literary Society
- Student Welfare Society
- Disaster and Crisis Management Society
- Debating Society
- Sports Society



## Office of Graduate Placement Bureau



### Director

**Nasreen Tariq**

Tel: +92-5827-961074

Fax: +92-5827-961039

Email: director.gpb@must.edu.pk

### Introduction:

I am Director Graduates Placement Bureau. I welcome you on behalf of the Bureau. I would like to brief you for the next 15 minutes about working of the GPB. It has recently been established. Being it first Director, I would like to present objectives of the Bureau.

### Vision:

Strengthening and Promoting the MUST Graduates

### Mission:

Enabling the MUST graduates to become job providers; developing businesses, setting setup spin off companies securing placements in national and international job markets.

### Aims and Objectives:

- Helping Graduates in seeking jobs and placements.
- Helping graduates securing scholarships for

higher studies.

- Linking MUST with national and international jobs market.
  - Training of graduates- Informing them of opportunities for their developments.
  - Building future careers of the graduates.
  - Developing entrepreneurial skills in graduates.
- I also want to give an overview of the University.

### Faculties:

1. Engineering and Technology
2. Natural Sciences
3. Arts and Humanities
4. Health and Medical Sciences

### Faculty of Engineering and Technology

- Department of Electrical Engineering
- Department of Mechanical Engineering
- Department of Civil Engineering
- Department of Software Engineering
- Department of Computer System Engineering
- Department of Power Engineering
- Mirpur Institute of Technology (MUST-MIT)





### Faculty of Natural Sciences

- Department of Botany
- Department of Chemistry
- Department of Mathematics
- Department of Physics
- Department of Zoology
- Department of Biotechnology
- Department of CS&IT

### Faculty of Arts and Humanities

- Department of Home Economics
- Department of Islamic Studies
- Department of English
- Department of Economics
- MUST Business School
- Department of Law
- Department of Education

The GPB has given the task of promoting and strengthening the MUST graduates become job providers besides enabling them to compete the national and international job market with success.

### Major Task:

One of the tasks is to prepare data of the MUST graduates.

### Plan Outlines

Plan to find placements/ recruitments and jobs for the MUST graduates.

- Developing data of graduates as per their expertise.
- Contacting recruiting agents once a month by phone within the country.
- Developing MUST-GPB website.
- Signing MoUs with the recruiting agencies within the country and abroad, you never know what opportunities a recruitment agent will generate.
- Creating CV of graduates on the university

websites. Recruitment agents are always looking for good candidates. CV needs to be displayed through quality avenues and available options.

- Updating of CV regularly with new experience and information. Additionally, make sure the recruitment agent is aware of the new details.
- Work out a system that works for Graduates to their satisfaction. Finding a graduate job needn't be a full-time job. Once first graduate finds job placement his/her name will be struck off.

### How do students get all that?

By registering with this Bureau, their search for a job will become easier as the bureau will facilitate their searching for the placements/ jobs through following sources:

**Providing MUST Graduates with up-to-date job information:** Careers advice from professionals/ HRM Counsellor and careers Counsellor who understand the competitive nature of the graduates' jobs market.

**They will speak to a real person:** Our consultants guide them right through the process, by introducing them to top employers, prepare them for interviews and help them secure placements/ jobs.

**Information they will need:** Graduate job advice, tips and industries profiles and of course graduate vacancies can be found on this website.

The GPB will also help graduates find provide information on student internships and placements in reputed organizations/ agencies.

## How do students get all that?

By registering with this Bureau, their search for a job will become easier as the bureau will facilitate their searching for the placements/ jobs through following sources:

Providing MUST Graduates with up-to-date job information: Careers advice from professionals/ HRM Councillor and careers Councillor who understand the competitive nature of the graduates jobs market. They will speak to a real person: Our

consultants guide them right through the process, by introducing them to top employers, prepare them for interviews and help them secure placements/ jobs. Information they will need: Graduate job advice, tips, industries profiles and of course graduate vacancies can be found on this website. Informing graduates about the opportunities in various fields as per their need and choice. The GPB will also help graduates find information on student internships and placements in reputed organizations/agencies.



MUST 3rd Convocation 2018.

## Sports



### Director

**Mr. Abid Hussain**

Tel: +92-5827-961057

Director Sports who is assisted by a Director Physical Education (Female) is responsible for providing all the sports facilities to students. The Directorate is strongly committed to providing the finest environment possible for performing sports activities and providing all students with opportunity to participate in the sports of their interest. University life is not all work and no play. Sports activities help the students to make new friends. Competitive Sports at the University enjoy a successful profile. The dynamic sports Programs have been prepared with a view to providing the skills and knowledge needed for effective participation in sports activities. The Directorate offers a wide range of competitive, individual and team sports to suit all tastes and interests. The Directorate provides the

facilities to take part in different sports activities in the evening on daily basis. The Sports activities carried out throughout the academic year include:

Athletics, Badminton, Football, Hand Ball, Cricket, Volley Ball, Hockey, Basketball, Table Tennis, Rovering, Tekking, Mountaineering, Hike and Kabaddi. The Department also organizes/manages the participation of the University teams in All-Pakistan inter-University sports championships in different provinces of Pakistan as well as Azad Kashmir. The students are encouraged to participate in sports of their liking throughout the year. During the academic year sports week has been arranged.







## Provost Hostels



**Engr. Muhammad Shabbir Mirza**

Tel & Fax: 05827-961116

Email: provost@must.edu.pk

MUST, provide accommodation in well-furnished hostels having all important facilities required for students. Accommodation in hostels is a privilege and cannot be claimed as a matter of right. residential accommodation is an equal and merit based opportunity. Proper boarding, lodging and mess facilities are available to the residents. All University Hostels are under the direct supervision of the Provost who is assisted by Superintendent and Deputy Superintendents of each hostel. The Provost serves as overall in-charge of all hostels and sets policy guidelines for the hostel administration.

### University Hostels and Available Accommodation

1. Iqbal Hostel (City Campus)	201
2. Abu-Bakar Hostel (City Campus)	171
3. Quaid-e-Azam Hostel (City Campus)	72
4. Maryam Girls Hostel (Home Economics Campus)	150
5. Fatima Girls Hostel (Bhimber Campus)	60

A new building (Boys Hostel) of capacity approximately 180 seats will be handed over to the

Administration in near future.

### Allotment Procedure:

- Students desirous of hostel accommodation are required to apply on the prescribed hostel allotment form on or before the last date announced by hostel administration.
- Students shall submit duly filled forms, along with three attested passport size photographs, fee challan form and DMC. No allotment form will be accepted after due date.
- The Provost office will display a merit list after necessary scrutiny of allotment forms.

### General Rules:

- All complaints regarding any student and any queries or problems relating to hostel shall be brought forth the Hostel Deputy Superintendent. Students must never take matters into their own hands.
- The residents of the hostels are required to abide by the rules and regulations lay down on the allotment form and notified from time to time by the hostel and university administration. Violation of hostel rules shall



- render a resident liable for imposition of fine and/or expulsion from the hostel.
- Every student shall be issued a boarder card, after due verification. The students must keep these cards at all times.

## Sports

- The indoor sports facility e.g. Table tennis, Badminton and Basketball etc. are available for students.

## Hostel Mess

- Each hostel resident will automatically be considered as a member of the hostel mess.
- The hostel mess will be monitored by a Mess Committee comprising of Resident students of the hostel appointed by the Superintendent with the approval of the Provost. The hostel mess shall remain open during the time prescribed for each meal.
- All the members of the mess shall take their meals in the Dinning Hall of the hostel. No meals shall be served in their rooms.
- Smoking is strictly prohibited in the hostel mess and premises.





## Students Assistant Center (SAC)



### Director:

Farooq Ahmad Pirzada

B.Com., MBA (Finance)

Tel: (92) 5827-961080

Cell #: (92) 0300-5089453

Email: [scholarships@must.edu.pk](mailto:scholarships@must.edu.pk)

### Office Staff:

- |   |  |
|---|--|
| 1. Mrs. Samreen Ayaz<br>Additional Director<br><a href="mailto:ad.sfao@must.edu.pk">ad.sfao@must.edu.pk</a><br>(92) 5827-690059   | 2. Mr. Taimoor Akbar Choudhury<br>Assistant Director<br><a href="mailto:ad.scholarships@must.edu.pk">ad.scholarships@must.edu.pk</a><br>(92) 5827-961080 |
| 3. Mr. Mustafa Yousuf<br>Assistant<br><a href="mailto:Mustafaraja22@gmail.com">Mustafaraja22@gmail.com</a><br>(92) 333-5790773    | 4. Mr. Arshad Mehmood<br>Data Entry Operator<br><a href="mailto:arshad.deo@must.edu.pk">arshad.deo@must.edu.pk</a><br>(92) 0345-5454383                  |
| 5. Mrs. Sundas Jamil<br>Data Entry Operator<br><a href="mailto:sundas.deo@gmail.com">sundas.deo@gmail.com</a><br>(92) 5827-961080 | 6. Hafiz Mazhar Hussain<br>Junior Clerk<br>(92) 344- 5040056   |



### **Mission:**

“To involve stakeholders in private support for Higher Education by building trustworthy relationships through meaningful interaction and convincing”.

### **Establishment:**

On the direction of HEC the Students Financial Aid Office (SFAO) was established in Feb. 2013 through an executive order. The Senate of the University has approved its establishment in its 4th meeting notified vide no. F.2/senate (4-M)i-47/6346-86/2013 dated: 30-07-2013. Due to the statutory requirement of the University the title of Students Financial Aid Office (SFAO) has been changed/revised to Students Assistance Centre (SAC) vide order no. R/5208-58/18 dated: 12-03-2018.

### **Functions:**

- a) Explore the donors, trustees, business enterprises, industries and alumni for the financial assistance / aid to the University and its students;
- b) Create awareness; build relationships with the society for philanthropic support to higher education.
- c) Raise the level of funding by creating multiple funding streams for sustainability and development of the University.
- d) Co-ordinate with all stake holders regarding the financial assistance /aid programmes.
- e) Execute / implement and operate the financial assistance Scheme(s)/ programmes of the Government / HEC / MUST and other donors.

### **A:- Programs Launched/Under Execution:**

#### **1. University Merit based Scholarship:**

Top 3- position holders or 5% students of each semester / class are awarded this scholarship @ Rs.6000/- per semester. More than 300- students are

annually benefited against this programme.

#### **2. University Need-Based Scholarships**

50-scholarships are awarded from the academic year 2014 to the impoverished and needy newly admitted students of subsidized category in undergraduate programme. The scholarship is awarded according to the principles and procedures laid down by the HEC for Need Based Scholarship programme. The component of the scholarship is fixed @ Rs. 9000/- per semester or as determined by the University from time to time according to the availability of funds. This scholarship is granted for one academic year.

#### **3. Students-Guardians Insurance Scheme:**

The University shall waive-off tuition fee and grant Rs.5000/- per month as stipend to such students whose parents / guardians passes away (dies) during the educational period of the student provided the student apply for this financial assistance.

#### **4. HEC Need Based Scholarships:**

70-80 scholarships are being awarded annually to the impoverished and extremely needy new students admitted under subsidized category for full duration of undergrad study programme. The component of scholarship is (i) refund of tuition fee and (ii) Rs. 6000/- per month as stipend. The detail of this scholarship is available at HEC website link

#### **5. Pakistan Scottish Scholarship Scheme for Young Women:**

6-8 scholarships are awarded to the young women pursuing postgraduate level studies and belongs to disadvantaged backgrounds by the Scottish Government through British Council, Islamabad. The detail is available at website [www.britishcouncil.pk/scholarships](http://www.britishcouncil.pk/scholarships)

#### **6. HBL Foundation Scholarship Scheme:**



60-65 scholarships are being awarded from the academic year 2015 to the financially challenged and low income students according to the rules & regulations notified by the University. The component of scholarship is stipend @ Rs. 8000-12000 per semester. The application form and detail of scholarship is available at University Website / HBL University Branch.

#### **7. Prime Minister's Fee Re-imbursement Scheme**

1. Valid Only for Masters, MS/ M. Phil & PhD students
2. Domicile holders of all districts of AJ&K/GB are eligible except students admitted under Regular category or part-time basis and belongs to unapproved regions.
3. Actual tuition fee, admission fee, Lab & Lib fee, exams fee and registration fee shall be reimbursed to the students.
4. The students can directly apply through HEC students service portal <http://pmfrs.hec.gov.pk>

#### **8. Prime Minister's Laptop Scheme:**

1. All students are eligible securing 3.30 CGPA or 70% and above marks in last examination;
2. The students can directly apply or update their profiles through HEC students service portal <http://pmnls.hec.gov.pk>

#### **9. Numbers of other regular stipends/scholarships**

The following organization / trusts and NGO's are directly offering different amount of stipends /

scholarships to the University students regularly. The students are advised to visit the websites/ offices of such organizations and apply directly through concerned HOD's for scholarship.

- I. Pakistan Bait-ul-Mall
  - ii. Punjab Education Endowment Fund (PEEF)
  - iii. Fouji Foundation
  - iv. Teachers Foundation grant for the childrens of Teachers only
  - v. Benevolent Fund grant for the childrens of Government and University employees.
  - vi. Zakat Fund grant of AJK- Pakistan Government.
  - vii. AJ&K Council Scholarship Scheme.
  - viii. AJ&K State Talent Scholarship Scheme
  - ix. AJ&K Educational Endowment Found Scheme
  - x. Gilgit Baltistan council Scholarship Scheme
  - xi. Institute of Electrical Engineers, Pakistan scholarship
  - xii. Pakistan Engineering Council, Islamabad Scholarships
  - xiii. Pakistan Engineering Congress Scholarships
  - xiv. ASHA Trust Scholarship
  - xv. Carmudi Scholarship
- And so many others

B: Programs under Considerations:

1. Pak-USAID Merit & Need Based Scholarship Programme
2. Pak-German Scholarship Programme
3. MUST-Agha Khan Foundation Scholarship Programme
4. MUST- Mansha Group of Companies scholarship Programme
5. MUST-AKCC&I, AKTA Scholarship Programme
6. President AJK/ Chancellor MUST Scholarship Programme

## Admission Procedure

### Phase I: Online Application for Entry Test

MUST Entry test and ETC (test conducted by HEC) are both valid for admission application.

- 1) Candidates can visit <http://eportal.hec.gov.pk> for ETC application.
- 2) Candidates can visit <http://admission.must.edu.pk> for MUST entry test application.
- 3) Both the tests, MUST Entry test and ETC are equivalent, however, in case a student attempts both the tests, the test in which a candidate scores higher marks shall be considered. In case of any conflict regarding weightage of any of the tests, the decision of the university shall be final and binding.
- 4) For MUST Entry test, a candidate needs to fill online application at the link <http://admission.must.edu.pk>. The online application will produce a printable form and a challan. Candidate must submit Original Fee Challan (produced through online application) of Rs. 1500/- (or as per actual amount shown on challan in the case a candidate chooses to apply in more than one program) along with printed online entry test form (no other document required for entry test) and send it to: Directorate of Students' Affairs, Mirpur University of Science and Technology (MUST), Mirpur, 10250, AJ&K, Pakistan.
- 5) Candidates desirous to apply in more than one faculty (Engineering, Sciences etc.) must mention it on online application. Two application forms will be produced at the end of online application and candidate must submit all forms

separately along with separate challans to the address mentioned in point (4).

- 6) For admission in any program of BSc Engineering and Technology, a candidate must score at least 50% marks in the test.
- 7) There is an age limit of 24 years for all undergraduate programs and 26 years for all Masters (2 years program) of Faculty of Science.
- 8) Nomination authorities must submit nominations for respective disciplines not later than 28th of September 2018. The nominated student must have passed ETC/MUST Entry test.
- 9) Seat allocation and prospectus is available at [must.edu.pk](http://must.edu.pk)

### Phase II: Online Admission Form Submission

- 1) After the announcement of MUST entry test result, a candidate has to open the same application form, filled during entry test application at <http://admission.must.edu.pk>. Candidate now has to enter MUST Entry Test/ETC marks in the same form along with other fields (FSc/BSc marks, order of preference etc.). This application form must be printed and submitted along with documents mentioned ahead to DSA office on or before the date notified for submission of admission form by the university in the press and website. Any application received after the due date or found deficient in any respect will be immediately rejected. Any certificate or matter submitted in addition to the specified requirements shall be treated as irrelevant, shall be discarded and shall not take any credit in merit criteria.
- 2) The candidates applying for admission must attach attested copies (not originals) of the following:

- Marks certificate of the qualifying examinations



(All detail marks certificates of Matric /F.A /F.Sc /B.A./B.Sc/B.Com/M.A/M.Sc or equivalent examination)

- Domicile
- State Subject for AJK Nationals and Kashmiries refugees settled in Pakistan
- CNIC
- Character Certificate
- NTS Result (for M.Phil or Equivalent)
- Three recent photographs
- Hafiz-e-Quran Certificate (if applicable)
- A certificate duly signed by the Competent Authority of being a beneficiary under any of the reserved categories (if applicable)
- Candidate finally selected for admission will be required to produce a Migration Certificate (in original) on joining the University
- No Objection Certificate (in case of in-service candidate).

3) Candidates desirous to opt for more than one department (Civil, Electrical etc.) shall be required to mention their orders of preference on the online application form. The extra fee for additional preference will automatically be added to the online challan. The candidate should choose their order of preference available in the drop-down list against the name of each department. e.g. if a candidate wants to choose civil as 1st choice and electrical as 2nd, 1 must be selected from the drop-down list in front of civil, and 2 must be selected from dropdown list in front of electrical. Similarly, candidates can give preference 3, 4 5 etc. in the same manner. Candidates will not be allowed to change order of preference mentioned on online application form. Candidate will not be allowed to get admission in a department not selected in the

preference list.

4) Candidates desirous to apply on more than one category (Subsidized, Regular etc.) shall be required to mention it on online application form. The extra fee for additional category will automatically be added to the online challan.

5) Candidate desirous to apply in more than one faculty (Engineering, Sciences etc.) shall be required to fill the sections in online form for every selected faculty. Separate application forms for each selected faculty will be produced at the end of application. Candidate shall submit each form separately to the relevant faculty along with all required documents.

6) Applications received in one category shall not be transferred to another category and order of preferences, once given will not be changed.

7) If any seat becomes vacant after three weeks of start of classes the transfer of category (Regular to Subsidized or Regular to Reserve seats) shall not to be allowed.

8) Candidates for categories at serial number 1-4, 13-19 in seat allocation chart shall apply directly at Mirpur University of Science and Technology.

9) Candidates for categories 5-12 shall apply through their respective nominating boards

(b) Nominating Authorities

1. Categories at serial Numbers 5-11

- Ministries of Education of the respective Governments.

2. Category at serial number 12

- Armed Forces General Head Quarter, Rawalpindi, Pakistan



## Seat Allocation

### (a) Faculty of Arts

SNo.	Category	Bachelor of Arts (B.A)					Master of Arts (M.A)				
		Business Administ ration	Education	Home Economics	Islamic Studies	Law	Business Administ ration	Economics	Education	English	Islamic Studies
Regular (Self Finance) Categories											
1	Self Finance*	20	10	10	10	10	20	10	10	10	10
2	International/ Self Finance**	2	2	0	2	2	2	2	2	2	2
Subsidized (Merit) Categories											
3	AJ&K National	19	19	40	19	19	19	19	19	19	19
4	AJ&K Refugees***	6	6		6	6	6	6	6	6	6
5	KPK	--	--	--	--	--	--	--	--	--	--
6	FATA	--	--	--	--	--	--	--	--	--	--
7	Punjab	--	--	--	--	--	--	--	--	--	--
8	Sindh	--	--	--	--	--	--	--	--	--	--
9	Balochistan	--	--	--	--	--	--	--	--	--	--
10	Federal Capital Area	--	--	--	--	--	--	--	--	--	--
11	Gilgit Baltistan	4	4	1	4	4	4	4	4	4	4
12	Armed Forces	1	1	--	1	1	1	1	1	1	1
13	Diploma (DAE) Holder	--	--	--	--	--	--	--	--	--	--
14	S/D of Teaching Staff of Faculty of Engineering	--	--	--	--	--	--	--	--	--	--
15	S/D of Non-Teaching Staff of Faculty of Engineering	--	--	--	--	--	--	--	--	--	--
16	S/D of Teaching Staff of MUST	1	1	--	1	1	1	1	1	1	1
17	S/D of Non-Teaching Staff of MUST	1	1	--	1	1	1	1	1	1	1
18	Disable****	1	1	--	1	1	1	1	1	1	1
19	Sports	--	--	--	--	--	--	--	--	--	--
Total		55	45	51	45	45	55	45	45	45	45

\* Azad Jammu and Kashmir nationals will be given preference; However candidates belonging to the regions other than the State of Azad Jammu and Kashmir can also apply against this category.

\*\* Candidates of any nationality can apply against this category and admission will be done on open merit.

\*\*\* As per University Notification.

\*\*\*\* The University medical board will ensure that the applying candidate against each seat can perform all necessary activities related to his field of study.

**NOTE:** In case any seat that remains vacant in categories 3 and 4, the candidates belonging to the regions other than the AJ&K can be adjust against these seats and also apply against this category.





## (b) Faculty of Engineering

S. No.	Category	Undergraduate Programs									
		Bachelor of Technology (B.Tech)				Bachelor of Science (B.Sc)/ Bachelor of Engineering (B.E)					
		Civil	Electrical	Electronics	Mechanical	Civil	Computer System	Electrical	Mechanical	Software	Power
Regular (Self Finance) Categories											
1	Self Finance*	45	45	45	45	35	35	35	35	35	7
2	International/ Self Finance**	—	--	--	—	—	--	--	—	--	—
Subsidized (Merit) Categories											
3	AJ&K National	—	--	--	—	22	22	22	22	22	16
4	AJ&K Refugees ***	—	--	--	—	7	7	7	7	7	5
5	KPK	—	--	--	—	1	1	1	1	1	1
6	FATA	—	--	--	—	1	1	1	1	1	1
7	Punjab	—	--	--	—	2	2	2	2	2	1
8	Sindh	—	--	--	—	1	1	1	1	1	1
9	Balochistan	—	--	--	—	1	1	1	1	1	1
10	Federal Capital Area	—	--	--	—	1	1	1	1	1	1
11	Gilgit Baltistan	1	1	1	1	2	2	2	2	2	1
12	Armed Forces	—	--	--	—	1	1	1	1	1	1
13	Diploma (DAE) Holder	—	--	--	—	1	1	1	1	1	—
14	S/D of Teaching Staff of Faculty of Engineering	—	--	--	—	1	1	1	1	1	1
15	S/D of Non-Teaching Staff of Faculty of Engineering	—	--	--	—	1	1	1	1	1	1
16	S/D of Teaching Staff of MUST	—	--	--	—	1	1	1	1	1	1
17	S/D of Non-Teaching Staff of MUST	—	--	--	—	1	1	1	1	1	1
18	Disable****	—	--	--	—	1	1	1	1	1	—
19	Sports	—	--	--	—	—	--	--	—	--	—
20	S/D of Engineers AJK National	—	--	--	—	—	—	--	—	—	—
	Total	46	46	46	46	80	80	80	80	80	40

\* Azad Jammu and Kashmir nationals will be given preference; However candidates belonging to the regions other than the State of Azad Jammu and Kashmir can also apply against this category.

\*\* Candidates of any nationality can apply against this category and admission will be done on self finance.

\*\*\* As per University Notification.

\*\*\*\* The University medical board will ensure that the applying candidate against each seat can perform all necessary activities related to his field of study.

NOTE: In case any seat that remains vacant in categories 3 and 4, the candidates belonging to the regions other than the AJ&K can be adjust against these seats and also apply against this category.

## (b) Faculty of Science

S. No.	Category	Bachelor of Science			Master of Science (M.Sc)					
		Comp uter Science	Inform ation Techn ology	Biotech- nology Botany Math	Botany	Chemistry	Computer Science	Math	Physics	Zoology
Regular (Self Finance) Categories										
1	Self Finance*	40	40	15	15	15	15	15	15	15
2	International/ Self Finance**	3	3	--	--	--	--	—	--	—
Subsidized (Merit) Categories										
3	AJ&K National	31	31	19	19	19	19	19	19	19
4	AJ&K Refugees***			6	6	6	6	6	6	6
5	KPK	1	1	--	--	--	--	—	--	—
6	FATA	--	----	--	--	--	--	—	--	—
7	Punjab	1	1	--	--	--	--	—	--	—
8	Sindh	--	--	--	--	--	--	—	--	—
9	Balochistan	--	--	--	--	--	--	—	--	—
10	Pakistan National	--	--	2	2	2	2	2	2	2
11	Gilgit Baltistan	1	1	4	4	4	4	4	4	4
12	Armed Forces	1	1	1	1	1	1	1	1	1
13	Diploma (DAE) Holder	--	--	--	--	--	--	—	--	—
14	S/D of Teaching Staff of Faculty of Engineering	--	--	--	--	--	--	—	--	—
15	S/D of Non-Teaching Staff of Faculty of Engineering	--	--	--	--	--	--	—	--	—
16	S/D of Teaching Staff of MUST	1	1	1	1	1	1	1	1	1
17	S/D of Non-Teaching Staff of MUST	1	1	1	1	1	1	1	1	1
18	Disable****	1	1	1	1	1	1	1	1	1
19	Sports	—	—	—	—	—	—	—	—	—
Total		81	81	50	50	50	50	50	50	50



Azad Jammu and Kashmir nationals will be given preference; However candidates belonging to the regions other than the State of Azad Jammu and Kashmir can also apply against this category.

\*\* Candidates of any nationality can apply against this category and admission will be done on self finance.

\*\*\* As per University Notification.

\*\*\*\* The University medical board will ensure that the applying candidate against each seat can perform all necessary activities related to his field of study.

**NOTE:** In case any seat that remains vacant in categories 3 and 4, the candidates belonging to the regions other than the AJ&K can be adjust against these seats and also apply against this category.

## Post Graduate Programs

Cat. No.	Categories	Master of Engineering (M.E /Master in Sciences (M.Sc.)						Master of Philosophy (M.Phil.)						
		Computer Systems	Electrical				Mechanical	Islamic Studies/ MBS	Biotechnology	Chemistry	Physics	Math	Botany	Zoology
			Electronics	Power	Telecommunication	Control								
1	Open Merit	15	15	15	15	15	15	30	15	15	15	15	15	15
Total	Open Merit	15	15	15	15	15	15	30	15	15	15	15	15	15

## Merit Criteria in Different Programs of

### (a) Faculty of Arts

#### 1. B.A Four-Year Program

- $SSC = (\text{Marks Obtained} \div \text{Total Marks}) \times 10$
- $F.Sc = (\text{Marks Obtained} \div \text{Total Marks}) \times 60$
- Entry Test = 30
- Total = 100

#### 2. M.A Two-Year Program

- $SSC = (\text{Marks Obtained} \div \text{Total Marks}) \times 10$
- $F.Sc = (\text{Marks Obtained} \div \text{Total Marks}) \times 10$
- $B.Sc / B.A / B.Com = (\text{Marks Obtained in Bachelor} + \text{Marks Obtained in Subject}) \div (\text{Total Marks of (Bachelor + Subject)}) \times 50$
- Entry Test = 30
- Total = 100

#### 3. M.Phil Two-Year Program

- 35% Marks of Entry Test
- 10% Marks of Interview

- 55% Academic Record
- Total = 100

- Marks obtained in B.Sc(Engg)BS(4 years) / Total Marks) x 40 Marks obtained in F.A/F.Sc/ Total Marks) x 15.
- (Marks obtained in M.A/M.Sc / Total Marks)x20 + (Marks obtained in B.A/B.Sc / Total Marks) x 20 + (Marks obtained in F.A/F.Sc/ Total Marks) x 15
- (Marks obtained in BS(5 years)+ Total Marks x 40 + (Makrs obtained in F.A/F.Sc/ Total Marks x 15
- (Marks obtained in BS(6 years) / Total Marks) x 55

## (b) Faculty of Engineering

### 1. B.Sc Engineering Four-Year Program

- $SSC = (\text{Marks Obtained} \div \text{Total Marks}) \times 10$
- $F.Sc = (\text{Marks Obtained} \div \text{Total Marks}) \times 60$
- $\text{Entry Test} = (\text{Marks Obtained} \div \text{Total Marks}) \times 30$
- **Total = 100**

### 2. MS Engineering Two-Year Program

- Marks obtained in B.Sc(Engg)BS(4 years)  
/ Total Marks) x 40 Marks obtained in F.A/F.Sc/ Total Marks) x 15.
- (Marks obtained in M.A/M.Sc / Total Marks)x20 + (Marks obtained in B.A/B.Sc / Total Marks) x 20 + (Marks obtained in F.A/F.Sc/ Total Marks) x 15
- (Marks obtained in BS(5 years)+ Total Marks x 40 + (Makrs obtained in F.A/F,Sc/ Total Marks x 15
- (Marks obtained in BS(6 years) / Total Marks) x 55

### 3. Ph.D

As per HEC policy

## (c) Faculty of Sciences

### 1. BS Four-Year Program(CS&IT)

- $SSC = (\text{Marks Obtained} \div \text{Total Marks}) \times 10$
- $F.Sc = (\text{Marks Obtained} \div \text{Total Marks}) \times 50$
- $\text{Entry Test} = 40$
- **Total = 100**

### 2. BS Four-Year Program(Bio-Tech & Mathematics)

- $SSC = (\text{Marks Obtained} \div \text{Total Marks}) \times 20$
- $F.Sc = (\text{Marks Obtained} \div \text{Total Marks}) \times 50$
- $\text{Entry Test} = 30$

- **Total = 100**

### 3. MCS Two-Year Program:

- $B.Sc/B.A = (\text{Marks Obt.} \div \text{Total Marks}) \times 50$
- $\text{Entry Test} = 50$
- **Total = 100**

### 4. M.Sc Two-Year Program

- $SSC = (\text{Marks Obtained} \div \text{Total Marks}) \times 10$
- $F.Sc = (\text{Marks Obtained} \div \text{Total Marks}) \times 10$
- $B.Sc = (\text{Marks Obtained in B.Sc} + \text{Marks Obtained in Subject}) \div (\text{Total Marks of (B.Sc} + \text{Subject)}) \times 50$
- $\text{Entry Test} = 30$
- **Total = 100**

### 5. M.Phil Two-Year Program

- 35% Marks of Entry Test
- 10% Marks of Interview
- 55% Academic Record
- **Total = 100**

- Marks obtained in B.Sc(Engg)BS(4 years)/ Total Marks) x 40 Marks obtained in F.A/F.Sc/ Total Marks) x 15.
- (Marks obtained in M.A/M.Sc / Total Marks)x20 + (Marks obtained in B.A/B.Sc / Total Marks) x 20 + (Marks obtained in F.A/F.Sc/ Total Marks) x 15
- (Marks obtained in BS(5 years)+ Total Marks x 40 + (Marks obtained in F.A/F,Sc/ Total Marks) x 15
- (Marks obtained in BS(6 years) / Total Marks) x 55

### 5. Ph.D

As per HEC policy



## Prospectus Committee



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