



MEHRAN UNIVERSITY

OF ENGINEERING & TECHNOLOGY,
JAMSHORO, PAKISTAN

INNOVATE • EDUCATE • ELEVATE



**BUILDING FUTURES
THROUGH EXCELLENCE**



QUALITY EDUCATION



RESEARCH & INNOVATION



INDUSTRY COLLABORATION



LEADERSHIP & INTEGRITY

UNDERGRADUATE PROSPECTUS

SESSION 2026-27

BATCH-26



MEHRAN UNIVERSITY OF
ENGINEERING AND TECHNOLOGY
JAMSHORO, PAKISTAN

www.muet.edu.pk



ACKNOWLEDGMENT

We are thankful to stakeholders for their involvement in preparation of this Prospectus.

Disclaimer

The information in this prospectus is correct at the time of publishing. The University reserves the right to add or remove courses and to make changes in Syllabi, Courses Options and Modules, Fees etc. at any stage. Although every effort is made to ensure accuracy at the time of publication, University reserves the right to make any corrections in the contents and provisions without notice.

For further information please contact admissions@admin.muet.edu.pk



Vision:

To become world class educational and research institute and contribute effectively towards building up indigenous & technological capabilities for sustainable socio-economic development.

Mission:

To equip our undergraduate, postgraduate and doctoral students with advanced knowledge through collaborative opportunities emerged from linkages with academia, industry and government.

Quality Policy:

In line with its vision and mission, the management and faculty have developed broad based Quality Management System in the University with a strong commitment to the following:

1. Quality Brand

University aims to be recognized for its leadership position in higher education through designing interactive courses and carrying out multidisciplinary research programs and projects that are distinctive and relevant to social needs and are of national and international quality standards.

2. Compliance with Statutory Requirements

University ensures that every individual working for and / or studying in the University shall comply with the University Act, Statutes, Regulations and Rules.

3. Stakeholders Focus

University considers every stakeholder very important and thus endeavors to provide encouraging, flexible, empowered, cohesive and congenial working environment to assimilate, synthesize and analyze knowledge for the ultimate benefit of academia, industry, government and society.

4. Student Focus

University considers students as its direct customers and is committed to produce highly qualified manpower related to multidisciplinary engineering and technology, policy and management and business fields. University ensures meeting students' professional needs and expectations and appreciates their participatory role in maintaining progressive learning environment.

5. Knowledge Creation and Dissemination

University is focused on conducting multidisciplinary research in order to create knowledge to resolve political, technological, social and environmental issues and to disseminate this knowledge through trainings, workshops, conferences and research journals to various national and international institutions.

6. Business Startup

University is focused on facilitating startups and creating businesses based on multidisciplinary fields.

7. Linkages and Networking

University establishes strong ties with various national and international universities, industries and government.

8. Optimization of Resources

University is focused that the human capital, infrastructure and financial resources must be utilized optimally for accruing and sustaining benefits.

9. Environment Friendly

University is committed to make our university environment safest, greenest and cleanest in the region.

10. Continual Improvement

University is committed to provide a rewarding and challenging environment for faculty, staff and students to kindle and sustain a passion for excellence.

PROGRAM LEARNING OUTCOMES (PLOS) FOR B.E. PROGRAMS

Introduction

The twelve graduate attributes provided by the PEC as per Manual of Accreditation 2019 (3rd Edition) have been adopted as the PLOs for its Bachelor of Engineering Programs in MUET, Jamshoro and its campus. It is ensured that these PLOs are achieved by respective CLOs of Engineering curriculum as assessed through both direct and indirect methods.

List of PLOs

The twelve PLOs for the Undergraduate (B.E) Engineering Program are:

1. **GA1 Engineering Knowledge:** An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. **GA2 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. **GA3 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. **GA4 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. **GA5 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. **GA6 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. **GA7 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. **GA8 Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
9. **GA9 Individual and Team Work:** An ability to work effectively, as an individual or in a team, in multifaceted and /or multidisciplinary settings.
10. **GA10 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. **GA11 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. **GA12 Lifelong Learning:** An ability to recognize the need for, and have the preparation and ability to engage in, independent and life-long learning in the broadest context of technological change.

OUR MAJOR ACHIEVEMENTS

UNIVERSITY OF TODAY – WORKING FOR TOMORROW

- Ranked 351st in QS World University Rankings
- Ranked 2nd in UI Green Metric World University Rankings
- Ranked 2nd in Public Sector Engineering University in Pakistan and 1st in Sindh Province in HEC Rankings.
- 14 Patents registered
- Lifelong Learning Resource Centre Established
- FM Radio Frequency 96.2 Allotted
- Five start-up Companies Registered
- 200+ PHD faculty members
- Internationally published books by faculty
- First ever UNESCO/ICTP Regional Workshop on “FGPA Design for scientific instrumentation” held at MUET (indico.ictp.it/event/a14228/)
- Innovation & Entrepreneurship Centre (IEC) Established (iec.muuet.edu.pk)
- US-Pak center for advanced studies in Water (USPCAS-W) Established (Water.muuet.edu.pk)
- Baby Day Care Centre Established
- Establishment of Society of Women Engineers (SWE)
- Establishment of Student international societies and Chapters
- International Science-Policy Conference on Climate Change in Pakistan, held at Islamabad (sp3c.com.pk)
- 18 international conferences in last 4 years
- Organized conferences in Spain, Malaysia, Nepal and Ireland
- Collaborative linkages with International/National Universities and Industries
- Leading partner university in Erasmus Mundus, European Mobility Program
- First time in MUET history, more than 80 companies participated in Job Fair
- Students Financial Aid Office providing scholarships to more than 40% students
- Social events (Alumni reunion, Model United Nations, Big Event, MUET Gala)
- Serving communities through Corporate Social Responsibility (CSR) program
- DICE Energy & Water (DEW’1 First ever in history of MUET (dew.muuet.edu.pk)
- Gender policy introduced by MUET, Jamshoro at:
(www.muuet.edu.pk/sites/default/files/MUET-Gender-Policy-Statement.pdf)
- Providing continuously National Freelance Training Program to students in different trades
- Establishment of Business Incubation Center of HEC proudly led by Mehran University in Consortium
- Mehran University publishes its own research Journal since 1982, which has now been recognized by leading indexes.
- Recently launched first research journal in social sciences named ‘Repertus’ which specifically focuses on language research
- Mehran UET has been selected amongst 8 Pakistani Universities for Kamyab Jawan Program
- Mehran UET students and teachers have won numerous awards in the field of research, education and knowledge in Qatar, China, USA and many other countries.

ACADEMIC CALENDAR FOR BACHELOR'S DEGREE PROGRAMS FOR THE ACADEMIC YEAR 2026-27

Duration of a Semester:		Duration of a Year:	
Teaching	16 Weeks	Duration of Two Semesters	21x2 = 42 Weeks
Mid Semester Exam	01 Week	Vacation-1	02 Weeks
Final Semester Exam	03 Weeks	Vacation-2 / Summer Semester	08 Weeks
Semester Break	01 Week	Total:	52 Weeks
Total:	21 Weeks		

Minimum attendance requirement to be eligible to appear in the Semester Examination is 75%.
 Number of Lectures during the Semester in a subject of 3 CH, 2 CH, and 1 CH shall be 48, 32, and 16 respectively.
 Number of contact hours for a practical of 2 CH and 1 CH per Semester is 32 and 16 respectively.

SEMESTER: FALL 2026						
Batch & Semester	26-Batch 1 st (Semester)	25-Batch 3 rd (Semester)	24-Batch 5 th (Semester)	23-Batch 7 th (Semester)	22-Batch 8 th (Semester)	21AR-Batch 10 th (Semester)
Date of Start of Classes	20-07-2026					
Conduct of Mid Semester Exam	14-09-2026					
Date of Suspension of Classes	11-11-2026					
Conduct of Final Semester Exam	16-11-2026					
Semester Break from	05-12 -2026					
Announcement of Result (Provisional)	08-12-2026					
SEMESTER: SPRING 2027						
Batch & Semester	26-Batch 2 nd (Semester)	25-Batch 4 th (Semester)	24-Batch 6 th (Semester)	23-Batch 8 th (Semester)	22AR-Batch 9 th (Semester)	
Date of Start of Classes	09-12-2026					
Conduct of Mid Semester Exam	01-02-2027					
Date of Suspension of Classes	21-04-2027					
Conduct of Final Semester Exam	26-04-2027					
Semester Break from	15-05-2027					
Announcement of Result (Provisional)	19-05-2027					

VACATION-1: 20-02-2027 to 14-03-2027 (Including Eid Holidays)

SUMMER SEMESTER: 24-05-2027 to 16-07-2027

VACATION-2: 05-06-2027 to 18-07-2027

Session Fall 2027 will start from 19-07-2027

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1. INTRODUCTION

1.1 The University

Mehran University of Engineering and Technology is one of the leading engineering universities of Pakistan, located in Jamshoro.

The university started its journey back in 1963 as Sindh University Engineering College with only two departments, and since then, it has grown and continues to grow. Today, with more than 35,000 alumni and 8,000 students, it has become a leading engineering university in the country.

Mehran University of Engineering & Technology (MUET), Jamshoro, continues to solidify its reputation as a premier institution through stellar performances in global and national rankings. According to the QS Sustainability Rankings 2026, MUET is ranked among the top 1201–1250 universities globally, securing the prestigious 1st position in Sindh and 6th in Pakistan. The university's commitment to academic innovation is further highlighted by the Times Higher Education Interdisciplinary Science Rankings 2026, where it reached to the 201–250 global band, maintaining its top rank in Sindh and ranking 4th nationwide.

MUET's dedication to environmental stewardship is reflected in the UI Green Metric Rankings 2025, where it achieved a global rank of 530th, standing as the 1st Public Sector Engineering University in Sindh and 2nd in Pakistan. These achievements are underpinned by a robust internal quality framework; the university's Quality Enhancement Cell (QEC) recently secured an outstanding score of 92.11 marks in the Annual Performance Assessment (2023–24) conducted by the Higher Education Commission (HEC). This upward trajectory across diverse ranking platforms underscores MUET's growing strength in research, interdisciplinary innovation, and sustainable development.

In 2009, a constituent college named as 'Mehran University College of Engineering & Technology' was established at Khairpur Mirs' to cater for the increasing demand of qualified engineers. Later on, in 2013, it was upgraded to MUET, SZAB Campus, Khairpur Mirs'.

The University has a mission to produce high-quality engineering, sciences and social sciences graduates with extraordinary skills to fulfill the rising demand of the industries and establish stronger linkages with the industries in order to better understand their present and future requirements.

The university provides an excellent educational environment with cutting-edge academic and research facilities to the students, enabling them to become professionals who can satisfy contemporary industrial and societal issues with novel solutions. Mehran University offers admissions in more than 24 academic programs at the undergraduate level, and postgraduate students and researchers work under the supervision of well-qualified faculty to find innovative solutions to contemporary industry challenges at state-of-the-art and fully equipped laboratories of the university. Key areas of research focus are computing, condition monitoring, water, environment, energy, and sustainable development.

Mehran University offers a rare combination of elite academic performance and an enviable lifestyle through its facilities. The Student Teacher Centre has been constructed over an area of 20,000 sqft. to provide befitting indoor sports and communal facilities for students and staff. The state-of-the-art Library and Online Information Center in the heart of Mehran University contain more than 180,000 books related to different fields of life. MUET hostels are affordable, homely, and safe accommodations

for almost 2100 male and female students. Almost all ten, including three female students' hostels, are spacious and airy two-storied buildings, with well-furnished rooms to accommodate two to three students with internet and other facilities.

The university's Main Auditorium with a capacity for more than 700 people is the most stunning meeting room with high-tech modern audio-visual equipment. There are several cafeterias and canteens across the campus, which provide fresh quality edibles ensuring hygienic protocols at affordable prices. The university has a neoteric Sports Complex with modern Gymnasium and fitness center facilities equipped with the latest fitness machines to provide students and staff with the best possible sporting and healthy activities environment.

MUET FM 92.6 - the voice of my university is licensed by PEMRA, under the category of non-commercial FM radio stations, and aims to provide hands-on training through short-term internships and media courses. The university also organizes extracurricular activities for the development and well-being of students. The signature events of MUET include MUET Model United Nations, The Big Event, TEDxMUET, Sports Gala, and MUET Gala.

Students Financial Aid Office has been established at the university to support the students who are unable to pursue their education due to financial barriers. This office aims to provide students with access to quality education through merit and need-based scholarships and interest-free educational loans, so no one should be deprived of education due to the financial crisis.

In conclusion, Mehran University of Engineering and Technology is a top-ranked engineering institution in Pakistan, providing high-quality education and research opportunities to its students. With its modern facilities and holistic student experience, the university prepares students to become professionals who can contribute to society and the industry with innovative solutions to contemporary issues.

1.2 Officers of the University

The principal Officers of the University, responsible for the overall administration, academic activities, and development work in the University.

Sr. No.	Post	Name	Phone
1.	Vice-Chancellor	Prof. Dr. Tauha Hussain Ali	022-2771197
2.	Pro-Vice-Chancellor Main Campus, Jamshoro	Prof. Dr. Aneel Kumar	022-2771360
3.	Pro-Vice-Chancellor MUET, SZAB Campus, Khairpur Mir's	Prof. Dr. Dur Muhammad Pathan	0243-9280312
4.	Dean, Faculty of Electrical, Electronic and Computer Engineering	Prof. Dr. Ashfaq A. Hasmani	022-2771558
5.	Dean, Faculty of Mechanical Process and Earth Engineering	Prof. Dr. Khanji Harijan	022-2771312
6.	Dean, Faculty of Science, Technology and Humanities	Prof. Dr. Feroz Ali Shah	022-2771352
7.	Dean, Faculty of Architecture and Civil Engineering	Prof. Dr. Rizwan Ali Memon	022-2771638
8.	Registrar	Prof. Dr. Nasrullah Pirzada	022-2771371
9.	Director Finance	Mr. Ayaz Ali Khoso	022-2771442
10.	Director, Works & Strategic Planning	Mr. Saghir Ahmed Memon	022-2771311
11.	Director Admissions	Mr. Saleem Siddiqui	022-2771704
12.	Director, HR	Mr. Lachman Das Sootahar	022-2771633
13.	Director Administration	Mr. Fawad Ahmed Lashari	022-2771371
14.	Controller of Examinations	Sayed Muhammad Raza Shah	022-2771631
15.	Provost (Hostels)	Dr. Aamir Mehmood Soomro	022-2772299
16.	Advisor Students' Affairs	Prof. Dr. Abdul Fateh Abbasi	022-2772251
17.	Director, ICPC	Engr. Sajidullah Memon	022-2772250
18.	Director Services	Mr. Mir Danish Talpur	022-2109073
19.	Librarian	Mr. Zahid Hussain Sahito	022-2771169
20.	Director, Sports	Mr. Abdul Fatah Kandhar	022-2109103
21.	Resident Auditor	Mr. Idrees Ahmed Khan	022-2772285

2. FACULTY OF ARCHITECTURE AND CIVIL ENGINEERING

2.1 Department of Architecture

2.1.1 The Department:

The complexity of modern buildings calls for the effective combination of skill and talent in the best interest of Architecture & Environment. The Department of Architecture offers a comprehensive curriculum in a modern field that encompasses City Planning, including environmental considerations for both urban and suburban settings. Studies in Architecture are related to the design and construction of houses and other building types, keeping in view the appearance, comfort, usability, optimization between expenditure, facilities, and environmental friendliness.

The Department of Architecture offers a full-time, five-year course leading to the degree of "Bachelor of Architecture (B.Arch.)". The syllabus of the subjects is designed in such a way as to acquaint the students with basic planning, aesthetics, design, and drawing of plans and specifications for various buildings. At the same time, some subjects concerning basic Architectural design, including Computer-Aided Design (CAD) and sociore-economic design, are also included in the curriculum. Teaching through lectures in the classrooms are adequately supported by studios and laboratory work.

The Department of Architecture has a well-organized student-based society named Mehran Architecture Student's Society (MASS). The society is actively engaged in conducting several curriculum and extracurricular activities such as seminars, workshops, training, debates, and competitions.

Vision Statement:

To be leader in architecture as discipline that integrates creativity, technology and social responsibility for a better built environment.

Mission Statement:

To enhance architectural education and research that integrates creativity, innovative design thinking, advanced technology, environmental sensitivity, and socio-economic priorities. Preparing graduates to lead in diverse professional settings and deliver sustainable, inclusive solutions for the built environment.

2.1.2 The Faculty:

Chairperson of the Department

Dr. Hina Marvi

Phone: 022-2772293 / **Ext.:** 3100

ASSOCIATE PROFESSOR:

Dr. Hina Marvi

PhD., Pakistan.

ASSISTANT PROFESSOR:

Dr. Sabeen Qureshi

PhD, Malaysia.

Ms. Raheela Laghari

M.E, Pakistan.

Ms. Shahnaila Ansari

M.E, Pakistan.

LECTURERS:

Ms. Naheed Rohail

M.E, Pakistan.

Mr. Abdul Salam Talpur

B.Arch., Pakistan.

Ms. Firdous Parveen

M. CRP., Pakistan.

Ms. Irum Arisar

M. Arch., Pakistan

Mr. Mirza Abdul Samad

B. Arch, Pakistan

STUDIO ARCHITECTS:

Mr. Jam Zeeshan Ali Korejo

M. Arch., Pakistan.

LAB SUPERVISORS:

Ms. Sania Rehman Memon

M.CRP., Pakistan

Ms. Sabeen Shah

M. Arch., Pakistan

Mr. Abdul Waheed Memon M. Arch., Pakistan.	CONTRACT LECTURERS:	
	Ms. Mahjabeen Memon M. Arch., Pakistan	Ms. Zoya Gul Kaka M.CRP., Pakistan
	Ms. Ume Aiman B. Arch, Pakistan	

2.1.3 Laboratory Facilities:

The numbers of laboratories/Workshops have been established in the department, which includes:

• Model Making Workshop	• Surveying Lab
• Computer Lab	• Environmental Lab
• Ceramics Lab	

The Seminar Hall and Seminar Library have also been established to conduct seminars and provide reference facilities in the department. In addition, frequent field visits are organized for the students to keep them abreast of the latest design and architectural practices in the country.

During the 5th/Final Year, the students are also given a project/dissertation, mostly for a building, in which they are expected to prepare designs, drawings, and a project report. The degree of B. Arch. is awarded to the students after they have fulfilled all the requirements for the degree, including passing all examinations and tests for practical work.

2.1.4 The Courses:

1ST SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR 116	Foundation Studio-I	02	03
2.	AR 117	Visual Communication-I	02	03
3.	AR118	History of Art & Architecture-I	02	00
4.	SS111/SS 104	Islamic Studies / Ethics	02	00
5.	ENG 102	Functional English	02	00
6.	PS 112	Pakistan Studies	02	00
		Total	12	06

2ND SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR131	Foundation Studio-II	02	03
2.	AR 132	Visual Communication-II	00	03
3.	AR 133	History of Art & Architecture-II	02	00
4.	AR134	Materials and Construction – I	01	02
5.	AR 135	Applications of ICT	00	02
6.	ENG 107	Expository Writing	02	00
7.	PS 207	Ideology and Constitution of Pakistan	02	00
		Total	09	10

3RD SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR 231	Architectural Design Studio-I	02	05
2.	CE 291	Structure for Architects-I	02	00
3.	AR 232	History of Art & Architecture-III	02	00
4.	AR 233	Materials and Construction – II	01	02
5.	MTH 101	Quantitative Reasoning -I	03	00
6.	SS 214	Understanding of Holy Qur'an -I/ Comparative Moral Teachings-I	00	01
7.	AR234	Energy and Built Environment – I	02	00
		Total	12	08

4TH SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR 241	Architectural Design Studio-II	02	05
2.	CE296	Structure For Architects-II	02	00
3.	SS 215	Understanding of Holy Qur'an-II/ Comparative Moral Teachings-II	01	01
4.	AR 243	Materials and Construction –III	00	02
5.	MTH 202	Quantitative Reasoning -II	03	00
6.	AR 215	Computer Aided Design-I	00	02
7.	AR 244	Energy and Built Environment–II	02	00
		Total	10	09

5TH SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR 331	Architectural Design Studio-III	02	05
2.	AR 332	Building Services & Systems-I	02	02
3.	AR 333	Architectural Theories & Criticism	02	00
4.	AR 334	History of Art & Architecture-IV	02	00
5.	AR 335	Civics & Community Engagement	02	00
6.	AR 336	Computer Aided Design-II	01	02
		Total	11	09

6TH SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR 341	Architectural Design Studio-IV	02	05
2.	AR 342	Building Services & Systems-II	01	02
3.	AR 323	Landscape Design	01	02
4.	AR 343	Heritage Conservation	02	00
5.	AR 344	Computer Aided Design-III	01	02
6.	AR 345	Sustainable Architecture	02	00
		Total	09	11

7TH SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR 431	Architectural Design Studio-V	02	05
2.	AR 432	Building Services & Systems-III	02	02
3.	AR 433	Interior Design-I	01	02
4.	AR 434	Project Planning & Management	02	00
5.	AR 435	Disaster Resilient Architecture	02	00
		Total	09	09

8TH SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR441	Architectural Design Studio-VI	02	05
2.	AR442	Architectural Research Methods	02	00
3.	AR443	Interior Design-II	01	02
4.	AR444	Urban Planning & Design	02	02
5.	CE490	Surveying for Architects	01	01
		Total	08	10

9TH SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR 531	Focused Studio	02	07
2.	AR 598	Research & Development Project-I (Thesis Report)	00	05
3.	CE 510	Quantity Surveying & Accounting	02	00
		Total	04	12

10TH SEMESTER

Sr. No	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AR 599	Research & Development Project-II (Thesis Project)	00	07
2.	AR 541	Internship	00	03
3.	MUSTD	Entrepreneurship	02	00
4.	AR 532	Universal Design	02	00
5.	AR 523	Professional Practice & Management	02	00
		Total	06	10

2.1.5 Career Opportunities:

Plenty of jobs are available in government organization and private organizations / firms and a lot of opportunities to start once self-business firm.

2.2 Department of Civil Engineering

2.2.1 The Department:

Civil Engineering is the process of directing and controlling natural resources for the use and benefit of humankind through the construction of various structures. It applies engineering practices to the planning and designing, construction, operation, and maintenance of structures such as buildings, roads, bridges, railways, industries, airports, irrigation schemes, docks, harbors, dams, flood control systems, water supply, sewerage disposal schemes, etc. Thus, civil engineering is the largest and broadest discipline of engineering.

The Department of Civil Engineering is the biggest department of the University in terms of infrastructure, student enrollment, and faculty. It provides essential and advanced engineering education according to the requirements of the field. All the classrooms of the department are equipped with audio-visual facilities, and the laboratories have the latest equipment and tools. Highly experienced faculty and technical staff are available to supervise the laboratories.

The Department of Civil Engineering has successfully adopted an Outcome Based Education (OBE) system to meet the criteria of the Pakistan Engineering Council (PEC) as per the Washington Accord. All the class tests, class and field assignments, and semester exams are assessed based on specific course learning objectives associated with each course.

The designed curriculum covers a wide range of various sub-disciplines of the department, including Structural Engineering, Concrete Technology, Geotechnical Engineering, Foundation Engineering and Design, Irrigation and Drainage Engineering, Transportation Engineering, Environmental Engineering, Construction Engineering, Construction Project Management, etc. The courses fulfill the present demand of the construction industry as they are designed by involving industrial experts. Various subjects require tutorials and laboratory work, for which adequate facilities and equipment are available.

The student-centric approach of the department focuses on outcomes from individual students by the end of the course. Final year students also explore various specialization fields through the Final Year Project assigned to them. The Final Year Projects may be specific to a particular branch of Civil Engineering, such as Structural Engineering, Geotechnical Engineering, Irrigation Engineering, Highway Engineering, Construction Management, and Environmental Engineering, etc.

Additionally, students go on field visits to Civil Engineering projects, such as water distribution structures, bridge and building structures, geotechnical works, etc. During the summer vacations, students are involved in various Civil Engineering projects in the form of internships in organizations such as WAPDA, NESPAK, NHA, Works and Services Department, Irrigation Department, etc. These internships help them gain practical engineering knowledge. The Survey Camp is conducted, which consists of surveying activities such as leveling, traversing, and detailing, and also introduces the usage of the latest technologies of surveying tools in civil engineering projects.

The Department of Civil Engineering has a well-organized student-based society named Mehran University Civil Engineers' Society (MUCES). The society is actively engaged in conducting several curriculum and extracurricular activities, such as seminars, workshops, training, short courses, sports events, debates, competitions, etc.

The Department of Civil Engineering also offers various postgraduate degrees such as Master of Engineering (M.E.) and Doctor of Philosophy (PhD) in the following fields:

- | | |
|---------------------------|--|
| 1. Civil Engineering | 2. Geotechnical and Highways Engineering |
| 3. Structural Engineering | 4. Construction Management |

Vision of the Department

The vision of the Department of Civil Engineering is to become an institution that provides state-of-the-art education to aspiring civil engineering graduates and to evolve as a research-based solution provider to the civil engineering industry.

Mission of the Program

The undergraduate program of the Department of Civil Engineering aims to develop highly competent professionals, preparing them for entry-level positions in civil engineering, further study in graduate school, lifelong learning, and societal leadership. This is achieved by providing a dynamic learning environment that emphasizes problem-solving skills, teamwork, communication, and leadership skills.

Program Educational Objectives (PEOs)

- i. Solve civil engineering problems faced by the industry by utilizing their theoretical, technical, and professional knowledge.
- ii. Function in team-oriented activities considering the societal, environmental, and economic impacts.
- iii. Continue professional growth through ethical, moral, and learning attitude.

2.2.2 The Faculty:

Chairman of the Department

Prof. Dr. Nafees Ahmed Memon

Phone: 022-2772254-72 /Ext.:7100

MERITORIOUS PROFESSORS:

Dr. Tauha Hussain Ali
PhD, Australia.

Dr. Aneel Kumar
PhD, Japan.

PROFESSORS:

Dr. Rizwan Ali Memon
PhD, Pakistan.

Dr. Nafees Ahmed Memon
PhD, Romania.

Dr. Ashfaq Ahmed Memon
PhD, Pakistan.

Dr. Agha Faisal Habib
PhD, UK.

Dr. Zaheer Ahmed Almani
PhD, UK.

Dr. Fareed Ahmed Memon
PhD, Malaysia (*On Lien*)

Dr. Naeem Aziz Memon
PhD, UK (*On Lien*)

ASSISTANT PROFESSORS:

Engr. Azizullah Jamali
M.E., Pakistan.

Engr. Arshad Ali Memon
M.E., Pakistan.

Engr. Samar Hussain Rizvi
M.E., Pakistan.

Engr. Amjad Ali Pathan
M.E., Pakistan.

Engr. Masroor Ali Jatoti
(*On Study Leave*)

Engr. Abdul Raqeeb Memon
M.E., Pakistan.

Dr. Ali Raza Khoso
PhD, Malaysia.

Engr. Farhan Qureshi
M.E., Pakistan.

Dr. M. Rehan Hakro
PhD, Pakistan.

LECTURERS:

Engr. Ali Murtaza Phull
(*On Study Leave Abroad*)

Engr. Fahad Ali Shaikh
M.E., Pakistan (*On Study Leave*)

Engr. Fida Hussain Siddiqui
(*On Study Leave Abroad*)

Engr. Lal Chand
(*On Study Leave*)

Engr. Muhammad Ali Moriyani
(*On Study Leave Abroad*)

Dr. Anees Ahmed Vighio
PhD, Malaysia

Engr. Manoj Kumar
(*On Study Leave Abroad*)

Engr. Rabinder Kumar
(*On Study Leave Abroad*)

Dr. Hafiz Usama Imad
PhD, Pakistan.

Engr. Abdul Qudoos Malano
M.E., Pakistan.

Engr. Izat Ali Sahito
M.E., Pakistan (*On Study Leave*)

Dr. Maroosha Larik
PhD, Pakistan.

Engr. Ali Raza Lashari
M.E., Pakistan.

Engr. Muhammad Saleem Raza
M.E., Pakistan.

2.2.3 Laboratory Facilities:

The Department of Civil Engineering has following laboratories. All the laboratories are well equipped with advanced and conventional testing equipment:

1.	Concrete Laboratory	6.	Hydraulics Laboratory
2.	Engineering Geology Laboratory	7.	Material Testing Laboratory
3.	Engineering Mechanics Laboratory	8.	Software Laboratory
4.	Environmental Engineering Laboratory	9.	Soil Mechanics Laboratory
5.	Highway Engineering Laboratory	10.	Surveying Laboratory

2.2.4 Library Facilities:

The Department of Civil Engineering has a well-furnished Seminar library. The seminar library has a wide collection of about 1100 books encompassing all the areas related to the field of Civil Engineering Technology.

2.2.5 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CE103	Geometrical Drawing	01	01
2.	CE107	Civil Engineering Materials	02	01
3.	CE119	Applied Physics	03	01
4.	FE101	Functional English	03	00
5.	CE131	Application of Information and Communication Technologies (ICT)	02	01
6.	MTH101	Quantitative Reasoning-I	03	00
		Total	14	04

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CE113	Engineering Surveying	03	01
2.	CE141	Computer Programming	02	01
3.	PS112	Pakistan Studies	02	00
4.	SS111/SS104	Islamic Studies / Ethics	02	00
5.	CE123	Civil Engineering Drawing & Graphics	01	02
6.	CE127	Geology for Engineers	02	00
7.	---	Elective-I: Arts and Humanities	02	00
		Total	14	04

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CE212	Mechanics of Solids-I	02	01
2.	MTH202	Quantitative Reasoning-II	03	00

3.	CE227	Fluids Mechanics and Hydraulics	03	01
4.	PS207	Ideology and Constitution of Pakistan	02	00
5.	CE222	Structural Analysis-I	02	00
6.	CE266	Concrete Technology	02	01
7.	CE276	Survey Camp	NC	-
Total			14	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CE242	Applied Hydraulics	02	01
2.	CE232	Construction Engineering	02	00
3.	CE251	Mechanics of Solids-II	03	00
4.	MTH209	Applied Calculus	03	00
5.	CE271	Structural Analysis-II	02	00
6.	CE203	Geo Informatics	02	01
7.	CE281	Civics and Community Services	01	01
Total			16	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH321	Applied Numerical Methods	02	01
2.	CE307	Railways and Waterways Engineering	02	00
3.	CE338	Reinforced Concrete Design-I	03	00
4.	CE363	Hydrology	02	00
5.	CE355	Project Management	02	00
6.	CE351	Environmental Engineering-I	02	01
7.	ENG313	Expository Writing	03	00
Total			16	02

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CE366	Geometric Design of Highways and Airports	02	00
2.	CE326	Soil Mechanics	03	01
3.	CE381	Reinforced Concrete Design-II	03	01
4.	CE342	Quantity Surveying and Estimation	03	00
5.	CE376	Modeling and Simulation	01	01
6.	CE386	Environmental Engineering-II	03	00
7.	CE391	Internship (6-8 Weeks) Mandatory and Qualifying	NC	-
Total			14	03

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CE411	Geotechnical Engineering	03	01
2.	CE451	Traffic Engineering and Pavement Design	02	01
3.	CE456	Steel Structures	02	00
4.	-	Elective-II: Social Science	02	00
5.	CE476	Architecture and Town Planning	02	00
6.	CE498	Final Year Project (FYP)-I	00	03
		Total	11	05

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CE426	Foundation Engineering	03	00
2.	CE443	Irrigation and Drainage Engineering	03	01
3.	CE439	Construction Planning & Management	03	00
4.	CE481	Entrepreneurship	01	00
5.	CE486	Occupational Health & Safety	01	00
6.	CE499	Final Year Project (FYP)-II	00	03
		Total	11	04

Sr. No.	Arts and Humanities Elective*	Sr. No.	Social Science Elective**
1.	Communication & Presentation Skills	9.	Sociology for Engineers
2.	Beginners Spanish	10.	Social Psychology
3.	Elementary Arabic	11.	Sociology
4.	Elementary French	12.	Critical Thinking
5.	Elementary Chinese	13.	Human Resource Management
6.	History	14.	Organizational Behavior
7.	Philosophy	15.	Engineering Law
8.	Professional Ethics	16.	Engineering Economics

2.2.6 Career Opportunities:

The bachelor's in civil engineering program at MUET, Jamshoro provides a clear route to a professional career in the field of Civil Engineering. Our graduates can pursue careers in many different fields and organizations related to Civil Engineering Projects and can also establish their own businesses. Typical employment sectors for civil engineers include consulting firms, contractors, local authorities, public sector departments (Buildings, Highways, Railways, Airports, Irrigation, Water and Power, Ports, etc.), non-profit and research organizations.

2.3 Department of City & Regional Planning

2.3.1 The Department:

To meet the ever-increasing demand for qualified Urban and Regional planners, to provide a better and pollution-free living environment for the people, to ensure planned growth, and to control and guide future planning activities in urban and rural areas of the country, a full-time four-year course is offered in the field of City and Regional Planning. The program aims to produce Urban and Regional Planners with interdisciplinary skills to meet the demands of rapidly increasing cities and achieve sustainable development and planning millennium goals.

The Department of City & Regional Planning has played a pivotal role not only in Town Planning Education but also in the development of Urban Research in the country. Upon successful completion of all requirements for the degree, students will be awarded the degree of Bachelor of City and Regional Planning (B.CRP). Four batches were admitted in the years 2021, 2022, 2023 and 2024 respectively. The Department also offers the degrees of Master (M.CRP) and Doctor of Philosophy (PhD) in the field of City and Regional Planning.

Vision of the Department

The Department's vision is to produce quality urban and regional planners and bring planned development within urban and rural areas of the country, specifically Sindh Province, to develop quality research activities that can foster the growth of the faculty, professionals, and students.

Mission of the Program

This is the only Department in Sindh Province that disseminated the knowledge of City and Regional Planning. Therefore, the Department's mission is to fulfill the demand of urban and regional planners for public and private sector organizations that could play their role in the planned development of the country.

Program Educational Objectives (PEOs)

The following are the PEOs of the program:

- i. To produce quality urban planners.
- ii. To flourish the urban and regional planning research activities.
- iii. To bring planned development within urban settlements and periphery.
- iv. To provide world-class advanced education knowledge and skills in the field of City and Regional Planning.
- v. To conduct outstanding technical basis and applied research in the field of City and Regional Planning profession.
- vi. To provide professionals in various streams of specializations in City and Regional Planning.

2.3.2 The Faculty:

Chairman of the Department

Prof. Dr. Mir Aftab Hussain Talpur

Phone: +92-22-2772250-72 / **Ext.:** 7200

PROFESSORS:

Dr. Mir Aftab Hussain Talpur
PhD, Malaysia.

Dr. Imtiaz Ahmed Chandio
PhD, Malaysia.

Dr. Irfan Ahmed Memon
PhD, Malaysia.

ASSISTANT PROFESSORS:

Dr. Fahad Ahmed Shaikh
PhD, Pakistan.

LECTURERS:

Mr. Taufiq Ahmed Qureshi
B.CRP, Pakistan

Mr. Shahbaz Khan
M.CRP., Pakistan.

<u>ASSOCIATE PROFESSORS:</u>	Dr. Muhammad Yousif Mangi	<u>LAB PLANNERS:</u>
Dr. Saima Kalwar	PhD, China	Dr. Zulfiqar Ali Lashari
PhD, Malaysia.		PhD, South Korea
	Mr. Ubedullah Soomro	
	M.CRP., Pakistan.	

2.3.3 Laboratory Facilities:

The following laboratory facilities are available in the Department:

1. Computer Laboratory	4. Surveying Laboratory
2. Graphic & Model Making Laboratory	5. Drawing Studio
3. Photographic Developing & Printing Laboratory	

City and Regional Planning lab facilities are essential for education, research, and practical applications in urban planning, transportation, GIS, sustainability, and design. These labs typically include a mix of hardware, software, and collaborative workspaces to support planning students and professionals.

2.3.4 The Courses:

A modern and updated undergraduate course in **City and Regional Planning** typically combines theory, technical skills, and practical applications to prepare students for careers in urban development, policy, design, and sustainability. Below is an outline of a contemporary curriculum:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CRP112	Introduction to Town Planning	03	01
2.	CRP113	Technical Drawing	02	01
3.	MATH110	Calculus & Statistical Methods	03	00
4.	IS111/SS104	Islamic Studies / Ethics	02	00
5.	PS106	Pakistan Studies	02	00
6.	ENG101	Functional English	03	00
		Total	15	02

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CRP124	History of Cities and Urban Planning	03	00
2.	CRP125	Planning Theory	02	00
3.	CRP126	Architectural Design for Planners	02	01
4.	CRP127	Model Making	00	02
5.	CE110	Surveying-I	03	01
6.	MTH114	Planning Data Analysis	03	00
		Total	13	04

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CRP214	Building Construction	2	1
2.	CRP215	Transportation Engineering	3	1
3.	CRP216	Computer Aided Design and Modeling	2	1
4.	CRP217	Social Town Planning	2	0
5.	CE201	Surveying-II	3	1
6.	ENG201	Communication Skills	2	0
		Total	14	04

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CRP225	Housing	2	0
2.	CRP226	Transportation Planning	3	1
3.	CRP227	Urban Design and Landscape Planning	3	1
4.	CRP228	Site Planning	2	1
5.	CRP229	Planning Surveys and Data Analysis	2	1
6.	CRP230	Rural Planning	2	0
		Total	14	04

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CRP316	Planning of New Towns	2	1
2.	CRP317	Regional Planning	3	1
3.	CRP318	Public Participation & Community Development	2	0
4.	EE314	Environmental Engineering	3	1
5.	ENG301	Technical and Scientific Writing	2	0
6.	CS331	Information and Database Management	2	1
		Total	14	04

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CRP325	Research Methods	3	0
2.	CRP326	Urban Geography	3	0
3.	CRP327	Introduction to GIS	2	1
4.	CRP328	Infrastructure Planning and Management	2	0
5.	CRP329	Land Use and Building Control	2	0
6.	EE315	Environmental Planning and Management	3	1
		Total	15	02

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CRP417	Master Planning-I	3	1
2.	CRP418	GIS Applications in Planning	2	1
3.	CRP419	Project Planning and Management	2	1
4.	CRP420	Professional Planning Practice	2	0
5.	CRP421	Planning Legislation	2	0
6.	CRP498	Final Year Project- I	0	03
		Total	11	06

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CRP427	Master Planning-II	03	02
2.	CRP428	Urban Economics	03	00
3.	CRP429	Estate Management	03	00
4.	CRP430	Hazards and Disaster Risk Management	02	00
5.	CRP499	Final Year Project-II	00	03
		Total	11	05

2.3.5 Career Opportunities:

A degree in **City and Regional Planning** opens doors to diverse career paths in the public, private, and nonprofit sectors. Planners work on shaping sustainable, equitable, and efficient communities. Below is a breakdown of key job opportunities:

Public & Semi-public Sector Jobs

After qualifying, our graduates can serve the nation as Professional Planners in public or semi-public sector organizations. Currently, our graduates are working in prestigious organizations such as the Capital Development Authority (CDA) in Islamabad, Malir Development Authority (MDA) in Karachi, Ministry of Planning and Development (Housing and Physical Planning), Ministry of Local Government including Sindh Building Control Authority (SBCA), Ministry of Communication, Planning Commission of Pakistan, Ministry of Environment, Military Engineering Services (MES) of Pakistan, NESPAK, Urban Unit, Sindh Master Planning Authority, and other nonprofit research organizations.

Private Sector Jobs

A significant number of our CRP graduates are also employed in various private sector organizations, including Bahria Town Karachi, Defense Housing Authority (DHA) in Karachi, OPP-Karachi, Osmani & Co., Engineering Associates, CG Consultants, and Prop Shore (graana.com), among others.

How to Boost Employability?

Certifications: Pakistan Council of Architects and Town Planners (PCATP), American Institute of Certified Planners (AICP), LEED, GISP.

Internships: Local planning departments or private firms.

Networking: Join the American Planning Association (APA) or equivalent organizations at local and international levels.

2.4 Institute of Environmental Engineering and Management

2.4.1 The Institute:

With increased awareness of environmental issues at the global and national levels, environmental engineering has emerged as a rapidly growing discipline with vast opportunities for future advancement. The Institute of Environmental Engineering & Management (IEEM) has been established to generate new ideas and discover innovative solutions to address local, regional, and global environmental challenges. In Pakistan, the implementation of environmental standards is a priority, with Environmental Protection Agencies (EPAs) in the five provinces and the federal government being responsible for enforcing these standards. This opens up numerous opportunities for qualified experts in Environmental Engineering. The scope of an Environmental Engineer extends beyond the community and regional levels to a global scale.

The Bachelor of Engineering (B.E.) program offered by the Institute is based on a comprehensive theoretical foundation and rigorous practical training, supplemented by field visits and industrial internships. The curriculum of the B.E. degree program covers a wide range of subjects relevant to the field of environmental engineering. The faculty members of the Institute of Environmental Engineering & Management (IEEM) are highly qualified, holding PhD and M.E. degrees in their respective areas of expertise.

Mission of the Program

Environmental Engineering program imparts high-quality education with the vision of producing engineers to provide innovative solutions to the environmental challenges and nurture personal growth skills as creative and entrepreneurial minds along with professional ethics to have successful career.

Program Educational Objectives (PEOs)

Program educational objectives are based on the needs of the program's constituencies and are linked to student learning outcomes and assessment process. The program needs to demonstrate a well-defined and published program mission which is based on stakeholders' needs. After graduation, our students will be able to:

- Apply engineering knowledge to design, build and improve environmental engineering-based systems to address the technical and socio-economic problems.
- Perform their professional and societal obligation by promoting public health, safety, and welfare and addressing the environmental issues through their services and practices.
- Work effectively as a member or lead multidisciplinary teams to serve the community for professional development and continual improvement.

2.4.2 The Faculty:

Director of the Institute

Prof. Dr. Abdul Razzaque Sahito

Phone: 022-2772250-73/ Ext.:7300

PROFESSORS:

Prof. Dr. Abdul Razzaque Sahito
PhD, Pakistan.

Prof. Dr. Sheeraz Ahmed Memon
PhD, Korea.

ASSOCIATE PROFESSORS:

Dr. Muhammad Safar Korai
PhD, Pakistan.

ASSISTANT PROFESSORS:

Engr. Azizullah Channa
M.E, Pakistan. (*On Study Leave*)

Engr. Maryam Arain
M.E, Pakistan (*On Study Leave*)

Engr. Sajid Hussain Mangi
PhD Italy

LECTURERS:

Engr. Abdul Aziz Chan
M.E, Pakistan

Engr. Sanjay Kumar
M.E, Pakistan.

Engr. Siddiqa Soomro
M.E, Pakistan (*on Contract*)

2.4.3 Laboratory Facilities:

The department is also equipped with the laboratories are listed below, having advanced and latest instruments.

- | | |
|--|------------------------------|
| 1. Hi-Tech Laboratory | 1. GIS & Computer Laboratory |
| 2. Water & Soil Pollution Control Laboratory | 2. Thermo Laboratory |
| 3. Solid Waste Management Laboratory | 3. Microbiology Laboratory |
| 4. Air & Noise Pollution Control Laboratory | |

2.4.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EE101	Introduction to Environmental Engineering	3	0
2.	IS111/SS104	Islamic Studies/Ethics	2	0
3.	PS106	Pakistan Studies	2	0
4.	CE137	Surveying	3	1
5.	ENG101	Functional English	3	0
6.	EE111	Environmental Physics	3	0
		Total	16	01

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CS110	Introduction to Computing and Programming	2	1
2.	MTH108	Applied Calculus	3	0
3.	EE122	Environmental Chemistry	3	1
4.	CE154	Fluid Mechanics for Environmental Engineers	3	1
5.	EE132	Environmental Microbiology	2	1
		Total	13	04

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EE204	Ecological Management	2	0
2.	CE277	Engineering Drawing Practices	2	1
3.	MTH236	Linear Algebra & Analytical Geometry	3	0
4.	EL271	Electrical Technology for Environmental Engineers	2	1
5.	MT250	Engineering Materials and Environment	2	1
6.	EE205	Water Supply Engineering & Treatment	3	1
		Total	14	04

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	PS 207	Ideology and constitution of Pakistan	2	0
2.	EE272	GIS & Remote Sensing	2	1
3.	MTH212	Differential Equations & Fourier Series	3	0
4.	EE292	Computer Aided Design for Environmental Engineers	0	1
5.	CE262	Soil Mechanics for Environmental Engineers	2	1
6.	EE234	Wastewater Engineering & Treatment	3	1
		Total	12	04

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG301	Technical & Scientific Writing	2	0
2.	EE242	Environmental Economics	2	0
3.	MTH319	Numerical Analysis	3	1
4.	EE331	Environmental Biotechnology	2	1
5.	ME391	Applied Thermodynamics	3	1
6.	EE371	Climate Change and Disaster Management	2	0
7.	-	Understanding of Holy Quran-I/ Comparative Moral Teaching-I	0	1
		Total	14	04

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ME390	Renewable and Emerging Energy Technologies	3	1
2.	EE313	Solid Waste Engineering & Management	3	1
3.	ENT311	Entrepreneurship	2	0
4.	MTH317	Statistics and Probability	3	0
5.	EE326	Air and Noise Pollution Control Engineering	3	1
6.	-	Understanding of Holy Quran– II/Comparative moral Teaching-II	0	1
		Total	14	04

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EE414	Modelling of Environmental Systems	3	1
2.	CE471	Project Planning & Management	3	0
3.	EE485	Cleaner Production Techniques	2	0
4.	EE466	Hazardous Waste Risk Assessment & Management	3	0
5.	EE381	Professional Ethics	2	0

6.	EE498	Final Year Project-I	0	3
		Total	13	04

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EE454	Environmental Impact Assessment	3	0
2.	EE496	Natural Resources Management	2	0
3.	EE426	Occupational Health, Safety & Environment	3	0
4.	EE435	Environmental Management System & Standards	2	0
5.	CE472	Water Resource Engineering and Management	3	1
6.	EE405	Community Services	0	0
7.	EE499	Final Year Project–II	0	3
8.	-	Internship	0	0
		Total	13	04

2.4.5 Career Opportunities:

Environmental Engineering undergraduate and postgraduate programs offer you opportunities to work in any aspect of environmental protection. The major areas include air pollution control; hazardous waste management; toxic materials control; water supply and wastewater treatment; solid waste management and disposal; industrial hygiene; radiation protection; health; safety and environment (HSE), Environmental Consultant, environmental impact assessment (EIA); cleaner production; natural resource management; public health and land pollution control. Environmental engineers are also leaders in the development, planning, and implementation of environmental sustainability principles, including waste reduction, alternative energy, and life-cycle analysis. Within each of these major categories, there are also many subcategories. Environmental Engineering provides opportunities as to the type of work, for whom you work, and where you work. A career in Environmental Engineering offers a comfortable salary, job security, and considerable personal satisfaction.

3. FACULTY OF ELECTRICAL, ELECTRONICS & COMPUTER SYSTEMS ENGINEERING

3.1 Department of Biomedical Engineering

3.1.1 The Department:

Mehran University of Engineering and Technology has the distinction of being the first public sector university in Pakistan to establish the Biomedical Engineering Department. The program was initiated in 2003 and, since 2011, the Department of Biomedical Engineering has been housed in a separate, spacious building under the guidance of young, dynamic, and visionary leadership. As a progressive educational unit of Mehran UET, the department plays a vital role in producing engineers who have a broad range of study options in various fields, including Medical Imaging, Biomedical Instrumentation, Diagnostics, Biotechnology, Nanotechnology, Computer Science, Electronics, Telemedicine, and other related areas. The department of Biomedical Engineering has won a European Union funded project namely BIOMED5.0. Through BIOMED5.0, we are modernizing the biomedical engineering education and establishing state of the art fabrication laboratory for rapid prototyping. Graduates will possess skills and knowledge aligned with the latest industry trends, making them highly competitive in the job market.

Vision of the Department

The Department of Biomedical Engineering at MUET aims to provide the highest quality learning and research opportunities in the field of Biomedical Engineering. The department's objective is to achieve excellence and explore engineering principles that can be applied to solve problems in the medical and biological sciences.

Mission of the Program

To produce quality Biomedical engineers with high intellect and broad vision, capable of meeting the current and future needs of the human race in medical diagnosis, treatment, prosthesis, and rehabilitation through research and professional practice

Program Educational Objectives (PEOs) of the Bachelor of Biomedical Engineering Program revolve around producing engineers with the capabilities to:

- i. Work in a multidisciplinary field at the interface of engineering, medicine, and biology to design sustainable healthcare solutions.
- ii. Lead as an entrepreneur / a manager to contribute towards knowledge-based economy in the field of healthcare.
- iii. Independently master new knowledge and technologies, as well as successfully engage in post-graduate studies and research in biomedical engineering and allied fields.

3.1.2 The Faculty:

Chairman of the Department

Dr. Abdul Qadir Ansari

Phone: 022-2772279

PROFESSOR:

Dr. Ahsan Ahmad Ursani
PhD, France.

Dr. Abdul Qadir Ansari
PhD, Pakistan.

Dr. M. Aamir Panhwar
PhD, China.

ASSISTANT PROFESSORS:

Engr. N.P. Chowdhry
M.S., United Kingdom.

Dr. Maheen Mahwish Surahio
PhD, China.

LECTURERS:

Engr. Syed Faisal Ali
B.E, Pakistan.

ASSOCIATE PROFESSORS: Dr. Syed Amjad Ali Shah PhD, China.	Engr. Rabia Chandio M.E, Pakistan.	Engr. Salman Afridi M.E, Pakistan.
Dr. Noor Ahmed Sanbhal PhD, China.	Dr Abdul Rahin Ansari PhD, South Korea.	Engr. Kandeel Fatima M.E., Pakistan.

3.1.3 Laboratory Facilities:

Biomedical Engineering department has the following six well-equipped laboratories:

1.	Biomedical Instrumentation lab	5.	Telemedicine and Research Labor
2.	Biomedical Sciences Laboratory	6.	Nano-medicine Research Laboratory
3.	Biomedical Computing Laboratory	7.	Fabrication Laboratory
4.	Biomedical Engineering Laboratory		

3.1.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL101	Basic Electrical Engineering	2	1
2.	BM102/MTH107	Basic Biology/ Basic Mathematics	3	0
3.	CS145	Introduction to Computing	3	1
4.	BM111	Applied Physics	3	1
5.	BM121	Applied Chemistry	2	1
		Total	13	04

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ES133	Basic Electronics	3	1
2.	EL126	Electrical Circuits and Systems	3	1
3.	BM131	Biophysics	3	0
4.	MTH102	Applied Calculus	3	0
5.	PS106	Pakistan Studies	2	0
6.	IS111/SS104	Islamic Studies / Ethics	2	0
		Total	16	02

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	BM222	Physiology I	3	1
2.	ES262	Electronic Circuit Design	3	1
3.	BM211	Biochemistry	2	1
4.	BM232	Human Anatomy	3	0
5.	MTH236	Linear Algebra and Analytical Geometry	3	0
		Total	13	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH223	Differential Equations and Complex Variables	3	0
2.	BM280	Computer Aided Drawing	0	1
3.	BM241	Physiology II	2	0
4.	ES285	Electronic Instrumentation	3	1
5.	ES273	Digital Electronics	3	1
6.	BM290	Radiation and Environment	2	0
7.	ENG206	Communication Skills	2	0
		Total	15	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT310	Biomaterials	3	1
2.	BM311	Biomedical Instrumentation I	3	1
3.	MTH315	Statistics and Probability	3	0
4.	ENG302	Technical and Scientific Writing	2	0
5.	TL381	Signals and Systems	3	1
		Total	14	03

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	BM302	Digital Signal and Image Processing	3	1
2.	BM331	Biomedical Instrumentation II	3	0
3.	BM340	Biomechanics	3	1
4.	BM360	Medical Imaging	3	0
5.	MTH336	Numerical Analysis and Computer Applications	3	1
		Total	15	03

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	BM410	AI for Medical Diagnosis	3	1
2.	BM430	Internet of Medical Things	2	0
3.	ES412	Control Systems	3	1
4.	BM421	Modeling and Simulation	2	1
5.	BM490	Internship / Freelancing	0	0
6.	BM498	Final Year Project-I	0	3
		Total	10	06

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	BM471	Economics for Technopreneurs	3	0
2.	BM452	Ethics for Biomedical Engineers	2	0
3.	BM462	Emerging Trends in Biomedical Engineering	3	0
4.	BM480	Principles of Food Processing and Preservation	2	0
5.	BM490	Civics and Community Engagement	2	0
6.	BM499	Final Year Project-II	0	3
		Total	12	03

3.1.5 Career Opportunities:

Biomedical engineering involves the application of engineering techniques and principles to solve problems in medicine, healthcare, and biology. It is a broad and multidisciplinary field that encompasses various industries, including pharmaceuticals, genetics, diagnostics, surgery, and rehabilitation. We aim to produce engineers who can serve as computational medicine designers, prosthetic device designers, biomedical equipment designers, maintenance engineers, sales managers, after-sale service managers, telemedicine solution designers, and researchers.

Our graduates find fulfilling roles in state-of-the-art diagnostic centers, hospitals, telemedicine centers, biomedical equipment manufacturers and distributors, drug manufacturers, software development houses, the automobile industry, research laboratories, and research institutions. Additionally, biomedical engineers play vital roles in regulatory authorities such as the Drug Regulatory Authority of Pakistan and the Pakistan Quality Standards Organization.

The demand for biomedical engineers is growing, both in Pakistan and abroad. Modern hospitals, pharmaceutical companies, biomedical device manufacturers and vendors, diagnostic research laboratories, government agencies, automobile industry, and software development companies hire biomedical engineers. They are sought after to manage hospitals, contribute to the development and utilization of innovative instruments for disease diagnosis and treatment, and restore independence and functionality to patients.

Our graduates have secured positions at esteemed national and international organizations, including the Pakistan Atomic Energy Commission, National Specialty Alloys Inc. (USA), Siemens, Institute of Chemistry (Academia Sinica, Taiwan), Almosawiq Al-Arabia SA, Al-Sharq Hospital, Fujairah Hospital Dubai, Al-Noor Hospital Bahrain, Austin Health Group (Australia), and many others.

3.2 Department of Software Engineering

3.2.1 The Department:

The Department of Software Engineering is home to research and academic units that address issues and recent advances in software engineering. The department provides research areas and cutting-edge facilities in Bachelor of Engineering in Software Engineering and Bachelor of Science in Artificial Intelligence. The goal has been, and continues to be, to provide a high-degree program in Software Engineering and Artificial Intelligence that prepares students for lifelong learning as they take on professional careers in the software industry. The degree programs enable students to gain a thorough understanding of the role of software development and artificial intelligence in enterprise organizations and to transform conventional systems into digitization that improve business and organizational processes.

The department offers a range of courses in both degree programs in accordance with the Pakistan Engineering Council (PEC) and the National Computing Evaluation & Accreditation Council (NCEAC). These courses comprise fundamentals of programming to advanced topics in computing, such as software testing and software architecture and design, among others. The Department of Software Engineering has completed its transformation to a newly advised education system based on outcome-based education (OBE). The mission of the department is defined in line with the university's vision and mission.

The program educational objectives (PEOs) have been finalized after thorough deliberation and comprehensive meetings. The B.E (Software) program has adopted twelve program learning outcomes (PLOs) in accordance with PEC guidelines, and the BS(AI) program has adopted ten PLOs in accordance with NCEAC. The courses of the programs have been updated, and course learning outcomes (CLOs) for each course are designed, along with their difficulty level, as per Bloom's taxonomy, i.e., cognitive, affective, and psychomotor.

Vision of the Department

To become the center of excellence and the aspiration in the discipline of software engineering by producing the highly skilled professionals, who with their analytical capabilities and proficiencies apply the technical knowledge for the socio-economic development.

Mission of the Department

To provide technically sound ambiance of learning and realizing the frequently changing traits of software industry to pursue sustainable socio-economic growth with the sense of ethics, professionalism and leadership to serve community and humanity at large.

Program Educational Objectives (PEOs)

- i. Performs his/her professional roles in Software industry and related fields.
- ii. Adheres to professional responsibilities in multi-cultural environment with continual improvement.
- iii. Works effectively as a team lead or a team member in challenging ventures.
- iv. Communicates technical and managerial information efficiently in oral and written forms.

3.2.2 The Faculty:

Chairman of the Department

Prof. Dr. Naeem Ahmed Mahoto

Ph. No.: 022-2772255 Ext:6900

PROFESSORS:

Dr. Sania Bhatti

PhD, United Kingdom

Mr. Salahuddin Sadar

M.E, Pakistan

Dr. Anoud Shaikh

PhD, Pakistan

Dr. Qasim Ali Arain PhD, Beijing	Dr. Amirita PhD, Pakistan	Dr. Rabeea Jafferi PhD, Malaysia
Dr. Naeem Ahmed Mahoto PhD, Italy	Dr. Areej Fatemah PhD, Pakistan	LECTURERS: Mr. Zubair Sangi BE, Pakistan
Dr. Mohsin Ali Memon PhD, Japan	Mr. Zahid H. Khaskheli M.E, Pakistan	Ms. Mariam Jawaaid M.E, Pakistan
ASSOCIATE PROFESSORS: Dr. Isma Farah Siddiqui PhD, South Korea (<i>On Lien</i>)	Dr. Hira Noman PhD, Pakistan (<i>On leave</i>)	Ms. Rabia Iftikhar M.E, Pakistan (<i>On study leave</i>)
Dr. Syed. M. Shehram Shah PhD, Australia	Ms. Shafia Qadeer Memon M.E, Pakistan (<i>On study leave</i>)	Mr. Arsalan Aftab ME, Pakistan
ASSISTANT PROFESSORS: Dr. Din Muhammad Sangrasi PhD, Australia	Ms. Memoona Sami M.E, Pakistan (<i>On study leave</i>)	Ms. Soonh Taj ME, Pakistan
	Mr. Junaid Ahmed Baloch M.E, Pakistan	Ms. Afifah M.E, Pakistan (<i>On Contract</i>)

3.2.3 Laboratory Facilities:

To meet the latest trends in software and hardware technology the department has six (6) well-resourced IT laboratories where students are skilled to meet the future needs of the technology.

1. Software Quality Assurance & Testing Lab.
2. Visual Informatics and Image Processing Lab.
3. Data Warehousing and Management Lab.
4. 3-D Modeling and Visualization Lab.
5. Software Research and Development Lab.
6. Parallel Processing and Cluster Computing Lab.

The maximum class for laboratory practical is also constituted in accordance with the optimum standards set by PEC and HEC. The Department of Software Engineering has a total of 6 labs, all of which are equipped with 100 thick and thin clients altogether. All such systems are equipped with the latest engineering software such as MATLAB, ORACLE, NETBEANS and DREAMWEAVER etc. The laboratory rooms are spacious, equipped with air conditioners and safety/health standards to accommodate 50 students at a time with 1:1 student and PC ratio.

3.2.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH108	Applied Calculus	3	0
2.	SW112	Programming Fundamentals	3	1
3.	SW113	Introduction to Information and Communication Technologies	2	1
4.	ENG111	Functional English	3	0
5.	EL119	Applied Physics	3	0
		Total	14	02

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SW121	Object Oriented Programming	3	1
2.	SW127	Professional Practices	2	0
3.	MTH102	Quantitative Reasoning-I	3	0
4.	SW124	Introduction to Software Engineering	3	0
5.	PS106	Pakistan Studies	2	0
6.	IS111/SS1	Islamic Studies / Ethics	2	0
7.	ENG201	Communication Skills	2	0
		Total	17	01

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SW212	Data Structures & Algorithms	3	1
2.	MTH202	Quantitative Reasoning-II	3	0
3.	SW215	Database Systems	3	1
4.	SW219	Software Requirements Engineering	2	0
5.	SW218	Software Economics & Management	2	0
6.	SS214/SS2	Understanding of Holy Quran-I/Comparative Moral Teaching-I	0	1
		Total	13	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SW226	Computer Networks	3	1
2.	SW227	Software Design & Architecture	2	1
3.	SW228	Data Warehousing	3	0
4.	SW229	Human Computer Interaction	3	0
5.	MTH125	Linear Algebra & Analytical Geometry	3	0
6.	PS207	Ideology and Constitution of Pakistan	2	0
7.	SS215/SS222	Understanding of Holy Quran-II/Comparative Moral Teaching-II	0	1
		Total	16	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SW315	Software Construction and Development	2	1
2.	SW311	Operation Research	3	0
3.	SW316	Information Security	3	0
4.	ENG319	Technical & Business Writing	2	0
5.	SW312	Artificial Intelligence	2	1
6.	SW319	Web Engineering	3	1
		Total	15	03

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SW322	Software Project Management	3	0
2.	SS406	Civic and Community Engagement	2	0
3.	SW326	Data Science and Analytics	3	1
4.	SW327	Mobile Application Development	3	1
5.	SW328	Operating Systems	3	1
		Total	14	03

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SW411	Cloud Computing	3	1
2.	SW415	Software Re-engineering	3	0
3.	SW419	Introduction to Entrepreneurship and Creativity	3	0
4.	SW414	Occupational Health & Safety	1	0
5.	SW498	Thesis/Project – I	0	3
		Total	10	04

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SW424	Simulation & Modeling	3	0
2.	SW426	Software Quality Engineering	3	1
3.	SW427	Multimedia Communication	3	1
4.	ENT401	Entrepreneurship	2	0
5.	SW499	Thesis/Project – II	0	3
		Total	11	05

3.2.5 Career Opportunities:

Software engineering is at the core of Information Technology and the increasing need for computers in the daily life of people has made it imperative that new designs and new computer software systems be developed so that advancing technology can be applied in a growing range of applications. The work assigned to people who are called software engineers evolves very fast, which reflects the changes in technology as well as the increase of new specializations which keep cropping up in this field along with the preferences and practices of employers. The principles and knowledge of computer science, engineering, and mathematical analysis are employed by software engineers for designing, developing, testing, and evaluating the software and the systems that computers use to carry out various applications.

Department offer state of the art National Freelancing Training Program at MUET Jamshoro, NFTP has successfully trained over 1,200 freelancers, equipping them with essential digital skills. Graduates have collectively earned more than \$60,000, showcasing the program's impact on economic empowerment. With expert-led sessions and hands-on learning, it fosters innovation and self-

employment. This initiative continues to create opportunities for aspiring freelancers and software developers across various domains.

Our department works in strong collaboration with the Directorate of Student Affairs along with the student societies of similar scope for career counselling of graduating students. The emphasis is on the effective placement of students and graduates in the industry along with counselling sessions which provide career advice to the students. Our graduates have very successful careers in industry and research. Our graduates work for software consultancy companies, specialized software development companies and the IT departments of large institutions (financial, telecommunications and public sector). Recent employers include Software Houses, Banks, NADRA, PIA, PTCL, OGDCL, SSGC, WAPDA, and SPARCO.

3.3 Department of Computer Systems Engineering

3.3.1 The Department:

Computer Systems Engineering is a discipline that integrates fields of Electrical Engineering and Computer Science required developing Computer Systems. Computer Engineers usually have training in Electronic Engineering, Software Design, and Hardware-Software integration instead of only Software Engineering or Electronic Engineering. Computer Engineers are involved in many hardware and software aspects of computing, from the circuit design of individual microprocessors, personal computers, and supercomputers, to latest development of communication system and networks. Therefore, this field of engineering not only focuses on how computer systems work, but also how they integrate into the larger picture.

Usual tasks involving Computer Engineers include writing software and firmware for embedded microcontrollers, designing analogue sensors, designing mixed signal circuit boards, and designing operating systems. Computer Engineers are also suited for robotics research, which relies heavily on using digital systems to control and monitor electrical systems like motors, communications, and wireless sensors. Due to increasing job requirements for engineers, who can concurrently design hardware, software, firmware, and manage all forms of computer, information and management systems used in industry. The department offers a carefully designed multidisciplinary courses and degree programs.

The Department of Computer System Engineering is leaving no stone unturned to achieve its transformation to practice in true spirit the education system based on outcome-based education (OBE) system.

Vision of the Department

To lead in computing education for a smart, secure, and sustainable future.

Mission of the Program

The mission of the department of Computer Systems Engineering is to impart world class education to computer engineers, enabling them to become successful in their professional career and lifelong learning by exhibiting moral and ethical values, thereby becoming a useful part of the society and contributing positively to the socio-economic growth of the country.

Program Educational Objectives (PEOs)

The program educational objectives (PEOs) are prepared by the OBE implementation committee for outcome-based education implementation and are approved through the Board of Studies, Board of Faculty and Academic Council. The PEOs are prepared on the basis of stakeholders' needs and linked with twelve program learning outcomes. Three PEOs have been finalized after thorough deliberation and comprehensive meetings.

1. Performs professionally based on the acquired computer engineering knowledge and analytical skills with continual improvement.
2. Ensures rationalism and ethics in a multi-cultural and diversified environment.
3. Is a team player and capable of demonstrating communication and managerial skills with an approach towards problem-solving.

The twelve graduate attributes provided by the PEC as per Manual of Accreditation 2014 have been adopted by the Department of Computer Systems Engineering (CSE) MUET Jamshoro as the Program Learning Outcomes (PLOs) for its bachelor's in CSE Program. It is ensured that these PLOs are achieved by respective CLOs of CSE curriculum as assessed through both direct and indirect methods. The curriculum has also been updated and CLOs for each course is designed along with its difficulty level as per Blooms Taxonomy, i.e., cognitive, affective and psychomotor.

3.3.2 The Faculty:

Chairperson of the Department

Dr. Sanam Narejo

Phone: 92-22-2772276 & 22-2772250-73 / **Ext.:** 4202

Coordinator BSCS Programs

Dr. Muhammad Ahsan Ansari

<u>PROFESSOR EMERITUS:</u> Dr. A. Q. K. Rajput PhD, USA.	Dr. Sanam Narejo PhD, Italy.	Dr. Irfan Ali Bhacho PhD, South Korea.
<u>PROFESSOR:</u> Dr. T.J. Saifullah Khanzada PhD, Germany. (<i>On Lien: Ex-Pakistan</i>)	Dr. Sammer Zai PhD, South Korea.	Dr. Ali Asghar Manjotho PhD, China.
Dr. Shahnawaz Talpur PhD, China.	Dr. M. Ahsan Ansari PhD, South Korea.	Dr. Fawad Ali Mangi PhD, Australia.
<u>ASSOCIATE PROFESSORS:</u> Dr. Sheeraz Memon PhD, Australia. (<i>On Lien: Ex-Pakistan</i>)	<u>ASSISTANT PROFESSORS:</u> Dr. Adnan Ashraf PhD, Pakistan.	<u>LECTURERS:</u> Engr. Salahuddin Jokhio M.E., Pakistan (<i>On Study Leave</i>)
Dr. M. Moazzam Jawaid PhD, UK. (<i>On Lien: Ex-Pakistan</i>)	Dr. Zartasha Baloch PhD, Pakistan.	Engr. Madeha Memon M.E., Pakistan.
	Engr. Rizwan Badar Baloch M.E., Pakistan.	Engr. Anam Memon M.E., Pakistan.
		Engr. Shabana Hajano M.E., Pakistan.

3.3.3 Laboratory Facilities:

Following state-of-the-art laboratories are available for the students where hands-on experiences provided. These laboratories provide high speed internet services in centralized environment.

1.	Computing Lab-I	5.	Advance Software Engineering & Research Lab
2.	Computing Lab-II	6.	Multimedia and Visual Design Studio Lab
3.	Microprocessor Lab	7.	Data Management and Internet Lab
4.	Communication Lab	8.	Software Development Lab

3.3.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH-108	Applied Calculus	3	0
2.	CS-111	Information and Communication Technologies	2	1
3.	CS-151	Computer Programming	3	1
4.	ENG-101	Functional English	3	0
5.	EL-116	Applied Physics	2	1
		Total	13	03

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH-112	Linear Algebra and Analytical Geometry	3	0
2.	EL-103	Electrical Circuit Analysis	3	1
3.	CS-153	Object Oriented Programming	3	1
4.	IS-111/SS-104	Islamic Studies/ Ethics	2	0
5.	PS-106	Pakistan Studies	2	0
		Total	13	02

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CS-211	Digital Logic and Design	3	1
2.	ENG-207	Expository Writing	2	0
3.	CS-251	Data Structures and Algorithms	3	1
4.	CS-221	Discrete Structures	2	0
5.	MTH-224	Differential Equations	3	0
6.	IND-202	Engineering Economics and Project Management	3	0
7.	SS-214/SS-211	Understanding of Holy Quran-I/ Comparative Moral Teachings-I	0	1
		Total	16	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SS-215/SS-222	Understanding of Holy Quran-II/Comparative Moral Teachings-II	0	1
2.	MTH-226	Fourier Series and Transforms	2	0
3.	CS-253	Database Management Systems	3	1
4.	CS-201	Computer Architecture and Assembly Programming	3	1
5.	CS-261	Operating Systems	3	1
6.	PS-207	Ideology and Constitution of Pakistan	2	0
		Total	13	04

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CS-311	Microprocessor and Interfacing	3	1
2.	CS-321	Computer Networks	3	1
3.	CS-331	Software Engineering	3	0
4.	MTH-317	Statistics and Probability	3	0
5.	CS-373	Web Engineering	3	1
		Total	15	03

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	-	Civics and Community Engagement	1	1
2.	ENG-301	Technical and Scientific Writing	2	0
3.	TL-376	System and Network Security	2	0
4.	CS-380	Artificial Intelligence	3	1
5.	ES-371	Embedded Systems	2	1
6.	CS-363	Digital Image Processing	3	1
7.	N/A	Community Service	-	-
		Total	13	04

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.		CEDE-I	3	0
2.	CS-431	Mobile Application and Game Development	3	1
3.	CS-461	Data Science and Analytics	3	1
4.	ENT-421	Entrepreneurship	2	0
5.	CS-498	Final Year Project-I	0	3
		Total	11	05

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.		MDEE-I	2	1
2.	CS-485	Cloud and Distributed Computing	3	1
3.	CS-472	Human Computer Interaction	3	0
4.	ES-371	Organizational Behavior	2	0
5.	CS-363	Final Year Project-II	0	3
		Total	10	05

Computer Engineering Depth Electives (CEDE)

1	(CS-481)	Internet of Things
2	(CS-482)	Systems Programming
3	(CS-486)	Algorithm Design and Analysis

Multi-Disciplinary Engineering Electives (MDEE)

1	(CS-491)	Blockchain Technologies and Applications
2	(CS-492)	Neural Networks and Fuzzy logic
3	(CS-494)	Data Warehousing and Big Data

CQI Mechanisms

The procedures for reviewing and revising the program conduct and attainment of PEOs, PLOs and CLOs and to ensure the correct actions for continuous quality improvement are performed by different committees. **Departmental Management Review Committee (DMRC)** and **Curriculum Revision Committee (CRC)** are responsible to design, update and revise the curriculum of the Department of Computer Systems Engineering, from time to time depending on need of industry and suggestions given by stakeholders. The establishments and revisions are then approved through Board of Studies, **Board of Faculty and Academic Council**. **Industrial Liaison Committee (ILC)** is responsible to look after matters related to student and industry collaborations, such as internships, study visits, obtaining feedback from alumni/industry stakeholders, communicating job opportunities for graduating students, managing job recruitment in industries and other related activities. **Final Year Project Committee (FYPC)** is responsible to facilitate students for creating final year project groups, planning project presentations in different phases, and maintaining, managing theses records and other final year project related activities. **Industrial Advisory Board (IAB)** is responsible to facilitate departmental coordination with industry in order to prepare graduates that are ready for the industry.

3.3.5 Career Opportunities:

The computerization of most facets of modern business and industry, together with the great demand for technical manpower creates a multitude of possibilities. As a career option that can allow an individual to be involved in the creation and implementation of a Computer System, Computer Systems Engineers are professionals who are actively engaged in the process of matching current technology with the needs of a company. As part of this task, the Computer Systems Engineer engages in the evaluation and installation of software, hardware, and other types of support equipment into a workable network that supports a variety of functions within a corporation. The Computer Systems Engineer may function as an employee of the company, a representative of a computer components and hardware, or as an independent consultant. Moreover, the computer system engineer has a wide range of job opportunities available, including electronic, telecommunication and software engineering fields.

The Computer Systems Engineer finds employment in a wide variety of computerized environments such as hardware, software, networking, research and development, process or information control systems or a combination of the above mentioned. The engineer might specialize further in any one of these chosen fields. Responsibilities may include maintenance or optimization of such environments. Additional functions could include the design, development, and implementation of additional or new systems, liaison with other departments such as management, production and instrumentation as well as with clients is an important aspect of his job. The dedicated Computer Systems Engineer may seek a senior post such as filling the post of System Administrator, Lead System or Project Manager.

3.4 Department of Electrical Engineering

3.4.1 The Department:

Electrical Engineering is a branch of engineering concerned with the study and application of electricity, electronics, and electromagnetism. It also deals with large-scale electrical systems such as power generation, transmission, distribution, and utilization of electrical energy.

The Department of Electrical Engineering is one of the oldest and prestigious departments of the University, supported and equipped with highly qualified faculty and technical staff. The department consists of 27 full-time faculty members, several of whom have received prestigious awards for their teaching and research work.

Our department labs serve not only undergraduate and postgraduate students but also provide services to the public and private sectors. These services include training, equipment testing, calibration, and consultancy for academia and industry. In addition to academic activities, the department's faculty and students are actively involved in research and development collaborations with industries.

The undergraduate students receive a degree upon successful completion of the four-year degree program. Postgraduate students receive an M.E. degree after successfully completing an 18-month course and research work. Currently, there are 490 undergraduates, 59 postgraduates, and 20 PhD students enrolled in the department.

The undergraduate and postgraduate students come from various regions across the country and abroad. The undergraduate program emphasizes teaching Electrical Engineering fundamentals and applications, as well as advanced engineering studies, enabling young graduates to work in industry or pursue higher education with confidence.

Vision of the Department

To provide the world class education and research opportunities in the field of Electrical Engineering at par with national and international levels.

Mission of the Department

The department of electrical engineering aims to provide high quality of education to produce skilled, dynamic, creative and ethical professionals to take active part in the development of the society.

Program Educational Objectives (PEOs):

- i. Perform their professional role in the fields of Electrical Engineering.
- ii. Effectively utilize their technical and managerial skills for the solution of engineering problems.
- iii. Demonstrate professional standards of moral and ethical values as a team leader or as an individual.

3.4.2 The Faculty:

Chairman of the Department

Prof. Dr. Syed Asif Ali Shah

Phone: 022-2771351

MERITORIOUS PROFESSOR:

Dr. Zubair Ahmed Memon
PhD, Pakistan.

Dr. Nayyar Hussain Mirjat
PhD, Pakistan.

Dr. Shafi Muhammad Jiskani
PhD, Pakistan.

PROFESSORS:

Dr. Syed Asif Ali Shah

Dr. Faheemullah Shaikh
PhD, China.

Dr. Shoaib Ahmed Khatri
PhD, Pakistan.

PhD, Austria.	Dr. Mahesh Kumar Rathi PhD, Malaysia.	Dr. Zohaib Ahmed Leghari PhD, Malaysia.
Dr. Ashfaq A. Hashmani PhD, Germany.	Dr. Abdul Hakeem Memon PhD, China.	Dr. Rabail Memon PhD, Pakistan.
Dr. Abdul Sattar Larik PhD, Pakistan.	Dr. Pervez Hameed Shaikh PhD, Malaysia.	LECTURERS: Mr. Abdul Latif Samoon M.E, Pakistan.
Dr. Mukhtiar Ahmed Mahar PhD, Pakistan.	ASSISTANT PROFESSORS: Mr. Noor Nabi Shaikh B.E, Pakistan.	Mr. Faheem Shafique Channar M.E, Pakistan (<i>On study leave</i>)
Dr. Ali Asghar Memon PhD, United Kingdom.	Mr. Abdul Jabbar Memon M.E, Pakistan.	Mr. Shoaib Shaikh M.E, Pakistan (<i>On study leave</i>)
Dr. Amir Mahmood Soomro PhD, China.	Dr. Mansoor Ahmed Soomro PhD, Pakistan.	Mr. Mustafa Memon M.E, Pakistan (<i>On study leave</i>)
ASSOCIATE PROFESSORS: Dr. Anwar Ali Sahito PhD, Pakistan.		

3.4.3 Laboratory Facilities:

It possesses state of the art laboratories and equipped with latest equipment up to mark for the electrical engineering program such as:

1. Power System Lab	8. Applied Electricity Lab
2. Power Electronics Lab	9. Communication Lab
3. Electrical Machines Lab	10. Computer Lab
4. High Voltage Engineering Lab	11. Advance Computer Lab
5. Clean Energy Lab	12. Electrical Workshop Lab
6. Control and Automation Lab	13. Electrical Power Transmission and Distribution Lab
7. Electrical Circuit & Measurement Lab	

3.4.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL111	Electrical Workshop Practice	0	1
2.	EL112	Applied Physics	3	1
3.	EL113	Linear Circuit Analysis	3	1
4.	CS104	Introduction to Computing and Programming	2	1
5.	ENG101	Functional English	3	0
6.	MTH109	Applied Calculus	3	0
		Total	14	04

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL122	Electrical Network Analysis	3	1
2.	CE141	Applied Mechanics	2	0

3.	MTH113	Linear Algebra and Numerical Methods	3	0
4.	PS112	Pakistan Studies	2	0
5.	IS111/SS104	Islamic Studies / Ethics	2	0
6.	ENG102	Communication Skills	2	0
7.	EL127	Engineering Drawing	0	1
8.		Professional Ethics	3	0
		Total	17	02

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL-211	Electronic Devices & Circuits	3	1
2.	EL-215	Theory of EMF	3	0
3.	SW-312	Artificial Intelligence	3	1
4.	MTH-212	Differential Equations and Fourier series	3	0
5.	ME-272	Applied Thermodynamics	2	0
6.	SS-214/SS-211	Understanding of Holy Quran-I/Comprehensive Moral Teaching-I	0	1
		Total	14	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL-223	Applied Electronics	2	1
2.	EL-224	Digital Logic Design	3	1
3.	ES-264	Introduction to Embedded Systems	3	1
4.	MTH-213	Complex Variables & Transforms	3	0
5.	ENG-304	Technical and Scientific Writing	2	0
6.	SS-215/SS-222	Understanding of Holy Quran-II/Comprehensive Moral Teaching-II	0	1
7.	PS-207	Ideology and Constitution of Pakistan	2	0
		Total	15	04

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL313	Instrumentation & Measurement	3	1
2.	EL314	Power Generation Systems	3	0
3.	EL315	Electrical Machines	3	1
4.	TL311	Communication Systems	3	1
5.	ES304	Signals & Systems	3	1
		Total	15	04

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL322	Advanced Electrical Machines	3	1
2.	EL323	Electrical Power Transmission	3	1

3.	EL325	Power Economics & Management	3	0
4.	EL-326	Occupational Health and safety	1	0
5.	EL-327	Civic and Community Engagement	2	0
6.	MTH311	Statistics and Probability	3	0
		Total	16	02

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL416	Power System Analysis	3	1
2.	EL415	Power Electronics	3	1
3.	EL-417	Linear Control Systems	3	1
4.	EL498	Final Year Design Project - I	0	3
		Total	09	06

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EL423	Power System Protection	3	1
2.	EL424	High Voltage Engineering	3	1
3.	SS425	Power Distribution & Utilization	3	1
4.	EL499	Final Year Design Project - II	0	3
		Total	09	06

3.4.5 Career Opportunities:

Electrical engineering is a field of engineering that generally deals with the study and application of electricity, electronics and electromagnetism. Electrical engineering is an amalgamation of what is now called electrical, electronics, communication, instrumentation and computer engineering. The well recognized branches of electrical engineering are power & energy, communications, robotics, electronics and control systems. In broader sense, this field covers a wide range of sub-disciplines including those that deal with power& energy, digital electronics, analogue electronics, artificial intelligence, control systems, electronics, signal processing and telecommunications. Overlapping of this field with computer has opened up the door to a career distribution in almost every industry.

Following are the few companies and institutions in which the electrical graduates can find job.

1. WAPDA	14. Dawlance United Refrigeration Industries Ltd.
2. Fertilizer Industries	15. Civil Aviation Authority
3. Chemical Industries	16. Johnson & Philips Pakistan Ltd
4. Textile Industries	17. Tuwairqi Steel Mills Ltd.
5. Pharmaceutical Companies	18. National Transmission and Dispatch Company, Ltd.
6. Mechanical & Automobile	19. Philip Morris Pakistan Ltd.
7. K-Electric	20. Technology Links Pvt. Ltd
8. Pakistan Atomic Energy Commission (PAEC)	21. National Electric Power Regulatory Authority (NEPRA)
9. Oil & Gas Companies	22. Distribution companies (HESCO, IESCO, PESCO, QUESCO)
10. Research Institutes	23. Sugar Industries
11. Lucky Cement Factory	24. Karachi Port Trust (KPT)
12. Al Rahim Textile Industries	25. Environmental Network International (ENI)
13. KAD Consultants Electrical & Solar System Engineers	

3.5 Department of Electronic Engineering

3.5.1 The Department:

Electronic engineering is an increasingly important engineering discipline that significantly impacts other engineering fields. It is in high demand both in developed and developing nations. Advances in materials, processes, devices, and circuits within electronic engineering have led to rapid progress in existing applications and the emergence of new ones. To fully utilize the potential of electronic engineering and further advance electronic technology, it is crucial to have robust education and training programs in this key engineering discipline.

Electronic engineering artifacts play a major role in the evolution of mankind and culture. The profession and education of electronic engineers face challenges due to the ever-changing nature of engineering systems that define "modern technology." The advent of microprocessor technology has made electronic engineering a prominent technology of this century, with new species and higher levels of integration. The applications and uses of electronics are vast, and it is difficult to find any industrial or commercial area that will not be affected by this technology.

The Department of Electronic Engineering offers undergraduate and postgraduate degrees. The programs offered include:

1. B.E. (Electronic Engineering)
2. M.E. (Electronic System Engineering) under the umbrella of Institute of Information & Communication Technologies (IICT)
3. M.E. (Industrial Automation and Control) under the umbrella of Institute of Information & Communication Technologies (IICT).
4. PhD (Electronic Engineering) under the umbrella of Institute of Information & Communication Technologies (IICT).

The field of electronic engineering encompasses the knowledge of electronic circuits, devices, and their applications. Students learn various subjects from diverse fields, including Integrated Electronics, Measurements and Instrumentation, Digital Electronics, Power Electronics, Control Systems, Embedded Systems Design, Optoelectronics, Digital Signal Processing, FPGA-Based Digital Design, Electromagnetic Fields, Computer Communication & Networking, Mechatronic Systems and Applications, and Artificial Intelligence.

Mission of the Department

To produce Quality Electronic engineers with high intellect and broad vision who can meet current needs and foresee future needs of the nation in the field of electronic by serving research and professional practice.

Program Educational Objectives (PEOs)

The program educational objectives (PEOs) were prepared by the OBE implementation committee for outcome-based education implementation and approved through the Departmental Board of Studies (BoS), Board of Faculty (BoF) and Academic Council (AC). The PEOs were prepared on the basis of stakeholders needs and linked with twelve PLOs. The PEOs of B.E. Electronic Engineering degree program are:

- i. Apply in-depth electronic engineering knowledge and analytical skills to initiate innovative solutions for the society
- ii. Quest for learning, establishing collaborations and engaging in continuous professional development in the field of Electronics by carrying research and adopting professional practices.
- iii. Adaptive in multidisciplinary and multicultural environment and work effectively as a team lead or team member possessing strong soft skills and high moral ethics.

3.5.2 The Faculty:

Chairperson of the Department

Prof. Dr. Wajiha Shah

Phone: +92-22-2771334, +92-22-2772250-70 (Ext. 4100)

<u>EMERITUS PROFESSOR:</u> Dr. B.S Chowdhry PhD, (UK)	<u>ASSISTANT PROFESSORS:</u> Dr. Khalil-ur-Rehman Dayo PhD, (Pakistan)	Engr. Sara Qadeer Rajput M.E, (Pakistan)
<u>PROFESSORS:</u> Dr. Wajiha Shah PhD, (Austria) Chairperson	Engr. Mehboob Khuwaja M.E, (Pakistan) - (On lien)	Engr. Mansoor Ali Teevno M.E, (Pakistan) <i>On Study Leave</i>
Dr. Arbab Nighat Kalhoro PhD, (China)	Dr. Kehkashan Fahim PhD, (Pakistan)	Dr. Shoaib Rehman Soomro PhD, (Istanbul), Postdoc (Spain)
Dr. Farida Memon PhD, (Pakistan)	Dr. Kamran Kazi PhD, (Pakistan)	<u>LECTURERS:</u> Engr. Qurban Ali Memon M.E, (Pakistan)
Dr. Attiya Baqai PhD, (Pakistan)	Dr. Saba Baloch PhD, (Malaysia)	Engr. Qudsia Memon M.E, (Pakistan)
<u>ASSOCIATE PROFESSORS:</u> Dr. Tayab Din Memon PhD, (Australia) - (On lien)	Dr. Yasmeen Naz Panhwar PhD, (Australia)	Engr. Komal Khuwaja M.E, (Pakistan) <i>On Study Leave</i>
Dr. Irfan Ahmed Halepoto PhD, (Pakistan)	Engr. Khuhed Memon PhD, (Malaysia)	Engr. Bharat Lal M.E, (Pakistan) <i>On Study Leave</i>
Dr. M. Zaigham Abass Shah PhD, (USA)	Engr. Aamir Ali Patoli M.E, (Pakistan) <i>On Study Leave</i>	Engr. Shahnaila Badar M.E, (Pakistan)

3.5.3 Laboratory Facilities:

The courses taught are regularly updated to keep abreast of new knowledge and development. The students also undertake a project during their final year, which helps them to enhance their capabilities as young design engineers. The department is also equipped with state-of-the-art laboratories such as:

1. Analog Electronics Laboratory	7. Research Laboratory
2. Digital System Design Laboratory	8. Instrumentation & Control Laboratory
3. Communication Systems Laboratory	9. Electronic Design Automation Lab. (IICT Building)
4. Computing Laboratory	10. Project Laboratory-I
5. Modeling & Simulation Laboratory	11. Project Laboratory-II (IICT Building)
6. Power Electronics & Drives Laboratory	12. Artificial Intelligence Laboratory

These laboratories are well equipped with latest equipment ranging from basic electronic devices, simulators and trainers to more advanced embedded system trainers. Excellent course work and practical experience, provide ample job opportunities to our graduates in both public and private sector organizations, national & multinational companies.

3.5.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG-101	Functional English	3	0
2.	MTH-108	Applied Calculus	3	0
3.	EL-116	Applied Physics	3	1
4.	EL-120	Electrical Circuits	3	1
5.	ES-102	Electronics Workshop	0	1
6.	CS-150	Introduction to Computing	2	1
		Total	14	04

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH-112	Linear Algebra & Analytical Geometry	3	0
2.	CS-113	Computer Programming	2	1
3.	ES-112	Basic Electronics	3	1
4.	SS-125	Professional Ethics	2	0
5.	PS-106	Pakistan Studies	2	0
6.	IS-111/SS-104	Islamic Studies/Ethics	2	0
		Total	14	02

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH-212	Differential Equations & Fourier Series	3	0
2.	ES-203	Electronic Circuit Design	3	1
3.	ES-226	Digital Electronics	3	1
4.	ES-227	Measurements & Instrumentation	3	1
5.	ENG-201	Communication Skills	2	0
6.	CS-215	Computer Aided Engineering Design	0	1
7.	SS-214	Understanding of Holy Quran I/Comparative Moral Teaching I	0	1
		Total	14	05

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH-213	Complex Variables & Transforms	3	0
2.	ES-332	Probability and Random Signals	2	0
3.	PS-207	Ideology and Constitution of Pakistan	2	0
4.	ES-244	Electromagnetic Field Theory	2	0

5.	ES-257	Integrated Electronics	3	1
6.	ES-250	Introduction to Embedded Systems	3	1
7.	SS-215	Understanding of Holy Quran II/Comparative Moral Teaching II	0	1
Total			15	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG-301	Technical & Scientific Writing	2	0
2.	ENT-315	Entrepreneurship	3	0
3.	ES-398	Signals & Systems	2	1
4.	ES-319	Power Electronics	3	1
5.	MTH-310	Numerical Methods	3	1
6.	EL-301	Electrical Machines	2	1
Total			15	04

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ES-434	Digital Signal Processing	3	1
2.	ES-353	Control Systems	3	1
3.	SS-336	Sociology for Engineers	2	0
4.	ES-373	FPGA Based Digital Design	3	1
5.	ES-385	Communication Systems	3	1
6.	ES-335	Community Service	0	0
Total			14	04

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ES-414	Digital Control System	3	1
2.	INM-491	Engineering Management	2	0
3.	ES-441	Optoelectronics	2	1
4.	CS-450	Artificial Intelligence in Edge Computing	3	1
5.	ES-498	Electronic Engineering Project-1	0	3
Total			10	06

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ES-422	Robotics and Mechatronic Systems design	3	1
2.	ES-451	Industrial Electronics	3	1
3.	TL-416	Computer Communication and Networking	3	1

4.	ES-499	Electronic Engineering Project-2	0	3
		Total	09	06

3.5.5 Career Opportunities:

Electronic Engineering Department works in strong collaboration with the Directorate of Student Affairs, as well as student societies with a similar scope, for career counseling of graduating students. The emphasis is on effectively placing students and graduates in the industry, along with providing career advice through counseling sessions. The Department regularly organizes seminars, such as "Industrial Advisory Board (IAB) experts-student interactive sessions," for students.

Electronics Engineering is a rapidly expanding field with numerous job opportunities. It is a branch of engineering that focuses on electronic circuits, devices, and the equipment and systems that utilize them. The field of Electronic Engineering is extensive and includes specific areas such as Digital Electronics, Control Systems, Analog Electronics, Embedded Systems, and Power Electronics.

For those interested in pursuing a career in Electronics Engineering, there are numerous opportunities available. After completing their degree, candidates can easily find employment as an Electronic Engineer in top industries/sectors, including:

1. Engineering Firms.	1. Research and Development
2. Consulting Firms.	2. Automotive Industry.
3. Teaching.	3. Data communication.

3.6 Department of Telecommunication Engineering

3.6.1 The Department:

In response to the rapidly growing demand in the telecommunications sector, MUET had the privilege of establishing the Department of Telecommunication Engineering in 2001—a first among all public and private sector universities in Pakistan.

Over the last 20 years, our graduates have made their mark in Pakistan's leading telecom industries and continue to play a vital role in ICT development. Today, opportunities for telecom engineers have further expanded with the growth of 4G/5G mobile networks and the Internet of Things (IoT). As a student here, you will be preparing for a future filled with innovation and impact.

Mission of the Program

To produce quality telecommunication engineers with in-depth knowledge and skills who can meet current and future needs of society by serving in professional domains and carrying out quality research through a collaborative environment.

Program Educational Objectives (PEOs)

The PEOs of the Bachelor of Engineering degree program in Telecommunication Engineering are:

1. **Research & Professional Growth:** Graduates are expected to become researchers and academic professionals in wired and wireless telecommunication systems, equipped with adequate managerial and communication skills.
2. **Problem Solving & Lifelong Learning:** Graduates will engage in self-learning and will be able to design, analyze, investigate, and evaluate telecommunication systems using modern tools and technologies.
3. **Ethics & Teamwork:** Graduates will appreciate the ethical and social implications of telecommunication technologies and will contribute to sustainable development—both as individuals and as part of a team.

3.6.2 The Faculty:

Chairman of the Department

Dr. Faisal Karim Shaikh

Phone: +92-22-2772277 /Ext.: 6000

<u>PROFESSOR:</u> Dr. Abdul Waheed Umrani PhD, Singapore.	Dr. Imran Ali Qureshi PhD, China.	Engr. Naeem Aijaz Yousfani M.E., Pakistan.
Dr. Faisal Karim Shaikh PhD, Germany.	Dr. Badar Munir PhD, China (<i>On leave</i>).	Engr. Mehran M. Memon M.E., Malaysia.
Dr. Nasrullah Pirzada PhD, Malaysia.	Dr. Faheem Yar Khuhawar Ph.D. Italy	Engr. Hyder Bux Mangrio M.E., Pakistan.
Dr. Zafi Sherhan Shah PhD, United Kingdom.	<u>ASSISTANT PROFESSORS:</u> Dr. Zulfiqar Ali Arain PhD, China.	Engr. Syed Rizwan Ali Shah M.E., Pakistan.
<u>ASSOCIATE PROFESSOR:</u> Dr. Fahim Aziz Umrani PhD, UK.	Engr. Syed Mohsin Ali Shah M.E., Pakistan.	Dr. Umair Ahmed Korai PhD, UK.
	Engr. Shanzah Mohsin M.E., Pakistan.	Dr. Faisal Ahmed Memon PhD, Italy (<i>on leave</i>).

Dr. Abdul Latif Memon PhD, China.	Engr. Saima Hafeez M.E., Pakistan. <i>(On study leave)</i>	Dr. Abi Waqas Memon PhD, Italy <i>(on leave)</i> .
Dr. Sajjad Ali Memon PhD, China.	Engr. Riaz Ahmed Soomro M.E., Pakistan.	Engr. Shakeel A. Laghari M.E., Pakistan.

3.6.3 Laboratory Facilities:

Keeping industry and academic demands in view, the Department of Telecommunication Engineering has established cutting-edge laboratories that equip students with the latest technological advancements, enabling them to confidently meet market requirements.

The department houses thirteen specialized laboratories, including:

1. Analog and Digital Communication Lab.	8. Cellular Communications Laboratory
2. Project Laboratory	9. Advanced Computing Laboratory
3. Transmission and Switching Laboratory	10. Digital Signal Processing Laboratory
4. Networking and Protocol Design Lab.	11. Radio Communication Laboratory
5. Optical Communication and Photonics Lab.	12. Internet of Things (IoT) Laboratory
6. PC Laboratory I	13. Cyber Security Laboratory
7. PC Laboratory II	

3.6.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TL110	Introduction to Information and Communication Technologies	2	1
2.	EL102	Circuit Analysis	3	1
3.	MATH108	Applied Calculus	3	0
4.	TL122	Applied Physics	2	1
5.	ENG101	Functional English	3	0
6.	PS106	Pakistan Studies	2	0
		Total	15	03

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH112	Linear Algebra and Analytical Geometry	3	0
2.	CSC121	Programming Fundamentals	2	1
3.	ES102	Electronics Workshop	0	1
4.	EL127	Engineering Drawing	0	1
5.	ES113	Electronic Devices and Circuits	3	1
6.	IS111/SS10	Islamic Studies / Ethics	2	0
		Total	10	04

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH212	Differential Equation and Fourier Series	3	0
2.	ENG203	Communication Skills	2	0
3.	ES215	Digital Logic Design	3	1
4.	CSC210	Data Structures and Algorithms	3	1
5.	PS207	Ideology and Constitution of Pakistan	2	0
6.	TL290	Occupational Health and Safety	1	0
7.	SS214/SS211	Understanding of Holy Quran-I / Comparative Moral Teaching-I	0	1
		Total	14	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	IN202	Engineering Management	2	0
2.	MTH213	Complex Variable and Transforms	3	0
3.	TL295	Internet of Things	2	1
4.	ES256	Microprocessors and Microcontrollers	3	1
5.	ENT221	Entrepreneurship	2	0
6.	XXX	Civics and Community Engagement	2	0
7.	TL203	Electromagnetics	3	0
8.	SS215/SS22	Understanding of Holy Quran-II / Comparative Moral Teaching-II	0	1
		Total	17	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TL395	Signal and Systems	3	1
2.	TL355	Probability and Stochastic Processes	3	0
3.	TL324	Communication Systems	3	1
4.	TL361	Linear Control Systems	2	1
5.	TL3xx	MBC Elective I	3	1
		Total	14	04

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG307	Expository Writing	2	0
2.	TL3xx	MBC Elective I	3	1
3.	TL3xx	MBC Elective I	3	0/1
4.	TL391	Optoelectronics	2	1
5.	TL346	Digital Signal Processing	3	1
		Total	13	03/04

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TL4xx	MBC Elective II	3	1
2.	TL4xx	MBC Elective II	3	1
3.	CYS451	Cyber Security	2	0
4.	TL432	Telecommunication Traffic Engineering	2	0
5.	TL426	Wireless and Mobile Communication	3	0
6.	TL498	Final Year Project – I	0	3
		Total	13	05

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TL4xx	MBC Elective II	3	0
2.	TL4xx	MBC Elective II	3	0
3.	TL447	Transmission and Switching Systems	3	0
4.	TL432	Network Protocols and Architecture	2	1
5.	TL435	Artificial Intelligence	2	1
6.	TL498	Final Year Project – II	0	3
		Total	13	05

Major Based Core (MBC) Electives I

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TL304	Antenna and Wave Propagation	3	1
2.	TL372	Digital Communications	3	1
3.	TL334	Computer Communication and Networking	3	1
4.	TL396	Navigation Systems	3	0
		Total	12	03

Major Based Core (MBC) Electives II

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TL402	Microwave and Radar Systems	3	1
2.	TL474	Fiber Optic Communication Systems	3	1
3.	TL486	Emerging Wireless Network System	3	0
4.	TL415	Satellite Communications	3	0
5.	TL401	Microwave Engineering	3	1
6.	TL485	Emerging Wireless Technologies and RF Planning	3	0
		Total	18	03

3.6.5 Career Opportunities:

Telecommunication engineers work across a wide range of industries based on Internet and computing technologies, telephone networks, radio wave transmission and reception, satellite communication, radar and navigation, and more.

Some engineers concentrate on applying technical knowledge, while others focus on managerial activities. Many roles include elements of both managerial and technical responsibilities. The technical aspect of the role includes using specialist knowledge to design and deliver solutions, as well as providing technical guidance to others within the organization.

Typical career paths include:

- Wireless / RF Engineer
- Network Planning and Optimization Engineer
- Core Network Engineer
- Satellite Communication Specialist
- IoT Solutions Architect
- Broadband and Fiber Optic Engineer
- Telecom Project Manager
- Research & Development Engineer
- Cybersecurity Specialist for Telecom Networks

Industries that hire our graduates:

- Mobile network operators (Jazz, Zong, Telenor, Ufone)
- Internet service providers
- Telecom equipment manufacturers (Huawei, Nokia, Ericsson)
- Government regulatory bodies (PTA, Frequency Allocation Board)
- Satellite and broadcasting organizations
- Banking and IT sector (network infrastructure roles)
- Academic and research institutions

4. FACULTY OF MECHANICAL PROCESS & EARTH ENGINEERING

4.1 Department of Chemical Engineering

4.1.1 The Department:

Chemical Engineering is a branch of engineering that applies scientific and engineering principles to the planning, design, construction, operation, and control of chemical processing plants. These plants involve a wide range of industries such as petrochemicals, fertilizers, cement, sugar, polymers, pharmaceuticals, petroleum and gas, bio-products, food products, and advanced materials. Because of its broad applications across multiple sectors, Chemical Engineering is considered one of the most prominent engineering disciplines, offering strong career opportunities at both national and international levels.

The Department of Chemical Engineering at Mehran University of Engineering and Technology (MUET) was established in 1970 to address the growing demand for skilled chemical engineers. The department aims to produce industry-ready professionals equipped with innovative thinking, strong problem-solving abilities, and effective managerial skills.

The department also maintains active collaborations with several national and international institutions, including Western Sydney University (Australia), the University of Exeter (UK), the University of Arizona (USA), Brunel University London (UK), and Xi'an Jiaotong University (China). In addition, the department operates an Academia-Industry Linkage Committee (AILC), which works closely with organizations such as SUPARCO Karachi, PCSIR Karachi, Sui Southern Gas Company Limited (SSGC), United Energy Pakistan Limited, and Archroma Pakistan Limited. These partnerships provide valuable academic and research exposure for both students and faculty.

Department makes efforts to have research collaboration with the industries to develop the Industry Academia linkages. In past, the department offered seven groups of final-year thesis projects based on industrial problems provided by United Energy Pakistan Limited and Matari Sugar Mills Limited. These projects enable students to work on real-world challenges and develop practical solutions. Moreover, during the most recent summer and winter breaks, more than 80% of the department's students secured internships across over 30 industries, highlighting the success of the AILC initiative.

The Department of Chemical Engineering strongly emphasizes student participation in both curricular and co-curricular activities to support their academic and professional growth. The department hosts two registered student chapters: the ACS MUET Student Chapter and the AIChE MUET Student Chapter. Each year, new student leadership teams are elected and tasked with organizing various events such as poster presentation competitions, project exhibitions, departmental sports festivals, interactive sessions, workshops, and training programs.

Vision of the Department

To provide excellent education in the field of Chemical Engineering as per International Standards, and develop Research Based Solutions to Process Industry, for National Development.

Mission of the Program

To produce Quality Professional Engineers with Problem Solving Expertise, Integrity and Strive to enhance their Skills and Ideas related to Chemical industry.

Program Education Objectives (PEOs)

- i. Demonstrate proficiency in applying the acquired knowledge & skills to solve engineering problem related to the chemical industry.

- ii. Contribute to the development of the society by partaking in chemical engineering projects utilizing their high-level of competence.
- iii. Exhibit effective skill-set comprising of skills such as communication, interpersonal, leadership and being a team player.
- iv. Excel and grow professionally with value-added skills of integrity and creativity.

4.1.2 The Faculty:

Chairman of the Department

Prof. Dr. Inamullah Bhatti

Phone: 022-2771262, 022-772255-3 /Ext.: 4400

<u>MERITORIOUS PROFESSOR:</u> Prof. Dr. Khadija Qureshi PhD, Pakistan. Post Doctorate, USA.	<u>ASSOCIATE PROFESSORS:</u> Dr. M. Shuaib Shaikh PhD, Malaysia. Dr. Imran Nazir Unar PhD, Pakistan. Dr. Masroor Ahmed Abro PhD, China. Dr. Zulfiqar Ali Bhatti PhD, Pakistan. Dr. Khan M. Qureshi PhD, Malaysia	Dr. Sikandar Mustafa Almani PhD, France. <u>ASSISTANT PROFESSORS:</u> Engr. Aisha Kousar Effendi M.E, Pakistan. Dr. Zulfiqar Ali Solangi PhD, Pakistan. <u>LECTURER:</u> Engr. Faiz Ahmed Abro M.E, Pakistan.
<u>PROFESSORS:</u> Prof. Dr. Inamullah Bhatti PhD, Malaysia. Post Doctorate, USA Prof. Dr. Zeenat Muhammad Ali PhD, Pakistan Prof. Dr. Aziza Aftab PhD, Pakistan		

4.1.3 Laboratory Facilities:

1. Water Quality Research Laboratory	2. Analytical Research Laboratory
3. Computer Laboratory	4. Chemistry Laboratory
5. Polymer Research Laboratory	6. Fluid Mechanics Laboratory
7. Biochemical and Food Processing Laboratory	8. Heat Transfer Laboratory
9. Particulate Technology Laboratory	10. Fuel and Energy Laboratory
11. Mass Transfer Laboratory	12. Coal Research Laboratory
13. Chemical Reaction Laboratory	14. Instrumentation and Process Control Lab.

4.1.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CH101	Inorganic and Organic Chemistry	2	1
2.	CH102	Chemical Process Calculations-I	2	0
3.	PS106	Pakistan Studies	2	0
4.	IS111/SS104	Islamic Studies/Ethics	2	0
5.	CH103	Computer Aided Drawing for Chemical Engineers	2	2
6.	ME142	Workshop Practice	0	2
7.	MTH108	Applied calculus	3	0
		Total	13	05

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CH112	Chemical Process Technology	3	0
2.	CH113	Chemical Process Calculations-II	3	0
3.	MTH204	Differential Equations, Fourier Series & Laplace Transform	3	0
4.	ENG101	Functional English	3	0
5.	CE115	Engineering Mechanics	2	0
6.	EL102	Basic Electrical Technology	2	1
		Total	16	01

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CH201	Physical and Analytical Chemistry	2	1
2.	CH203	Heat Transfer Operations	3	1
3.	CH204	Engineering Thermodynamics	3	1
4.	MTH206	Complex Analysis, Statistical Methods & Probability	3	0
5.	CH207	Entrepreneurship	2	0
6.	PS 207	Ideology and constitution of Pakistan	2	0
7.	SS214	Understanding of Holy Quran-I / Moral Education-I	0	1
		Total	15	04

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CH214	Engineering Materials	2	0
2.	CH215	Chemical Engineering Thermodynamics	3	0
3.	CH212	Chemical Engineering Fluid Mechanics-I	3	0
4.	CH213	Particulate Technology	3	1
5.	CS228	Introduction to Computer and Programming Concepts	3	1
6.	SS215	Understanding of Holy Quran-II / Moral Education-II	0	1
		Total	14	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CH302	Mass Transfer	3	1
2.	CH305	Biochemical Engineering	2	1
3.	CH307	Chemical Engineering Fluid Mechanics-II	2	1
4.	CH308	Chemical Plant Design	2	0
5.	MTH303	Linear Algebra & Numerical Methods	3	1
6.	SS 306	Civics and Community Engagement	2	0
		Total	14	04

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CH317	Fuels and Energy	2	1
2.	CH313	Simultaneous Heat and Mass Transfer	3	1
3.	CH314	Chemical Reaction Engineering	3	1
4.	CH315	Chemical Process Design and Simulation	3	1
5.	ENG301	Technical and Scientific Writing	2	0
		Total	13	04

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CH401	Transport Phenomena	3	0
2.	CH405	Pollution Control Engineering	3	1
3.	CH407	Food Technology	2	1
4.	CH409	Engineering Economics	2	0
5.	CH498	Final Year Design Project-I	0	3
		Total	10	05

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CH408	Gas Processing	2	0
2.	CH411	Industrial Management	2	0
3.	CH430	Instrumentation & Process Control	3	1
4.	CH414	Petroleum Refinery Engineering	3	0
5.	CH415	Process Safety and Maintenance	2	0
6.	CH499	Final Year Design Project-II	0	3
		Total	12	04

4.1.5 Career Opportunities:

Chemical engineering is a field that offers a diverse range of career opportunities such as:

- **Process Engineer:** Process engineers are responsible for designing and implementing manufacturing processes. They work to optimize existing processes, develop new processes, and ensure that the manufacturing process is efficient, safe, and cost-effective.
- **Research and Development Engineer:** R&D engineers are involved in creating and developing new products or improving existing products. They work to identify new technologies and techniques that can be used to improve manufacturing processes.
- **Quality Control Engineer:** Quality control engineers ensure that products are manufactured to meet certain standards and specifications. They use various tools and techniques to identify and analyze any quality issues and work to develop solutions to improve the overall quality of products.

- **Environmental Engineer:** Environmental engineers work to develop and implement strategies to protect the environment. They may work to minimize the environmental impact of manufacturing processes, or to develop new technologies that are environmentally friendly.
- **Project Manager:** Project managers oversee projects from start to finish, ensuring that they are completed on time, within budget, and to the required quality standards. Chemical engineers with good project management skills can work in a variety of industries, including manufacturing, construction, and consulting.
- **Energy Engineer:** Energy engineers are involved in developing and implementing energy-saving strategies. They may work to reduce energy consumption in manufacturing processes, or to develop new technologies that generate renewable energy.
- **Sales Engineer:** Sales engineers use their technical expertise to sell products and services to customers. They work closely with customers to understand their needs and develop solutions that meet their requirements.

A greater number of our graduates are found serving in leading public as well as private sector organizations within Pakistan such, Engro Chemicals, Engro Polymers, FFBL, FFC, SUPARCO, Pakistan Atomic Energy Commission, NRL, PRL, BYCO Refinery, PCSIR, OGDCL, SSGC, SNGPL, BHP Oil and gas, OMV Oil and gas, PPL, Novatex, Novartis, Archroma, LCI Chemicals, Lotte Chemicals, etc., and abroad too.

4.2 Department of Industrial Engineering & Management

4.2.1 The Department:

The Department of Industrial Engineering and Management was established in the year 1987. Industrial Engineering is a rapidly developing and broad professional discipline. It deals with the design, installation, operations, and management of integrated systems of men, materials, and machines drawing upon specialized knowledge of physical and social sciences and technology. It mainly deals with managerial problems requiring knowledge of fundamental science and engineering practice for their solutions. While the manufacturing industry has a broad scope and demand for Industrial Engineering, increasing numbers are finding satisfying employment in other kinds of business, hospitals, Hotels, Banks, and Air Lines are availing the services of Industrial Engineers.

Our graduates are already serving the reputed organizations both in Pakistan and abroad. The department offers Bachelor of Engineering (B.E) undergraduate and postgraduate (M.E/PhD) programs exclusively in Industrial Engineering and Management.

Vision of the Department

This Program intends to be globally recognized as a leader in Industrial Engineering and Management

Mission of the Program

The program mission is to produce quality engineers having sound managerial and technical skills in the core areas of Industrial Engineering and Management and can play their leading role in academia and industry for socio-economic development of society.

Program Education Objectives (PEOs)

The Graduates of B.E Industrial Engineering and Management 5 years after graduation will have;

- PEO-1:** The ability to competently make use of managerial and technical knowledge in decision making regarding designing and complexity of systems, both in manufacturing and service industry.
- PEO-2:** The ability to conduct research and apply their analytical and IT related skills for continuous learning and developing innovative ideas for professional and career growth.
- PEO 3:** The capability to act as ethical and responsible professionals in fostering innovative activities considering economic, environmental and safety impact of their work on society.
- PEO-4:** The ability to effectively lead, work and communicate in cross functional teams and be able to develop entrepreneurial skill to operate their own business.

4.2.2 The Faculty:

Chairman of the Department

Prof. Dr. Muhammad Saleh Jumani

Phone: +92 22 2771247

PROFESSORS:

Dr. Abdul Salam Soomro
PhD, Pakistan.

Dr. Muhammad Saleh Jumani
PhD, United Kingdom.

ASSOCIATE PROFESSORS:

Dr. Shakeel Ahmed Shaikh
PhD, United Kingdom.

Dr. Sonia Irshad Mari
PhD, South Korea.

Dr. Muhammad Saad Memon
PhD, South Korea.

ASSISTANT PROFESSORS:

Mr. Hafiz Karim Bux Indhar
M.E, Pakistan.

Mr. Ali Arsalan Siddiqui
M.E, Pakistan.

Mr. Muhammad Ali Khan
M.E, Pakistan.

Dr. Miskeen Ali Gopang
PhD, Pakistan.

LAB. SUPERVISOR:

Engr. Kazim Raza Burdi
ME, Pakistan

4.2.3 Laboratory Facilities:

- Workshop
- Operations Research Lab
- Computer-Aided Design and Simulation Modeling Lab
- Vicon Motion Capture System Lab
- Additive Manufacturing Lab
- Condition Monitoring Lab
- Human Factors and Time & Motion Study Lab.
- Computer Integrated Manufacturing Lab

4.2.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH109	Applied Calculus	03	00
2.	ENG101	Functional English	03	00
3.	PS112	Pakistan Studies	02	00
4.	INM131	Basic Industrial Engineering & Management	03	00
5.	INM132	Engineering Drawing & Graphics	00	02
6.	INM131	Applications of ICT	02	01
7.	IS111	Islamic Studies	02	00
8.	SS104	Ethics (For Non-Muslims)		
		Total	15	03

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH103	Linear Algebra Diff: Equations & Analytical Geometry	03	00
2.	ENG107	Communication and presentation Skills	02	00
3.	EL102	Electrical Technology	03	01
4.	INM151	Organizational Behavior	02	00
5.	CE147	Engineering Mechanics	02	01
6.	MT110	Materials and Processes	03	01
7.	ME146	Workshop Practice	00	01
		Total	15	04

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CE---	Mechanics of Materials	02	01
2.	INM271	Health, Safety and Environment	02	00
3.	MTH---	Probability and Statistics	03	00
4.	INM281	Manufacturing Systems	03	00
5.	CS218	Introduction to Computing & Programming	02	01
6.	PS207	Ideology and Constitution of Pakistan	02	00

7.	SS214	Understanding of Holy Quran-I	00	01
8.	SS211	Comparative Moral Teachings-I (For Non-Muslims)	01	00
		Total	15	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	INM291	Computer Aided Design	00	01
2.	CS---	Applications of AI in manufacturing & Services sector	03	00
3.	ME---	Design of Mechanisms	02	01
4.	INM252	Managerial Accounting	02	00
5.	INM231	Production Planning and Control	03	00
6.	MTH---	Logical & Critical Thinking	03	00
7.	SS215	Understanding of Holy Quran-II	00	01
8.	SS222	Comparative Moral Teachings-II (For Non-Muslims)	01	00
		Total	14	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	INM302	Statistical Quality Control & Metrology	02	01
2.	INM312	Operations Research	03	01
3.	MTH336	Numerical Analysis & Com. Application (N.A.C.A)	03	01
4.	INM306	Manufacturing Processes	02	01
5.	INM391	Industrial Facilities & Design	03	00
		Total	13	04

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	INM362	Project Management	02	00
2.	INM306	Entrepreneurship	02	00
3.	INM342	Work Study & Methods Engineering	02	01
4.	ES361	Instrumentation & Control	02	01
5.	INM316	Design of Experiment	03	01
6.	ENG---	Expository Writing	03	00
		Total	14	03

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	INM411	Human Factors Engineering	02	01
2.	INM432	Industrial Repair & Maintenance	03	00

3.	SS406	Civics & Community Services	01	00
4.	INM---	Elective – I	03	00
5.	INM---	Elective – II	03	00
6.	INM498	FYDP (Part-1)	00	03
		Total	12	04

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	INM----	Advanced Manufacturing Technologies	02	01
2.	INM----	Elective – III	03	00
3.	INM----	Elective – IV	03	00
4.	INM----	Elective – IV	02	01
5.	INM499	FYDP(Part-2)	00	03
		Total	10	05

Elective (7TH Semester) *** (02+01) / (03+00)

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	INM406	Lean Six Sigma	03	00
2.	INM416	Management of Technical Organization	03	00
3.	INM471	Supply Chain and Logistics	03	00
4.	INM426	Data Analytics for Industrial Engineers	03	00
		Total	12	00

Electives (8th Semester) (02+01)/(03+00)

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	INM436	Advanced Engineering Optimization	02	01
2.	INM446	Engineering Economics	03	00
3.	INM456	Introduction to Thermos-Fluid	02	01
4.	INM466	Additive Manufacturing	02	01
5.	INM401	Human Resource Management	03	00
6.	INM476	Warehouse Management	03	00
7.	INM482	Computer Integrated Manufacturing	03	00
8.	INM488	Marketing Management	03	00
9.	INM496	Machine Design	03	00
		Total	24	03

4.2.5 Career Opportunities:

Graduates in the industrial engineering program take courses in areas of production planning, engineering economics, computer integrated manufacturing, human factors and ergonomics, operations research, statistics, principles of decision making, supply chain management and quality management.

Employment of industrial engineers is projected to grow 10 percent from 2016 to 2026, faster than the average for all occupations. This occupation is versatile both in the nature of the work it does and in the industries in which its expertise can be put to use. Industrial engineers are employed in a wide range of industries, including major manufacturing industries, consulting and engineering services, research and development firms, and wholesale trade. This versatility arises from the fact that these engineers focus on reducing internal costs, making their work valuable for many industries. For example, their work is important for manufacturing industries that are considering relocating from overseas to domestic sites. In addition, growth in healthcare and changes in how healthcare is delivered will create demand for industrial engineers in firms in professional, scientific, and consulting services.

Industrial Engineers solve a variety of problems:

- Determining the best location of machines in a factory based on economic and operation considerations; designing computer-aided process planning systems that flexibly vary the sequence of operations to produce a product.
- Developing a system for controlling the inventory levels of a product in a warehouse.
- Designing automated material handling systems for the movement of parts in a factory.
- Designing computer-integrated manufacturing systems and decision support systems for integrating information and control between manufacturing systems, automated guided vehicles, automated warehouse facilities, and management personnel.
- Designing a new plan for scheduling of production orders in a factory.
- Developing reliability and quality management systems to ensure that a manufactured product is free from defects.
- Developing programs for analyzing human reliability to assess workplace safety.
- Designing computer graphics systems to assist operators in the monitoring and control of industrial processes.

4.3 Department of Mechanical Engineering

4.3.1 The Department:

Department of Mechanical Engineering was established in 1963. It is one of the main departments of the University with student's strength of about 550. The Department of Mechanical Engineering offers a full-time four years B.E degree program, with dedicated & well qualified faculty and staff who are strive to produce the engineers having the capabilities to contribute in exploration of affordable and sustainable development of the country.

Mechanical engineering department endeavors to produce engineers and researchers with sound knowledge of traditional and emerging areas of engineering together with innovative design abilities to achieve sustainable national development. Moreover, it attempts to develop the skill of the students to make them globally competitive engineers and researchers by providing quality education and research facilities. The Department of Mechanical Engineering is also actively engaged in the various curriculum & extra curriculum activities at the department level as well as University level such as seminars, workshops, training, industrial visits, short courses, sports events, debates, competitions etc.

Vision of the Department

Mechanical Engineering Department intends to become a hub of high-quality engineering education and research so as to produce skilled, innovative, entrepreneurial mechanical engineers who meet the ever-changing engineering demands.

Mission of the Program

Mechanical Engineering program strives to produce engineers and researchers with sound knowledge of traditional and emerging areas of engineering together with the ability of having critical and innovative thinking and make them globally competitive.

Program Education Objectives (PEOs):

- To produce engineers with clear concepts about fundamentals of Mechanical Engineering discipline and allied subjects.
- To produce engineers with analytical and problem-solving abilities.
- To produce engineers with high level of professionalism and integrity.
- To produce engineers with sound communication and leadership abilities along with the desire of continuously improving their knowledge and skills.

4.3.2 The Faculty:

Chairman of the Department

Prof. Dr. Abdul Fatah Abbasi

Phone: +92-022- 2771275, 022-22772250-70 / **Ext.:** 2300

MERITORIOUS PROFESSOR:

Dr. Khanji Harijan
PhD, Pakistan.

Engr. M. Atif Qaimkhani
M.E, Pakistan.

Engr. M. Waqas Chandio
M.E, Pakistan.

PROFESSORS:

Dr. Abdul Fatah Abbasi
PhD, Pakistan.

Engr. Imtiaz Ali Memon
M.E, Pakistan.

Dr. Intizar Ali Tunio
PhD, Pakistan.

Dr. Rizwan Ahmed Memon
PhD, Hong Kong.

Dr. Laveet Kumar
PhD, Malaysia (*On Study Leave*)

Engr. Ans Memon
M.E, Pakistan.

LECTURERS:

Engr. Javed Rehman Larik

Engr. Aftab Ahmed Khuhro
M.E, Pakistan.

Dr. Dur Muhammad Pathan PhD, Pakistan.	M.E, Pakistan.	Engr. Mohsin Ali Memon M.E, Pakistan.
Dr. Tanweer Hussain Phulpoto PhD, United Kingdom.	Engr. Zain-ul-Abdin Qureshi M.E, Pakistan	LAB. ENGINEER: Engr. Ali Muhammad B.E, Pakistan
Dr. Abdul Ghafoor Memon PhD, Pakistan.	Engr. Roshan Kumar M.E, Pakistan (<i>On Study Leave</i>).	LAB. SUPERVISOR: Engr. Ashfaq Ahmed M.E, Pakistan.
ASSISTANT PROFESSORS: Engr. Shoukat Ali Memon B.E, Pakistan.	Engr. Abdul Hafeez Khoharo M.E, Pakistan (<i>On Study Leave</i>).	Engr. Adarsh Ali M.E, Pakistan.
Engr. Muhammad Jurial Sangi M.E, Pakistan.	Engr. Samiullah Qureshi M.E, Pakistan.	
Engr. Muhammad Sharif Jamali M.E, Pakistan.	Engr. Farhan Haider Joyo M.E, Pakistan (<i>On Study Leave</i>)	

4.3.3 Laboratory & Library Facilities:

The Department of Mechanical Engineering houses the following laboratories, all well-equipped with both modern and traditional equipment:

1. Energy Technology Laboratory	10. Control Engineering Laboratory
2. Heat Transfer Laboratory	11. Thermodynamics Laboratory
3. Refrigeration & Air Conditioning (HVAC)	12. Mechanical Vibrations Laboratory
4. Aerodynamics Laboratory	13. Material Testing Laboratory
5. Engineering Mechanics Laboratory	14. Automobile Laboratory
6. Mechanics of Machines Laboratory	15. Mechanical Engineering Workshop
7. Thermal Power Plant Laboratory	16. Computer & Modelling Simulation
8. Fluid Mechanics Laboratory	Laboratory
9. Instrumentation Laboratory	17. Drawing Hall

4.3.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SS 111/SS 104	Islamic Studies / Ethics	2	0
2.	PS106	Pakistan Studies	2	0
3.	MTH108	Applied Calculus	3	0
4.	ME103	Engineering Drawing & Computer Graphics	0	2
5.	ME152	Applied Physics	2	0
6.	CH108	Applied Chemistry	2	0
7.	ME143	Workshop Practice	0	2
		Total	11	04

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG101	Functional English	3	0
2.	MTH103	Linear Algebra, Differential Equations & Analytical Geometry	3	0
3.	ME113	Engineering Statics	2	1
4.	ME123	Engineering Materials	3	0
5.	EL102	Electrical Technology	2	1
6.	ES181	Basic Electronics	2	1
		Total	15	03

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH213	Complex Variables & Transforms	3	0
2.	ME203	Mechanics of Materials-I	2	0
3.	ME286	Engineering Dynamics	2	0
4.	ME222	Thermodynamics-I	3	0
5.	ME252	Fluid Mechanics-I	3	1
6.	CS210	Introduction to Computing and programming	2	1
		Total	15	02

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG201	Communication Skills	2	0
2.	ME233	Mechanics of Materials-II	3	1
3.	ME242	Thermodynamics-II	3	1
4.	ME226	Fluid Mechanics-II	3	1
5.	ME212	Mechanics of Machines-I	2	0
		Total	13	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ME302	Heat & Mass Transfer	3	1
2.	MTH336	Numerical Analysis & Computer Applications (NACA)	3	1
3.	ME332	Machine Design -I	3	0
4.	ME366	Mechanics of Machine-II	2	1
5.	ENG301	Technical and Scientific Writing	2	0
6.	ME313	Manufacturing Processes-I	2	0
		Total	15	03

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ME343	Instrumentation & Control	3	1
2.	MTH317	Statistics & Probability	3	0
3.	ME352	Machine Design-II	3	0
4.	ME372	Refrigeration & Air Conditioning	3	1
5.	ME383	Manufacturing Processes-II	2	1
6.	ME356	Computer Aided Machine Design (CAMD)	0	1
		Total	14	04

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	(ME 403)	Engineering Management and Entrepreneurship	3	0
2.	(ME 463)	Mechanical Vibrations	2	1
3.	(ME 444)	Power Plants	2	1
4.	(ME 498)	Final Year Design Project/Thesis –I	-	3
5.	(ME-XXX)	Elective-1	2	0
6.	(ME- XXX)	Elective-2	3	0
		Total	12	05

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	(ME-453)	Renewable Energy Technologies (RET)	2	1
2.	(EE 425)	Safety, Health & Environment	2	0
3.	ME413	Automobile Engineering	3	1
4.	ME499	Final Year Project–II	0	3
5.	-	Elective-I	3	1
6.	-	Elective-II	3	0
		Total	12	05

ELECTIVE-I

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	(ME-408)	Finite Element Analysis	2	0
2.	(ME-468)	Supply Chain Management	2	0
3.	(ME-426)	Professional Ethics & Practices	2	0
4.	(ME-472)	Maintenance Engineering	2	0
		Total	08	00

ELECTIVE-II

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	(ME-483)	Engineering Economics and Project Management	3	0
2.	(ME-488)	Total Quality Management	3	0
3.	(ME-428)	Computational Fluid Dynamics	2	1
4.	(ME-431)	Applied Aerodynamics	2	1
		Total	10	02

4.3.4 Mechanical Engineering Workshop:

WORKSHOP SUPERINTENDENT

Engr. Ameer Ali Memon

Phone: +92-22-2771218 / **Ext.:** 2060

WORKSHOP INSTRUCTORS:

Engr. Ameer Ali Memon
B.E, Pakistan.

Dr. Afaq Rafique Memon
PhD, China.

Engr. Aurangzaib Halepoto
B.E, Pakistan.

Engr. Pir Jawaid A. Sarhandi
B.E, Pakistan.

Mr. Sadaruddin Chandio
B.Tech., Pakistan.

Engr. Abdul Sattar Burdi
B.E, Pakistan.

The Mechanical Engineering Workshop offers the following facilities:

1. CNC Shop	6. Sheet Metal Shop
2. CAD/CAM Shop	7. Wood Workshop
3. Machine Shop	8. Forging Shop
4. Welding Shop	9. Foundry Shop
5. Fitting Shop	

4.3.5 Career Opportunities:

After completion of four-year degree program in B.E mechanical engineering and BS in mechanical engineering technology, the graduates will find diverse jobs in the field of mechanical engineering as an engineer and technologist in the private and public sector institutions.

4.4 Department of Mechatronic Engineering

4.4.1 The Department:

Mechatronic Engineering is the newest department (established in the year 2021) by the University. Initially, the Master in Mechatronic Engineering degree program was offered from the year 2014. Subsequently, PhD in Mechatronic Engineering was also offered. Both of these postgraduate programs are Higher Education Commission (HEC) approved. The four-year undergraduate degree program in Mechatronic Engineering was launched in the Fall 2016 under the administration of the Mechanical Engineering Department. After the establishment of the separate Department of Mechatronic Engineering, this program is now administered and managed by the Department itself. Mehran UET is the first and the only public sector university in the province of Sindh offering the four-year B.E. in Mechatronic Engineering program.

A Mechatronic engineer pursues an interdisciplinary approach that allows him/her to design and develop devices and systems whose operating principles integrate several conventional engineering disciplines. With the emergence of the Fourth industrial revolution (Industry 4.0), modern intelligent technology is advancing automation to a higher level, thereby creating significant changes in everyday life. The undergraduate program in Mechatronic engineering offers a balanced combination of subjects from mechanical, electronic, and computer engineering domains that are intended to support the design and development of innovative technological solutions for modern challenges in industrial, medical, and agricultural sectors. In addition to faculty of the Mechatronic Engineering Department, many subjects are also delivered by faculty members from Mechanical, Electronic, and Computer System Engineering departments. Along with the Department's dedicated laboratories, practical activities are also conducted in laboratories of other departments across the University campus facilities.

Vision of the Department

The Department's vision is to be a leader in Mechatronic engineering education and research by building capabilities for technological solutions to achieve sustainable development.

Mission of the Program

The mission of the Bachelor of Mechatronic Engineering program is to produce knowledgeable and skillful professionals with leadership skills and ethical responsibility leading to sustainable development.

Program Education Objectives (PEOs)

After five years of graduation, the alumni of Bachelor of Mechatronic Engineering program would be:

PEO 1 (Competent Engineers)

Competent Mechatronic Engineering graduates demonstrating knowledge and research skills aimed at sustainable development in the realm of Mechatronic engineering.

PEO 2 (Socially and ethically responsible individuals)

Displaying a strong sense of social, environmental, and ethical responsibility, along with lifelong learning attributes.

PEO 3 (Displaying interpersonal and leadership skills)

Demonstrating effective interpersonal and leadership skills, resulting in seamless collaboration in diverse teams.

4.4.2 The Faculty:

Chairman of the Department

Dr. Saifullah Samo

Phone: +92-22772250-70 / Ext.: 2331

<u>PROFESSOR</u> Dr. Jawaid Daudpoto PhD, United Kingdom.	<u>ASSISTANT PROFESSOR</u> Engr. Raheel Ahmed Nizamani M.E, Pakistan.	Engr. Marvi Jamali M.E, Pakistan
<u>ASSOCIATE PROFESSORS</u> Dr. Saifullah Samo PhD, China.	<u>LECTURERS</u> Engr. Aamir Shaikh M.E, Pakistan.	Engr. Javeria Maqsood M.E, Pakistan.
Dr. Shadi Khan Baloch PhD, Turkey.	Engr. Memona Memon M.E, Pakistan.	Engr. Waqar Imdad M.E, Pakistan
		Engr. Anand Kumar M.E, China

4.4.3 Laboratory Facilities:

Following lab facilities are available to students of Mechatronic Engineering:

1. Instrumentation & Measurements Lab.	8. Fluid Mechanics Lab.
2. Industrial Automation & Robotics Lab.	9. Workshop
3. Computer Lab.	10. Material Testing Lab
4. Modeling & Simulation Lab.	11. Heat Transfer / Thermodynamics Lab.
5. Mechatronic System Design Lab.	12. Equipment and Training Lab.
6. Engineering Drawing Lab.	13. Electrical Circuit and Measurement Lab.
7. Engineering Mechanics Lab.	14. Power Electronics and Control Lab.

4.4.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH109	Applied Calculus	3	0
2.	ENG101	Functional English	3	0
3.	EL117	Applied Physics	2	1
4.	MTE106	Engineering Statics	2	1
5.	MTE101	Applications of ICT	0	1
6.	MTE111	Engineering Drawing	0	2
		Total	10	05

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ME146	Workshop Practice	0	1
2.	IS111/SS104	Islamic Studies / Ethics	2	0
3.	PS112	Pakistan Studies	2	0
4.	MTH112	Linear Algebra and Analytical Geometry	3	0
5.	EL125	Linear Circuit Analysis	2	1
6.	MTE116	Computer Programming	2	1
7.	MTE121	Materials and Manufacturing Processes	3	0
		Total	14	03

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTE221	Mechanics of Materials	2	1
2.	MTE205	Engineering Dynamics	2	0
3.	CS291	Data Structures and Object-Oriented Programming	2	1
4.	ES247	Electronic Devices and Circuits	3	1
5.	MTH227	Ordinary and Partial Differential Equations	3	0
6.	ENG203	Communication Skills	2	0
7.	SS214/SS221	Understanding of Holy Quran-I / Comparative Moral Teachings-I	0	1
		Total	14	04

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH217	Laplace Transforms and Discrete Mathematics	3	0
2.	MTE236	Fluid Mechanics	2	1
3.	ES217	Digital Logic Design	2	1
4.	MTE215	Mechanics of Machines	2	0
5.	MTE212	Instrumentation and Measurements	3	1
6.	PS207	Ideology and Constitution of Pakistan	2	0
7.	SS215/ SS222	Understanding of Holy Quran-II Comparative Moral Teachings-II	0	1
		Total	14	04

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH336	Numerical Analysis and Computer Applications	3	1
2.	ES317	Microcontroller and Embedded Systems	3	1
3.	MTE311	Signals and Systems	2	0
4.	MTE321	Actuating Systems	3	1
5.	ME327	Fundamentals of Thermal Sciences	2	1
		Total	13	04

6TH SEMESTER (ELECTIVE-I)

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTE332	1- Digital Signal Processing	2	1
2.	MTE342	2- Power Electronics		
3.	MTH317	Statistics and Probability	3	0
4.	MTE351	Modeling and Simulation	2	1
5.	MTE371	Design of Machine Elements	2	1
6.	ENG301	Technical & Scientific Writing	2	0
7.	MTE362	Mechatronic System Design	2	1
		Total	13	04

7TH SEMESTER (ELECTIVE-II)

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTE432	1- Applied Artificial Intelligence	2	1
2.	MTE442	2- Intelligent Systems		
3.	MTE445	Engineering Economics and Project Management	2	0
4.	MTE402	Robotics	3	1
5.	MTE471	Control Systems	3	1
6.	XXXXX	Civics and Community Services	1	1
7.	MTE498	FYP – I	0	3
		Total	11	07

8TH SEMESTER (ELECTIVE-III)

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTE452	1- Image Processing & Computer Vision	2	1
2.	MTE462	2- Advanced Control Systems		
3.	MTE422	Industrial Automation	2	1
4.	ENT421	Entrepreneurship	2	0
5.	EE430	Safety, Health and Environment	3	0
6.	MTE499	FYP – II	0	3
		Total	09	05

4.4.5 Career Opportunities:

Mechatronic Engineering offers exciting career opportunities in both public and private sectors. Mechatronic systems combine mechanical components, electronics, sensors, actuators, and intelligent control systems to create smart and automated machines. These integrated systems play a key role in modern technology and industrial automation. In recent years, industries have moved from traditional electromechanical machines to highly automated and intelligent systems. Because of this shift, companies now need engineers who understand multiple engineering fields and can design, operate, and maintain advanced automated systems. Mechatronic engineers are highly valued because they can work across mechanical, electronic, and control systems. Their multidisciplinary skills allow them to improve industrial productivity, develop smart machines, and contribute to modern technological innovation. Graduates also have strong opportunities to pursue postgraduate studies and research scholarships at leading universities both nationally and internationally.

Mechatronic engineers are in demand in the following sectors:

1. Robotics and Intelligent Systems	8. Oil, Gas and Petrochemical Industry
2. Industrial Automation	9. Manufacturing and Smart Factories
3. Robotics & Control Systems	10. Marine engineering
4. Artificial Intelligence & Autonomous Systems	11. Biomedical and Rehabilitation Industry
5. Automotive and Electric Vehicles	12. Agricultural Automation and Smart Farming
6. Renewable Energy Systems	13. Aerospace and Aviation Systems
7. Power Plants	14. Research and Development, etc.

4.5 Department of Metallurgy and Materials Engineering

4.5.1 The Department:

The Department of Metallurgy & Materials Engineering is one of the leading departments in the engineering disciplines at Mehran UET. Metallurgy & Materials Engineering is an inter-disciplinary field, that spanning the physics and chemistry of matters, industrial manufacturing processes and engineering applications. The scope of Metallurgy and Materials Engineering is to produce the metallic and nonmetallic materials of desired shapes and properties. The advancement in technology is escalating with time therefore department aims to incorporate and accommodate the new trends in materials.

Metallurgy and Materials Engineering is the only discipline in Mehran UET which is equipped with advanced research equipment and highly qualified academics staff, including research fellows. Henceforth, research activity traverses around all the important area of Metallurgy & Materials Engineering, which includes energy, bio-medical and synthesis of advanced materials. The department has promoted the research environment due to which the students feel comfortable to work in research projects without the time restrictions. Moreover, department is playing dominate role in promoting the adequate research environment through facilitating research activities to students of rest academic disciplines of MUET and other institutions of Pakistan.

The Bachelor of Engineering program covers the subject from its foundations in physics and chemistry to the design, manufacture and applications of metals and their alloys, composites, nanomaterials and advanced materials. In order impart practical knowledge among' individual labs have been introduced. The Department also offers Master of Engineering (M.E.) and Doctor of Philosophy (Ph.D.) in Metallurgy and Materials Engineering, which at present is a part time evening program. The Department is continuing to grow and will be a nationally recognized leader in the education of students in the field of metallurgy and materials engineering.

The scope of Metallurgy & Materials Engineering is truly vast. It is an inter-disciplinary field, which is covering almost all areas of engineering. If you are enthusiastic and do not yet wish to be limited to a single engineering discipline and are looking for a fascinating degree subject and career, then our Bachelor of Metallurgy & Materials Engineering program could be for you.

Vision of the Department

The department intends to provide quality education in order to produce global leaders in the field of Metallurgy and Materials Engineering.

Mission of the Program

The program mission is to produce engineering graduates of metallurgy and materials, who become pillars and market leaders of the related industries through their expert knowledge and problem-solving attributes with sustainability approach and professional attitude.

Program Educational Objectives (PEOs):

Graduates in Metallurgy & Materials Engineering will have following key attributes:

- i. Graduates will excel in the field of metallurgy and materials engineering with excellent knowledge and problem-solving skills. Graduates pursue for post-graduation and professional career in the metallurgy and materials related industries.
- ii. Graduates will contribute to solve complex engineering problems with professional attributes and excellent communication skills related to Metallurgy & Materials Engineering.
- iii. Graduates will participate effectively in research and development for designing of new material and processes for particular applications.

4.5.2 The Faculty:

Chairman of the Department

Dr. Umair Aftab

Phone: 022-272250-73/ Ext.: 4500-01

<u>ASSOCIATE PROFESSORS:</u> Dr. Muhammad Wasim Akhtar PhD, Korea.	Engr. Ayatullah Qureshi M.E, Pakistan.	Engr. M. Yameen Solangi M.E, Pakistan (On Contract).
Dr. Umair Aftab PhD, Pakistan.	Dr. Muddassir Ali Memon PhD, Pakistan.	Dr. Abdul Jaleel Laghari M.E, Pakistan (On Contract)
<u>ASSISTANT PROFESSORS:</u> Dr. Imtiaz Ali Soomro PhD, Malaysia. (On Study Leave)	<u>LECTURERS:</u> Engr. Mukesh Kumar M.Phil., Pakistan. (On Study Leave)	

4.5.3 Laboratory Facilities:

The department is also equipped with following laboratories, having latest equipment:

1. Material Testing Lab-1	7. Materials Synthesis Lab
2. Material Testing Lab-2	8. Metallography Lab
3. Non-Destructive Testing Lab	9. Electrochemical and Corrosion Lab
4. Sand Testing Lab	10. Computer and Simulation Lab
5. Heat Treatment Lab	11. Materials Synthesis Lab
6. Fabrication Lab	

4.5.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT151	Introduction to Engineering Materials	3	0
2.	MT152	Materials Chemistry	2	1
3.	MT153	Applied Physics	2	1
4.	MTH109	Applied Calculus	3	0
5.	IS111	Islamic studies	2	0
6.	SS104	Ethics (For Non-Muslims)		
7.	PS112	Pakistan Studies	2	0
		Total	14	02

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT154	Materials Thermodynamics	3	0
2.	MT155	Mechanics of Materials	3	0
3.	MT156	Engineering Drawing	0	2

4.	MT157	Professional Ethics	2	0
5.	MTH125	Linear Algebra and Differential Equation	3	0
6.	ENG103	Functional English	3	0
7.	ME145	Workshop Practice	0	1
		Total	14	03

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT251	Physical Metallurgy	3	1
2.	MT253	Mineral Processing	2	1
3.	MT256	Mechanical Behavior of Materials	2	0
4.	MT255	Applications of ICT	2	1
5.	SS214	Understanding of Holy Quran- -I	0	1
	SS211	Comparative Moral Teachings-I (For Non-Muslims)	1	0
6.	PS207	Ideology and Constitution of Pakistan	2	0
		Total for Muslims	11	04
		Total for Non-Muslims	12	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT257	Engineering Ceramics & Glasses	3	0
2.	MT258	Polymeric Materials	2	0
3.	MT259	Iron Making Processes	2	0
4.	MT260	Non-Ferrous Metallurgy	3	0
5.	MT252	Inspection and Testing of Materials	3	1
6.	SS215	Understanding of Holy Quran- -II	0	1
	SS222	Comparative Moral Teachings-II (For Non-Muslims)	1	0
7.	MTH221	Numerical Analysis	2	1
		Total for Muslims	15	03
		Total for Non-Muslims	16	02

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT351	Composite Materials	2	0
2.	MT352	Steel Making Processes	2	0
3.	MT353	Manufacturing Processes	3	1
4.	ES	Instrumentation & Control	2	1
5.	EE	Occupational Health and Safety	3	0

6.	ENG313	Expository Writing	3	0
7.	MTH317	Statistics and Probability	3	0
		Total	18	02

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT354	Heat Treatment and Phase Transformation	3	1
2.	MT355	Foundry Engineering	3	1
3.	MT356	Powder Metallurgy	2	0
4.	MT357	Welding and Joining of Materials	3	1
5.	MT359	Entrepreneurship	2	0
6.		Civics and Community Engagement	2	0
		Total	15	03

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT451	Biomaterials	2	0
2.	MT452	Corrosion and Protection	3	1
3.	MT453	Nanomaterials	2	1
4.	-	Elective – I	2	0
5.	MT460	AI Applications in Materials Engineering	2	1
6.	MT498	Final Year Project-I	0	3
		Total	11	06

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT455	Advanced Materials	3	0
2.	MT456	Fracture Mechanics and Forensic Analysis	2	1
3.	-	Elective – II	2	0
4.	MT458	Computational Materials Science	2	1
5.	MT457	Project Management	2	0
6.	MT499	Final Year Project-II	0	3
		Total	11	05

ELECTIVE-I

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT461	Coal Technology	2	0
2.	MT462	Surface Engineering	2	0

3.	MT463	Characterization Techniques	2	0
		Total	06	00

ELECTIVE-II

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MT464	Advanced Alloys	2	0
2.	MT465	Nuclear Materials	2	0
3.	MT466	Vacuum Technology	2	0
		Total	06	00

4.5.5 Career Opportunities:

The graduates of this program earn the title of “Metallurgy and Materials Engineer”, and can hunt their jobs in any public and private metal/materials working industries in inland and abroad. In Pakistan graduate can seek job opportunities in Peoples Steel Mill, Bolan Casting limited, Agha Steel Mill, Pakistan Machine tool factory, Heavy Mechanical Complex, Pakistan Ordinance Factory, Sui Southern Gas Company Pak Suzuki etc. Other interesting areas may be automotive industry, high tech ceramic industry. Graduates can work in many different areas and industries such as facilities that produce iron, steel, and non-ferrous metals (aluminum, copper, etc.), the metal casting industry, the automotive industry, traditional and high-tech ceramic manufacturing facilities, heat treatment companies, materials research and development centers, the defense industry, quality control firms, surveillance companies, oil and gas sector and biomedical applications.

4.6 Department of Mining Engineering

4.6.1 The Department:

Pakistan is blessed with a variety of mineral resources, including iron, copper, gold, bauxite, granite, marble, limestone, dolomite, china clay (kaolin), bentonite, chalk, coal, gravel, calcite, gypsum, laterite, silica sand, sandstone, phosphate rock, and rare earth minerals.

These mineral resources play a crucial role in the modern industrial era, as they are used in the production of various products such as iron, steel, copper, gold, nickel, aluminum, coal, coke, cement, ceramics, glass, salt, chalk, precious stones, marble, and granite. The mineral sector significantly contributes to the economic growth of both developing and developed countries. Clean coal technology utilizes coal for electricity production, and the brick kiln industry relies on lignite coal. Iron ore is a vital ingredient in the iron and steel industries, while limestone is essential in the cement industry. Copper is used for the production of electric wires, electronics, and refrigeration pipes. Gold and precious stones find their application in jewelry, and rare earth minerals are utilized as catalysts and alloys. Phosphate rock is a key component in the production of fertilizers, while kaolin is extensively used in the ceramic industry. Silica sand is melted to create various types of glass.

Mining Engineering focuses on the extraction of coal, metallic ores, and non-metallic minerals from the earth. Mining engineers acquire the skills to evaluate the commercial aspects of mining projects, extract minerals and ores from mining areas, implement mineral processing techniques to enhance the quality of mineral products, and sell these products to modern industries.

The Department of Mining Engineering offers Bachelor of Engineering (B.E.), Master of Engineering (M.E.), and Doctor of Philosophy (Ph.D.) degrees in Mining Engineering. The carefully designed curriculum for Mining Engineering provides comprehensive theoretical knowledge, practical experience, internships, health and safety courses, and the development of academic, technical, and professional skills to compete with graduates on a national and international level.

The Department of Mining Engineering actively engages in various projects of national and strategic importance related to coal mining, coal gasification, and mineral processing, as well as environmental aspects of mining activities. The department has established strong academic and research collaborations with prestigious institutions such as the University of Nottingham in the UK, Montan University in Leoben, Austria, Hacettepe University in Turkey, and China University of Mining and Technology in Xuzhou, China.

Vision of the Department

To provide excellent education in the field of Mining Engineering as per International Standards, and develop Research Based Solutions to Mining Industry, for National Development.

Mission of the Program

To produce Quality Professional Engineers with Problem Solving Expertise, Integrity and Strive to enhance their Skills and Ideas related to Mining industry.

Program Educational Objectives (PEOs)

To produce Mining Graduates who will be able to:

- i. Demonstrate proficiency of applying the acquired knowledge & skills to solve engineering problem related to the exploitation of mineral resources.
- ii. Consider economic and environmental impacts on mining engineering projects and contribute to the society through their problem-solving attitude.
- iii. Exhibit effective communication, teamwork, leadership skills.
- iv. Pursue professional growth through moral and continuous learning attitude.

4.6.2 The Faculty:

Chairman of the Department

Dr. Fahad Irfan Siddiqui

Phone: 022-2771391, 022-2772260-73 Ext. 4600

<u>ASSOCIATE PROFESSORS:</u> Dr. Fahad Irfan Siddiqui PhD, Pakistan.	Dr. Munawar Ali Pinjaro PhD, China.	Dr. M. Burhan Memon PhD, China.
Mr. Parvez Ahmed Shakeel Honorary, MSc., Pakistan.	Mr. Agha Shafi Muhammad Pathan M.E, Pakistan.	Dr. Saleem Raza Baloch PhD, Pakistan.
<u>ASSISTANT PROFESSORS:</u> Mr. Safiullah Memon M.E, Pakistan.	Dr. Sultan Ahmed Khoso PhD, China.	<u>LECTURERS:</u> Mr. Mairaj Hyder Soomro M.E, Pakistan. <i>(On Study Leave)</i>
	Dr. Muhammad Raheel Memon PhD, Turkey.	

4.6.3 Laboratory Facilities:

The department has the following well-equipped laboratories, which meets the academic needs of the students and faculty. These laboratories hold promise in providing superior consultancy services and supporting several research programs.

1. Rock Mechanics Laboratory	4. Surveying and Mine Planning Laboratory
2. Mineral Processing Laboratory	5. Mine Ventilation Laboratory
3. Software Laboratory	6. Advanced Research Laboratory

4.6.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH102	Applied Calculus	03	00
2.	IS111	Islamic Studies/Ethics	02	00
3.	PS106	Pakistan Studies	02	00
4.	MT153	Applied Physics	02	01
5.	ME144	Workshop Practice	01	01
6.	MN102	Mining Engineering Fundamentals	03	00
		Total	13	02

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH103	Linear Algebra, Differential Equations and Analytical Geometry	03	00
2.	MN112	Applied Chemistry	02	01
3.	EN101	Functional English	03	00
4.	CE115	Engineering Mechanics	03	01

5.	MN121	Engineering Drawing	00	02
6.	MN125	Physical Geology	03	00
		Total	14	04

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MN203	Application to ICT	02	01
2.	PS207	Ideology and Constitution of Pakistan	02	00
3.	ENG201	Communication Skills	02	00
4.	ME271	Applied Thermodynamics	03	01
5.	MN231	Mineral Processing-I	03	01
6.	SS214	Understanding of Holy Quran I	00	01
7.	SS211	Comparative Moral Teachings I (for non-Muslims)	01	00
		Total for Muslims	12	04
		Total for Non-Muslims	13	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MN222	Mineralogy and Petrology	02	01
2.	CE285	Fluid Mechanics	03	01
3.	MN232	Mineral Processing-II	03	01
4.	MN240	Structural Geology	03	00
5.	MTH241	Applied Statistics	03	00
6.	SS215	Understanding of Holy Quran-II	00	01
7.	SS222	Comparative Moral Teachings II (for non-Muslims)	01	00
		Total for Muslims	14	04
		Total for Non-Muslims	15	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.		Elective-I	02	00
2.	MTH336	Numerical Analysis and Computer Application	03	01
3.	MN361	Mine Surveying	03	01
4.	MN321	Rock Mechanics	03	01
5.	MN302	Coal Technology	03	01
6.	MN362	Mine Surveying Camp	00	00
		Total	14	04

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.		Elective-II	03	00
2.	MN333	Drilling and Blasting Engineering	03	00
3.	MN351	Mine Ventilation	03	01
4.	ENG301	Technical and Scientific Writing	02	00
5.	MN358	AI and Machine Learning in Mining	01	01
6.	MN355	Entrepreneurship	02	00
7.	MN356	Mineral Resource Estimations	02	00
		Total	16	02

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.		Elective-III	02	00
2.	MN401	Strata Control	03	00
3.	MN411	Mine Water and Dewatering Design	03	01
4.	MN473	Mine Management and Mine Economics	03	00
5.	MN422	Underground Mine Design	03	00
6.	MN498	Final Year Design Project-I	00	03
		Total	14	04

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MN452	Mine Design Lab	00	01
2.	MN462	Surface Mine Design	03	00
3.	MN363	Environmental Aspects of Mining	02	00
4.	MN471	Mine Rescue and Safety	03	01
5.	MN472	Mining Laws and Policies	02	00
6.	MN485	Civics and Community Engagement	02	00
7.	MN499	Final Year Design Project-II	00	03
		Total	12	05

List of Electives:**Elective-I Courses**

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MN363	Cement Technology	02	00
2.	MN364	Industrial Minerals	02	00
3.	MN365	Mineral Marketing	02	00
		Total	06	00

Elective-II Courses

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MN366	Materials Handling and Mine Transportation	03	00
2.	MN367	Mine Automation and Digitization	03	00
3.	MN368	Introduction to GIS and remote sensing	03	00
		Total	09	00

Elective-III Courses

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MN492	Sustainable Mining	02	00
2.	MN493M	Mining and Processing of Rare earth elements	02	00
3.	MN494	Placer Mining and Processing	02	00
		Total	06	00

4.6.5 Career Opportunities:

A degree in Mining Engineering opens up attractive career opportunities in both the private and public sectors. Graduates from the Mining Engineering department find employment in a variety of organizations and industries, including the Directorate of Mineral Development, Government of Sindh, Sindh Coal Authority (SCA), Sindh Engro Coal Mining Company (SECMC), Sino-Sindh Resource Limited (SSRL), Sindh-Lakhra Coal Mining Company (SLCMC), Pakistan Atomic Energy Commission (PAEC), Pakistan Mineral Development Corporation (PMDC), as well as various other projects related to minerals such as coal mines, cement industries, mineral processing units, tunneling, and underground excavations.

4.7 Institute of Petroleum & Natural Gas Engineering

4.7.1 The Institute:

In view of facts and figures regarding the explored resources of petroleum reveal that the province of Sindh is the leading producer of oil and gas in Pakistan. This plays an important role in the economic growth and the maintaining life line of country's development. The exploration and production of these reserves offer broad spectrum of challenges and opportunities for the graduates and post graduates to utilize their expertise and skills for the betterment and progress of the country.

At the very outset the Fuel Engineering department was established in Mehran UET in the province of Sindh in 1983 to provide the graduates an opportunity to serve in the oil & gas industry as Petroleum Engineers. Later on, as per recommendation of University Grants Commission (UGC), it was renamed as department of Petroleum & Gas Engineering.

Petroleum and Gas Engineering department has great history of Excellence through Innovation, pioneering and producing qualified graduates. In this regard, the tradition continued as the research and talent produced shapes the future of Institute of Petroleum & Natural Gas (IPNGE) in 1996. The Institute is offering BE, ME & PhD in Petroleum and Natural Gas Engineering. We are leading Centre of Excellence in Petroleum & Natural Gas Engineering recognized internationally for the quality of our teaching, training and research.

The aim of higher studies in Petroleum Engineering is designed to equip students with the knowledge and skills to tackle the oil & gas industry challenges. Upon graduating students will be able to understand, frame and solve the most complex upstream problems in today's industry.

Students in the Institute come from a wide variety of urban and rural back ground of Sindh, Pakistan. Most of the graduates have been employed by oil and gas operating companies, services companies, refinery and marketing companies in country and abroad.

Technical and experimental studies carried out under the pioneer ship of the institute include standards and basic methods of research and exploration. These also include drilling simulation, reservoir simulation and natural gas measuring techniques which equally meet international standards.

The Institute has seminar hall with a capacity of 70 persons with latest audio-visual facilities. The Institute of Petroleum and Natural Gas Engineering and Society of Petroleum Engineers (SPE) is regularly arranging and conducting technical lectures / Short courses / initial and Final Seminars of research projects / thesis of undergraduate and postgraduate students and technical sessions in the facility. The Institute has air-conditioned Seminar Library with the original and latest books, research Journals, annual technical reports of Director General Petroleum and Concession Department (DGPC) and Hydrocarbon Development Institute of Pakistan (HDICP), Newsletters, thesis/projects of undergraduate and postgraduates in addition to e-resources of HEC.

Vision

The visionary approach of our Institute is concentrated in Petroleum & Natural Gas Engineering towards international standards, technical achievements through research and producing competent Engineers to serve Petroleum Industry.

Mission

The mission of Petroleum & Natural Gas Engineering is to provide student focused excellent teaching and educational environment that nurtures the intellectual and professional growth of students, who will become leading human resources in upstream petroleum industry.

Program Educational Objectives:

The program educational objectives (PEOs) of the curriculum are prepared on the basis of stakeholders' need and linked with different program learning outcomes. The PEOs of Bachelor of Petroleum & Natural Gas Engineering are:

1. Our graduates will demonstrate technical skills with advanced knowledge essential for the petroleum industry, capable of solving field problems through investigation using complex problem-solving skills and modern tools.
2. Our graduates will exhibit professional leadership skills, including involvement in society, teamwork, effective communication of ideas, showing excellent ethical values, and a strong commitment to quality, safety, health, and the environment.
3. Our graduates will pursue life-long learning and develop innovative ideas to tackle technical challenges along with project management skills that will subsequently provide a road map to the advanced concepts and latest technologies.

4.7.2 The Faculty:

Director of the Institute

Prof. Dr. Muhammad Khan Memon

Phone: 022-2771241, 2772250-73 / Ext.: 4300

<u>MERITORIOUS PROFESSORS:</u> Prof. Dr. Abdul Haque Tunio PhD, Pakistan.	<u>ASSISTANT PROFESSORS:</u> Dr. Irshad Ali Gopang PhD, Pakistan.	Engr. Mukhtiar Ali Talpur M.E, Pakistan.
<u>PROFESSOR:</u> Prof. Dr. Muhammad Khan Memon PhD, Malaysia.	Engr. Allah Dino Samoon B.E, Pakistan.	Engr. Faisal Najam Abro M.E, Pakistan.
<u>ASSOCIATE PROFESSORS:</u> Dr. Aftab Ahmed Mahesar PhD, Pakistan.	Engr. Naveed Ahmed Ghirano M.E, Pakistan.	<u>LECTURERS:</u> Dr. Imran Ahmed Hulio PhD, Pakistan.
Dr. Khalil Rehman Memon PhD, Pakistan.	Engr. Muhammad Zubair M.E, Pakistan. <i>(On Study Leave)</i>	Engr. Muhammad Ali Memon M.E, Pakistan.
Dr. Ubedullah Ansari PhD, China.	Engr. Abdul Qadir Shaikh M.E, Pakistan.	Engr. Sohail Nawab <i>(On Study Leave)</i>

4.7.3 Laboratory Facilities:

The following laboratories are available in the Institute with modern equipment and named as:

- | | |
|--|------------------------------|
| 1. Petroleum Refinery Engineering Lab | 5. Drilling Fluids Lab |
| 2. Gas Engineering Lab | 6. Computer Lab |
| 3. Reservoir Simulation Lab | 7. General / Oil Testing Lab |
| 4. Drilling & Production Engineering Lab | 8. PVT Lab |

These laboratories serve not only undergraduate and postgraduate students, but they also provide services to the researchers. Besides normal academic activities, the Institute, faculty and students are involved in research and development activities in collaboration with industries.

4.7.4 The Courses:

The curriculum includes courses in reservoir analysis, drilling techniques, production techniques, processing, transmission, distribution, storage and economics of oil and natural gas. Additional subject such as geology, computer applications and programming, mathematics are also included in the courses. Regular visits of oil and gas field for up-to-date practical knowledge is the key feature of the program. Well-equipped laboratories have been established to cover the practical aspect of the reservoir analysis, gas engineering, refinery process and drilling fluid properties. Students are facilitated with a computer laboratory with latest computers, where they can work on their projects, assignments and have access to the Internet facilities.

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	PG-101	Fundamentals of Petroleum Engineering	3	0
2.	PS-112	Pakistan Studies	2	0
3.	ENG-101	Functional English	3	0
4.	IS-111/SS-104	Islamic Studies / Ethics	2	0
5.	MTH-109	Applied Calculus	3	0
6.	PG-102	Applied Geology	2	1
Total			15	01

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH-106	Complex analysis statistical methods & Probability	3	0
2.	PG-109	Petroleum Geology & Geophysical Prospecting	3	0
3.	PG-115	Application of ICT	2	1
4.	PG-110	Applied Physics	2	1
5.	WS-105	Workshop Practice	0	1
6.	PG-103	Petroleum Chemistry	2	1
Total			12	04

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	PG-211	Occupational Health and Safety	2	0
2.	PG-212	Engineering Drawing & Graphics	0	1
3.	PS-107	Ideology and Constitution of Pakistan	2	0
4.	ENG-215	Communication & Presentation skills	2	0
5.	PG-213	Fluid Mechanics	2	1
6.	EL-208	Electrical Engineering and Electronics	2	1
7.	MTH-204	Differential Equations Fourier Series & Laplace Transforms	3	0
8.	SS-214/SS-211	Understanding Holy Quran I/Comparative Moral Education I	0	1
Total			13	04

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	PG-231	Properties of Reservoir Fluids	2	1
2.	CE-281	Strength of Materials	2	1
3.	PG-201	Petrophysics	2	0
4.	CS-XXX	Introduction to Computer Programming for Data Science	2	1
5.	ENG-206	Expository Writing	2	0
6.	PG-238	Drilling Engineering-I	3	1
7.	SS-215/SS-222	Understanding Holy Quran II/Comparative Moral Education II	0	1
		Total	13	05

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MTH-310	Numerical Methods	3	0
2.	PG-361	Reservoir Engineering	3	1
3.	PG-321	Reservoir Geomechanics	2	0
4.	PG-312	Natural Gas Processing and Transportation	2	1
5.	PG-331	Drilling Engineering-II	3	1
6.	PG-341	Project Management	2	0
		Total	15	03

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	PG-351	Petroleum Production Engineering-I	3	1
2.	PG-301	Applied Thermodynamics	2	1
3.	PG-381	Well Testing and Analysis	2	1
4.	PG-371	Petroleum Field Operations	2	0
5.	ENT-335	Entrepreneurship	2	0
6.	PG-351	Well Logging and Interpretation	2	1
		Total	13	04

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CS-XXX	Machine Learning	2	1
2.	PG-461	Petroleum Production Engineering-II	3	1
3.	PG-421	Principles of Reservoir Simulation	2	1
4.	PG-431	Civics and Community Engagement	2	0
5.	PG-471	Unconventional Resources	3	0
6.	PG-491	Final Year Project (Phase-I)	0	3
		Total	12	06

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	PG-411	Reservoir Management	3	0
2.	PG-481	Petroleum Economics & Risk Analysis	2	0
3.	PG-451	Principles of Enhanced Oil Recovery	3	1
4.	PG-441	Petroleum Refinery Engineering	3	1
5.	PG-491	Final Year Project (Phase-II)	0	3
		Total	11	05

4.7.5 Carrier Opportunities:**Internship / Graduate Training Program:**

The Institute also arranges summer internship to third/final year students with the coordination of oil and gas exploration and production companies operating in Pakistan. The internships enhance the knowledge of students and provide hands on experience. In the final year the students are assigned to work on a project related to the field operations. The project is usually designed and completed in collaboration with the petroleum industry. After completing graduation, the reputed oil/gas sectors are usually requiring top ten students for their graduate training program.

Linkage with National / International Organizations:

A Student Chapter of *Society of Petroleum Engineers (SPE) International "Mehran Student Chapter"* was also established at this Institute in 1998. The purpose to establish the chapter was to help the students in updating their relevant knowledge by organizing technical short courses, seminars, sessions and field trips. The chapter also helps the Institute to liaison with all the major national and multinational companies in the oil and gas sector in Pakistan.

The University signed an agreement with Pakistan Petroleum Ltd to establish a PPL Chair in the Institute. PPL Chair was settled on November 1, 2017 with main objective to strengthen academia-industry partnership for nurturing young talent informed with latest research and technology. The purpose of establishing PPL chair is to promote scientific research activities, strengthen the quality of academic programs offered by the Institute, and high learning in the field of Petroleum Engineering.

4.8 Department of Textile Engineering

4.8.1 The Department:

Established in 1993, the Department of Textile Engineering is a leading academic and research center dedicated to advancing textile science, materials engineering, and industrial innovation. The undergraduate program is accredited by the Pakistan Engineering Council (PEC) under the Outcome-Based Education (OBE) framework and is supported by postgraduate programs including Master of Engineering (M.E.) and PhD, fostering advanced research and technological development.

Textiles remain the backbone of Pakistan's economy, contributing more than half of the country's exports and supporting a large portion of the manufacturing workforce. The department plays an important role in preparing engineers capable of strengthening this sector through innovation, technology adoption, and sustainable manufacturing practices.

Program Philosophy

The program follows a product-centric approach to textile engineering where students learn to design and engineer textile products by integrating fibers, yarns, fabric structures, processing technologies, and performance requirements. Through studio-based product development, artificial intelligence-enabled digital tools, and modern engineering practices, students develop the ability to translate materials and processes into innovative textile solutions. This philosophy promotes innovation, entrepreneurship, and leadership, preparing graduates to contribute to industrial advancement and emerging textile technologies.

The curriculum aligns with the United Nations Sustainable Development Goals (SDGs), emphasizing responsible production, sustainable materials, innovation, and resource-efficient technologies.

Vision of the Department

To become a leading center of excellence in textile engineering education, research, and innovation by advancing product-centric textile technologies, sustainable materials, digital transformation, and entrepreneurial thinking to drive industrial leadership and global competitiveness.

Mission of the program

The B.E. Textile Engineering program aims to deliver internationally benchmarked education in textile materials, product engineering and sustainable processing to develop competent professionals equipped with technical expertise, ethical responsibility, innovation capacity and leadership skills to serve industry and society.

Program Educational Objectives (PEOs):

PEO-1 (Technical Competence): Graduates will apply textile engineering knowledge and problem-solving skills to design, optimize and manage textile materials, processes, and products in professional industrial environments.

PEO-2 (Responsible Professional Practice): Graduates will demonstrate ethical, sustainable, and socially responsible engineering practices while working effectively in multidisciplinary and diverse professional teams.

PEO-3 (Growth & Leadership): Graduates will pursue lifelong learning, innovation and leadership to adapt to emerging technologies and contribute to the advancement of textile engineering and society.

4.8.2 The Faculty:

Chairman of the Department

Prof. Dr. Zeeshan Khatri

Phone: 022-2771565

<u>PROFESSORS:</u> Dr. Zeeshan Khatri PhD, Japan.	Dr. Naveed Mengal PhD, South Korea.	Dr. Umaima Saleem Memon PhD, Turkey.
Dr. Farooq Ahmed PhD, Pakistan.	Dr. Raja Fahad Qureshi PhD, Pakistan.	Dr. Rabia Almas Arain PhD, Pakistan.
Dr. Awais Khatri PhD, Australia.	<u>ASSISTANT PROFESSORS:</u> Dr. Sanam Irum Memon PhD, Pakistan.	Dr. Pardeep Kumar Gianchandani PhD, Italy.
<u>ASSOCIATE PROFESSORS:</u> Dr. Iftikhar Ali Sahito PhD, South Korea.	Dr. Alvira Ayoub Arbab PhD, South Korea.	Dr. Nadir Ali Rind PhD, China.
Dr. Samander Ali Malik D.Eng., Germany.	Mr. Abdul Wahab Memon PhD, Belgium.	<u>LECTURERS:</u> Dr. Sadaf Aftab Abbasi PhD, Australia.
Dr. Abdul Wahab Jatoi PhD, Japan.	Dr. Anam Ali Memon PhD, South Korea.	Engr. Abdul Khalique Jhatial M.E, Pakistan.

4.8.3 Laboratory Facilities:

1. Yarn Manufacturing Lab	7. Textile Testing and Quality Control Lab
2. Weaving Lab	8. Textile Composite lab
3. Knitting Lab	9. Nano-materials Research Lab
4. Textile Chemical Processing Lab	10. Functional Materials & Polymer Engineering Lab
5. Color Research Lab	11. Smart Organic Materials Research
6. Garment Manufacturing Lab	12. Textile Studio

4.8.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TE131	Introduction to Textile Engineering	03	00
2.	TE132	Applied Chemistry	02	01
3.	TE133	Engineering Drawing and Visual Communication	02	01
4.	MTH108	Applied Calculus	03	00
5.	SS111/SS104	Islamic Studies/ Ethics	02	00
6.	PS106	Pakistan Studies	02	00
		Total	14	02

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TE141	Fibre Science and Polymer Engineering	03	01
2.	TE142	Applied Physics	02	01
3.	TE143	Entrepreneurship	03	00
4.	ENG 101	Functional English	03	00
5.	MTH115	Differential Equations and Laplace Transforms	02	00
6.	ME146	Workshop Practice	00	01
		Total	13	03

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TE231	Yarn Engineering-I	03	01
2.	TE232	Materials Testing and Measurement Techniques	02	01
3.	TE233	EHS and Compliances	02	00
4.	PS207	Ideology and Constitution of Pakistan	02	00
5.	MTH220	Numerical Methods and Computer Applications	03	01
6.	SS214/	Understanding of Holy Quran-I/Comparative Moral Teachings-I	00	01
		Total	12	04

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TE241	Yarn Engineering II	03	01
2.	TE242	Fabric Engineering-I	03	01
3.	TE243	Textile Pretreatment	02	01
4.	TE244	Engineering Economics and Costing	03	00
5.	TE245	Artificial Intelligence	03	00
6.	SS215/	Understanding of Holy Quran-II/Comparative Moral Teachings-II	00	01
		Total	14	04

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TE331	Fabric Engineering II	03	01
2.	TE332	Product Development Studio I	02	01
3.	TE333	Colour Physics and Visual Perception	03	01
4.	TE334	Textile Industry Utilities and Sustainable Operations	02	00
5.	TE335	Thermodynamics and Fluid Mechanics	02	00
6.	MTH317	Statistics and Probability	03	00
		Total	15	03

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TE341	Product Development Studio II	02	01
2.	TE342	Textile Coloration	03	01
3.	TE343	Digital and AI-Assisted Textile Design	03	01
4.	TE344	Professional Practice and Leadership	02	00
5.	ENG307	Expository Writing	03	00
6.	TE345	Civics and Community Engagement	01	01
		Total	14	04

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TE431	Textile Finishing and Surface Engineering	03	01
2.	TE432	Automation and Industry 4.0	03	01
3.	TE433	Textile Testing and Quality Standards	03	01
4.	TE498	Final Year Design Project I	00	03
		Elective I		
1.	TE434	Denim Manufacturing and Washing	02	00
2.	TE435	Hosiery Engineering		
3.	TE436	Technical Textiles		
		Total	11	06

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	TE441	Textile Merchandising and Sourcing	03	00
2.	TE442	Garment Engineering	03	01
3.	TE443	Product Realization Studio	02	01
4.	TE444	Sustainability Textiles and Circularity	02	00
5.	TE499	Final Year Design Project II	00	03
		Elective II		
1.	TE445	Textile Marketing	02	00
2.	TE446	Characterization Techniques		
		Total	12	05

4.8.5 Career Opportunities:

Graduates of the Textile Engineering program develop strong expertise in textile product engineering, materials innovation, and modern manufacturing systems. Our alumni are currently serving in leading textile organizations in Pakistan and abroad.

After graduation, students can:

- Join textile and apparel industries in product development, manufacturing, processing, quality assurance, testing, merchandising, compliance, and supply chain management.
- Pursue higher education (M.E./MS/PhD) in Pakistan or internationally in Textile Engineering, Materials Science, Technical Textiles, Nanotechnology, and related fields.
- Establish entrepreneurial ventures and innovation-driven textile startups.
- Secure academic and research positions in universities and research institutions.

5. FACULTY OF SCIENCE, TECHNOLOGY, & HUMANITIES

5.1 BACHELOR OF BUSINESS ADMINISTRATION (BBA)

5.1.1 The Institute:

Mehran University Institute of Science, Technology and Development (MUISTD) is established with the objectives to produce highly qualified and skilled manpower at MS, MBA and PhD degree levels; and to formally train the existing personnel already in-charge in the field. MUISTD helps in conduct research on different aspects of effective and viable. S&T policy frame work and their strategic management to achieve these objectives. It is established to be a center of excellence for teaching, training and research required to respond to the modern-day challenges with focus on issues relating to development, management, and resisting the exploitation of human, natural and other resources. The clients of teaching, trainings and research results of this institute are; universities, Research & Development organizations, Government, National and International Business, individuals in public and private sectors.

Mission of the Program

To produce highly skilled professionals equipped with capacity of *Knowledge creation and transfer* under relevant degree in the field of Science, Technology, Innovation and Entrepreneurship (STIE) for viable business management, conduct of research and building of triple helix relationship among academics, industry and government to promote fast growth of economy.

Why Bachelors of Business Administration (BBA) at MUISTD?

In the era of corporate competition, the professional managers and decision makers require capabilities to perform exceptionally well and undertake informed, knowledgeable and visionary decisions in consonance with effective policies. MUISTD produces the human resource to respond to such dynamic business environment through Business Administration programs.

BBA at MUISTD aims to produce not only managers but entrepreneurs who can launch their ventures for self-sustaining future and the educational programs offered are designed to produce such qualified manpower with experience of conceiving and designing innovative business models with expertise of managing financial and non-financial issues associated with businesses. The program builds students' potential and enables them to build a balance between targets of economic success and limitations of increasing social and environmental responsibilities.

5.1.2 Laboratory Facilities:

The Institute owns two computer labs, Lab – I and Lab – II, which provides high-speed Internet and e-mail facilities to the research students. In addition, these labs also encourage students to use SPSS and Project management software for their research particularly in data analysis.

5.1.3 The Faculty:

Director of MUISTD

Prof. Dr. Asif Ali Shah

Phone: 022-2772255 / Ext.: 6700 - 04

PROFESSOR:

Dr. Asif Ali Shah
PhD, Pakistan.

ASSISTANT PROFESSOR:

Dr. Wahid Bux Mangrio
PhD, Japan.

Dr. Ghazala Tunio
PhD, UoS.

ASSOCIATE PROFESSOR:

Dr. Shah Muhammad Kamran

Dr. Waqar Sether
PhD, MUET, Pakistan.

Dr. Iffat Batool Naqvi PhD, Austria.	PhD, China.	Dr. Mahvish Khaskhely PhD, SZABIST.
Dr. Kamleshwer Lohana PhD, UoS.	Dr. Arifa Talpur PhD, UoS.	LECTURER:
Dr. Adnan Pitafi PhD, China.	Dr. Saba Qureshi PhD, UoS.	Ms. Tooba A. Hashmi MBA, SZABIST.

5.1.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG111	Functional English	3	0
2.	MATH120	Business Mathematics	3	0
3.	SS111/SS104	Islamic Studies/Ethics*	2	0
4.	PS106	Pakistan Studies	2	0
5.	MGT111	Introduction to Business	3	0
6.	ACT111	Principles of Accounting	3	0
7.	ICT111	Introduction to Computing and Programming	2	1
		Total	18	01

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MKT121	Principles of Marketing	3	0
2.	ENG122	Communication Skills	3	0
3.	ECO121	Microeconomics	3	0
4.	MGT122	Principles of Management	3	0
5.	GEN121	Social Psychology & Personal Development	3	0
6.	MATH125	Statistical Method and Probability	3	0
		Total	18	00

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	FIN211	Introduction to Business Finance	3	0
2.	ECO212	Macroeconomics	3	0
3.	FLN211	Foreign Language – I (Chinese)	3	0
4.	ENT211	Business Creativity and Design Thinking	3	0
5.	ENG213	Business Communication	3	0
6.	MTH213	Inferential Statistics	3	0
7.	SS214/SS211	Understanding Quran-I / *Comparative Moral Teachings-I	1	0
		Total	19	00

* For Non-Muslim Students

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ACT222	Managerial Accounting	3	0
2.	MGT223	Organizational Behavior	3	0
3.	ENT222	Business Modeling Studio	3	0
4.	FLN222	Foreign Language – II (Chinese)	3	0
5.	FIN222	Financial Institutions and Markets	3	0
6.	MKT222	Marketing Management	3	0
7.	SS 215/SS 222	Understanding Quran-II / *Comparative Moral Teachings-II	0	1
8.	PS 207	Ideology and the Constitution of Pakistan	2	-
		Total	20	01

* For Non-Muslim Students

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	HRM311	Human Resource Management	3	0
2.	FIN313	Entrepreneurial Finance	2	0
3.	MKT313	Entrepreneurial Marketing	2	0
4.	MGT314	Productions and Operations Management	3	0
5.	GEN312	Business Law	3	0
6.	ICT312	Website Design and Application Development	2	1
		Total	15	01

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MKT323	Customer Relationship Management	3	0
2.	MGT325	Globalization and Business Development	3	0
3.	ECO323	Pakistan Economy	3	0
4.	MGT326	Business Research Methods	3	0
5.	ECO324	Agribusiness	3	0
6.	MGT327	Decision Models and Analytics	3	0
		Total	18	00

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ACT417	Financial Management	3	0
2.	MGT418	Strategic Management	3	0
3.	MKT419	Marketing Analytics	3	0
4.	-	Elective I (List attached)	3	0
5.	-	Elective II (List attached)	3	0
		Total	15	00

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	GEN424	Corporate Social Responsibility and Business Ethics	3	0
2.	-	Elective-III (List attached)	3	0
3.	-	Elective-IV (List attached)	3	0
4.	MGT429	Business Plan*	3	0
		Total	12	00

***A jury comprising of HoD, Focal Person of Internship, Manager IEC and two senior teachers will evaluate the student's business plan at the end of the 8th semester.**

*Students can opt any four courses from their respective specialization.

*Maximum 4 weeks' internships at the end of 2nd and 3rd Year.

*1 Internship at the end of 2nd year may preferably be undertaken in a social enterprise i.e., SOS Village, Edhi Foundation, Saylani Welfare Trust, etc.

Finance Elective Courses

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	FIN401	Analysis of Financial Statement	03	00
2.	FIN405	Corporate Finance	03	00
3.	FIN410	Financial Risk Management	03	00
4.	FIN415	Investment and Portfolio Management	03	00
5.	FIN425	Venture Capital and Private Finance	03	00
			15	00

HRM Elective Courses

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	HRM401	Career Management and Planning	03	00
2.	HRM410	Compensation Structure Development	03	00
3.	HRM415	Job Analysis and Performance Appraisal	03	00
4.	HRM430	Organizational Development	03	00
5.	HRM440	Personnel Management	03	00
			15	00

Marketing Elective Courses

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MKT401	Advertising and Promotion	03	00
2.	MKT410	Brand Management	03	00
3.	MKT415	New Product Development	03	00
4.	MKT430	Personal Selling	03	00
5.	MKT440	Marketing Issues in Pakistan	03	00
6.	MKT450	Experiential Marketing	03	00
			18	00

5.1.5 Career Opportunities:

There are thousands of opportunities for candidates with BBA degree and the degree program at MUISTD prepares for careers including Accountants, Financial advisors, Marketers, Commodity traders, Loan officers, Real estate agents, Managers and Entrepreneurs etc. Depending upon aptitude of graduate, options are available to work with national and international organizations including Small and Medium Enterprises and Multinational organizations.

5.2 Bachelor of Science in Computer Science (BSCS)

5.2.1 The Department:

Computer Science is a discipline that integrates the study of Computers & Computational Systems. Principle areas of study within computer science includes artificial intelligence, computer systems & networks, security, database systems, human computer interaction, vision & graphics, numerical analysis, programing languages, software engineering and theory of computing.

The problems that computer scientists encounter range from the abstract determining what problems can be solved with computers and the complexity of the algorithms that solve them to the tangible designing applications that perform well on hand-held devices that are easy to use that uphold security measures.

Given the rapid rate of change within technology, computer system engineers need to have a thirst for learning to keep up with the latest developments. Computer science majors must also be curious about the world around them since programs and systems are applied to every possible area of real life and its betterment.

The BS of Computer Science program is leaving no stone unturned to achieve its transformation to practice in true spirit the education system based on outcome-based education (OBE) system.

Mission of the Program

To produce computer science graduates to design and develop quality software solutions, be able to work successfully within challenging environments and will be good professionals.

Program Educational Objectives (PEOs)

The program educational objectives (PEOs) were prepared by the OBE implementation committee for outcome-based education implementation and approved through the Board of Studies, Board of Faculty and Academic Council. The PEOs were prepared on the basis of stakeholders' needs and linked with ten program learning outcomes. The PEOs has been published on official webpage of the department at Mehran University website and has been displayed at various notice boards of the department. The PEOs of Bachelor of Computer Science describe that our graduates, 3-5 years after graduation, should be able to:

1. The graduates shall have a strong foundation in computer science fundamentals that will enable them to analyze complex problems and design efficient computing solutions.
2. The graduates will contribute effectively as individuals and collaboratively in multidisciplinary situations, communicate well, and apply lifelong learning to remain aware of emerging technologies and best practices.
3. The graduates will uphold ethical standards and professional responsibilities while being sensitive to the social, cultural, environmental, and legal impacts of computing solutions at the global and national levels.

5.2.2 The Faculty:

Chairperson of the Department

Dr. Sanam Narejo,

Phone: 92-22 2772276, 92-22 2772250-73 / Ext.: 4202

Coordinator BSCS Program

Dr. Muhammad Ahsan Ansari

<u>PROFESSORS:</u> Dr. Shahnawaz Talpur PhD, China.	Dr. Bushra Naz PhD, China. <u>ASSISTANT PROFESSORS:</u> Dr. Zartasha Baloch PhD, Pakistan.	Dr. Fawad Ali Mangi PhD, Australia
<u>ASSOCIATE PROFESSORS:</u> Dr. M. Moazzam Jawaid PhD, UK (<i>On Lien</i>)	Mr. Rizwan Badar Baloch M.E, Pakistan.	<u>LECTURERS:</u> Mr. Salahuddin Jokhio M.E, Pakistan (<i>On Study Leave</i>)
Dr. Sanam Narejo PhD, Italy.	Dr. Adnan Ashraf PhD, Pakistan	Ms. Anam Memon M.E, Pakistan
Dr. Sammer Zai PhD, South Korea.	Dr. Ali Asghar Manjotho PhD, China	Ms. Madeha Memon M.E, Pakistan.
Dr. M. Ahsan Ansari PhD, South Korea.	Dr. Irfan Ali Bhacho PhD, South Korea.	Ms. Shabana Hajano M.E, Pakistan

5.2.3 Laboratory Facilities:

Following state-of-the-art laboratories are available for the students where hands-on experiences provided. These laboratories provide high speed internet services in centralized environment.

1. Computing Lab-I	2. Computing Lab-II
3. Microprocessor Lab	4. Communication Lab
5. Advance Software Engineering & Research Lab	6. Multimedia and Visual Design Studio Lab
7. Data Management and Internet Lab	8. Software Development Lab

5.2.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC-103	Application of Information & Communication Technologies	2	1
2.	CSC-105	Programming Fundamentals	3	1
3.	IS-111/SS-104	Islamic Studies/Ethics	2	0
4.	PS-106	Pakistan Studies	2	0
5.	MATH-101	Foundation-I (Non-Credit 3+0)	Nil	Nil
6.	ENG-101	Functional English	3	0
7.	EL-109	Applied Physics	2	1
		Total	14	03

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC-110	Discrete Structures	3	0
2.	CSC-113	Object Oriented Programming	3	1
3.	CSC-115	Database Systems	3	1
4.	MATH-102	Foundation-II (Non-Credit 3+0)	Nil	Nil

5.	CSC-117	Digital Logic and Design	2	1
6.	MATH-108	Applied Calculus	3	0
		Total	14	03

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC-203	Data Structures and Algorithms	3	1
2.	CSC-206	Software Engineering	3	0
3.	CSC-208	Computer Networks	2	1
4.	CSC-221	Information Security	3	0
5.	MATH-212	Linear Algebra and Analytical Geometry	3	0
6.	PS-207	Ideology and Constitution of Pakistan	2	0
7.	SS-214/SS-211	Understanding of Holy Quran-I/ comparative Moral Teacher-I	0	1
		Total	16	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC-212	Computer Organization and Assembly Language	2	1
2.	CSC-214	Operating Systems	3	1
3.	CSC-216	Theory of Automata	3	0
4.	-	Elective-I	3	1
5.	ENG-207	Expository Writing	2	0
6.	MATH-214	Statistics and Probability	3	0
7.	SS-215/SS-222	Understanding of Holy Quran-II/Comparative Moral Teaching -I	0	1
		Total	16	04

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC-302	Artificial Intelligence	3	1
2.	CSC-312	Compiler Construction	3	1
3.	CSC- 301	Technical & Business Writing	2	0
4.		Elective-II	3	1
5.	MATH-319	Numerical Analysis	3	0
		Total	14	03

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC-314	Parallel & Distributed Computing	3	0
2.	CSC-316	Computer Architecture	3	0

3.	CSC-320	Advanced Database Management Systems	2	1
4.	CSC-304	HCI and Computer Graphics	3	1
5.	MKT-320	Introduction to Marketing	2	0
		Total	13	02

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	-	Elective-III	3	1
2.	-	Elective-IV	2	1
3.	CSC-410	Analysis of Algorithms	3	0
4.	ENT-421	Entrepreneurship	2	0
5.	CSC-498	Final Year Project-I	0	3
		Total	10	05

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC-466	Professional Practices	2	0
2.	-	Elective-V	3	1
3.	-	Elective-VI	3	1
4.	SS-406	Civics and Community Engagement	1	1
5.	CSC-499	Final Year Project-II	0	3
		Total	09	06

Elective Course	Course Code	Course Title	CH (Th + Pr)	Pre-Requisite
Elective-I	CSC-218	Web Technologies	3+1	None
	CSC-220	Data Warehousing	3+1	None
Elective-II	CSC-318	Mobile Application and Game Development	3+1	None
	CSC-341	Computer Graphics and Animations	2+1	None
Elective-III	CSC-404	Data Sciences and Analytics	3+1	None
	CSC-408	Big Data Analytics	3+1	None
Elective-IV	CSC-406	Software Testing and Quality Assurance	2+1	None
	CSC-414	Object-Oriented Analysis & Design	2+1	None
Elective- V	CSC-402	Computer Vision	3+1	None
	CSC-421	Digital Image Processing	3+1	None
Elective- VI	CSC-462	Cyber Security	2+1	Computer Networks
	CSC-468	Cloud Computing	3+1	None

CQI Mechanisms

The procedures for reviewing and revising the program conduct and attainment of PEOs, PLOs and CLOs and to ensure the correct actions for continuous quality improvement are performed by different committees. Departmental Management Review Committee (DMRC) and Curriculum Revision Committee (CRC) are responsible to design, update and revise the curriculum of the Department of Computer Science, from time to time depending on need of industry and suggestions given by stakeholders. The establishments and revisions are then approved through Board of Studies, Board of Faculty and Academic Council. Industrial Liaison Committee (ILC) is responsible to look after matters related to student and industry collaborations, such as internships, study visits, obtaining feedback from alumni/industry stakeholders, communicating job opportunities for graduating students, managing job recruitment in industries and other related activities. Final Year Project Committee (FYPC) is responsible to facilitate students for creating final year project groups, planning project presentations in different phases, and maintaining, managing theses records and other final year project related activities. Industrial Advisory Board (IAB) is responsible to facilitate departmental coordination with industry in order to prepare graduates that are ready for the industry.

5.2.5 Career Opportunities:

The computerization of most facets of modern business and industry, together with the great demand for technical manpower creates a multitude of possibilities. As a career option that can allow an individual to be involved in the creation and implementation of a Computer Science, Computer Science graduates are professionals who are actively engaged in the process of matching current technology with the needs of a company. As part of this task, the Computer Systems graduate engages in the evaluation and installation of software, hardware, and other types of support equipment into a workable network that supports a variety of functions within a corporation. The Computer Science graduate may function as an employee of the company, a representative of a computer components and hardware, or as an independent consultant. Moreover, the computer science graduate has a wide range of job opportunities available, including electronic, telecommunication and software engineering fields.

The Computer Science graduate finds employment in a wide variety of computerized environments such as hardware, software, networking, research and development, process or information control systems or a combination of the above mentioned. The engineer might specialize further in any one of these chosen fields. Responsibilities may include maintenance or optimization of such environments. Additional functions could include the design, development, and implementation of additional or new systems, liaison with other departments such as management, production and instrumentation as well as with clients is an important aspect of his job. A Computer Science graduate may seek a senior post such as filling the post of System Administrator, Software Engineer, Lead System or Project Manager. Few more opportunities, such as, Computer Systems Analyst, Database Administrator and Manager, Network Engineer, Cyber Security Analyst, Quality Assurance Engineer, Web Engineer, Information Security Analyst, etc. The latest trendy disciplines like Machine Learning Engineer and Data scientist.

5.3.1 The Department:

In the year 1988, the **Centre of English Language and Linguistics (CELL)** was established in collaboration with the British Council and the University Grant's Commission (Presently the Higher Education Commission of Pakistan) at Mehran University of Engineering and Technology, Jamshoro. This Center was initially run by a British Director Prof. Brian Bamber. The major aim of this center was to help students and faculty to improve their English in order to fully understand engineering courses taught in English. Later, under expansion phase, CELL was relocated to its new state of the art building at MUET Jamshoro. Acknowledging performance of the Centre, CELL was included amongst 5 shortlisted institutions in public universities of Pakistan considered by English Language Teaching Reforms Project (ELTR) of HEC Pakistan for the establishment of National Centre for English Language Teaching and Research. Later, the ELTR Project of the HEC of Pakistan established the state-of-the-art Self-Access Center at the CELL, Mehran, UET, Jamshoro which is considered as the first in province Sindh a hub of teachers' training in the province. The SAC offers training on Computer Assisted Language Learning and Internet based learning (CALL) and Internet based Learning.

In 2014, CELL witnessed further expansions in the degree programs. Catering to the needs of the teacher community, CELL started MS program in field of English Linguistics which is recognized by HEC of Pakistan. In 2019, CELL launched its first-ever undergraduate program BS English also. In March 2019, CELL in collaboration with Higher Education Commission of Pakistan organized its first international conference on Challenges & Innovations in 21st century (ICELL'19) at Mehran University of Engineering & Technology, Jamshoro. This conference was attended by international and national scholars of eminence such as David Crystal.

Besides, CELL has launched an international research journal in Language and Linguistics to promote research culture and engage the ELT community in research dialogue. Furthermore, CELL also operates an active society of Language and Literature which works to groom the intellectual and literary sensibilities of its alumni-MS and BS. Besides offering degree awarding programs in English and English Language courses, in 2022 CELL has established a 'Creative Learning Space' within its premises. The CLS offers seminars and one-to-one session to CELL BS and MS students on career counselling, and other dimensions of intellectual and emotional growth of a student.

Vision of the CELL

CELL is committed to prepare qualified human resource by advancing, applying and imparting knowledge in English Language Education and Applied Linguistics through comprehensive educational programs, research in collaboration with industry and government, and dissemination through scholarly products.

Mission of the BS and MS Programs

To prepare qualified human resource in the field of English linguistics for socio-economic development of the country and engage the learners in a constructive dialogue on linguistic and literary issues and developments nationally and internationally.

PEOs of the CELL:

Providing a comprehensive education in English literature and linguistics to prepare students for various career paths.

- **Equipping students with research skills** necessary for advanced studies and professional development.
- **Fostering a research culture** in the field of English studies to contribute to academic and societal knowledge.

- **Developing critical thinking and analytical skills** to analyze texts and contexts effectively.
- **Promoting a deeper understanding** of the cultural, historical, and theoretical aspects of English literature and language.
- **Arranging various co-curricular activities** as to provide an atmosphere to the students with ample opportunities to grow dynamically.
- **Developing students' managerial capabilities** while providing them a room of programs to arrange and execute.
- **To prepare students for various types of tests** i.e.; IELTS & TOFEL as well as familiarize students with the concept, style and format of GMAT, GRE tests.

5.3.2 The Faculty:

Director of the Center

Dr. Sahib Khatoon

Phone: 022-2772255 / Ext.: 6600

<u>PROFESSOR:</u> Dr. Habibullah Pathan, Postdoc., USA (<i>On lien</i>).	Dr. Jam Khan Mohammad PhD, Pakistan.	Mr. Fayaz Ali Chandio MS., Pakistan.
<u>ASSOCIATE PROFESSOR:</u> Dr. Shumaila Memon, Postdoc., USA (<i>On lien</i>).	Dr. Syed Waqar Ali Shah PhD, Finland.	Ms. Qirat Buledi MS., Pakistan.
Dr. Sahib Khatoon, PhD, Malaysia. HEC Master Trainer	<u>ADJUNCT FACULTY:</u> Ms. Rosy Illyas M.Ed., UK.	Ms. Naila Baloch MS., Pakistan.
<u>ASSISTANT PROFESSORS:</u>	<u>LECTURERS:</u> Ms. Um-e-Farwa Thalho M.Phil., Pakistan.	Ms. Sitara Taj MPhil., Pakistan.
Ms. Quratulain Mirza PhD, Pakistan (<i>on Leave</i>).	Mr. Ali Raza Khoso MS., Pakistan.	Ms. Tahreem Akhtar MPhil, Pakistan.
Mr. Shoukat Ali Lohar M.Phil., Pakistan.	Ms. Shazia Khokhar MS., Pakistan.	Ms. Nargis Fatima MPhil, Pakistan.
Ms. Sadia Aftab Memon, MS., Pakistan.	Ms. Shamshad Junejo MS., Pakistan.	Mr. Zakaullah Korejo MS., Pakistan
Ms. Sania Memon, MS., Pakistan (<i>On study leave</i>).	<u>LECTURERSON CONTRACT:</u> Ms. Nazia Koonj MS., Pakistan.	Ms. Soomal Junejo MS., Pakistan

5.3.3 Laboratory Facilities:

1. English Language Laboratory
2. Self-Access Centre

5.3.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG111	Functional English-I	3	0
2.	PS-106	Pakistan Studies	2	0

3.	CS145	Introduction to Computers	3	0
4.	IS111/SS104	Islamic Studies/Ethics	2	0
5.	ELL121	Introduction to Lit. I: (Poetry & Drama)	3	0
6.	ELL131	Introduction to Linguistics	3	0
Total			16	00

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG112	Functional English-II	3	0
2.	MTH158	Basic Mathematics	3	0
3.	ENT112	Entrepreneurship	3	0
4.	EE104	Environmental Sciences	3	0
5.	ELL122	Introduction to Lit. II: (Medieval to Romantics)	3	0
6.	ELL115	Phonetics & Phonology	3	0
Total			18	00

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ELL204	Academic Reading and Writing	3	0
2.	ELL201	Communication Skills I	3	0
3.	MATHS21	Statistics and Probability	3	0
4.	MGT223	Organizational Behavior	3	0
5.	ELL203	Short Fictional Narratives	3	0
6.	ELL207	Semantics	3	0
7.	SS214/SS211	Understanding of Holy Quran -I/Comparative Moral Teachings-I	1	0
Total			19	00

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ELL210	Communication Skills II	3	0
2.	HRM251	Human Resource Management	3	0
3.	ELL216	Introduction to Philosophy	3	0
4.	ELL212	Grammar and Syntax	3	0
5.	ELL214	Introduction to Morphology	3	0
6.	ELL218	Classical Poetry	3	0
7.	SS215/SS222	Understanding of Holy Quran-II/Comparative Moral Teachings-II	0+1	0
Total			19	00

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ELL304	Popular Fiction	3	0
2.	ELL301	Sociolinguistics	3	0
3.	ELL302	Foundations of Literary Criticism and Theory	3	0

4.	ELL308	Psycholinguistics	3	0
5.	ELL309	Language Testing & Evaluation	3	0
6.	ELL305	English for specific purpose (ESP)	3	0
		Total	18	00

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ELL313	Technology in Teaching & Learning Languages	3	0
2.	ELL319	Discourse Studies	3	0
3.	ELL314	World Englishes	3	0
4.	ELL315	Modern Poetry	3	0
5.	ELL316	Introduction to Research Methodology	3	0
6.	ELL317	Modern Novel	3	0
		Total	18	00

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ELL401	Modern Drama	3	0
2.	ELL407	Content and Language Integrated Learning	3	0
3.	ELL403	Second Language Acquisition	3	0
4.	ELL404	Literary Theory and Practice	3	0
5.	ELL405	Pakistani Literature in English	3	0
6.	ELL406	Research Project-I	3	0
		Total	18	00

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ELL415	Syllabus Designing	3	0
2.	ELL411	Stylistics	3	0
3.	ELL419	Postcolonial Literature	3	0
4.	ELL413	Introduction to Women's Writing	3	0
5.	ELL412	Research Project-II	3	0
		Total	15	00

5.3.5 Career Opportunities:

Graduates of the BS and MS programs at CELL, MUET, have diverse career prospects in academia, education, media, research, and the corporate sector. They may serve as lecturers, researchers, curriculum developers, and English language instructors in schools, colleges, and universities. Opportunities also include roles as IELTS/TOEFL trainers, CALL specialists, and corporate language trainers. In publishing and media, graduates can work as content writers, editors, copywriters, and communication consultants. They are well-suited for roles in NGOs and government bodies as policy analysts, education officers, and training coordinators. Their strong linguistic and analytical skills also support preparation for competitive exams like CSS and PCS. Additionally, they may pursue careers in translation, interpretation, public relations, and human resource training. Many also explore entrepreneurship and freelancing in ELT consulting, language coaching, and educational startups.

5.4 Bachelor of Science in Environmental Sciences (BSES)

5.4.1 The Center:

U.S.-Pakistan Center for Advanced Studies in Water (USPCAS-W) has been established at Mehran UET, Jamshoro, with the financial support of the United States Agency for International Development (USAID) Pakistan under the Cooperative Agreement signed with USAID on Dec.12, 2014, for five years. The center is dedicated to training and building up the capacity of a new generation of engineers and water professionals to solve the twenty-first century's water security challenges.

5.4.2 BS in Environmental Sciences at USPCAS-W:

USPCAS-W started four years BS Environmental Sciences program in 2021. The program aims to provide modern scientific knowledge and tools to students in the multidisciplinary field of Environmental Sciences. The graduates of BE in Environmental Science will provide solutions to various fundamental and contemporary environmental issues, including pollution monitoring and management, environmental microbiology, groundwater modelling & remediation, application environmental biotechnology, GIS, climate change, environmental economics, water & wastewater treatment processes, and environmental laws & governance, etc. as per the Higher Education Commission guidelines, the skill development approach adopted for the program considers enhancing secondary knowledge while providing specific information in the courses. The unique program will produce progressive leaders in the field of Environmental Sciences.

5.4.3 The Faculty:

Director of the Center

Dr. Kamran Ansari

Phone: 022-2772255 / Ext.: 8002

Coordinator BSES Program

Dr. Tanveer Ahmed Gadhi

<u>MERITORIOUS PROFESSOR:</u> Dr. Rasool Bux Mahar Post Doc, USA.	Dr. Zubair Ahmed PhD, South Korea.	Dr. Naveed Ahmed, PhD, South Korea.
<u>EMERITUS PROFESSOR:</u> Dr. Bakhshal Khan Lashari Post Doc, USA.	<u>SENIOR RESEARCH FELLOW:</u> Dr. Arjumand Zaidi PhD, Pakistan.	<u>ASSISTANT PROFESSORS:</u> Dr. Tanveer Ahmed Gadhi PhD, Italy.
<u>PROFESSORS:</u> Dr. Abdul Latif Qureshi PhD, Pakistan.	<u>ASSOCIATE PROFESSORS:</u> Mr. Ghulam Hussain Dars PhD, Pakistan.	Dr. Syed Sara Hassan PhD, Pakistan.
Dr. Kamran Ansari PhD, United Kingdom.	Mr. Muhammad Ali PhD, Pakistan.	Dr. Muhammad Rizwan, PhD, South Korea.
	Dr. Uzma Bhanbhro PhD, Pakistan.	Mr. Waqas Ahmed M.Sc., Germany. <i>(On Study Leave)</i>

5.5.4 Laboratory Facilities:

USPCAS-W has the following well-established laboratory with allied facilities:

1. Advanced Water & Wastewater Quality Control Lab	4. Computer & Software Lab
2. Pilot Scale Water & Wastewater Treatment Field Lab	5. Soil & Water Analysis Lab
3. GIS and Remote Sensing Lab	6. Hydraulic Lab

5.5.4.1 Advanced Water & Wastewater Quality Control Laboratory

- **Accreditation:** Sindh Environmental Protection Agency (EPA) accredited.
- **Services:** Conducts comprehensive testing of drinking and wastewater samples, adhering to WHO, EPA, and National Environmental Quality Standards (NEQS).
- **Equipment:** Includes UV-Visible Spectrophotometer, Total Organic Carbon Analyzer, High-Performance Ion Chromatography, Gas Chromatography-Mass Spectrometry systems and Air Quality Analyzer.

5.5.4.2 Pilot Scale Water & Wastewater Treatment Laboratory

- **Purpose:** Facilitates water and wastewater treatment technology research at a pilot scale
- **Equipment:** Features Flue Gas Analyzer, Total Nitrogen Analyzer, Peristaltic Pumps, Anaerobic Reactor, Electro Spinning System, and Biofilm Annular Reactor.

5.5.4.3 Soil & Water Analysis Laboratory

- **Focus:** Provides analysis of soil and water samples to assess quality and suitability for various applications.
- **Capabilities:** Equipped for testing parameters such as pH, electrical conductivity, nutrient content, and contaminant levels.

5.5.4.4 Hydraulics Laboratory

- **Objective:** Supports studies related to fluid mechanics and hydraulic systems.
- **Facilities:** Includes flumes, pumps, and flow measurement devices to model and analyze water flow scenarios.

5.5.4.5 GIS & Remote Sensing Laboratory

- **Role:** As a technical hub for Geographic Information Systems (GIS) and Remote Sensing applications in environmental research.
- **Applications:** Promotes multidisciplinary research in environmental monitoring, land-use planning, and disaster management.

5.5.4.6 Computer & Software Laboratory

- **Function:** Provides computational resources and specialized software for data analysis and modeling.
- **Software Available:** Includes AQTESOLV, GAMS, Plaxis 2D, SIMA PRO, IRRICAD Pro, WaterCAD, ArcGIS, and ERDAS IMAGINE.

5.5.5 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENS101	Introduction to Environmental Science	03	00
2.	ENS102/ MATH107	Basic Biology/ Basic Mathematics	03	00
3.	ENS103	General Chemistry	02	01
4.	ENG101	Functional English	03	00
5.	IS111/SS104	Islamic Studies/ Ethics	02	00
6.	PS106	Pakistan Studies	02	00
		Total	15	01

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MATH108	Applied Calculus	03	00
2.	CS146	Introduction to Computing & Programming	03	00
3.	ENS152	Sociology	03	00
4.	ENS153	Environmental Biology	02	01
5.	ENS155	Environmental Chemistry	03	00
		Total	14	01

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MATH217	Statistics and Probability	03	00
2.	ENS202	Environmental Physics	02	00
3.	ENS203	Environmental Microbiology	02	01
4.	ENS211	Fundamental & Applied Ecology	03	00
5.	ENS212	Environmental Fluid Mechanics	02	01
6.	ENG201	Communication Skills	02	00
		Total	14	02

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENS251	Environmental Pollution	03	00
2.	ENS252	Climatology	03	00
3.	ENS253	Environmental Informatics	02	01
4.	ENS261	Watershed Management	03	00
5.	ENS262	Energy and Environment	03	00
6.	ENS263	Environmental Biotechnology	03	00
		Total	17	01

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENS301	Introductory Economics	03	00
2.	ENS302	Environmental Toxicology	03	00
3.	ENS303	Analytical Techniques in Environmental Science	02	01
4.	ENS311	GIS and Remote Sensing	02	01
5.	ENS313	Applied Hydraulics	03	00
6.	ENG301	Technical and Scientific Writing	02	00
		Total	15	02

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENS351	Environmental Economics	03	00
2.	ENS352	Environmental Monitoring & Management Systems	03	00
3.	MES353	Land Degradation, Restoration and Management	03	00
4.	ENS361	Water and Climate Change	03	00
5.	ENS362	Solid Waste Management	03	00
6.	ENS363	Research Methods in Environmental Science	03	00
		Total	18	00

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENS401	Environmental Impact Assessment	03	00
2.	ENS402	Natural Resource Management	03	00
3.	ENS411	Air and Noise Pollution	02	01
4.	ENS412	Hydrology	03	00
5.	ENS452	Public Health and Environment	03	00
6.	ENS498	Final Year Project - I	00	03
		Total	14	04

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENS451	Environmental Laws and Governance	03	00
2.	ENS461	Soil and Water Conservation	03 Waste Mgt.	00
3.	ENS453	Water and Wastewater Treatment Processes	03	00
4.	ENS461	Soil and Water Conservation	03	00
5.	ENS499	Final Year Project - II	00	03
		Total	12	03

5.5 Bachelor of Science in Mathematics (BSM)

5.5.1 The Department:

The faculty of this department teaches / offers various fundamental compulsory courses including Mathematics, Statistics, Computer Science, Pakistan Studies and Islamic Studies/ Ethics. Students are also assisted to understand theoretical work of Mathematics with the help of programming languages such as C++ and MATLAB in well-equipped computer laboratory of the department. The courses of Mathematics and Computer Sciences are also being taught to the Postgraduate students of the University by the faculty of Basic Sciences and Related Studies. In this way, this department is helping students to equip with necessary mathematical expertise to deal with problems being occurred in current technological era. The department also participates in offering short courses on various aspects of computer-oriented courses. The department currently comprises of 23 teachers of Mathematics, 03 teachers of Islamic Studies/Ethics, 03 teachers of Pakistan Studies, 03 Visiting Faculty, 03 Teaching Assistants and 07 non-academic staff.

The department commenced a 2-year M.Phil. and 4-year PhD program in Applied Mathematics from the year 2014. Presently, Department running two batches of M.Phil. in Applied Mathematics, which comprises of about 50 students.

This will help the students of Mathematics, Statistics, Physics and Engineering to further improve their qualifications and knowledge in Applied Mathematics and relevant fields.

Role of the Department

The department has main focus to provide overall knowledge of Mathematics and other subjects to not only students of this University but also other interested public across country and outside. Several faculty members of this department are maintaining their blogs and share academic notes and other things online for interested audience. This way the Department is providing global knowledge sharing and tries to continuously improve it. In addition, some of books in Mathematics on various courses are also written by our faculty members as author/co-author.

Vision of the Department

The department of Basic Sciences and Related Studies aspires to the highest standards of excellence in teaching and service.

Department Mission

To equip graduates with advanced problem-solving skills, fostering innovation and analytical thinking for inter disciplinary and Global challenges.

Program Educational Objectives (PEOs):

To skill students with the instinctive knowledge of Mathematics and its uses in all fields in general and engineering in particular and further to equip them for higher studies and research in different disciplines.

5.5.2 Laboratory Facilities:

The department of Basic Sciences and Related Studies comprises of following two computer laboratories:

1. Computer Lab for Undergraduate Students
2. Computer Lab for Postgraduate Students

Both of the labs have latest Corei-7 PCs with high-speed internet connection. Forty PCs for undergraduate lab are used for conducting C++ programming practical of students in addition to that same are being used for conducting various short courses related to C++, MATLAB, LaTeX and many others. The

lab is extensively used by undergraduate student in order to complete their assignments and projects with the help of various software such as Microsoft Office etc.

5.5.3 The Faculty:

Chairman of Department

Prof. Dr. Muhammad Anwar Solangi

Phone: +92-22772250-70 / **Ext.:**2200

<u>PROFESSORS:</u> Dr. M Anwar Solangi PhD, Pakistan.	Dr. Saima Bhatti PhD, Pakistan.	Hafiz Abdul Aziz Memon M.Phil., Pakistan.
Dr. Syed Feroz Shah PhD, China.	Dr. Fozia Shaikh PhD, Pakistan.	Dr. Hafiz Shoaib A. Kalhoro Ph.D., Pakistan.
Dr. Asif Ali Shaikh PhD, Pakistan.	Dr. Imran Qasim Memon PhD, Pakistan.	Dr. Prem Kumar PhD, Pakistan.
<u>ASSOCIATE PROFESSORS:</u> Dr. Sania Qureshi PhD, Pakistan.	Dr. Kashif Ali Abro PhD, Pakistan.	<u>LECTURERS:</u> Mr. Shafqat Chandio M.Phil., Pakistan.
Dr. M. Mujtaba Shaikh PhD, Pakistan.	Mr. Hameer Abro M.Phil, Pakistan.	Mr. Javed Iqbal Larik M.Phil., Pakistan (<i>On Study leave</i>).
<u>ASSISTANT PROFESSORS:</u> Mr. Abdul Saleem Memon M.Phil., Pakistan.	Dr. Ayaz Ali Siyal PhD, Pakistan.	Mr. Sher Khan Awan M.Phil., Pakistan (<i>On Study leave</i>)
Ms. Zaib-un-Nisa Memon M.Phil., Pakistan (<i>On Study leave</i>).	Dr. Ali Asghar Sangah PhD., Pakistan.	Hafiz Abdul Waheed Channa M.Phil., Pakistan (<i>On Study leave</i>).
Mr. Muhammad Urs Jhatial M.Phil., Pakistan.	Dr. Sara Mahesar PhD, Pakistan.	
	Mr. Mansoor Ali Bhagat M.Phil., Pakistan.	

5.5.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG 101	Functional English	3	0
2.	PS 112	Pakistan Studies	2	0
3.	IS 111/SS 104	Islamic Studies / Ethics	2	0
4.	MATH 101	Quantitative Reasoning - I	3	0
5.	MEBP 101	Physics – I	3	0
6.	MATH 115	Calculus – I	3	0
		Total	16	00

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG 107	Communication and Presentation Skills	2	0
2.	CS 111	Applications of Information and Communication Technologies	2	1
3.	MATH 102	Quantitative Reasoning – II	3	0
4.	EL 127	Physics – II	3	0
5.	MATH 152	Calculus – II	3	0
6.	MATH 157	Discrete Mathematics	3	0
		Total	16	01

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENG 206	Expository Writing	3	0
2.	ECO 230	Economics	3	0
3.	PS 207	Ideology and Constitution of Pakistan	2	0
4.	MATH 220	Analytical Geometry	3	0
5.	MATH 265	Group Theory	3	0
6.	MATH 210	Linear Algebra	3	0
7.	SS 214/SS 211	Understanding of Holy Quran-I/ Comparative Moral Teaching-I	1	0
		Total	18	00

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	ENT 221	Entrepreneurship	2	0
2.	SS 206	Civics and Community Services	1	1
3.	MATH 207	Differential Equations and Fourier Series	3	0
4.	MATH 272	Number Theory	3	0
5.	MATH 280	Topology	3	0
6.	MATH 248	Mechanics and Vector Analysis	3	0
7.	SS 215/SS 222	Understanding of Holy Quran-II / Comparative Moral Teaching-II	0+1	0
		Total	16	01

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MATH 372	Introduction to Simulator Software	2	1
2.	CS 308	Artificial Intelligence	3	1
3.	MATH 310	Differential Geometry and Tensor Analysis	3	0
4.	MATH 317	Partial Differential Equations	3	0

5.	MATH 350	Rings and Fields	3	0
6.	MATH 322	Real Analysis	3	0
		Total	16	02

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MATH 355	Transforms	3	0
2.	MATH 360	Complex Analysis	3	0
3.	MATH 380	Numerical Analysis – I	3	1
4.	MATH 362	Data Analysis with SPSS	2	1
5.	MATH 375	Analytical Dynamics	3	0
		Total	14	02

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MATH 462	Operations Research	3	0
2.	MATH 410	Functional Analysis	3	0
3.	MATH 482	Numerical Analysis – II	3	1
4.	MATH 425	Mathematical Physics	3	0
5.	MATH 498	Research Project – I	3	0
		Total	15	01

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	MATH 455	Econometrics	3	0
2.	MATH 465	Integral Equations	3	0
3.	MATH 420	Optimization Techniques	3	0
4.	MATH 415	Fluid Mechanics	3	0
5.	MATH 499	Research Project – II	3	0
6.	MATH 444	Internship	3	0
		Total	18	00

5.5.5 Career Opportunities:

Mathematics graduates have many options for career including teaching as well as working in multiple disciplines. If you have an aptitude for pursuing a career in mathematics can be a rewarding decision after graduation. Students with an interest in mathematics have the opportunity to apply their degrees in a variety of ways after graduation. Employers often value mathematics graduates because Mathematical graduates are in high demand. The major career employments for Mathematics graduates are: Mathematics teacher, Lecturer or Professor, Statistician, Accountant, Meteorologist, Data scientist, financial planner and Research Analyst.

5.6 Bachelor of Science in Artificial Intelligence

5.6.1 The Department:

The Department of Software Engineering proudly offers a Bachelor of Science in Artificial Intelligence, designed to deliver an exceptional education. Our program is committed to equipping students with the skills and knowledge necessary for lifelong learning and highly successful careers in the software industry. The program and its curriculum focus on how complex inputs such as knowledge, vision, language, and huge databases can be used to make decisions to enhance human capabilities.

Program Vision

The Bachelor of Science in Artificial Intelligence aims to equip graduates with theoretical and practical skills that can be easily applied to research and industry, contributing to national development.

Program Mission

The BS in AI program is designed to produce next generation of software engineering professionals with expertise in the specialized domain of artificial intelligence. The curriculum is designed to cater to the diverse application areas of AI such as speech processing, natural language processing, and deep learning.

Program Educational Objectives (PEOs)

A Computing Professional Graduate:

- Performs his/her computing professional role based on fundamental computing knowledge and analytical skills in the Software Industry and related fields.
- Adheres to professional responsibilities with societal aspects and ethical conduct in a multicultural environment with continual improvement.
- Works effectively as a team lead or team member in challenging ventures.
- Communicates technical and managerial information efficiently in oral and written forms.

5.6.2 The Faculty:

Chairman of the Department

Prof. Dr. Naeem Ahmed Mahoto

Ph. No.: 022-2772255 Ext:6900

Coordinator BSAI Program

Prof. Dr. Sania Bhatti

LECTURERS:

Ms. Faria Naz, M.E, Pakistan

Ms. Kanwal Batool, M.E, Pakistan

5.6.3 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AI101	Professional Practices	2	0
2.	AI102	Programming Fundamentals	3	1
3.	ENG101	Functional English	3	0
4.	AI103	Introduction to Information & Communication Technologies	2	1

5.	MTH101	Quantitative Reasoning – I	3	0
6.	PS106	Pakistan Studies	2	0
7.	IS111/ SS104	Islamic Studies / Ethics	2	0
		Total	17	02

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AI121	Object Oriented Programming -	3	1
2.	ENG207	Expository Writing	2	0
3.	AI123	Database Systems	3	1
4.	AI124	Digital Logic Design	2	1
5.	EL119	Applied Physics	3	0
6.	MTH101	Quantitative Reasoning – I	3	0
		Total	16	03

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AI201	Data Structures & Algorithms	3	1
2.	AI202	Computer Organization & Assembly Language	2	1
3.	AI204	Software Engineering	3	0
4.	ENG301	Technical & Business Writing	2	0
5.	PS207	Ideology and Constitution of Pakistan	2	0
6.	MTH202	Quantitative Reasoning – II	3	0
7.	SS214/ SS211	Understanding of Holy Quran -I/ Comparative Moral Teaching-I	0	1
		Total	15	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AI226	Operating systems	3	1
2.	AI222	Analysis of algorithms	3	0
3.	XXX	Civics and Community Services	1	1
4.	MTH212	Linear Algebra & Analytical Geometry	3	0
5.	ENT301	Entrepreneurship	2	0
6.	SS215/ SS222	Understanding of Holy Quran -II/ Comparative Moral Teaching-II	0	1
		Total	12	03

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AI312	Computer Networks	2	1
2.	AI314	Artificial Intelligence	3	1

3.	AI313	Theory of Automata	3	0
4.	AI315	Digital Marketing	3	0
5.	AI316	Economics & Management	2	0
		Total	13	02

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AI321	Cloud Computing	2	1
2.	AI323	Machine Learning	2	1
3.	AI325	Information Security	3	0
4.	AI326	Programming for AI	2	1
5.	AI327	Knowledge Representation & Reasoning	3	0
		Total	12	03

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AI416	Computer Vision	2	1
2.	AI412	Swarm Intelligence	3	0
3.	AI414	Deep Learning	2	1
4.	AI406	Natural Language Processing	3	0
5.	AI498	Final Year Project/Thesis - I	0	3
		Total	10	05

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	AI427	Generative AI	2	1
2.	AI422	Reinforcement Learning	3	0
3.	AI428	Field Experience	3	0
4.	AI429	Professional Certification	3	0
5.	AI499	Final Year Project/Thesis - II	0	3
		Total	11	04

6.5.4 Career Opportunities:

Our graduates have achieved notable success in their careers in industry and research, securing positions such as machine learning engineers, data science analysts, natural language processing specialists, computer vision engineers, business intelligence analysts, and software developers in specialized companies and IT departments of prominent institutions, including financial, telecommunications, and public sector organizations. Recent employers include Software Houses, Banks, Pakistan Stock Exchange, Careem, Daraz, NADRA, SSGC, WAPDA, and SPARCO, highlighting the diverse and in-demand career opportunities available to BSAI students.

5.7 Bachelor of Science in Cyber Security (BSCYS)

5.7.1 The Department:

The Department of Telecommunication Engineering, Mehran University of Engineering and Technology (MUET), Jamshoro was established in the year 2001. In fact, it was the first ever department to offer a full-time four-year Bachelor of Engineering in Telecommunication degree program in any public sector university of Pakistan. Since then, it enables students to develop and enhance understanding of both theoretical and applied knowledge of the fundamentals of Telecommunication Engineering and Networking.

The Department of Telecommunication offers a congenial environment for events, seminars, workshops and technical sessions in accordance with international standards. We have well-equipped laboratories and state-of-the-art equipment for experimental and research work.

5.7.2 Bachelor of Science in Cyber Security:

Information and Communication Technologies has evolved and new avenues such as Cyber Security has become the mainstream concern of technology industries. Currently, industries like health, banking, finance, manufacturing and social media require expertise in the field of Cyber Security along with Government and Defense sectors. With high demand in market, the Bachelor of Science in Cyber Security program intends to produce skilled professionals to work as Security Analyst, Security Engineer, Security Architect, Security Administrator, Security Software Developer, Cryptographer, Cryptanalyst and Security Consultant among others.

5.7.3 Mission of Program:

To educate and prepare computer scientists with cyber security expertise, enabling them to address the challenging issues of the cyber world and contribute to society by imparting knowledge and skills that safeguard against cyber threats and ensure a secure cyber environment against external attacks.

5.7.4 The Faculty:

Chairman of the Department

Dr. Faisal Karim Shaikh

Phone: +92-22-2772277 / **Ext.:** 6000

Coordinator BSCYS Program

Dr. Umair Ahmed Korai

PROFESSOR:

Dr. Abdul Waheed Umrani
PhD, Singapore.

Dr. Faisal Karim Shaikh
PhD, Germany.

Dr. Nasrullah Pirzada
PhD, Malaysia.

Dr. Zafi Sherhan Shah
PhD, UK.

Dr. Sajjad Ali Memon
PhD, China.

Dr. Badar Munir
PhD, China (*On leave*).

ASSISTANT PROFESSORS:
Dr. Faisal Ahmed Memon
PhD, Italy (*on leave*).

Dr. Abi Waqas Memon
PhD, Italy (*on leave*).

Engr. Shanzah Mohsin
M.E., Pakistan.

Engr. Riaz Ahmed Soomro
M.E., Pakistan.

Engr. Saima Hafeez
M.E., Pakistan (*On study leave*).

Engr. Shakeel A. Laghari
M.E., Pakistan (*on Lien*)

ASSOCIATE PROFESSOR:

Dr. Umair Ahmed Korai

Engr. Mehran M. Memon

Dr. Fahim Aziz Umrani PhD, United Kingdom	PhD, UK.	M.E., Malaysia.
Dr. Abdul Latif Memon PhD, China.	Engr. Naeem Aijaz Yousfani M.E., Pakistan.	Engr. Saadullah Kalwar M.E. Pakistan (<i>On leave</i>).
Dr. Imran Ali Qureshi PhD, China.	Dr. Zulfiqar Ali Arain PhD, China.	Engr. Hyder Bux Mangrio M.E., Pakistan
Dr. Faheem Yar Khuhawar PhD, Italy (<i>on Lien</i>)	Dr. Syed Mohsin Ali Shah PhD, China.	Engr. Syed Rizwan Ali Shah M.E., Pakistan.

5.7.5 Laboratory Facilities

The department of Telecommunication Engineering is equipped with required facilities, tools and equipment to conduct experiments in the field of Cyber Security.

The following laboratories are available at the Department:

1. Cyber Security Laboratory	8. PC Laboratory II
2. Analog and Digital Communication Laboratory	9. Cellular Communications Laboratory
3. Project Laboratory	10. Advanced Computing Laboratory
4. Transmission and Switching Laboratory	11. Digital Signal Processing Laboratory
5. Networking and Protocol Design Laboratory	12. Radio Communication Laboratory
6. Optical Communication and Photonics Laboratory	13. Internet of Things (IoT) Laboratory
7. PC Laboratory I	

5.7.6 Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC110	Introduction to Information and Communication Technologies	02	01
2.	CSC120	Programming Fundamentals	03	01
3.	CSC130	Discrete Structures	03	00
4.	ENG103	Functional English	03	00
5.	MATH108	Applied Calculus	03	00
		Total	14	02

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC140	Object Oriented Programming	03	01
2.	SWE110	Database Systems	03	01
3.	ENG106	Communication Skills	03	00
4.	MATH112	Linear Algebra and Analytical Geometry	03	00
5.	PS106	Pakistan Studies	02	00
6.	IS111/ SS104	Islamic Studies / Ethics	02	00
		Total	16	02

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC210	Data Structures and Algorithms	03	01
2.	CYS210	Information Security	03	00
3.	ES215	Digital Logic Design	03	01
4.	MATH224	Differential Equations	03	00
5.	PS207	Ideology & Constitution of Pakistan	02	00
6.	SS214/ SS211	Understanding of Holy Quran-I /Comparative Moral Teachings-I	00	01
7.	N/A	Community Service	0	0
Total			14	03

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SWE210	Operating Systems	03	01
2.	CSC250	Computer Networks	03	01
3.	CSC220	Computer Organization and Assembly Language	03	01
4.	CYS260	Professional Practices	03	00
5.	MATH214	Statistics and Probability	03	00
6.	SS215/ SS222	Understanding of Holy Quran-II/Comparative Moral Teachings-II	00	01
Total			15	04

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CSC320	Artificial Intelligence	03	01
2.	CSC330	Analysis of Algorithms	03	00
3.	CYS320	Cyber Security	03	00
4.	CYS330	Information Assurance	03	00
5.	CYS340	Cyber Security Elective-I	03	00
Total			15	01

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CYS350	Digital Forensics	02	01
2.	CYS360	Network Security	02	01
3.	SWE310	Software Engineering	03	00
4.	CYS380	University Elective-I	02	01
5.	CYS390	Cyber Security Elective-II	03	00
6.	ENG301	Technical and Business Writing	03	0
Total			15	03

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CYS400	Vulnerability Assessment and Reverse Engineering	02	01
2.	CYS410	Blockchain Technologies	03	00
3.	CYS420	University Elective-II	02	01
4.	CYS430	University Elective-III	02	00
5.	CYS440	Cyber Security Elective-III	03	00
6.	CYS498	Thesis/Project-I	00	03
		Total	12	05

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SWE420	Secure Software Design and Development	02	01
2.	CYS460	University Elective-IV	02	01
3.	CYS470	University Elective-V	02	00
4.	CYS480	Cyber Security Elective-IV	02	01
5.	CYS499	Thesis/Project-II	00	03
		Total	08	06

5.7.7 Career Opportunities

Cyber Security work within a number of industries based on Internet and computing technologies, telephone networks, radio wave transmission and reception, satellite communication, radar and navigation, etc.

Graduates of the Cyber Security Program can apply technical knowledge and expertise to work as Security Analyst, Security Administrator, Cryptanalyst as well as for managerial jobs such as security consultant.

Pakistan Telecom. Company Ltd. (PTCL)	Oracle Communications
Jazz (Mobilink-Warid)	Comviva Technologies Limited
Telenor Pakistan	Multinet Pakistan
Zong (China Mobile Pakistan)	National Telecom. Corporation (NTC)
Ufone (PTML)	Supernet Limited
SCO (Special Communications Org.)	Wateen Telecom
Wi-Tribe Pakistan	Fiberlink (Cyber Internet Services)
Nayatel	Dancom Pakistan (Instaphone)
WorldCall Telecom Limited	LinkdotNet Telecom Limited
PTCL Smart TV	TeleCard LimitedWorldTel Pakistan
Storm Fiber	Burraq Telecom
Nokia	NetSol Connect
Ericsson	AirLink Communications
ZTE Corporation	Redtone Telecommunications Pakistan

Cisco Systems, Inc.	Nexlinx
Juniper Networks, Inc.	Transworld Associates (TWA)
Motorola Solutions, Inc.	Connect Communications
Samsung Electronics Co., Ltd.	Cybernet Pakistan
IBM Pakistan	Hitech Networks
Siemens Pakistan	Micronet Broadband
Alcatel-Lucent (now part of Nokia)	Go4B (Connect Broadband)
NEC Corporation	WOL Network (Wi-tribe Pakistan)
Pakistan Telecommunication Authority (PTA)	Huawei Technologies
Universal Service Fund (USF)	Ministry of IT & Telecom (MoITT)

5.8 Bachelor of Engineering Technology in Civil (BETC)

5.8.1 The Department:

The Department of Civil Engineering at Mehran University of Engineering and Technology, Jamshoro, stands as a cornerstone of engineering excellence in Pakistan. With a legacy of producing industry leaders, the department has expanded its academic horizons to meet the evolving demands of the global infrastructure sector. By offering the Bachelor of Engineering Technology (Civil), the department bridges gap between theoretical design and field execution. This program is specifically engineered to produce technologists who possess the technical prowess, practical skills, and management capabilities required to transform blueprints into reality, ensuring that the next generation of civil infrastructure is built precision, safety, and innovation. The Department of Civil Engineering is the superior department of the University in terms of infrastructure, student enrollment, and faculty. It provides essential and advanced engineering education according to the requirements of the field. All the classrooms of the department are equipped with audio-visual facilities, and the laboratories have the latest equipment and tools. Highly experienced faculty and technical staff are available to supervise the laboratories.

The Department of Civil Engineering has successfully adopted an Outcome Based Education (OBE) system to meet the criteria of the Pakistan Engineering Council (PEC) as per the Washington Accord. All the class tests, class and field assignments, and semester exams are assessed based on specific course learning objectives associated with each course.

The designed curriculum covers a wide range of various sub-disciplines of the department, including Repair and Maintenance, Structural Technology, Concrete Technology, Geotechnical Technology, Structural Foundation Technology, Irrigation and Drainage Technology, Highway and Transportation Technology, Environmental Technology, Construction Project Management, etc. The courses fulfill the present demand of the construction industry as they are designed by involving industrial experts. Various subjects require tutorials and laboratory work, for which adequate facilities and equipment are available.

The student-centric approach of the department focuses on outcomes from individual students by the end of the course. The students also explore various specialization in research and field through the Project Part works and Field Training assigned to them. The Project Parts are specific to a particular branch of Engineering Technology (Civil), such as Application of Civil Engineering Associated Research Idea, Innovation in Construction Industry, Environmental Technology, and Sustainable Technology, etc. Additionally, students go on field visits to Engineering Technology (Civil) projects, such as water distribution system, bridge and building technology, geotechnical works, etc. During the summer vacations, students are involved in various Engineering Technology (Civil) projects in the form of internships in Engineering Technology (Civil) industry, etc. These internships help them gain field knowledge. The Survey Camp is conducted, which consists of surveying activities such as traversing, contouring, and detailing, and also introduces the usage of the latest technologies of surveying tools in civil engineering technology associated projects.

The Department of Civil Engineering has a well-organized student-based society named American Society of Civil Engineers (ASCE) MUET Chapter. The ASCE MUET Chapter is actively engaged in conducting several curriculum activities in all civil engineering disciplines, apart from which it is also engaged in organizing extracurricular activities through ASPIRE and related circuit events, such as seminars, workshops, training, short courses, sports events, debates, competitions, etc.

The Department of Civil Engineering also offers various postgraduate degrees such as Master of Engineering (M.E.) and Doctor of Philosophy (PhD) in the following fields:

- | | |
|---------------------------|--|
| 1. Civil Engineering | 2. Geotechnical and Highways Engineering |
| 3. Structural Engineering | 4. Construction Management |

Vision of Department

To be a center of excellence in Civil Engineering education and research, producing highly skilled professionals who contribute to sustainable infrastructure development and the socio-economic uplift of the nation through technological innovation and ethical practice.

Mission of Program

The mission of the B.E. Technology (Civil) program is to provide a rigorous, practice-oriented education that equips students with the technical competencies and hands-on experience necessary to solve real-world construction challenges. We aim to foster a spirit of lifelong learning and professional integrity, enabling our graduates to excel in the competitive global construction industry.

Program Educational Objectives (PEOs)

The graduates of the B.E. Technology (Civil) program are expected to achieve the following PEOs within a few years of graduation:

1. Demonstrate a solid foundation in civil engineering technology to execute and manage complex construction projects efficiently.
2. Adapt to emerging technologies and modern tools in the construction industry through continuous professional development and higher education.
3. Exhibit strong leadership qualities, teamwork, and an unwavering commitment to professional ethics and environmental sustainability.
4. Contribute effectively to the development of safe and economical infrastructure solutions that address the needs of the community.

5.8.2 The Faculty:

Chairman of the Department

Prof. Dr. Nafees Ahmed Memon

Phone: 022-2772254-72 /Ext.:7100

Program Coordinator

Dr. Ashfaq Ahmed Memon

MERITORIOUS PROFESSORS:

Dr. Tauha Hussain Ali
PhD, Australia.

Dr. Aneel Kumar
PhD, Japan.

PROFESSORS:

Dr. Rizwan Ali Memon
PhD, Pakistan.

Dr. Nafees Ahmed Memon
PhD, Romania.

Dr. Ashfaq Ahmed Memon
PhD, Pakistan.

Dr. Agha Faisal Habib
PhD, UK.

Dr. Zaheer Ahmed Almani
PhD, UK.

ASSISTANT PROFESSORS:

Engr. Azizullah Jamali
M.E., Pakistan.

Engr. Arshad Ali Memon
M.E., Pakistan.

Engr. Samar Hussain Rizvi
M.E., Pakistan.

Engr. Amjad Ali Pathan
M.E., Pakistan.

Engr. Masroor Ali Jatoti
(On Study Leave)

Engr. Abdul Raqeeb Memon
M.E., Pakistan.

Dr. Ali Raza Khoso
PhD, Malaysia.

Engr. Fida H. Siddiqui
(On Study Leave Abroad)

Engr. Lal Chand
(On Study Leave)

Engr. M. Ali Moriyani
(On Study Leave Abroad)

Dr. Anees Ahmed Vighio
PhD, Malaysia.

Engr. Manoj Kumar
(On Study Leave Abroad)

Engr. Rabinder Kumar
(On Study Leave Abroad)

Dr. Hafiz Usama Imad
PhD, Pakistan.

Engr. A. Qudoos Malano
M.E., Pakistan.

Dr. Fareed Ahmed Memon PhD, Malaysia. (On Lien)	Engr. Farhan Qureshi M.E, Pakistan.	Engr. Izat Ali Sahito (On Study Leave)
Dr. Naeem Aziz Memon PhD, UK. (On Lien)	Dr. M. Rehan Hakro PhD, Pakistan.	Dr. Maroosha Larik PhD, Pakistan.
Dr. Ashfaq Ahmed Pathan PhD, Pakistan.	LECTURERS: Engr. Ali Murtaza Phull (On Study Leave Abroad)	Engr. Ali Raza Lashari M.E., Pakistan.
	Engr. Fahad Ali Shaikh (On Study Leave)	Engr. M. Saleem Raza M.E., Pakistan.

5.8.3 Laboratory Facilities:

The Department of Civil Engineering has following laboratories. All the laboratories are well equipped with advanced and conventional testing equipment:

1. Concrete Laboratory	6. Hydraulics Laboratory
2. Engineering Geology Laboratory	7. Material Testing Laboratory
3. Engineering Mechanics Laboratory	8. Software Laboratory
4. Environmental Engineering Laboratory	9. Soil Mechanics Laboratory
5. Highway Engineering Laboratory	10. Surveying Laboratory

5.8.4 Inventory of Books

The Department of Civil Engineering has a well-furnished Seminar library. The seminar library has a wide collection of about 1100 books encompassing all the areas related to the field of Civil Engineering Technology.

5.8.5 The Courses and Field Training

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CETC101	Introduction to Computer Fundamentals and Programming	1	2
2.	MATH125	Linear Algebra and Calculus	3	0
3.	ENG102	Functional English	2	0
4.	CET101	Civil Engineering Drawing, Drafting, and Interpretation	1	2
5.	CET102	Materials and Methods of Construction	2	2
6.	CETN101	Applied Physics	2	1
		Total	11	07

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CET103	Concrete Technology	2	2
2.	CET104	Surveying	2	2
3.	ENG120	Communication Skills	2	0
4.	PS106	Pakistan Studies	2	0

5.	SS111	Islamic Studies	2	0
6.	SS104	Ethics		
7.	MATH126	Differential Equations	2	0
		Total	12	04

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CET201	Evolution of Architecture and Engineering	2	0
2.	CETN201	Applied Chemistry	2	1
3.	CETH201	Professional Ethics	2	0
4.	CET202	Environmental Technology	1	1
5.	CET203	Fluid Mechanics	2	1
6.	CET204	Mechanics of Solids	2	1
7.	CET205	Geology	1	1
		Total	12	05

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CET206	Transportation and Highway Technology	2	1
2.	CET207	Soil Mechanics	1	2
3.	CET208	Structural Principles	2	0
4.	CET209	Computer Aided Drawing and BIM	1	2
5.	CETN202	Fundamentals of Applied Economics	2	0
6.	ENG202	Technical & Scientific Writing	2	0
7.	MATH214	Statistics and Probability	3	0
		Total	13	05

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CET301	Hydrology	1	1
2.	CET302	Reinforced and Prestressed Concrete	2	1
3.	CET303	Construction Equipment & Jobsite Practices	2	1
4.	CETH301	Human Skills	2	0
5.	CETM301	Construction Planning and Management	1	1
6.	CET304	Electro-Mechanical Technology	2	0
7.	CET305	Project Part-I	0	3
		Total	10	07

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CET306	Geotechnical Site Investigation and Foundations	1	1
2.	CET307	Irrigation Technology	2	0

3.	CET308	Construction of Steel Structures	1	1
4.	CET309	Quantity Surveying and Estimation	2	1
5.	CET310	Maintenance & Repair of Civil Works	1	1
6.	CETM302	Technopreneurship	2	0
7.	CET311	Project Part-II	0	3
Total			09	07

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CET401	GIS and Remote Sensing	2	1
2.	CET402	Ground Improvement Techniques	2	1
3.	CET403	Design Assessment Tools	1	1
4.	CET405	Smart Technologies for Facilities Management	2	1
5.	CET408	Applied Hydraulics	2	1
6.	CET409	Water Supply Systems	1	1
Total			10	06

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	CT-4216	16 Weeks Supervised Industrial/ Field Training (8 x 5 = 40 hours per week)	0	16
Total			00	16

5.8.6 Career Opportunities

Graduates of the Bachelor of Engineering Technology (Civil) program are highly sought after in both the public and private sectors due to their unique blend of technical knowledge and field-ready skills. Career paths include:

1. Technopreneurship: Leveraging technical expertise to launch startups in the construction sector, such as specialized contracting firms, material testing laboratories, or innovative green-building solution providers.
2. Construction & Project Management: Leading site operations, managing labor dynamics, and ensuring projects are delivered on schedule and within budget.
3. Site Work & Supervision: Overseeing the physical execution of structural designs and maintaining rigorous quality control on-site.
4. Quantity Surveying & Cost Estimation: Managing project finances, material take-offs, and contract administration for large-scale developments.
5. Public Sector Infrastructure: Technical roles within government bodies such as the National Highway Authority (NHA), WAPDA, Irrigation Departments, and Provincial Works Departments.
6. Quality Assurance (QA) & Quality Control (QC): Monitoring material standards and construction methodologies to ensure compliance with international codes (ASTM/ACI).

5.9.1 The Department:

Electrical Engineering is a branch of Engineering concerned with the study and application of electricity, electronics and electromagnetism. It also deals with the large-scale electrical systems such as power generation, transmission, distribution and utilization of electrical energy. The department of Electrical Engineering is one of the oldest and prestigious department of the university supported and equipped with highly qualified faculty and technical staff. The department has 27 full-time faculty members. Several faculty members have won prestigious awards for their teaching and research work.

Our department labs serve not only undergraduate and postgraduate students but they also provide services to the public and private sectors like training, equipment testing, calibration and consultancy to academia & industry. Besides academic activities, the department's faculty and students are involved in research and development activities in collaboration with industries.

Increasing Electricity demands, urbanization, industrial growth and oil imports makes Pakistan as electrical deficit country, The Government of Pakistan is focusing for introduction of different technological needs with young professional to provide sufficient electrical technology-based education which can adopt conventional, renewable and hybrid power generation sources, integrate new technology for energy saving and help the industry and government in ever changing demand and policy.

Therefore, the department of Electrical Engineering is launched 04-years Bachelor of Engineering Technology in Electrical program along with existing programs. This new program deals with the design, application, installation, manufacturing, operation, or maintenance of electrical/power systems that are helpful in the electrical equipment & system manufacturing companies, power generation and transmission sector, telecommunication, railways, IT & public sector organizations, and research & design industries.

Vision of the Department:

The vision of the Department of Electrical Engineering is to become an institution that provides state-of-the-art education to aspiring electrical graduates and to evolve as a research-based solution provider to the electrical engineering industry.

Mission of the Program:

The mission statement of Bachelor of Engineering Technology in Electrical program is to provide high quality education that emphasizes the practical application of engineering knowledge with technical skills to produce graduates who will become responsible, and contributing leaders within industry.

Program Education Objectives (PEOs):

The Program Educational Objectives of Bachelor of Engineering Technology in Electrical ensure that after four years of graduation the professionals should be able to.

- PEO 01:** Creatively address and solve engineering technology challenges using innovative approaches.
- PEO 02:** Demonstrate effective performance in professional environment both as an individual and as a collaborative team member.
- PEO 03:** Seek professional development by maintaining a strong commitment to ethics and a perpetual learning mindset.

5.9.2 The Faculty:

Chairman of the Department

Prof. Dr. Asif Ali Shah

Phone: 022-2771351

Coordinator BETE Program
Prof. Dr. Mukhtiar Ahmed Mahar

<u>PROFESSORS:</u> Dr. Asif Ali Shah PhD, Austria.	Dr. Faheemullah Shaikh PhD, China.	Dr. Shoaib Ahmed Khatri PhD, Pakistan.
Dr. Ashfaq A. Hashmani PhD, Germany.	Dr. Mahesh Kumar Rathi PhD, Malaysia.	Dr. Shafi M. Jiskani PhD, Pakistan
Dr. Abdul Sattar Larik PhD, Pakistan.	Dr. Anwar Ahmed Memon PhD, Pakistan.	Dr. Rabail Memon PhD, Pakistan.
Dr. Zubair Ahmed Memon PhD, Pakistan.	Dr. Abdul Hakeem Memon PhD, China.	<u>LECTURERS:</u> Mr. Abdul Latif Samoon M.E, Pakistan.
Dr. Mukhtiar Ahmed Mahar PhD, Pakistan.	Dr. Pervez Hameed Shaikh PhD, Malaysia.	Mr. Faheem S. Channar M.E, Pakistan. <i>(On study leave)</i>
Dr. Ali Asghar Memon PhD, United Kingdom	<u>ASSISTANT PROFESSORS:</u> Mr. Noor Nabi Shaikh B.E, Pakistan.	Mr. Shoaib Shaikh M.E, Pakistan <i>(On Study Leave)</i>
Dr. Amir Mahmood Soomro PhD, China.	Dr. Mansoor Ahmed Soomro PhD, Pakistan.	Mr. Mustafa Memon M.E, Pakistan <i>(On Study Leave)</i>
<u>ASSOCIATE PROFESSORS:</u> Dr. Anwar Ali Sahito PhD, Pakistan.	Dr. Zohaib Ahmed Leghari PhD, Malaysia.	Mr. Amad Ali Pathan M.E, Pakistan.
Dr. Nayyar Hussain Mirjat PhD, Pakistan.	Mr. Abdul Jabbar Memon M.E, Pakistan.	

5.9.3 Laboratory Facilities:

It possesses state of the art laboratories and equipped with latest equipment up to mark for the electrical engineering program such as:

1. Power System Lab.	8. Equipment and Training Lab
2. Power Electronics Lab	9. Applied Electricity Lab
3. Electrical Machines Lab	10. Communication Lab
4. High Voltage Engineering Lab	11. Computer Lab
5. Clean Energy Lab	12. Advance Computer Lab
6. Control and Automation Lab	13. Electrical Workshop Lab
7. Electrical Circuit & Measurement Lab	14. Electrical Power Transmission & Distribution Lab

5.9.4 The Courses:

1ST SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	SS-111/SS-104	Islamic Studies / Ethics	2	0
2.	MATH-125	Linear Algebra & Calculus	3	0

3.	EETN-111	Applied Physics	3	1
4.	EETC-111	Information and Communication Technology	1	1
5.	EET-111	Electrical Workshop	0	2
6.	EET-112	Technical Drawing	0	1
7.	ENG-102	Functional English	2	0
Total			11	05

2ND SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	PS-106	Pakistan Studies	2	0
2.	MATH-126	Differential Equations	2	0
3.	EETM-121	Entrepreneurship	3	0
4.	EETC-121	Computer Programming	1	1
5.	EET-121	Linear Circuit Analysis	2	1
6.	EET-122	Environment, Health and Safety	1	0
7.	ENG-202	Communication Skills	2	0
Total			13	02

3RD SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EETH-211	Professional Ethics	2	0
2.	ENG-302	Technical & Scientific Writing	2	0
3.	MATH-220	Laplace transforms and Analytical Geometry	2	0
4.	EET-211	Electronic Devices and Circuits	2	1
5.	EET212	Logic Circuits and Applications	1	2
6.	EET-213	Electrical Network Analysis	1	1
7.	EETN-211	Applied Chemistry	3	0
8.	PS-107	Ideology and constitution of Pakistan	2	0
9.	SS-214/SS-211	Understanding of Holy Quran-I / Comparative Moral Teaching-I	0	1
Total			15	05

4TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EET-221	Instrumentation and Measurements	2	1
2.	EET-222	Electrical Machines	3	1
3.	EET-223	Signals and Systems	1	1
4.	EET224	Micro-Controller Systems	1	1
5.	EET-225	Electrical Power Transmission	2	1

6.	EETI-221	Applied Thermodynamics	1	1
7.	SS-215/SS-222	Understanding of Holy Quran II / Comparative Moral Teaching-II	0	1
		Total	10	07

5TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EET-311	Control Technology	2	1
2.	EET-312	Communication Systems	2	1
3.	EET-313	Electrical Power Distribution & Utilization	2	1
4.	EET-314	Power Electronics	2	1
5.	EETM-311	Power Economics	2	0
6.	EET-315	Project Part-I	0	3
		Total	10	07

6TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EETM-321	Project Management	2	0
2.	EET-321	Power Generation Technology	2	0
3.	EETC-321	Artificial Intelligence	1	1
4.	EET-322	Industrial Drives & PLC	2	1
5.	EETI-321	Energy & Environment	1	1
6.	EET-323	Project Part-II	0	3
		Total	08	06

7TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	-	Elective Course-I	2	1
2.	-	Elective Course-II	2	1
3.	-	Elective Course-III	2	1
4.	-	Elective Course-IV	2	1
5.	-	Elective Course-V	2	1
6.	-	Elective Course-VI	2	1
		Total	12	06

LIST OF ELECTIVE COURSES

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EET-411	Switch Gear and Protective Devices Technology	2	1
2.	EET-412	Energy conservation & Auditing	2	1
3.	EET-413	Machine Repair & Maintenance	2	1

4.	EET-414	Renewable Energy	2	1
5.	EET-415	Electrification Technology	2	1
6.	EET-416	High Voltage Technology	2	1
7.	EET-417	Electrical safety	2	1
8.	EET-418	Electrical appliances repair	2	1
9.	EET-419	Integrated circuit Technology	2	1
10.	EET-4110	Smart grid Technology	2	1
Total			20	10

8TH SEMESTER

Sr. No.	Course Code	Subject Name	Credit Hours	
			Th.	Pr.
1.	EET-421	Supervised Industrial Training (Compulsory)	0	16
Total			00	16

5.9.5 Career Opportunities:

Engineering Technology in Electrical program deals with the study and practical application of electricity, electronics, and electromagnetism. It integrates various areas of modern engineering and technology, including electrical systems, electronics, communication, instrumentation, and computer-related technologies. The program is designed to equip students with both theoretical knowledge and practical skills required to design, operate, maintain, and manage electrical and electronic systems used in modern industries.

The well-recognized branches of Engineering Technology in Electrical include power systems, energy systems, communication systems, robotics, electronics, and control systems. In a broader sense, the field encompasses a wide range of sub-disciplines such as power generation and distribution, renewable energy technologies, digital and analog electronics, artificial intelligence, automation, instrumentation, signal processing, and telecommunications.

With the rapid advancement of technology and the increasing integration of electrical systems with computer technologies, Engineering Technology in Electrical has become one of the most versatile and dynamic engineering fields. The overlap with computing and information technologies has opened pathways to diverse career opportunities in almost every industrial sector.

Graduates of Engineering Technology in Electrical are prepared to work in various roles such as electrical technologists, maintenance engineers, automation specialists, control system engineers, communication engineers, and technical consultants. They can contribute to the design, installation, operation, and maintenance of electrical and electronic systems across multiple industries.

Engineering Technology in Electrical graduates have employment opportunities in a wide range of public and private sector organizations, including power generation and distribution companies, telecommunications organizations, manufacturing industries, automation and robotics companies, construction and infrastructure projects, research and development institutions, and government departments.

Following are some companies and institutions where graduates of Electrical Engineering Technology can find employment:

1. WAPDA	14. Dawlance United Refrigeration Industries Ltd.
2. Fertilizer Industries	15. Civil Aviation Authority
3. Chemical Industries	16. Johnson & Philips Pakistan Ltd
4. Textile Industries	17. Tuwairqi Steel Mills Ltd.
5. Pharmaceutical Companies	18. National Transmission & Dispatch Co., Ltd.
6. Mechanical & Automobile	19. Philip Morris Pakistan Ltd.
7. K-Electric	20. Technology Links Pvt. Ltd
8. Pakistan Atomic Energy Commission	21. National Electric Power Regulatory Authority
9. Oil & Gas Companies	22. Distribution companies (HESCO, IESCO, PESCO, QUESCO, etc.)
10. Research Institutes	23. Sugar Industries
11. Lucky Cement Factory	24. Karachi Port Trust (KPT)
12. Al Rahim Textile Industries	25. Environmental Network International
13. KAD Consultants Electrical & Solar System Engineers	

6. RESEARCH AND DEVELOPMENT

6.1 PhD Faculty:

PhD faculty is considered to be the backbone of any educational institute; it not only adds to the University ranking but also works for the betterment of community by focusing and proposing solutions to the current problems of the community.

Mehran UET has a significant number of PhDs, apart from PhDs in the core engineering disciplines, the University has PhD faculty also in the subjects of Basic Sciences, Linguistics and Management Sciences.

At Mehran UET, students will learn from renowned researchers and industry leaders recognized globally for their outstanding achievements. They are passionate, brilliant, and dedicated to sharing their insights and discoveries.

6.2 Mehran University Research Journal of Engineering & Technology:

(a) About the Journal

Mehran University Research Journal of Engineering and Technology (MURJET) is an international, multidisciplinary and open access scholarly journal accessible at <https://murjet.muuet.edu.pk/>. This journal publishes high quality original research articles that describe the latest developments and advancements in all the fields of engineering and technology. The journal also considers review and survey papers in its priority areas, primarily by editorial invitation. The journal is recognized by Higher Education Commission Pakistan in the 'X' category and is indexed in Clarivate Web of Science in the 'ESCI' category having an impact factor of 0.6, Directory of Open Access Journals, EBSCO, Inspec, Portico, Gale, Ingenta and other international agencies.

Chief Editor : Prof. Dr. Bhawani Shankar Choudhry
Editor : Prof. Dr. Awais Khatri

Aim and Scope

The journal aims to support academicians, researchers, and practitioners by publishing articles that reflect the latest trends and best practices in engineering and technology. It serves as a platform for addressing and discussing both theoretical and practical advancements within the journal's scope.

MURJET publishes articles covering all engineering and technology applications, including but not limited to the following fields: Civil, Agriculture, Food, Irrigation and Water Supply, Environmental, Mechanical, Chemical, Process, Energy, Electrical, Electronics, Computer Systems, Software, Information Technology, Mechatronics, Automotive, Aerospace and Aeronautical, Naval Architecture and Maritime, Telecommunications, Mining, Metallurgy, Petroleum and Gas, Materials, Polymer, Textile, Biotechnology, Biomedical, Industrial, Urban Engineering, and Planning. Whereas the fields of pure natural sciences, social sciences, management sciences, core medical sciences and humanities are outside the journal's scope include. However, submissions related to engineering and technology applications in applied natural, medical, and health sciences are considered.



(b). **About the Journal**

Repertus a peer reviewed Journal of Linguistics, Language Planning and Policy (e-ISSN 2791-1934) is an initiative of Centre of English Language & Linguistics (CELL), Mehran University of Engineering & Technology (MUET). It welcomes submissions focusing on areas of linguistics, language planning and policy particularly in the context of South Asia and generally worldwide. It focuses on the recent developments on issues related to linguistics-theoretical and practical a wide range of subfields of linguistics. Repertus aims to add the diversity to the linguistic research in overall world scenario. It will also help the researchers who focus on other colonial countries.

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Current Issue

**Repertus: Journal of Linguistics, Language
Planning and Policy, May 2022, Vol 1, Issue 1**
Published: 2022-05-25

The banner features the logos of Mehran University of Engineering & Technology and Repertus Journal. It includes a 'CALL FOR PAPERS 2022' section with a list of themes covered, important dates for submissions, and contact information for the Editor in Chief and Editor. A 'NO SUBMISSION FEE' badge is also present.

MEHRAN UNIVERSITY
OF ENGINEERING & TECHNOLOGY
JAMSHORO, PAKISTAN

REPERTUS
JOURNAL OF LINGUISTICS,
LANGUAGE PLANNING & POLICY

CALL FOR PAPERS 2022

REPERTUS: Journal of Linguistics, Language Planning and Policy
REPERTUS: A peer-reviewed journal of linguistics, language planning and policy welcomes submissions on aspects related to linguistics and language planning and policy, particularly in the context of South Asia and the world.

The themes covered in this journal are but not limited to:

Applied Linguistics	Stylistics and Discourse Analysis	Language and Identity
Corpus Linguistics	Lexicology and Lexicography	Language and Media
Sociolinguistics	Second Language Acquisition	Language Curriculum
Language Policy and Planning	Bilingualism and Multilingualism	Language Endangerment
Phonetics and Phonology	Language, Power and Ideology	English for Specific Purposes
Cognitive Linguistics	Language and Gender	Language Testing & Assessment

IMPORTANT DATES
JUNE 2022
SUBMISSION OPENS
AUGUST 2022
SUBMISSION CLOSES
NOVEMBER 2022
ISSUE PUBLICATION

NO SUBMISSION FEE

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6.3 Conferences, Workshops and Symposia:

International research conferences are aimed to bring together a wide spectrum of international experts to facilitate a creative environment for the promotion of collaboration and knowledge transfer. In particular, a research conference facilitates a dialogue between major industry players, entrepreneurs and academia to help create a roadmap for the development of tangible research environment in the country.

Mehran UET is making history amongst the engineering universities of Pakistan by organizing several international conferences in a single calendar year in diversified fields of engineering. In 2018-19 Mehran UET, hosted many international conferences including 1st International Conference on English Language and Linguistics (ICELL'19), 1st International Conference on Computational Sciences and Technologies with the slogan "Engineering, Science and Technology at the Intersection of Solving Problems to Humanity" (INCCSST'19), 1st International Conference on Sustainable Mineral Resources Development and Utilization (SMRDU'19), 1st International Conference on Computational Sciences and Technologies, 5th International Conference on Energy, Environment and Sustainable Development 2018 (EESD'18). In 2017-18 Mehran UET hosted several international conferences including 5th International Multi Topic Conference (IMTIC'18), 2nd International Conference on Chemical Engineering, 1st International Conference on Sustainable Development in Civil Engineering (ICSDC'17). In 2015-2016, Mehran UET hosted five international conferences including, 4th International Conference on Energy, Environment and Sustainable Development, 1st International Conference on Science, Technology, Innovation Policy and Management, Global

Conference on Wireless and Optical Communications, held in Spain, 1st International Conference on Industrial Engineering and Management, and Management Accountant Conference on Economy Challenges and Opportunity.

Taking the lead in engineering sector of Pakistan, Mehran UET arranged an international conference at Malaga, Spain. Global Conference on Wireless & Optical Communications GCWOC '16, with the collaboration of University of Malaga.

Beside conferences a number of workshops and symposia of national and international repute were called upon at Mehran UET including, 1st International Training Workshop: Industrial Clusters in Sindh Fostering Research & Development, Comprehensive Training on Garment Engineering, Workshop "Institutional Repository Management (D Space) IRM-2018", 33rd All Pakistan IEEEEP Students Seminar, Mehran University Education Expo 2017, International Seminar and Workshop on Design of Tall Buildings: Trends and Advancements for Structural Performance.

The above organized technical meetings are a tangible proof of the fact that Mehran UET is well aware of the current demands and issues of our society and the University is constantly contributing its share to work for the betterment of the community. This also helps to aware our students of the current market trends and better guide them to be parallel with those trends.

6.4 Office of Research Innovation and Commercialization (ORIC):

The Office of Research Innovation and Commercialization (ORIC) at Mehran University of Engineering and Technology (MUET) is an office that was notified by the Higher Education Commission (HEC) on February 26th, 2018. The purpose of ORIC is to develop linkages with emerging and existing business firms nationally and internationally for technological innovation and commercialization of research. ORIC serves as an umbrella to coordinate with researchers and the business community. ORIC has a number of initiatives that it is working on to achieve its goals. These initiatives include:

- Establishing a business incubation center at the Innovation and Entrepreneurship Centre (IEC). The business incubation center will provide space, mentorship, and other resources to start-up businesses that are based on research conducted at MUET.
- Developing a science and technology park to invite companies to establish their offices/headquarters within the university. The science and technology park will provide companies with access to MUET's research facilities and talent.
- Participating in community service to help as a channel to local, regional, and federal partners to ensure research outcomes contributing to the growth of the country's economy. ORIC will work with local, regional, and federal partners to identify and address the needs of the community. ORIC will also work to promote research and innovation within the community.
- Develop a mechanism for research commercialization and establish a business/ technology incubator to promote innovation and entrepreneurship culture. ORIC will work to develop a mechanism for research commercialization that will allow researchers to translate their research into marketable products and services. ORIC will also establish a business/technology incubator to promote innovation and entrepreneurship culture within the university.

Vision:

To be a leading hub of research, innovation, knowledge transfer, and commercialisation, contributing to national economic growth and societal well-being.

Mission:

“To foster a vibrant research ecosystem that drives innovative solutions to technological challenges, and promoting the commercialisation of discoveries, by strengthening partnerships with industry and academia, while contributing to sustainable development.”

1. Major Achievements of ORIC For the Year 2024-2025

○ Research Excellence:

Sr. No.	Title	Total No.
1.	Research Projects (won through HEC) or (won through non-HEC source) Completed (which were due to be completed this year).	17
2.	Policy Advocacy or Case Studies Presented to Government Departments.	21
3.	Research Links established with other HEIs/Corporate Sector/Industry/Community (National/International).	58
4.	Volume of Contract Research Awarded by Industry or Government Organization (National or International).	32
5.	Consultancy Contracts Executed through ORIC with Industry, Commerce or Government.	16

○ Innovation and Commercialization:

Sr. No.	Title	Total No.
1.	IP Disclosures Made with Patent Department / Patent Attorneys etc. (at National/ International Level).	27
2.	Research products/process/prototype gone into prefeasibility/industrial scale testing or prototype development.	24
3.	Number of Visits by Representatives of Industry or Community Members Regarding Potential Research Subjects.	19
4.	Non-Exclusive or Exclusive Licenses Signed (at National / International Level).	1
5.	Agreements Signed for Collaboration with Industry, Government or Community (at National / International Level).	18

○ Sustainability and Capacity Building:

Sr. No.	Title	Total No.
1.	Annual Research Revenue Generated by ORIC through Research Grants, Projects, Joint Research Projects.	3
2.	Trainings/Workshops/Seminars/Conferences Arranged by ORIC on Research, Innovation, & Commercialization etc. for Faculty, Researchers and Research Students.	21
3.	Exhibitions / Showcasing Events / Industry Linkages Fair / Seminars / Industry or IP & Licensing Stimulus Arranged by ORIC.	7
4.	Trainings / Workshops / Seminars / Conferences Arranged on Research, Innovation, & Commercialization Ecosystem etc. for ORIC Personnel.	10
5.	Trainings / Workshops / Seminars / Conferences Arranged by other HEIs / National or International CB Partners on Research, Innovation, & Commercialization etc. for Faculty, Researchers and Research Students.	25

➤ UNIVERSITY INDUSTRY LINKAGES

The University has strong ties with the regional and national industries. Some of the renowned national, multinational and international organizations are listed below:

Sr. No.	Names of the National and International Organizations
1.	Thermal Power House, Jamshoro.
2.	Colgate Palmolive Company (Pvt.) Ltd., Kotri.
3.	Hitech Spiral & Pipe Mill, Kotri.

4.	Kotri Power Plant, Kotri.
5.	Guddu Thermal Power Plant, Kashmore.
6.	Sui Southern Gas Company Limited, Hyderabad.
7.	Pakistan Beverages Limited, Hyderabad.
8.	Training Institute Civil Aviation Authority, Hyderabad.
9.	Sitara Foundry & Engineering Works, Hyderabad.
10.	Fateh Textile Mill, Hyderabad.
11.	Younus Spining Mill Private Limited, Nooriabad.
12.	Popular Food Industry, Tando Adam.
13.	Thatta Cement Factory, Thatta.
14.	Unicol Distillery Plant, Mirpurkhas.
15.	Engro Power Generation, Ghotki.
16.	Karachi Tools, Dies and Molds Center, Karachi.
17.	Glaxo Smith Kline, Darkyard Korangi, Karachi.
18.	Karachi Electric Supply Company, Karachi.
19.	Pakistan Steel Mills Corporation, Bin Qasim, Karachi
20.	Pakistan International Airlines, Karachi.
21.	Pakistan State Oil (PSO), Karachi.
22.	Pakistan Machine Tool Factory (PMTF), Karachi.
23.	Siemens Pakistan Engineering Co. Ltd, Karachi.
24.	ENI Pakistan Ltds., Karachi.
25.	Pakistan Council for Scientific and Industrial Research (PCSIR), Karachi.
26.	Pak Suzuki Motors (Pvt.) Ltd., Karachi.
27.	Toyota Indus Motors, Karachi.
28.	Pakistan Software Export Board, Karachi.
29.	Engro Polymer & Chemical, Karachi.
30.	Engro Corporation Limited, Karachi.
31.	Byco Petroleum Pakistan Limited, Karachi.
32.	Shell Pakistan, Karachi.
33.	Raiwind Chemicals Port Qasim Limited, Karachi.
34.	Petroleum Exploration Limited, Karachi.
35.	Pakistan Council of Scientific & Industrial Research, Karachi.
36.	Crescent Steel & Allied Products Limited, Karachi.
37.	Millac Private Limited, Korangi, Karachi.
38.	Kestral Logistics Ltd., Karachi.
39.	Atlas Honda Engineering, Karachi.
40.	Pakistan Petroleum Limited, Dira Bughti.
41.	Agree Autos Industries Limited, Hub Balochistan.
42.	Fauji Fertilizer, Sadiqabad, Raheem Yar Khan.
43.	Pak Arab Fertilizer, Multan.
44.	Kohat Cement Factory, Kohat.
45.	Heavy Industries (HIT), Taxila.
46.	Heavy Mechanical Complex (HMC), Taxila.
47.	Sitara Textile Mill, Faisalabad.
48.	Dawood Textile Mill, Faisalabad.
49.	Attock Refinery Limited, Rawalpindi.
50.	Polish Oil & Gas Company (Pakistan), Islamabad.

Although the University does not share its research outcomes with the above organizations neither it invites these organizations for their problem solutions at the state-of-art laboratories of the University at the moment. Nevertheless, the University provided opportunity to the leading local, national and multinational organizations to set, modify and update its syllabi in accordance with the needs and demands of the national and international markets.

➤ INTERNSHIP AND PLACEMENT OFFICE

The Directorate of Industrial Liaison is responsible for sending the University students for internship to several national and international organizations. The Directorate has sent around **5,979 students** for obtaining practical training / apprenticeship about **1,323 regional, national, multinational and international industries** during the period under report. The Directorate of Liaison has hosted several test / interviews from the national and multinational organizations for the placement of the University of graduates during 2012-14.

➤ STUDENT COUNSELING AND CAREER GUIDANCE

The Directorate of Industrial Liaison is also responsible for providing counseling and career guidance to the students to some extent. Whereas, a full-fledged counseling and career guidance facilities on regular basis at advanced level is yet to be extended to University student and graduates keeping in view their needs and requirements of the national and international job markets in the diversified engineering & management fields.

➤ MEMBERSHIPS WITH ASSOCIATIONS / NETWORKS

1. Association of Commonwealth Universities (ACU), UK. - 1998-99.
2. UNESCO International Centre for Engineering Education (UICEE), Australia – 2000.
3. Federation of the Universities of Islamic World (FUIW), Rabat, Morocco – 1999.
4. Commonwealth Universities Study Abroad Consortium (CUSAC), UK. - 2000-2001.
5. Community of Science (COS), USA – 2001.
6. Pakistan National Committee on Irrigation Drainage (PANCID) – 2001.
7. APQN – Asian Pacific Quality Network – 2007.

➤ INTERNATIONAL ACADEMIC LINKAGES

International Academic Linkages are basically agreements between the national and international institutions, established to:

- Strengthen the ties between the two institutions.
- Facilitate learning and teaching including the development of a program leading to an award.
- Exchange students for a given period through a recognized exchange program.
- Exchange faculty members of the institutions.
- Exchange documentation and research material of the institutions.
- Co-ordinate through their respective offices for joint or collaborative research projects on mutually agreed topics.
- Promote mutual understanding in the fields of education, science and culture, and to offer new horizons and opportunities for faculty and students from both institutions.
- Establish and maintain formal relationships on a stable and long-term basis.
- Use the information available about technologies, development of material and technical potential of the intuitions more effectively.
- Contribute to the consolidation of higher education in Pakistan, the development of material and technical resources of MUET.
- Contribute to the curricula by considering international standards and mastering new technologies.
- Establish and maintain cooperation for cultural understanding among Pakistani and other nations.
- Establish and sustain direct contacts between the departments, laboratories and chairs of the institutes.
- Publish articles of the faculty members and students of the institutions and informing other institutions about the scientific events, conferences, symposia, etc.
Invite representatives of the other institutions for participation in these events.
- Develop cooperation between libraries, including the exchange of scientific and educational literature and the exchange of the new developments in information technology and knowhow.

Sr. No.	Name of the Institute
1.	University of Nottingham, UK.
2.	Montana Universität, Leoben, Republic of Austria.
3.	University of Leeds, UK.
4.	Colorado State University, Fort Collins, Colorado, USA.
5.	Kyushu Institute of Technology, Japan.
6.	University of Central Florida. USA.
7.	Middle East Technical University Ankara, Turkey.
8.	University of Illinois, at Urbana, Champaign, USA.
9.	University of Exeter, UK.
10.	Aalborg University Esbjerg, Denmark.
11.	University of Southampton, UK.
12.	Asian Institute of Technology (AIT), Bangkok, Thailand.
13.	University of Bedfordshire, UK.
14.	University of Pittsburgh, Pennsylvania, USA.
15.	Global University, Beirut, Lebanon.
16.	Faculty of Engineering, University of Southern Denmark, Denmark.
17.	City University, London, UK.
18.	The United States Educational Foundation in Pakistan, Islamabad.
19.	Charles Sturt University, Australia.
20.	Alborg University, Center for Teleinfrastruktur (CTIF), Denmark.
21.	Brunel University, West London, UK.
22.	Technische Universität Darmstadt, Germany.
23.	University of Malaya, Malaysia.
24.	Shenyang Aerospace University, Shenyang, China.
25.	School of Environment, Tsinghua University Beijing, P.R. China.
26.	International Islamic University Malaysia, Malaysia.
27.	University of Malaga, Spain.
28.	University of Limerick, Limerick, Ireland.

➤ NATIONAL ACADEMIC LINKAGES

Sr. No.	Name of the Institute
1.	Preston University, Karachi.
2.	Pakistan Space & Atmosphere Research Commission (SUPARCO), Karachi, Pakistan.
3.	Benazir Bhutto Shaheed Youth Development Program, Works & Services Department, Government of Sindh, Pakistan.
4.	Benazir Bhutto Shaheed Youth Development Program, Irrigation & Power Department, Government of Sindh, Pakistan.
5.	Isra University, Hyderabad, Sindh, Pakistan.
6.	Pakistan Council of Scientific & Industrial Research, Islamabad, Pakistan.

Keeping in view the current progress of the faculty research and industrial demand following priority areas are recommended for the graduate studies:

A) Priority Areas for Research Crucial for Graduate & Undergraduate Studies:

1. Sustainable Development and Environmental Sciences

○ **Focus Areas:**

- Climate change mitigation and adaptation
- Renewable energy sources and technologies
- Biodiversity conservation and ecosystem management
- Sustainable agriculture and food security

○ **Rationale:**

- Addressing global challenges related to environmental sustainability and aligning with international goals such as the UN Sustainable Development Goals (SDGs).

2. Biotechnology

○ **Focus Areas:**

- Infectious diseases and epidemiology
- Genomics and personalized medicine
- Drug discovery and vaccine development
- Public health and health policy

○ **Rationale:**

- Contributing to advancements in medical sciences, improving healthcare outcomes, and responding to emerging global health challenges.

3. Information Technology and Artificial Intelligence

○ **Focus Areas:**

- Machine learning and data science
- Cybersecurity and privacy
- Human-computer interaction and user experience
- Software engineering and development

○ **Rationale:**

- Leveraging the growing influence of IT and AI across various industries, fostering innovation, and supporting digital transformation.

4. Social Sciences and Humanities

○ **Focus Areas:**

- Social justice, equity, and human rights
- Cultural studies and heritage preservation
- Education reform and pedagogical innovation
- Political science and governance

○ **Rationale:**

- Promoting interdisciplinary research that addresses societal issues, enhances cultural understanding, and informs policy-making.

5. Engineering and Applied Sciences

○ **Focus Areas:**

- Advanced materials and nanotechnology

- Sustainable infrastructure and smart cities
- Robotics and automation
- Renewable energy engineering
- **Rationale:**
 - Supporting technological advancements that drive innovation in engineering, contributing to industrial development and societal well-being.

6. Business and Management Sciences

- **Focus Areas:**
 - Entrepreneurship and innovation management
 - Supply chain management and logistics
 - Corporate governance and ethics
 - Financial technology (FinTech) and digital banking
- **Rationale:**
 - Enhancing business practices, fostering entrepreneurial ecosystems, and responding to the evolving landscape of global business.

B) Strategic Direction of Research Initiatives:

1. Alignment with Global Challenges and National Priorities

- **Objective:** Ensure that research initiatives are aligned with pressing global challenges, such as climate change, public health, and technological advancement, as well as national development priorities.
- **Actions:**
 - Identify key global and national issues where the University can make a significant impact.
 - Prioritize research funding and resources towards projects that address these challenges.
 - Engage with government bodies, industry partners, and international organizations to align research goals with broader societal needs.

2. Interdisciplinary and Collaborative Research

- **Objective:** Foster interdisciplinary research that brings together diverse fields of study to solve complex problems.
- **Actions:**
 - Create collaborative research centers that integrate disciplines such as environmental sciences, health sciences, engineering, and social sciences.
 - Encourage joint research projects with other universities, research institutions, and industry.
 - Promote cross-disciplinary dialogue through workshops, seminars, and collaborative grant opportunities.

3. Innovation and Commercialization of Research

- **Objective:** Translate research outcomes into innovative products, services, and technologies that benefit society and contribute to economic growth.
- **Actions:**
 - Strengthen the Office of Research, Innovation, and Commercialization (ORIC) to support patenting, licensing, and commercialization of research outputs.
 - Establish incubation centers and accelerators to support startups and spin-off companies originating from university research.
 - Develop partnerships with industry to facilitate the transfer of technology and knowledge.

4. Capacity Building and Research Excellence

- **Objective:** Build research capacity by investing in infrastructure, training, and talent development to achieve research excellence.
- **Actions:**
 - Invest in state-of-the-art research facilities, laboratories, and equipment.
 - Provide professional development opportunities for faculty and researchers, including workshops on grant writing, research methodology, and publication strategies.
 - Recruit top talent and support the retention of leading researchers through competitive funding, recognition, and career development programs.

5. Global Engagement and International Collaboration

- **Objective:** Enhance the University's global research presence through international collaborations, partnerships, and participation in global research networks.
- **Actions:**
 - Establish strategic partnerships with leading international universities and research institutions.
 - Encourage faculty and students to participate in international conferences, joint research projects, and exchange programs.
 - Pursue international funding opportunities and collaborative grants to support large-scale, cross-border research initiatives.

6. Impact-Oriented Research and Community Engagement

- **Objective:** Ensure that research initiatives have a tangible impact on communities, both locally and globally, by addressing real-world problems and contributing to societal well-being.
- **Actions:**
 - Promote research that addresses community needs, such as public health, education, and environmental sustainability.
 - Engage with local communities to co-create research projects and disseminate findings in accessible ways.
 - Establish outreach programs that connect university research with policymakers, practitioners, and the general public.

7. Sustainability and Ethical Research Practices

- **Objective:** Integrate sustainability and ethics into the core of all research activities to ensure responsible and socially responsible research.
- **Actions:**
 - Develop guidelines and policies that promote ethical research practices, including data integrity, human subject protection, and environmental responsibility.
 - Encourage research that explores sustainable solutions and practices across various disciplines.
 - Monitor and evaluate the social, environmental, and economic impact of research initiatives.

Arif A. Jalbani

Manager Research Ops & Development

ORIC, Mehran UET, Jamshoro, Sindh

Ph.: 022-2772250-73 / Ext: 6503

oric@admin.muuet.edu.pk

7. CAMPUS LIFE

7.1 Directorate of Admissions

7.1.1 Introduction

The Directorate of Admission at Mehran University of Engineering & Technology (MUET), Jamshoro, serves as the central administrative body responsible for overseeing the university's admission processes. It ensures transparency, merit, and efficiency in the enrollment of students across various undergraduate and postgraduate programs. The directorate operates under the university's academic policy framework and coordinates with faculties and departments to facilitate smooth, timely, and fair admissions each academic session.

Vision:

To be a leading admission office recognized for excellence in service, integrity in process, and inclusivity in access-supporting MUET's commitment to academic excellence and nation-building.

Missions:

- To administer an efficient, transparent, and student-centric admission process.
- To uphold the principles of merit, equity, and accessibility in all admission procedures.
- To support the strategic goals of MUET by attracting talented students from diverse backgrounds.
- To continuously improve admission practices through the use of digital platforms and data-driven decision-making.
- To collaborate with internal and external stakeholders to enhance the applicant experience.

7.1.2 Role and Responsibilities:

- Develop and implement admission policies in alignment with the university's academic framework.
- Manage the end-to-end admission cycle, including announcement, application collection, entrance test arrangements, evaluation, and merit list publication.
- Coordinate with academic departments to ensure the timely availability of program offerings and seat allocations.
- Maintain and upgrade the online admission portal for a seamless applicant experience.
- Provide guidance and support to prospective students regarding eligibility criteria, documentation, and admission timelines.
- Ensure compliance with the Higher Education Commission (HEC) and Government of Sindh admission guidelines.
- Facilitate the implementation of quotas, reserved seats, and special categories as per university policy.
- Address queries, appeals, and grievances related to the admission process.

7.1.3 Key Achievements:

- **Digital Transformation:** Successfully launched and maintained an efficient online admission portal, minimizing manual processes and increasing accessibility.
- **Record Applications:** Achieved a consistent year-on-year increase in the number of applications, reflecting the credibility of MUET's programs and transparent admission practices.
- **Entrance Standardization:** Developed and implemented a standardized entrance mechanism via Interviews ensuring fair evaluation of applicants.
- **Stakeholder Coordination:** Established strong coordination with faculties, examination department, and IT services to ensure streamlined operations.

- **Data-Driven Insights:** Integrated data analytics to monitor application trends, enabling strategic planning and improved resource allocation.
- **Inclusive Practices:** Ensured the implementation of special quotas, inclusion policies, and reserved seats to foster diversity

Saleem Siddiqui

Directorate of Admissions

Mehran UET, Jamshoro.

Ph. No.: 022-2771704 / **Ext. Nos.:** 7701-04 and 7717

Email: admissions@admin.muet.edu.pk

Website Link: <https://admissions.muet.edu.pk/index.php>

7.2 Student Teacher Centre (STC):

This University has established Student Teacher Centre to provide communal facilities to students and staff. STC has been constructed over an area of 20,000 sft. as per Vision & Perspective Plan of the University. The Centre hosts the following:

7.2.1 Indoor Sports & Communal Facilities:

- Information Service
- Students' Advisory Office
- Hostel Provost Office
- Students' Welfare Office
- Dispensary
- Tuck Shop
- Bank Counter
- Cafeteria (for Boys & Girls)
- Debating and Dramatic Society Office
- Indoor Games
- Alumni Office

7.3 Muet Library & Online Information Center, Jamshoro:

The Mehran UET, Library & Online Information Center contains more than **182800** books related to Engineering Science and Technology. The library has online e-resources under Higher Education Commission Digital Library Program. The access of **11 e-databases** for electronics Research journals, Research thesis online e-books available under e-brary program which are accessed within the University campus and outside the campus in full text format.

There are more than **32004** text books in the Book Bank which are loaned to students for one term on nominal rent. The collection of books is updated continuously and new books are acquired on the recommendations of experienced faculty members, which makes collection most suited and beneficial to graduate and under-graduate students. In addition, latest reference and other books are also acquired every year to keep the users of the library abreast with the latest information on Science & Technology specially engineering and its allied subjects.

In addition to providing the readers with in-house collection, services are also provided for inter-library loan and photocopying of literature including technical information centers within and outside Pakistan.

The Mehran UET Library & Online Information Center also offers following services:

- **The E-Resources for Online Classes have been established to support the students during COVID-19 and are available on the following link:**

- library.muet.edu.pk/ebooks.php
- MUET Library & Online Information Center offer service of e-resources to under graduate, post graduate students and faculty members for their research project, assignments online classes through Library Web page during the **COVID-19**.
- The MUET Library provides the facility of Multimedia & Research Development Center, which includes softcopy of books, CD/DVD Writing, Scanning and printing to students, faculty members and researchers. Multimedia & Research Center also provide space for researcher with I-7 Computer (Wireless Headphones; Hi Fi Audio system) connected with Wi-Fi Networks. Full access of HEC Digital Library provided possible assist to create bibliography of work electronically (Endnote, Mendeley, Zotero). In Multimedia & Research development Center research articles and e-books are provided to the faculty members and students on their demands.
- The MUET library offer the trainings program regarding awareness of HEC digital library resources ebrary, science direct and IEEE to the students of all faculties of the University.
- There are also blogs muetloic.blogspot.com to give the awareness trainings regarding HEC Digital Library, muetloiceresources.blogspot.com access of E-books, Journals, Tutorials and Thesis's Guidance, video lectures, dictionaries and encyclopedias etc.
- The Catalog of books is computerized and accessible to the library of Congress gateway loc.gov/z39.50 serving one point access interface for books catalog, full text electronic journals, and e-books on the web.
- Koha Catalogue is also available with check in check out system for library users on opac.muet.edu.pk
- The MUET Library & Online Information Center also offered Wi-Fi service in the whole Library inside/outside Building.
- The library is open from 8:00 am to 12:00 Midnight whole the year heavily used by undergraduate and postgraduate students, faculty members, and researchers.
- Professional staff available at service points to meet the needs of the readers. Besides this under the library system program seminar libraries have been established in various institutes/ departments.

For further information, please contact:

Zahid Hussain Sahito

Librarian

Tel. No. 022-2771169 / Ext. No. 6300

Email: librarian@admin.muet.edu.pk

7.4 Student Financial Aid Office (SFAO)

Student Financial Aid Office (SFAO)

SFAO-MUET helps to eliminate financial obstacles and elevates the socio-economic position of the needy, deserving, and deprived students for the entire course of study by providing access to quality education through Need-based and Merit Scholarships / Financial Assistance. The Primary goal of SFAO-MUET and the Motto of our Worthy Vice Chancellor, Mehran University of Engineering and Technology is that **“No Student shall leave the University, due to the financial crisis”**.

At the inception of SFAO-MUET, there were only three scholarships. The office with the help of management, guidance of the Focal Person SFAO and generosity of the national and international donors / Partners, *i.e.*, Higher Education Commission HEC, Islamabad, USAID Pakistan, USA, Sindh Education Endowment Fund (SEEF), Professional Education Foundation (PEF), Karwan-E-Ilm Foundation, Thar Foundation, PMLTC, Pakistan Cables, SEAFA, SENA, HBL, Mehran UET and many other donors have now achieved more than 40 scholarships.

To accomplish the primary objective, the office also establishes the following objectives:

- To provide financial relief to deserving and needy students.
- To provide quality advising services by addressing individual student needs and responding to student inquiries promptly.
- To use effective procedures to ensure that the funds are provided to students who prove the greatest financial need.
- To comply with all prescribed rules, regulations, and policies of financial aid and scholarship programs as set by the Donor Agencies and the University



The ISAC Interviews for Need Cum Merit Scholarship Funded by the Zakat & Ushr Department Government of Sindh.



Cheque Distribution Ceremony for Pak-Matiari Lahore Transmission Company (PMLTC) scholarship awardees organized by SFAO-MUET with the collaboration of PMLTC.



MoU Signing with Thar Foundation held at SECMC at Islamkot.



The ISAC Interviews for SFAO Scholarship Opportunities

7.4.1 List of Donors / Scholarships Opportunities:

Sr. No.	Name of Donor	Name of Scholarship
1	Mehran UET, Jamshoro	Internal Merit Scholarship, Mehran UET, Jamshoro.
2	Mehran UET, Jamshoro	Student Advancement & Endowment Fund (SAEF) Scholarship, Mehran UET, Jamshoro.
3	Mehran UET, Jamshoro	Financial Assistance on Poverty Basis, Mehran UET, Jamshoro.
4	Mehran University Teachers Association (MUTA)	MUTA – Need Cum Merit Scholarship
5	Mehran University Officer Welfare Association	MUOWA Scholarship
6	Higher Education Commission (HEC), Islamabad	Ehsaas Undergraduate Scholarship Program
7	USAID Pakistan with the collaboration of HEC, Islamabad	PAK USAID MNBSP Merit & Needs Based Scholarship.

8	Ministry of Religious Affairs, Islamabad	Minority Scholarship
9	Endowment Fund Scholarship, Education & Literacy, Karachi, Sindh	Sindh Educational Endowment Fund Scholarship
10	Higher Education Commission (HEC), Islamabad	HEC, Provision of Higher Education Opportunities for the Students of Balochistan & FATA
11	Directorate of Collages Higher and Technical Education Balochistan, Quetta.	Directorate of Collages Higher and Technical Education Balochistan, Quetta.
12	Mr. Tufail Ahmed Memon and Friends from USA	SEAFA Scholarship
13	Mr. Noor Muhammad Khan	NKB Need Based Scholarship
14	Institution of Engineering Pakistan, Saudi Arabian Center.	IEP-SAC Scholarship
15	Professional Educational Foundation, Karachi	PEF Scholarship
16	United Memon Jamat of Pakistan	United Memon Jamat of Pakistan Scholarship
17	The Citizen Foundation	Citizen Foundation Scholarship
18	Madam Rosy Ilyas, Retired Professor ELDC, MUET.	Dr. Ilyas Ishqie (Late) Merit cum Need Scholarship (For BS-English Only)
19	Madam Rosy Ilyas, Retired Professor ELDC, MUET.	Dr. Ilyas Ishqie Need cum Merit Scholarship Program
20	Sachal Engineering Works (Pvt)	Sachal Engineering Works (Pvt.) Need cum Merit Scholarship
21	Karwan-E-Ilm Foundation	Karwan-E-Ilm Foundation, Lahore
22	Habib Bank Limited, Jamshoro	HBL PLATINIUM Scholarship
23	Ministry of Religious Affairs & Interfaith Harmony	Minority's Scholarship
24	Balochistan Education Endowment Fund (BEEF)	BEEF "Out of the Province Scheme" Partially Funded Scholarship Scheme for students of Balochistan
25	British Council	Scotland Pakistan Scholarship for Young Women and Girls
26	Fauji Fertilizer Company (FFC)	Sona Ward of Farmers Scholarship Scheme
27	Bank Alfalah	Alfalah Scholarship
28	Govt of Punjab	Punjab Educational Endowment Fund PEEF scholarship
29	Office of Deputy Commissioner Kambar – Shahdadkot District	Kambar – Shahdadkot Need cum Merit Scholarship
30	Higher Education Commission, (HEC)	Undergraduate Scholarship Program for the Students of Gilgit Baltistan
31	Office of Deputy Commissioner Khairpur	Khairpur Need cum Merit Scholarship 2023
32	Mr. Mir Mahmood Khan Talpur	Late Shahnaz Talpur Need cum Merit Scholarship
33	Mr. Bashir Ahmed Memon	Zeb-un-Nisa and Fatima Zakat/ Need Cum Merit Scholarship
34	Pakistan Cables Limited, Karachi	Pakistan Cables Limited

35	Pakistan Education Endowment Fund (PEEF), Islamabad	Pakistan Education Endowment Fund (PEEF) For Artificial Intelligence & Cyber Security Program
38	Pak Matiari-Lahore Transmission Company (PMLTC) Need cum Merit Scholarship	Pak Matiari-Lahore Transmission Company (PMLTC)
39	Thar Foundation, SECMC, Tharparkar	Thar Foundation Scholarship
40	Engr. Hizbullah Memon	1. Late Ms. Najma Ali Scholarship 2. Late Mr. Nooruddin Memon Scholarship
41	Prof. Dr. Tauha Hussian Ali	1. Late Ms. Saman Sacharvi Scholarship 2. Late Mr. Ghulam Hussain Sacharvi Scholarship
42	Sindhi Association of North America (SANA)	SENA Scholarship

Dr. Sikandar Mustafa Almani

Focal Person, Student Financial Aid Office, MUET

Tel. No.: +92 22 2771274.

Exchange: +92 22 2772250-72 / Ext. 7715

Email: sfao@admin.muuet.edu.pk

FB Page: <https://www.facebook.com/SFAO2006>

WhatsApp Page: <https://whatsapp.com/channel/0029Vb6KK7E8F2pAEjhCJM17>

7.5 Students' Advisory Committee:

Introduction of the Office of Advisor Students' Affairs

Mehran University Students' Advisory Committee was formed to bridge the gap between the administration, teaching community, and students. The Committee helps students to organize academic and social activities and to resolve their academic and legal grievances.

Role of the Students' Affairs Office

The committee leads, directs, and administers overall functions of student societies, student counseling, hostel residence allocation, as well as matters related to disciplinary issues. The important role of the Student Affairs Office is to enhance the quality of student experience both in and outside of the classroom.

The Advisory Committee also provides proactive support and capacity-building services to promote co-curricular activities to enhance the interpersonal skills of the students.

Achievements of the Directorate / Center / Section / Office

The Student Affairs Office has maintained a friendly environment to guide the students. It manages their needs from the time they step in the University until their graduation. We provide proactive support and capacity building services to promote healthy co-curricular activities to enhance interpersonal skills of the students. Using the platform of the Students' Affairs Office, students have built strong relationships with their peers, faculty, administration, and other stakeholders of the University.

The Mehran University Students' Advisory Committee is composed of the following members:

Prof. Dr. Abdul Fatah Abbasi

Advisor Students' Affairs

Landline: 0222772251-72 (Ext: 2030)

Email: asa@admin.muuet.edu.pk

Prof. Dr. Nasrullah Pirzada

Deputy Advisor Student' Affairs

Landline: 0222772251-72 (Ext :)

Email: nasrullah.pirzada@faculty.muuet.edu.pk

Dr. Muhammad Shuaib Shaikh
Deputy Advisor Students' Affairs
Email: shuaib.shaikh@faculty.muett.edu.pk
Landline: 0222772251-72 (Ext: 4417)

Dr. Sahib Khatoon
Deputy Advisor Student' Affairs
Landline: 0222772251-72 (Ext: 6600)
Email: sahib.khatoon@faculty.muett.edu.pk

Dr. Naveed Ahmed Mengal
Deputy Advisor Student' Affairs
Landline: 0222772251-72 (Ext: 6114)
Email: naveed.mengal@faculty.muett.edu.pk

Engr. Junaid Ahmed Baloch
Deputy Advisor Students' Affairs
Landline: 0222772251-72 (Ext: 6909)
Email: junaid.baloch@faculty.muett.edu.pk

Dr. Ali Raza Khoso
Deputy Advisor Students' Affairs, Landline: 0222772251-72 (Ext :)
Email: ali.khoso@faculty.muett.edu.pk

7.6 Quality Enhancement Cell (QEC):

Ensuring quality education is a cornerstone of any leading institution, and the Quality Enhancement Cell (QEC) at Mehran University of Engineering and Technology (MUET), Jamshoro, plays a pivotal role in this mission. Since its establishment in 2001, the QEC has been instrumental in elevating academic standards and fostering a culture of continuous improvement. Originally founded as the ISO 9000 Cell, it successfully implemented the ISO 9000 Quality Management System (QMS) in 2003, reinforcing MUET's commitment to global quality standards. In 2007, the cell was rebranded as the QEC, expanding its scope to enhance institutional performance and academic excellence across the university.

7.6.1 Role and Responsibilities:

The QEC serves as a crucial bridge between the Higher Education Commission (HEC) of Pakistan and MUET, fostering collaboration with quality personnel from other institutions to cultivate academic excellence. The dedicated team at QEC ensures adherence to both HEC's quality assurance criteria and ISO 9000 standards through various initiatives, including:

- Comprehensive Self-Assessments (SA)
- Institutional Performance and Enhancement Reviews (RIPE)
- Postgraduate Program Reviews (PGPR)
- Internal Quality Audits (IQA)
- Management Reviews (MR)

In addition to these core responsibilities, the QEC actively promotes academic integrity, leading anti-plagiarism initiatives through seminars, workshops, and conferences to uphold ethical research and learning practices.

7.6.2 Key Achievements:

The QEC's relentless pursuit of excellence has resulted in several noteworthy accomplishments:

- **ISO Certification:** Secured ISO 9001:2015 certification for three consecutive years from Lloyd's Register Quality Assurance (LRQA) UK, reaffirming MUET's commitment to international quality management standards.
- **Top HEC Ranking:** Achieved an outstanding score of **93.53%** in HEC's quality assurance ranking for 2017-18, positioning MUET among Pakistan's leading universities.
- **"Excellent Performance" Award:** Honored with HEC's **"Excellent Performance"** award in 2018-19, further validating MUET's dedication to quality education.
- **Commitment to Continuous Improvement:** Implemented numerous initiatives to enhance teaching, learning, and research activities, leading to improved student outcomes and faculty development.

- **Industry Collaboration:** Established strong partnerships with leading industries, facilitating valuable internship and employment opportunities for students, ensuring they gain practical exposure alongside academic learning.

7.6.3 Future Goals and Vision:

Looking ahead, the QEC is committed to further enhancing MUET's academic standing on the global stage. A key objective is securing accreditation for MUET's engineering programs through the **Accreditation Board for Engineering and Technology (ABET)**, a globally recognized benchmark of engineering excellence. This accreditation will not only strengthen MUET's reputation but also provide graduates with greater international recognition, enhancing their employability in global markets. Additionally, QEC aims to:

- Introduce **advanced faculty development programs** to improve teaching methodologies.
- Expand **student learning support services** to further enrich academic experiences.
- Strengthen **international collaborations** with universities and research bodies to elevate MUET's global academic footprint.

7.6.4 A Commitment to Excellence:

The Quality Enhancement Cell plays a vital role in shaping MUET's academic landscape. Through its unwavering focus on quality assurance, innovation, and collaboration, the QEC ensures that MUET delivers a world-class education, empowering students to become future leaders and responsible global citizens. With a strong foundation and ambitious vision, the QEC continues to drive excellence, reinforcing MUET's position as a premier institution in higher education.

Contact us:

Quality Enhancement Cell (QEC)

Mehran UET, Jamshoro.

Phone: +92-22-2109013 / Ext.: 7712

E-mail: qec@admin.mueta.edu.pk

Website Link: <http://www.mueta.edu.pk/qec>

7.7 Information and Communication Processing Centre (ICPC)

The ICPC (Information and Communication Processing Center) serves as the foundation of our university, providing essential networks for seamless communication among departments and facilitating internet and voice communication. Through a high-speed fiber link with an impressive bandwidth of 612 Mbps, the ICPC connects the MUET Intranet to the outside world, ensuring a reliable and efficient connectivity.

At the heart of the ICPC lies a robust and scalable switching fabric, enabling the transmission of gigabit traffic over our fiber optics backbone. This advanced infrastructure interconnects all key buildings on campus, including the administration building, departments, and hostels. Our network is built on VLAN technology, ensuring efficient management and segmentation for enhanced performance.

In addition to delivering reliable data services, the ICPC also provides cutting-edge voice services through the modern Alcatel-Lucent OmniPCX 4400 EPABX system, which has been serving our university since 2003. This system enables seamless voice communication within our university community.

As part of our commitment to delivering comprehensive services, the ICPC offers the following facilities and services throughout our university:

- Data and Voice Services: Ensuring seamless connectivity and communication for both data and voice traffic.
- Wireless Connectivity: Providing blanket coverage of wireless internet access across our entire campus, empowering our community to stay connected from anywhere.
- Training & Internships for Employees & Students: Offering valuable training programs and internships to enhance the skills and knowledge of our employees and students in the realm of information and communication technologies.
- Smart ID Cards for Employees & Students: Equipping our community with smart identification cards that go beyond traditional identification, providing additional features and functionalities.
- Security Surveillance System: Implementing a comprehensive security surveillance system to ensure the safety and well-being of our university premises.
- Email Service: Enabling reliable and secure email communication for all members of our university community.
- SMS Alert Service: Keeping our community informed and updated through SMS alerts and notifications, ensuring timely dissemination of important information.
- Web Services: Providing a range of web services, hosting and managing websites to support various academic and administrative needs.

These services and facilities offered by the ICPC contribute to fostering a technologically advanced and interconnected environment within our university, empowering our community to thrive and succeed in their academic pursuits.

7.7.1 Surveillance System:

The University has a state-of-the-art surveillance system (a closed-circuit television system) to with a central control room to maintain close observation to the students, visitors and employees of the University within the University premises around the clock to reduce the level of all risks associated with higher education institutions.

Engr. Sajidullah Memon

Director ICPC

Phone: (022) 2772250 Ext: 2090

Email: director.icpc@admin.muet.edu.pk

7.8 Medical Assistance

A double-bed clinic located at Student-Teacher Center provides medical facilities from 4:00 to 6:00 in the evening for residents of boys' hostels and a part-time dispensary has been established in one of the female hostels for the residents, which is manned by a qualified doctor and a dispenser. Adequate quantities of essential medicines are also available in the dispensary for the minor ailments. Major sickness problems are referred to nearby hospital. Besides that, day and night emergencies are attended by the ambulance service and duty vehicle which are available for 24/7.

For further information, please contact:

Dr. Aamir Mehmood Soomro,

Provost Hostels,

Tel. No. 022 2109137/Ext. No. 3005

Email: provost.hostels@admin.muet.edu.pk

7.9 Transport Facilities

The University boasts a comprehensive fleet of buses, strategically designed to enhance convenience for its students, faculty, and staff. These buses operate on multiple routes, linking the campus with prominent locations including Jamshoro, Thermal Power House, Hyderabad City, Qasimabad, Latifabad, and Kotri. In order to utilize this transportation service, students are obligated to pay nominal fees.

Furthermore, the University diligently maintains a diverse range of specialized equipment and vehicles, dedicated to upholding the campus's cleanliness and fostering an optimal environment.

Fawad Ahmed Lashari

Additional Registrar

Transport Section

Phone: +92 222109073 and 22 2771153 / Ext.: 6800

<http://www.muett.edu.pk/transport-section>

7.10 Sports Facilities

The Directorate of Sports has been arranging a wide range of indoor as well as outdoor sports activities and provides health and fitness facilities to the University students on daily basis. The University has a keen interest in arranging facilities of highly specialized training, coaching camps along with indoor and outdoor sports events for students residing on and out of campus. Inter-batch, Interdepartmental, and Inter-Hostel Sports events for Boys & Girls are regular features of the University.

We have a state-of-the-art Sports Complex in campus, having a modern Gymnasium and fitness center that is, equipped with latest fitness tools to provide our students best possible health and Sport activities in a better environment.

The University also hosts/organizes and participates in a number of Inter-University Sports events organized under HEC annually. The University students have been winning these tournaments and awarded with Gold, Silver and Bronze Medals respectively. Every incoming batch is encouraged to participate and represent the University team in Inter Department, Inter Hostel, Inter Batch and Inter University events particularly in Athletics, Cricket, Football, Volleyball, Handball, Basketball, Squash, Table Tennis, Tennis, Badminton, Hockey, Tug of War, Chess, Judo, Wushu, Body Building, Weight lifting Swimming, Gymnastics and Boxing etc.,

One of the most popular events at the University is the annual Sports Week/Gala, where a large number of students participate in both indoor and outdoor sports competitions.

Abdul Fatah Kandhar

Deputy Director Sports, (Incharge Sports)

Ph.: 022-2109103, 022-2772250 (Ext: #2026)

Email: dir.sports@admin.muett.edu.pk





<http://www.mueta.edu.pk/directorates/directorates-sports>

7.11 Residential Accommodation

The MUET hostels have rich legacy of academic excellence and responsible community life. It is an affordable, homely and safe accommodation for almost 1000 male and female Pakistani, overseas Pakistani and foreign students. Almost all eight, including three female students', hostels are spacious and airy two-storied buildings, located near to the main academic buildings, with well-furnished rooms to accommodate two to three students. Every student is allotted a bed, a cupboard, a study table and a chair. The premises of male and female hostels are separate and the messing system and cleanliness of hostels supervised by male and female wardens respectively.

The University is not bound to provide hostel accommodation to every student, even if he / she is entitled. However, accommodation is provided to the male and female students seeking admission only in undergraduate studies at various departments / institutes of the University subject to availability and according to the merit. The interested students can apply Online through a prescribed Admission Form MUH-I & II. The seats in the hostels are allotted by allocating the eligible district-wise quota proportional to seats allocated for admission in university. Further the district-wise seats are allotted to the students on first come first served basis, **excluding the districts where the bus service is provided by the University (like Jamshoro, Hyderabad, Matiari, Tando Allahyar, Tando Muhammad Khan and Mirpurkhas).** The cases of the interested applicants belonging to the above-mentioned districts and far-flung areas thereof may be considered, in case of availability of seats after regular allotment is done. The seats allotment process is fully transparent. The University administration reserves the right to reject any application for allotment or cancel the allotment of any student at any stage without assigning any reason.

Purified drinking water and hot / cold water is available around the clock. Separate canteens / messes with common dining halls are available in each hostel with around to 30 to 40 students sitting capacity and offer meals, tea, juice and soft drink at modest prices. The menu and quality of the food are regulated by the students' mess committee. The quality of food and hygiene is monitored by the Internal Hostel Food Quality Committee as well as University's Food and Service Committee. The common halls are well equipped with recreational facilities like large wall-mounted televisions. Most of the hostels have outdoors basketball courts and inter-hostels sports events and debate contests are organized regularly in collaboration with Directorate of Sports. A state-of-the-art Gymnasium is located near the hostel buildings to provide health care and fitness facilities from morning till 9:00 PM. An ATM electronic banking service is nearby available around the clock. All the hostels' residents have been provided with transport facility from morning till 9:00 PM. All hostels offer lush green lawn for the students to sit and relax, beautiful natural surroundings, mango, guava and banana orchard, green environment conducive for studies, calm & quite atmosphere, pollution free and safe

& secured environment with 24 hours security surveillance. Security guards have been deployed on main entrances of male and female students' hostels round the clock to ensure the strict security. The CC Tv cameras are installed in all the hostels to monitor the activities of staff, visitors and residents of hostels by Provost Hostels.

All the students are required to abide by the rules and regulations governing residence and are encouraged to develop community life conducive to healthy growth of the social aspects of their personalities.

For further information, please contact:

1. Prof. Dr. Amir Mahmood Soomro Provost Hostels, Tel. No. 022 2109137 Ext. No. 3005 Email: provost.hostels@admin.muet.edu.pk	3. Dr. Sahib Khatoon Deputy Provost (Female) Ext. No. 6603 Email: sahib.khatoon@faculty.muet.edu.pk
2. Dr. Zulfiqar Ali Solangi Deputy Provost, Ext. No. 3006 Email: zulfiqar.solangi@faculty.muet.edu.pk	4. Mr. Khalid Hussain Bhatti Deputy Director (Hostels Mgt.) Tel. No. 022 2109135 Ext. No. 2031 Email: khalid.bhatti@admin.muet.edu.pk

7.12 Auditorium

The Auditorium with the capacity for approximately 500 people is the most stunning meeting room with seating for up to 500 and state-of-the-art audio-visual equipment. It promises to make events unforgettable. The acoustics in the auditorium are ideal for musical recitals as well as lectures.

7.13 Cafeteria

There are many cafeterias / canteens across the campus which provide provides fresh quality edibles / meals prepared according to hygienic rules at affordable prices. The cafeterias serve almost 7,000 students. A committee is deputed to check and examine quantity, quality and rates of the food at the University. It also monitors the hygienic conditions of the cafeteria to ensure quality and hygiene of the food. The Committee also looks after the menu selection and quality of service. Taste buds come alive with our vast dining selections. Fast food, lunch, snack bars, baked goods, tea and coffee can be found at our campus.

Cafeteria is a place where students enjoy their favorite meals and have social interaction and they discuss academic and social issues with fellow students. This place is especially very much crowded during lunch or recess time.

8. MEHRAN UET, SHAHEED ZULFIQAR ALI BHUTTO CAMPUS, KHAIRPUR MIRS'

8.1 Introduction:

In order to promote Engineering Education in the interior region of the province and to reduce the supply-demand gap of engineering professionals, the Government of Sindh vide notification No. SO(C-IV) SGA & CD/ 4 29/09 dated 2nd April, 2009 established a constituent College of Mehran University of Engineering & Technology, Jamshoro named as Mehran University College of Engineering & Technology, Khairpur Mir's.

The College has been further upgraded as Campus of MUET, Jamshoro vide Notification No. Estt. (Teach.)/30 of 2013 dated 19-02-2013 and named as MUET Shaheed Zulfiqar Ali Bhutto (SZAB) Campus, Khairpur Mir's. The main objectives of the establishment of the College/Campus are as under:

- To provide science and technology education to the people of interior Sindh at their door step.
- To upgrade the technical skills of the people of Sindh.
- To meet the national demand for qualified engineers required for national industrial development.
- To promote the rural talent, enabling it thereby to participate in mainstream of national growth.

The number of students admitted to the First-Year classes in all undergraduate disciplines is 340 out of which 60 candidates are admitted under the self-finance scheme.

The MUET SZAB Campus, Khairpur Mir's offers undergraduate program in six engineering disciplines, viz. Civil Engineering, Mechanical Engineering, Electrical Engineering, Petroleum & Natural Gas Engineering, Electronics Engineering and Software Engineering and BS Mathematics.

Being a campus of Mehran University of Engineering & Technology, the campus adopts the same teachings system, courses of studies, rules and procedures for admissions, examination system and student conduct and discipline as those of practiced by the university.

The campus headed by the Pro-Vice Chancellor is working under the administrative and academic Supervision of Mehran University of Engineering & Technology, Jamshoro.

8.2 Officers of the Campus:

1. Prof. Dr. Dur Muhammad Pathan Pro-Vice Chancellor, MUET, SZAB Campus	15. Dr. Zaheer Ahmed Odho In-charge MIS
2. Prof. Dr. Syed. Hyder Abbas Musavi Director Academics/ In-charge Postgraduate/ Focal Person PEC SiS Portal	16. Mr. Shakir Ali Soomro Convener SFAO Committee
3. Prof. Dr. Mujeeb Iqbal Soomro Director Administration	17. Syed Shoaib Ahmed Shah In-charge Finance
4. Dr. Sajjad Ali Mangi In-Charge Chairman, Department of Civil Engineering	18. Mr. Abdul Rasheed Phulpoto Deputy Director ICPC
5. Dr. Aqeel Ahmed Bhutto In-Charge Chairman Department of Mechanical Engineering	19. Mr. Allah Bachayo Memon Deputy Librarian
	20. Mr. Imtiaz Ali Solangi Deputy Registrar (Admin)

- | | |
|---|---|
| 6. Dr. Mohsin Ali Tunio
In-Charge Chairman,
Department of Electrical Engineering | 21. Mr. Faiq Gul Memon
Deputy Registrar (Teach.) |
| 7. Dr. Asadullah Memon
Chairman,
Department of P & NG Engineering | 22. Pir Syed Asif H. Shah Jilani
Deputy Director Sports |
| 8. Dr. Hadi Bux Chhijan
In-Charge Chairman,
Department of Basic Sciences & Related Studies | 23. Pir Nadeem Ahmed Sarhandi
Senior Security Officer |
| 9. Dr. Noman Qadeer Soomro
In-Charge Chairman,
Department of Software Engineering | 24. Mr. Ayaz Ali Memon
Student Welfare Officer |
| 10. Dr. Irfan Ahmed Bajkani
In-Charge Chairman,
Department of Electronics Engineering | 25. Mr. Imdad Hussain Talpur
Store & Purchase Officer |
| 11. Dr. Abdul Qayoom Memon
Focal Person,
Industrial Liaison/ORIC | 26. Mr. Athar Khalid Shar
Deputy Director Finance/Audit |
| 12. Dr. Mujeeb Iqbal Soomro
Additional Director QEC/ISO | 27. Mr. Waseem Ahmed Bhatti
Deputy Registrar/
Secretary to PVC |
| 13. Dr. Nadeem Ahmed Tunio
Focal Person Examinations | 28. Mr. Jawad M. Hussain
Estate Officer/Assistant Director |
| 14. Faheem Mumtaz Kalwar
Additional Provost Hostels | 29. Mr. Saleem Raza Soomro
In-charge Public Relations |
| | 30. Mr. Naeem Akhtar Abro
In-charge Transport |

8.3 Fields of Study and Teaching Faculty:

Mehran University of Engineering and Technology, SZAB Campus, Khairpur Mir's offers courses leading to Bachelors' degrees in the following disciplines. All the six degrees are in Engineering and are titled Bachelor of Engineering (Name of Field); e.g., B.E Civil and another one titled as Bachelor of Science in Mathematics (i.e., BS Mathematics), Bachelor of Science in Computer Science (BSCS) and Bachelor of Science in Cyber Security (BS CYS).

- | | |
|--|----------------------------|
| 1. Civil Engineering | 6. Electronics Engineering |
| 2. Electrical Engineering | 7. Software Engineering |
| 3. Mechanical Engineering | 8. BS Mathematics |
| 4. Petroleum & Natural Gas Engineering | 9. BS Computer Science |
| 5. BS Cyber Security | |

8.1 Department of Basic Sciences & Related Studies (BSRS)

8.1.1 The Department:

The faculty of this department teaches / offers various fundamental compulsory courses including Mathematics, Statistics, English, Pakistan Studies and Islamic Studies/ Ethics. Students are also assisted to understand theoretical work of Mathematics with the help of programming languages such as C++ and MATLAB in well-equipped computer laboratory of the departments. The courses of Mathematics and Computer Sciences are also being taught to the Postgraduate students at the University campus by the faculty of Basic Sciences and Related Studies Department. In this way, this department is helping students to equip with necessary mathematical expertise to deal with problems being occurred in current technological era. The department also participates in offered short courses on various aspects of computer-oriented courses and Linguistic. The department currently comprises of 06 faculty member of Mathematics, 02 faculty members of English, 02 faculty members of Islamic Studies/Ethics, 01 faculty member of Pakistan Studies, 01 on Contract Basis faculty member (Pakistan Studies) 02 on Contract Basis faculty members (Mathematics), and 05 non-academic staff.

Role of the Department:

The department has main focus to provide overall knowledge of Mathematics and other subjects to not only students at this university but also other interested public across country and outside. Several faculty members of this department are maintaining their blogs and share academic notes and other things online for interested audience. This way the Department is providing global knowledge sharing and tries to continuously improve it. In addition, some of books on topics courses are also written by our faculty members as author/co-author.

Achievements of the Department:

- The success and the achievement of any academic institution and its departments can be gauged by the success and reputation enjoyed by its faculty members. In this context, department tries to hire position holders in subjects of Mathematics, English, Islamic studies and Pakistan studies from other universities. All faculty members hired here have strong academic record and mostly departmental and faculty positions to their credit and most of the faculty members are highly qualified with M.Phil. And PhD degrees and engaged in research with various disciplines of mathematics and their research work is published in national as well as international journals.
- Department regularly fulfills ISO objectives every year.

Vision of the Department:

The Department of Basic Sciences and Related Studies aspires to the highest standards of excellence in teaching and service.

Program Educational Objectives (PEOs):

To skill students with the instinctive knowledge in the field of Mathematics, Statistics, English, Pakistan Studies and Islamic Studies/ Ethics and its uses in all fields in general and engineering in particular and further to equip them for higher studies and research in different disciplines.

8.1.2 The Faculty:

Chairman of the Department

Dr. Hadi Bux Chhijan

PROFESSOR:

Dr. Rafique Ahmed Memon
PhD (Mathematics), Pakistan.

ASSOCIATE PROFESSOR:

Dr. Hadi Bux Chhijan
PhD (Islamic Studies), Pakistan.

Dr. Rafique Ahmed Memon
PhD (Mathematics), Pakistan.

ASSISTANT PROFESSORS:

Dr. Kaleemullah Bhatti
PhD (Mathematics), Pakistan.

Dr. Jalil Ahmed Chandio
PhD (Pakistan Studies), Pakistan.

Ms. Quratulain Talpur
M.Phil. (English), Pakistan.

Dr. Nek Muhammad Katper
PhD (Mathematics), Pakistan.

Dr. Basheer Ahmed Daras
PhD (Islamic Studies), Pakistan.

Mr. Sanaullah Memon
MS (Mathematics), Pakistan.

Mr. Masoom Ali Shahani
MS (Mathematics), Pakistan.

Ms. Quratulain Talpur
M.Phil. (English), Pakistan.

Dr. Baseer Ahmed Dars
PhD (Islamic Studies), Pakistan.

Mr. Sanaullah Memon
MS (Mathematics), Pakistan.

Mr. Masoom Ali Shahani
MS (Mathematics), Pakistan.

LECTURERS:

Mr. Abdul Majid Indher
MS (Mathematics), Pakistan.

Mr. Sajid Ali Magsi
M.Phil. (English), Pakistan.

LECTURERS: (On Contract Basis)

Mr. Abdullah Sario
MS (Mathematics), Pakistan.

Mr. Sikandar Ali Chandi
M.Phil. (Mathematics),
Pakistan.

8.2 Department of Civil Engineering

8.2.1 The Department:

The Department of Civil Engineering of the Mehran UET, Shaheed Zulfiqar Ali Bhutto Campus, Khairpur Mir's provides state-of-the-art, essential, and advanced Civil Engineering education to the aspiring Civil Engineering graduates according to the requirements of field in a dynamic learning environment that emphasizes problem solving skills, team-work, communication skills and leadership qualities. The Department also evolves as a research-based solution provider to the construction industry. The Undergraduate program of the Department also offers the selection of the field of interest related to the Civil Engineering to the final year students by assigning them a thesis/project. The thesis/project may be specific to a specialization of Civil Engineering like Structural Engineering, Material Engineering, Geotechnical Engineering, Highway & Transportation Engineering, Hydraulics, Irrigation & Drainage Engineering, Construction Mgt. and Environmental Engineering. After successful completion of the undergraduate program, our graduates acquire great opportunities at entry level positions and finally, recognized as highly competent professionals worldwide.

The Department teaches many courses relevant to the various fields of Civil Engineering. Theory classes of different subject are complemented by tutorials and laboratory works, for which adequate facilities and advanced equipment are available. In addition, the students are taken to field visits of the Civil Engineering projects such as building structures, road construction works, geotechnical works, water treatment plants, dams, steel mills and on-going construction projects. During the summer vacations, the students are encouraged to undertake the internship on various Civil Engineering projects in the industry. The Department also has a Software Laboratory which provides computing facility and opportunity to learn latest software being used globally in the field of Civil Engineering. The Department also offers Master of Engineering in Civil Engineering.

The Department strictly follows the Outcome Based Education (OBE) system to fulfill the requirements of Pakistan Engineering Council as per Washington Accord. Evaluation of students through various means strictly follows the OBE criteria and based on specific course learning outcomes associated with each course. This student centric approach focuses on outcomes from individual student by the end of the course.

8.2.2 The Faculty:

Chairman of the Department:

Dr. Sajjad Ali Mangi

Phone: 0243-9280312 /Ext.: 7301

PROFESSOR

Prof. Dr. Kanya Lal Khatri
PhD, Australia.

Dr. Syed Naveed Raza Shah
PhD, Malaysia.

(On Sabbatical Leave)

ASSOCIATE PROFESSORS

Dr. Sajjad Ali Mangi
PhD, Malaysia.

Dr. Ghulam Shabir Solangi
PhD, Pakistan.

Dr. Muhammad Jaffar Memon
PhD, China.

Engr. A. Razzaque Sandhu
M.E., Pakistan.

Dr. Dildar Ali Mangnejo
PhD, Pakistan.

Dr. Hemu Karira
PhD, Pakistan.

Engr. Touqeer Ali Rind
M.E., Pakistan.
(On Study Leave for PhD)

Dr. Abdul Qayoom Memon
PhD, Thailand.

Engr. Dhanesh Kumar
M.E., Malaysia.

Engr. Sanghaar Bhutto
M.E., Malaysia.
(On Study Leave for PhD)

Engr. Naveed Ali Channa
M.E, Pakistan

Engr. Sehrish Hafeez
M.E, Pakistan

LABORATORY ENGINEERS

Engr. G. Rasool Siddiqui
M.E., Pakistan.

ASSISTANT PROFESSORS

Dr. Rabia Soomro
PhD, Pakistan.

LECTURERS

Engr. Mudasar H. Janwery
M.E., Pakistan (*On Lien Leave*)

8.2.3 Laboratory Facilities

The Department of Civil Engineering, MUET, SZAB Campus, has nine fully functional laboratories equipped with advanced equipment for academics and research purposes. The list of the laboratories is given below:

1. Concrete Laboratory	6. Environmental Engineering Laboratory
2. Fluid Mechanics & Hydraulics Laboratory	7. Computer Laboratory
3. Surveying Laboratory	8. Software Laboratory
4. Highway Engineering Laboratory	9. Engineering Drawing Hall
5. Soil Mechanics Laboratory	

8.2.4 The Courses

The Courses of B.E Civil Engineering followed at MUET Shaheed Zulfikar Ali Bhutto campus and MUET Jamshoro campus are same. The students are advised to see the page(s) of B.E Civil Engineering Courses mentioned on the relevant section of MUET Jamshoro in this prospectus.

8.2.5 Career Opportunities

The knowledge provided at the Civil Engineering Department, MUET, SZAB Campus enables our students to join the Civil Engineering industry as fresh graduate, educational institutions as entry level instructors, or set up their own businesses. Typical employment sectors for Civil Engineering include public sector departments (Buildings, Highways, Railways, Airports, Irrigation, Water and Power, Ports), consultation companies, contractors, local authorities, and non-profit organizations. Due to the equivalent focus on research and academics from initial level, many of our graduated students have chosen various Universities as an academia or researcher and achieved good fame in their relevant field. The B.E program at MUET, SZAB Campus provides clear route to a professional career in Civil Engineering.

8.3 Department of Electrical Engineering

8.3.1 The Department:

The Department of electrical engineering at Mehran UET is one of the pioneer and prestigious department. The department was established in 2010. The department is equipped with qualified faculty and state of the art laboratories. These laboratories serve not only undergraduate and postgraduate students but also provide services to the public and private sectors in the context of training, equipment testing calibration and consultancy services. Besides the academic activities, the faculty and students are involved in research and development activities in collaboration with industries.

The vision of the Department:

To provide the world class education and research opportunities in the field electrical engineering at par with national and international levels.

Mission of the Department:

The department of electrical engineering aims to provide a high quality of education to produce skilled, dynamic, creative and ethical professionals to take an active part in the development of the society.

Program Educational Objectives (PEOs)

The B.E Electrical Engineering Program aims at producing engineering Graduates who will:

PEO-1: To harness in depth knowledge of electrical engineering for problem analysis in the relevant field.

PEO-2: Effectively utilize their technical and managerial skills for the solution of engineering problems.

PEO-3: Demonstrate professional standards of moral and ethical values as a team leader or as an individual.

8.3.2 The Faculty:

Chairman of the Department

Dr. Mohsin Ali Tunio

Phone: 0243-715365, Ext: 7401

Email: chairmanelectrical@muetkhp.edu.pk

<u>ASSOCIATE PROFESSOR:</u> Dr. Mazhar Hussain Baloch Postdoc., Malaysia (<i>On Lien</i>)	Dr. Sajid Hussain Qazi PhD, Malaysia. (<i>On Sabbatical Leave</i>)	Engr. Asadullah Soomro M.E., MUET, Jamshoro. (<i>On Contract</i>)
Dr. Touqeer Ahmed Jumani PhD, Malaysia (<i>On Lien</i>).	<u>LECTURERS:</u> Dr. Engr. Kalsoom Baghat PhD, M.E., China.	<u>SENIOR LAB. ENGINEERS:</u> Dr. Muhsan Ali Mari, PhD, MUET, Jamshoro.
<u>ASSISTANT PROFESSORS:</u> Engr. Shakir Ali Soomro M.E., (<i>On PhD study leave</i>)	Engr. Shafqat H. Memon M.E. (<i>On PhD study leave</i>)	Dr. Engr. Zeeshan Anjum, PhD, Malaysia.
Dr. Nadeem Ahmed Tunio PhD, Pakistan.	Engr. Rasool Akhtar M.E., (<i>On study leave</i>)	Dr. Basheer Ahmed, PhD, China.
Dr. Mohsin Ali Tunio PhD, Malaysia.	Engr. M. Amir Raza M.E., MUET, Jamshoro. (<i>On Contract</i>)	<u>LAB. ENGINEERS:</u> Engr. Asif Ali Solangi, M.E., (<i>On study leave</i>)
Dr. Ahsanullah Memon PhD, Malaysia.	Engr. Syed Mazhar Shah M.E., QUEST, Nawabshah. (<i>On Contract</i>)	Engr. Musavir Hussain, M.E., (<i>On study leave</i>)

8.3.3 Laboratories:

The Department of Electrical Engineering is equipped with state-of-the-art labs to cater the practical/experimental requirements to supplement the course work of the B.E Electrical Program.

Following Laboratories have been established in the department:

1. Power System	6. Communication System
2. Instrumentation & Control	7. Electrical Machines
3. Basic Electrical Engineering	8. Power Electronics
4. High Voltage Engineering	9. Computer Lab
5. Basic/Applied Electronics Engineering	10. Software Lab

8.3.4 The Courses:

The Curses of B.E Electrical Engineering followed at MUET Shaheed Zulfikar Ali Bhutto campus and MUET Jamshoro campus are same. The students are advised to see the page(s) of B.E Electrical Engineering Courses mentioned on the relevant section of MUET Jamshoro in this prospectus.

8.3.5 Career Opportunities:

Electrical Engineers have vast career opportunities in wide range of industries and organizations depending on their respective specializations. In Pakistan industries and organizations both Public and Private sector, such as, Pakistan Atomic Energy Commission, Pakistan International Airlines, Civil Aviation Authority (CAA), Pakistan Steel Mills, PEPCO, NTDC, GENCOs, DISCOs, K-Electric, PTCL, NTC, IPPs, Fertilizer and chemical industries such as OGDCL, SNGPL, Engro, FFC and various other national and international industries and organizations hire Electrical Engineers for design, control, operation and managerial jobs. Electrical Engineers are generally encouraged to attend continual professional development course (CPD) and acquire skills required in the job market to secure attractive and challenging career opportunities. This department also conducts such CPD courses which help in career development of the young engineers.

8.4 Department of Electronic Engineering

8.4.1 The Department:

Electronic Engineering has played a very vital role in modern industrial and human development since decades that is why it is growing field with the passage of every passing time. Continuous advancement in Electronic Engineering in terms of fabrication processes including material, devices, circuit and control has led it to have significant importance in emerging technologies for its use in all major industrial applications. Thus, it has as a strong share in the market, which needs such quality programs to be initiated regarding educating the youth of society to create highly skilled individuals in this important and most challenging discipline of engineering at both the undergraduate as well as post graduate levels.

Electronic Engineering has revolutionized the standard of mankind, living style and industrial growth using modern electronics and microprocessor technology, therefore its significance cannot be denied. The Department of Electronic Engineering offers quality degree program at undergraduate level i.e., B.E (Electronic Engineering). The focus of this program is to produce sound technical manpower to further strengthen planning, designing of innovative projects in this particular area. The students during the entire degree program will learn different subjects on diversified field including Microprocessors & Microcontrollers, Mechatronics Applications, Analog & Digital Communication, Signal Processing, Power Electronics, Artificial Intelligence, Measurements & Instrumentation, FPGA-Based System Design, Sequential Circuit Design, Optoelectronics, Computer Communication & Networking etc.

The Department initially offers Undergraduate Program. The courses of the program have been drawn from the curriculum guidelines of HEC/PEC and duly approved by the Academic Council of the University.

Vision of Department:

To provide the highest quality of learning and research opportunities for the students in the field of Electronic Engineering as well as make them competent professionals with high professional ethics to compete on a global scale.

Mission of Program:

To produce Quality Electronic engineers with high intellect and broad vision who can meet current needs and foresee future needs of the nation in the field of Electronics by serving research and professional practice.

Program Educational Objectives (PEOs):

1. Apply in-depth electronic engineering knowledge and analytical skills to initiate innovative solutions for the society.
2. Quest for learning, establishing collaborations and engaging in continuous professional development nationally and internationally.
3. Adaptive in multidiscipline and multicultural environment and work effectively as a team lead or team member possessing strong soft skills and high moral ethics.

8.4.2 The Faculty:

Chairman of the Department

Dr. Irfan Ahmed

Ph. No.: 0243-686074 / **Ext.:** 7701

PROFESSOR:

Prof. Dr. Hyder Abbas Musavi
PhD (Pakistan)

Engr. Halar Haleem Memon

M.E, Pakistan (*On study leave*)

Engr. Reema Abbas

M.E, Pakistan

<u>ASSOCIATE PROFESSOR:</u> Dr. Muhammad Rafique Naich PhD, China (<i>On Lien</i>)	Engr. Maroof Panhwar M.E, Pakistan (<i>On study leave</i>)	Engr. Darshna Tulsi M.E, Pakistan
<u>ASSISTANT PROFESSOR:</u> Dr. Irfan Ahmed PhD, Pakistan	<u>LECTURER:</u> Engr. Bushra Shaikh M.E, Pakistan (<i>On study leave</i>)	<u>SENIOR LAB. ENGINEER:</u> Engr. Shadab Soomro M.E Pakistan (<i>On study leave</i>)
Dr. Kaneez Fatima PhD, Pakistan	Engr. Syed Hasnain Shah M.E, Pakistan	<u>LAB. ENGINEER:</u> Engr. Falak Naz M.E, Pakistan
Dr. Hina Magsi PhD, Pakistan	Engr. Sumera Hashim M.E, China	<u>TEACHING ASSISTANT:</u> Engr. Kainat Memon B.E, Pakistan

8.4.3 Laboratory Facilities

The Department of Electronic Engineering is equipped with the latest equipment ranging from basic electronic devices, simulators and trainers to more advanced FPGA trainers & development boards. Excellent course work and due practical experience, provide ample job opportunities to over graduates and both public and private sector organization, national and multinational companies.

The Department of Electronic Engineering facilitates its students with the following 12 laboratories:

1. Applied/Basic Electronics Lab	7. Basic Electrical Engineering Lab
2. Communication Systems Lab	8. Power Electronics Lab
3. Instrumentation and Control Lab	9. Digital Electronics & Microprocessor
4. Electrical Machines Lab	10. Signal Processing and FPGA Lab
5. Software Lab	11. Industrial Automation and Robotics Lab
6. Computer Lab	12. Advanced Electronics Lab

8.4.4 The Courses:

The Courses of B.E Electronic Engineering followed at MUET Shaheed Zulfiqar Ali Bhutto campus and MUET Jamshoro campus are same. The students are advised to see the page(s) of B.E Electronic Engineering Courses mentioned on the relevant section of MUET Jamshoro in this prospectus.

8.5 Department of Mechanical Engineering

8.5.1 The Department:

We, the Mechanical Engineers, are tasked to build the Nation.

Mechanical Engineering Department (MED), MUET, SZAB Campus KhairpurMirs' has been training students to create solutions to make the world a better place since its inception over 16 years ago.

The Mechanical Engineering Department (MED), MUET, SZAB Campus KhairpurMirs' intends to become a hub of high-quality engineering education and research to produce skilled, innovative, entrepreneurial mechanical engineers who meet the ever-changing engineering demands. Mechanical Engineering Department, MUET, SZAB Campus KhairpurMirs' always strive hard to produce engineers and researchers with sound knowledge of traditional and emerging areas of engineering together with innovative design abilities to achieve sustainable national development. This department also intends to develop the skills of the students to make them among the globally competitive engineers and researchers by providing quality education and research facilities, organizing conferences, seminars, and workshops, the opening of students' chapters, and technical lectures. Internships that relate academic knowledge to lifelong job experiences are encouraged by the department. MED also provides students with the opportunity to join professional societies such as ASME (American Society of Mechanical Engineers) and ASHRAE (American Society of Heating, Refrigeration, and Air-Conditioning Engineers), and is working to join and become affiliated with IMechE (Institute of Mechanical Engineers). This department has recently launched a society "Soft Skills and Character-Building Society" to work for the improvement of undergraduate students and our alumni's soft skills and their character building.

The Mechanical Engineering Department (MED) of MUET, SZAB Campus KhairpurMirs' is the first to provide graduate degrees. Currently, the department offers a Master of Engineering (M.E.) degree with a major in Energy Systems Engineering (Evening).

The department has a policy of assessing its graduate and undergraduate programs regularly to ensure that they are up to date with the newest and emerging developments and trends in mechanical engineering. The main campus BoS (Department Board of Studies) is responsible for revising the present curricula after feedback from MUET SZAB Campus. The BoS is made up of senior faculty members from the department's main campus, the Chairman from the MUET SZAB Campus, and a few senior faculty members/Professors from Mechanical Engineering Departments at other top institutions/universities around the country. The Chairman of the Department from the main campus leads the BoS.

The members of BoS met regularly to address different aspects of the revision and solicited feedback from:

- MUET SZAB Campus's D-BoS (Departmental Board of Studies),
- D-OBE (Outcome-Based Education) Committee,
- Consultation with the D-IAB (Industrial Advisory Board),
- D-CRC (Curriculum Review Committee),
- A survey of selected top national and international institutes/universities with a reputation for Mechanical Engineering expertise.
- Recommendations/feedback from graduate students, alumni, and potential employers.

Vision: Mechanical Engineering Department intends to become a hub of **quality engineering education** and research so as to produce **ethical, responsible, skilled, innovative, entrepreneurial mechanical engineers** who meet the ever-changing demands **and socio-economic needs**.

Mission: Mechanical Engineering program strives to produce professional engineers and researchers with sound knowledge of traditional and emerging areas of mechanical engineering together with the ability of having critical and innovative thinking and make them globally competitive.

Program Education Objectives (PEOs)

After four years Program of in B.E. Mechanical Engineering, graduates of this department are expected to be able to:

- PEO 01** Practice outstanding knowledge of mechanical engineering and interdisciplinary subjects to solve analytical and practical engineering problems.
- PEO 02** Address sustainable socio-economic, technical development, and use modern tools and techniques.
- PEO 03** Maintain a high level of professionalism, ethical responsibility, and integrity at work.
- PEO 04** Demonstrate effective communication and leadership skills, as well as a desire to continue improving their knowledge using a holistic approach.

8.5.2 B.E. Mechanical Engineering

Since the beginning of our campus, Mechanical Engineering Department (MED) has been continuously advancing and striving hard for excellence to be recognized nationally and globally as one of the top mechanical engineering departments. Our primary goal for undergraduate students has been to provide high-quality engineering education to future leaders. MED's mission is to spread knowledge and technology in mechanical and associated fields through high-quality teaching, research, CEPs, OELs, PBL-based solutions, and applications. We try to incorporate the most recent advancements into our innovative and appealing curriculum.

A competent academic and research team is an essential ingredient of every engineering department. MED is managed by dedicated highly qualified trained and experienced faculty, who has graduated from top-ranked world-renowned institutions. Faculty and teaching staff are up to date on the latest teaching techniques and provide each student particular attention to ensure that every student discovers himself to the fullest extent possible, according to his/her ability/aptitude and at his/her own pace. The MED maintains a student-teacher ratio of < 16:1.

A new generation of Mechanical Engineers, fostered with the essential skills and an inventive attitude, is required in today's fast-changing world, with ever-growing difficulties of finite resources and rapidly changing climate. Mechanical engineers create cutting-edge technology and thrilling solutions to benefit humanity. We try to provide our students with a joyful, productive, and gratifying experience at all stages of their program study so that they can discover the fascinating world of Mechanical Engineering. MED also provides quality engineering education to all of its young graduate students, including leadership, management, and collaboration skills, internship experience, and participation in student activities. We are confident that focusing on such areas will prepare our young graduates to take on leadership responsibilities in the future, as well as become entrepreneurs and industry solution providers.

The Mechanical Engineering Department (MED) also offers HEC approved evening program for Master of Engineering (M.E., Energy Systems Engineering).

We are pleased to share with you that many of our students are serving in reputed national/ multinational industries/organizations/firms nationally and internationally and also pursuing higher education at prestigious universities in Pakistan and overseas.

We would like to extend a warm welcome to all of you to the Mechanical Engineering Department at MUET, SZAB Campus Khairpur Mirs'.

8.5.3 Laboratory Facilities

Following labs are established in this department to cater to the practical/ experimental requirements of the program offered:

1. Automobile Laboratory	10. Mechanics of Machine Laboratory
2. Aerodynamics Laboratory	11. Mechanical Vibrations Laboratory
3. CAD/CAM Laboratory	12. Control Engineering Laboratory
4. CNC Laboratory	13. Renewable Energy Laboratory
5. Engineering Statics Laboratory	14. Thermodynamics Laboratory
6. Fluid Mechanics Laboratory	15. Fitting Shop
7. Heat Transfer Laboratory	16. Machine Shop
8. Heating Ventilation & Air Conditioning Laboratory	17. Welding Shop
9. Material Testing Laboratory	18. Wood Workshop

8.5.4 The Faculty

Chairman of the Department

Dr. Aqeel Ahmed Bhutto

Phone:0243-715365 / Ext.:7501

<u>ASSOCIATE PROFESSORS:</u> Dr. Sadiq Ali Shah PhD, United Kingdom.	Dr. Danish Ali Memon PhD, Malaysia.	Engr. Aurangzaib Wadho M.E., Pakistan.
Dr. Muhammad Ali Abro PhD, South Korea. <i>(On Study Leave)</i>	Dr. Zaheer Ahmed PhD, Turkey.	<u>LECTURERS:</u> Engr. Ali Anwar Brohi M.E., China.
Dr. Mujeeb Iqbal Soomro PhD, South Korea.	Engr. Jahanzaib Soomro M.E., Pakistan.	Engr. Abdul Ahad Noohani M.E., Pakistan.
<u>ASSISTANT PROFESSORS:</u> Dr. Aqeel Ahmed Bhutto PhD, Malaysia.	Dr. Ali Nawaz Sanjrani PhD, Pakistan	Engr. Talib Hussain Ghoto M.E., Pakistan.
Dr. Bilawal Ahmed Bhayo PhD, Malaysia.	Engr. Majid Ali Wassan M.E., Malaysia. <i>(On Study Leave)</i>	Engr. M. Haris Khan M.E., Pakistan.
	Engr. Qadir Nawaz M.E., Pakistan. <i>(On Study Leave)</i>	

8.5.5 The Courses:

The Courses of B.E Mechanical Engineering followed at MUET Shaheed Zulfiqar Ali Bhutto campus and MUET Jamshoro campus are same. The students are advised to see the page(s) of B.E Mechanical Engineering Courses mentioned on the relevant section of MUET Jamshoro in this prospectus.

8.5.6 Program Learning Outcomes (PLOs)

The Mechanical Engineering Department (MED) has adopted the Program Learning Outcomes defined by Pakistan Engineering Council (PEC) and are supported by our defined PEOs. These PLOs relate to the aptitude, awareness, and performance that students acquire with the progression of the program.

Program Learning Outcomes are the narrower statements that describe what students are expected to know and able to do by the time of graduation. These relate to the knowledge, skills, and attitude that the students acquire while progressing through the program.

The program must demonstrate that by the time of graduation, the students have attained a certain set of knowledge, skills, and behavioral traits, at least to some acceptable minimum level. This minimum threshold value (i.e., KPI for PLO attainment) should not be less than 60% even to begin with;

however, as the program progresses through its evolution, it is expected that this minimum threshold value would subsequently be raised to higher values as a result of program's CQI. Specifically, it is to be demonstrated that all students of a batch to be accredited have acquired the graduate attributes (GAs).

8.5.7 Career Opportunities

Mechanical Engineering graduates have a wide range of job prospects due to the discipline's breadth. Their education equips students with the creative thinking needed to develop an innovative product or system, as well as the analytical tools needed to meet their design objectives, the capacity to overcome any restrictions, and the teamwork required to design, sell, and produce a system. Employers in practically every sector of the engineering business are looking for mechanical engineering graduates. Here are a few examples: With a bachelor's degree in mechanical engineering, you may be able to work in the following fields:

- Aerospace industry – Aerospace equipment research, design, manufacture, and maintenance.
- Automotive industry – Designs, Manufactures, and Maintenance of Automobiles.
- Defense industry – Design Fabrication and Maintenance of Defense Equipment.
- Electronics industry – Design and manufacture of components for a variety of industries, including automotive, medicine, and the military.
- Fast-moving consumer goods industry – Manufacturing of products such as household cleaning items, personal hygiene goods, and convenience foods.
- Marine industry – Design, Fabrication, and Maintenance of Marine Systems.
- Materials and metals industry – Material Specimen Testing, Selection of Material, and Evaluation.
- Power Generation Industry- Operation, repair, and maintenance of pressure vessel equipment.
- Rail industry – From trains and rails to electrical power systems and train control systems, the rail industry designs, manufactures, and maintains rail system components.

8.6.1 The Department:

The **Department of Petroleum & Natural Gas Engineering** was established in 2010 and offers degrees at undergraduate and postgraduate level. The department is supported and equipped with highly qualified faculty and technical staff. Every faculty member is actively involved in research activities within their areas of interest either individually or in groups. The department also commenced its journey towards OBE from 2017 and at present, the program is re-accredited by PEC under the Level-II. Up to now, 13 undergraduate batches have successfully graduated.

Scope: The scope of the petroleum Engineering field is vast and dynamic, encompassing various aspects of exploration, production, and distribution of oil and natural gas. It has gained considerable importance due to the vital role of the oil & gas sector in the economy of the country. Considering the fact, that province of Sindh is very rich in oil and gas reserves and plays an important role in the country's energy development, consumption and economic growth.

Key feature: The key feature of the department is to provide basis for better learning of theoretical concepts and up-to-date practical knowledge, for that the Department organizes oil/gas field visits along with internships (during summer vacation to the third and final year students) as per scheduling with industrial linkages and coordination of national and international oil and gas / Exploration & Production companies that operating in Pakistan.

The department promotes technical and professional development/learning activities for which a platform is provided to the students that interconnects professionals and undergraduate students of the department. The fifth (in Pakistan) student chapter of Society of Petroleum Engineers (SPE)-Mehran University College of Engineering & Technology (now renamed as SPE MUET SZAB Khairpur Student Chapter) was established on March 25th 2012 at the department; with hardworking it has achieved the title of Golden student chapter in its following year soon after its establishment (i.e., 2014). The chapter has also achieved Student Chapter Excellence Award in 2019.

A good number of simulators are available at the department that help the students in learning and understanding the conceptual models and behavior of simple to complex structure and phase behavior reservoirs, production and processing systems, and drilling engineering. This facility also provides a strong basis for research development activities. This year the department has signed MOU and arranged the following four software (IPM, KAPPA, CMG and Navigator) and SPE OnePetro Subscription grant having total worth of \$3276187. The seminar library (air-conditioned) also exists at the department that contains more than 500+ petroleum text books, e-books, thesis and monographs available for students to study with easy access.

Key achievements:

Following are the key achievements of the department:

- The SPE MUET SZAB Student chapter (6069) is the first and active student chapter in the history of campus. The chapter was awarded Gold Standard Chapter in 2014 and Excellence chapter Award in 2019 on outstanding performance.
- Our students participated in the following in International Education Week at abroad and also got positions in various activities: **Muhammad Younis Jagirani** at Regional Student Paper Contest 2013, Egypt, **Muhammad Furqan Qureshi** at Education week, IPTC 2014, Qatar, **Vinod Kumar** at Education week ADIPEC 2014, Abu Dhabi, UAE, **Aakash Luqman** at Education week IPTC 2016, Thailand, **Uzair Ali Rajpar**, at MEOS GEO 19-21 Feb, 2023, Bahrain, **Shahid Ali, Jan Muhammad, Umar Shaikh** at SPE PETROBOWL 30-31 July, 2024, KSA, **Umar Shaikh and Waqas Mirani** (from K21PG batch) at OTC Asia 2026, Kuala Lumpur, Malaysia

- Every year our faculty and students also participate in the Annual Technical Conference and oil show (ATC). This year 03 faculty and 04 students successfully participated in this event held on January 28-29, 2026 at Serena Hotel, Islamabad
- The department has signed 05 MOUs and arranged the 04 Petroleum softwares and One Petro Subscription grant having total worth of \$3276187 i.e., a. IPM Suit (\$ 3268754), b. KAPPA suit (\$1000), c. CMG (\$1000), & d. Tnavigator (\$333) and One Petro Subscription (\$5100).
- The department has successfully organized an international conference with the support of Sindh HEC and industrial support of PPL and OGDCL in the last year.
- The department has arranged a recruitment drive for the K20 batch and resulted in four candidates selected by Sprint Oil and Gas Services. This was the first recruitment drive in the history of the campus.
- Arranged many internships (almost 90% for each batch) in various national and international companies/industries. That shows strong Academia- Industry linkage and Alumni network.
- Strong Alumni network and through this many students also got career opportunities in national and international companies/industries such as OGDCL, Mari Energy, PPL, UEP, Weatherford, Polish Oil & Gas Company, Hilong oil service, Advance engineering, PTISC, Tharcoal, RekoDig, Descon, SSGCL etc.

Vision of the Department:

The visionary approach of the department is concentrated in petroleum and natural gas engineering education at international standard, technical achievements through research and producing competent engineers to serve petroleum industry at home and abroad.

Mission of the Program:

The mission of the department is to provide a student focused excellent teaching and educational environment that nurtures the intellectual and professional growth of students, who will become leading human resources in the upstream / downstream petroleum industry.

Program Educational Objectives (PEOs):

The PEOs of B.E. Petroleum & Natural Gas Engineering degree program are:

PEO-01: Our graduates will demonstrate technical skills with advanced knowledge essential for the petroleum industry, capable of solving field problems through investigation using complex problem-solving skills and modern tools.

PEO-02: Our graduates will exhibit professional leadership skills, including involvement in society, teamwork, effective communication of ideas, showing excellent ethical values, and a strong commitment to quality, safety, health, and the environment.

PEO-03: Our graduates will pursue life-long learning and develop innovative ideas to tackle technical challenges along with project management skills that will subsequently provide a road map to the advanced concepts and latest technologies.

8.6.2 The Faculty:

Chairman of the Department:

Dr. Asadullah Memon

Phone: +92-243920312-3

ASSOCIATE PROFESSOR:

Dr. Asadullah Memon

PhD, China.

Engr. Abdul Samad Shaikh

M.E., Pakistan.

Engr. Saif-ur-Rehman

M.E., Pakistan. *(On contract)*

ASSISTANT PROFESSORS:

Engr. Imran Ali Memon

M.E., Pakistan.

Engr. Sunder Sham Jeswani

M.E., Pakistan.

Engr. Shoaib Ahmed Memon

M.E., Pakistan.

SENIOR LAB ENGINEER:

Engr. Abdul Wajid Shaikh

M.E., Pakistan.

LAB ENGINEERS:

Dr. Faisal Hussain Memon PhD, Pakistan.	Dr. Zaheer Hussain Zardari PhD., Malaysia. (<i>Study Leave</i>)	Engr. Umaid Ali Uqaili M.E., Pakistan.
Dr. Ghulam Abbas Qambrani PhD, Pakistan.	Eng. Waseem Mumtaz Kalwar M.E., Pakistan. (<i>On Lien</i>)	Engr. Sohail Ahmed Shaikh M.E., Pakistan.
LECTURERS:		
Engr Adnan Aftab Nizamani M.Phil., Malaysia (<i>On Study Leave</i>)		Engr Faheem Mumtaz Kalwar M.E, Pakistan.

8.6.3 Laboratory Facilities:

Well-equipped laboratories have been established to conduct experimental work and measuring rock properties, reservoir fluid properties, drilling fluid properties and interfacial properties. The computer labs feature software for reservoir simulation (Exodus V90, CMG and tNavigator), Drilling Engineering (Drilling & work over simulator) and Production Engineering (IPM and Kappa).

The following Laboratories are available at the department:

1. Oil Testing Laboratory	4. Gas Engineering Laboratory
2. Drilling and Production Laboratory	5. Petroleum Software Lab
3. Reservoir Engineering Laboratory	6. General Computer Lab

8.6.4 The Courses:

The Courses of B.E Petroleum and Natural Gas Engineering followed at MUET Shaheed Zulfiqar Ali Bhutto campus and MUET Jamshoro campus are same. The students are advised to see the page(s) of B.E Petroleum and Natural Gas Engineering Courses mentioned on the relevant section of MUET Jamshoro in this prospectus.

8.6.5 Career Opportunities:

A petroleum engineer is involved in nearly all of the stages of oil and gas field evaluation, development and production. The aim of their work is to maximize hydrocarbon recovery at minimum cost while maintaining a strong emphasis on reducing environmental impact. The various opportunities are available in the oil and gas sector during the exploration, drilling and production phases. After graduation, our graduates will be able to work with following national and multinational E&P and service companies, oil refineries, oil-marketing companies, gas distribution companies and other interconnected fields:

Key Exploration and Production Companies (E&P)

- Oil & Gas Development Company Ltd (OGDCL): The largest exploration company in Pakistan.
- Pakistan Petroleum Limited (PPL): A leading supplier of natural gas and oil.
- Pakistan Oilfields Limited (POL): Involved in exploration and production
- Mari Petroleum Company Ltd (MPCL): A major operator in the gas sector.
- MOL Pakistan Oil & Gas Company B.V.: Significant international operator.
- United Energy Pakistan (UEP): Active in exploration.
- Orient Petroleum Inc.: Active in exploration.

Oil Refineries

- Attock Refinery Limited (ARL): One of the oldest refineries.
- Byco Petroleum Pakistan Limited (now Cnergyico): Major refining operator.
- National Refinery Limited (NRL): Produces various petroleum products.

- Pakistan Refinery Limited (PRL): Coastal refinery in Karachi.
- ENAR Petroleum Refining Facility: Refiner and marketer.

Oil Marketing Companies (OMCs)

- Pakistan State Oil (PSO): The largest state-owned oil marketing company.
- Total Parco Pakistan Limited: Joint venture fuel retailer.
- Hascol Petroleum Limited: Active marketing company.
- Gas & Oil Pakistan Ltd (GO): Rapidly growing OMC.
- Be Energy: Formerly Bosicor.

Key Gas Utility Companies

- Sui Northern Gas Pipelines Limited (SNGPL): Primary gas transmission and distribution in the north.
- Sui Southern Gas Company Ltd (SSGC): Primary gas transmission and distribution in the south.

Interconnected fields: Petroleum engineers can leverage their skills in various fields like:

- **Energy Management:** optimizing energy resources, sustainability initiatives
- **Renewable Energy:** integrating traditional oil and gas expertise with solar, wind, or geothermal energy
- **Environmental Engineering:** mitigating environmental impact, carbon capture, and sustainability
- **Data Analytics and AI in Energy:** applying data science to optimize operations, predict trends
- **Consulting and Policy:** advising on energy policy, regulatory frameworks

8.7 Department of Software Engineering

8.7.1 The Department:

Software Engineering is the field of technology, which is related to the application of theoretical approaches to the development, operation, and maintenance of software. It is not only about the simple stereotypical knowledge of only writing code for programs. However, it is also the study of how these approaches work in the real world based on different factors and engineering them accordingly to reach the desired goals. Software Engineering is about creating software that is of higher quality, more affordable, maintainable, and quicker to build.

Software Engineering is normally subdivided into the following sub-disciplines:

- | | |
|-------------------------|--------------------|
| 1. Software Requirement | 2. Software Design |
| 3. Software Development | |

Software Engineering is an important aspect of technology and it brings significant changes as well as is a major factor in future developmental periods of the world. The department offers an undergraduate degree program i.e., B.E (Software Engineering), which provides in-depth knowledge of the subject, wherein students can develop all the skills regarding the design and implications of modern Software Engineering through integrated courses. The courses are revised from time-to-time keeping because of the software needs of the emerging market at the national & international levels.

The department initially offers an undergraduate program. The courses of the program have been drawn from the curriculum guidelines of HEC/ PEC and duly approved by the Academic Council of the University.

Program Education Objectives (PEOs):

The Program Educational Objectives (PEOs) of B.E. Software Engineering degree program are given below:

PEO 1: Performs his/her professional role in the Software industry and related fields.

PEO 2: Adheres to professional responsibilities in multicultural environment with continual improvement.

PEO 3: Works effectively as a team lead or team member in challenging ventures.

PEO 4: Communicates technical and managerial information efficiently in oral and written forms.

Vision:

To become the center of excellence and the aspiration in the discipline of software engineering by producing highly skilled professionals having leadership qualities, who with their analytical capabilities and proficiencies apply the technical knowledge for socio-economic development.

Mission:

To provide a technically sound ambiance of learning and to realize the frequently changing traits of the software industry to pursue sustainable socio-economic growth with a sense of ethics, professionalism, and leadership to serve the community and humanity at large.

The departmental vision, mission is available at departmental official website:

(https://www.muetchp.edu.pk/departments/software_engineering/introduction.php).

8.7.2 The Faculty:

Chairman of the Department:

Dr. Nouman Qadeer Soomro

Phone: 0243-715365 /Ext.: 7801

<u>ASSOCIATE PROFESSORS:</u> Dr. Nouman Qadeer Soomro PhD, China.	<u>LECTURERS:</u> Engr. Qamar-U-Nisa Kamal M.E., MUET, Jamshoro.	Engr. Noor Muhammad B.E., MUET, SZAB Campus, Khairpur Mirs’.
Dr. Engr. Liaqat Ali Thebo PhD, Pakistan.	Engr. Shamshad Naveed M.S., Germany.	Engr. Muhammad Ibrahim B.E., MUET, SZAB Campus, Khairpur Mirs’.
<u>ASSISTANT PROFESSORS:</u> Engr. Irfanullah Memon M.E., MUET, Jamshoro. <i>(On PhD Study Leave)</i>	Engr. Naveed Ahmed M.E., Pakistan.	<u>LAB. ENGINEERS:</u> Engr. Asmatullah M.E., MUET, Jamshoro.
Dr. Sajida Raz Bhutto PhD, Pakistan.	<u>RESEARCH ASSISTANTS:</u> Engr. Umrah Zadi B.E., MUET, SZAB Campus, Khairpur Mirs’.	

8.7.3 Laboratory Facilities:

To meet the latest trends in software and hardware technology, the department has the following state-of-the-art laboratories. Where students are trained to meet the future needs of the technology.

- | | |
|--|--------------------------------|
| 1. Software Quality Assurance and Testing Laboratory | 3. Open-Ended / FYP Laboratory |
| 2. Software Research and Development laboratory | 4. Video Conference. |

8.7.4 The Courses:

The Courses of B.E Software Engineering followed at MUET Shaheed Zulfiqar Ali Bhutto campus and MUET Jamshoro campus are same. The students are advised to see the page(s) of B.E Software Engineering Courses mentioned on the relevant section of MUET Jamshoro in this prospectus.

8.7.5 Career Opportunities:

A Software Engineer can find lucrative jobs in well-reputed private and public sector organizations such as PTCL, K-Electric, Fertilizer Industry, Petrochemical sector, CAA, WAPDA, Pharmaceutical, Research Organizations, Mobile Operators, Software Houses, CAA, PSO, PPL, Telecom Sectors and various other national and multinational organizations. The employers of Software Engineers cover startup companies to established industry leaders.

Due to the emerging use of the internet, e-mail, communications systems, firms from electronics to engineering as they are traditionally associated with unrelated disciplines, which in turn, allows the software engineers to hire more and more in engineering firms specializing in building bridges and power plants. For example, software engineers are designated in designing and developing advanced geographic data systems and automated drafting systems. Communication industries also require software engineers, which indeed help the personal communications market as well. The major communications companies have many job opportunities for both software engineers and computer systems engineers. A growing number of Software Engineers are also employed on a temporary or contract basis (with many being self-employed) who work on their own as consultants. Some of these consultants work for firms that specialize in the development and maintenance of Web sites and intranets of client companies.

A Software Engineering Degree will also open doors for careers in Research, Software Development, and Business analysis with companies such as Microsoft, Oracle, Systems Limited, Hewlett Packard Enterprise, and IBM.

By getting a degree in Software Engineering, graduates can work in any number of fields creating Video Games, developing Internet Applications, running Computer Networks, or implementing Computer Security measures for an organization. Career opportunities are not limited to technology. The problem-solving, innovative, and personal skills you learn in this course will be sought after in many organizations.

8.8 Bachelor of Science in Computer Science (BSCS)

8.8.1 The Program:

Launching a Bachelor of Science (BS) in Computer Science (BSCS) program at MUET SZAB Campus Khairpur Mir's aims to produce graduates equipped with strong theoretical foundations, practical programming skills, and research capabilities to meet the rapidly growing demand in the information technology and software development sector.

Computer science has become one of the most sought-after disciplines globally due to the expansion of artificial intelligence, data science, cybersecurity, cloud computing, and digital transformation. Pakistan's IT industry is growing rapidly, generating significant demand for skilled computer scientists.

The BSCS program complies with the academic standards of the Higher Education Commission of Pakistan and accreditation guidelines of the National Computing Education Accreditation Council. The program is a 4-year degree comprising approximately 130–136 credit hours, including coursework, labs, internship, and a final year project as recommended by MUET statutory bodies and HEC-NCEAC guidelines.

As regards basic infrastructural facilities, the program is launched under the umbrella of the Department of Software Engineering that is adequately equipped with qualified faculty, classrooms and laboratories to conduct the programs satisfactorily and successfully. However, the utilization of laboratories, faculty and classrooms from other departments is also made available. The salient features of these programs are as under:

- The programs run in accordance with the similar curriculum as is running at MUET Jamshoro, approved by their BoS, BoF and Academic Council and in accordance with the recommendations of National Computing Education and Accreditation Council (NCEAC), Islamabad.
- The Programs' Vision, Mission, PEO's, PLOs and other OBE parameters are same as being approved by and run at MUET Jamshoro.
- The Program is under the umbrella of Faculty of Electrical Electronics and Computer Engineering (FEECE) MUET Jamshoro.

8.8.2 Background and Rationale

Global Importance of Computer Science

Computer science is the backbone of modern technological development. Emerging fields such as: Artificial Intelligence, Data Science, Cybersecurity, Software Engineering, Internet of Things, Cloud Computing and have dramatically increased the demand for computing professionals. Computer Science is driving innovation, economic growth, and societal transformation. Its global importance can be understood through the following key aspects:

Backbone of Modern Technology

Computer science underpins almost every technological advancement, including:

- Artificial Intelligence (AI)
- Cloud Computing
- Internet of Things (IoT)
- Big Data and Data Analytics

These technologies are transforming industries and redefining how businesses and societies operate.

Digital Transformation Across Industries

Virtually all sectors rely on computing systems, including:

- Healthcare (telemedicine, diagnostics systems)
- Finance (fintech, digital banking)

- Education (e-learning platforms)
 - Manufacturing (automation and smart factories)
- This widespread adoption highlights the central role of computer science in global development.

Economic Growth and Job Creation

The global IT industry is one of the fastest-growing sectors, contributing significantly to GDP in many countries. Computer science:

- Creates millions of jobs worldwide
- Supports startup ecosystems and entrepreneurship
- Drives innovation in digital economies

Advancement of Research and Innovation

Computer science enables breakthroughs in:

- Scientific research (simulations, modeling)
- Space exploration
- Medical research (genomics, drug discovery)

It accelerates innovation by providing powerful computational tools.

Global Connectivity and Communication

Technologies developed through computer science enable:

- Instant communication (email, messaging, video conferencing)
- Social networking platforms
- Global collaboration across borders

This has transformed how people interact and share knowledge.

Cyber security and Data Protection

As digital systems expand, protecting information has become crucial. Computer science plays a vital role in:

- Securing networks and systems
- Protecting sensitive data
- Preventing cyber threats and attacks

Foundation for Emerging Technologies

Future advancements depend heavily on computer science, such as:

- Artificial Intelligence and Machine Learning
- Quantum Computing
- Blockchain Technologies

These innovations will shape the future global landscape.

8.8.3 National Demand in Pakistan

Pakistan's IT sector has become one of the fastest-growing segments of the economy. Universities must produce skilled graduates capable of contributing to: Software houses, IT startups, Government digital initiatives, Research and innovation. The expansion of IT exports and the government's focus on the digital economy have significantly increased the demand for qualified computer scientists. The demand for Bachelor of Science in Computer Science (BSCS) in Pakistan has increased significantly due to rapid growth in the information technology (IT) sector, digital transformation, and global outsourcing trends.

8.8.4 Rapid Growth of IT Industry

Pakistan's IT sector is one of the fastest-growing segments of the economy. IT exports reached over \$2.17 billion in 2024–25, showing strong growth momentum

The sector continues to expand with projections of exceeding \$5 billion annually in coming years. This growth directly increases the demand for skilled computer science graduates.

Increasing Demand for Skilled Workforce

Pakistan produces 70,000+ IT graduates annually, yet the industry still faces a shortage of skilled professionals. Only a small percentage of graduates meet industry requirements, highlighting a skill gap rather than lack of demand. This indicates that qualified BSCS graduates with practical skills are highly demanded.

Expansion of Employment Opportunities

Computer science graduates are required in:

- Software houses and IT companies
- Telecommunications sector
- Banking and fintech industries
- Government digital initiatives
- Freelancing and remote work platforms

Pakistan has 17,000+ software houses and IT firms operating nationwide. A growing workforce of hundreds of thousands of IT professionals

Growth of Freelancing and Global Opportunities

Pakistan is among the top freelancing countries in the world, with:

- Millions of freelancers contributing to foreign exchange
- Increasing demand for skills in:
 - Artificial Intelligence
 - Cloud Computing
 - Cybersecurity
 - Data Science

BSCS graduates can earn globally without geographical limitations.

Government Support and Digital Initiatives

The government is actively promoting the IT sector through:

- Technology parks and IT zones
- Skill development programs
- Incentives for software exports
- Digital Pakistan initiatives

These efforts further increase the demand for computer science graduates.

Youth Population and Job Market Pressure

Pakistan has a large youth population and needs to create millions of jobs in the coming decade.

The IT sector is one of the few industries capable of:

- Absorbing large numbers of graduates
- Providing high-income opportunities
- Supporting entrepreneurship

8.8.5 Academic Demand:

BSCS is one of the most preferred degree programs among students. Universities across Pakistan are expanding computing programs.

Academic Need

The MUET Jamshoro already offers BSCS program aligned with the HEC curriculum framework and national academic trends and workforce needs. The standard structure includes: Core computing courses, Mathematics and supporting courses, General education courses, Electives and specialization areas. Therefore, launching of BSCS program will align the Khairpur Campus with national and regional academic trends and workforce needs.

Program Educational Objectives (PEOs):

The program educational objectives (PEOs) were prepared by the OBE implementation committee for outcome-based education implementation and approved through the Board of Studies, Board of Faculty and Academic Council. The PEOs were prepared on the basis of stakeholders' needs and linked with ten program learning outcomes. The PEOs has been published on official webpage of the department at Mehran University website and has been displayed at various notice boards of the department. The PEOs of Bachelor of Computer Science describe that our graduates, 3-5 years after graduation, should be able to:

- Have strong computer science knowledge that will be leading to the development of technical competency and participate in professional practices with appropriate consideration for health and safety, environmental, legal, social, and cultural aspects.
- Attain success in technical careers and demonstrate professional skills in the field of computer science.
- Become responsible citizens with high ethical and professional standards as well as awareness of the societal impact of computer and information technologies.

BSCS program prepare students to attain educational objectives by ensuring that students demonstrate achievement of the following outcomes:

8.8.6 Program Learning Outcomes:

Program Learning Outcome (PLO)	Computing Professional Graduate
1. Academic Education	To prepare graduates as computing professionals
2. Knowledge for Solving Computing Problems	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
3. Problem Analysis	Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
4. Design/Development of Solutions	Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
5. Modern Tool Usage	Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.
6. Individual and Teamwork	Function effectively as an individual and as a member or leader in diverse teams and in multi disciplinary settings.
7. Communication	Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.

8. Computing Professionalism and Society	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.
9. Ethics	Understand and commit to professional ethics, responsibilities, and norms of professional computing practice.
10. Life Long Learning	Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.

8.8.7 Market Analysis:

Demand for Computer Science Graduates

Demand exists in several sectors:

- Software development companies
- IT consulting firms
- Telecommunications companies
- Financial technology sector
- Government digital initiatives
- Research and academia

Career Opportunities

Graduates may work as:

- Software Engineer
- Data Scientist
- AI Engineer
- Cybersecurity Analyst
- Web Developer
- Systems Architect
- Database Administrator
- IT Consultant

Industry Growth

Our IT sector is expanding rapidly through:

- Software export growth
- Freelancing market expansion
- Startup ecosystem
- Government digital initiatives

Thus, the job market for computer science graduates remains strong.

8.8.8 Program Structure:

Degree Title

Bachelor of Science in Computer Science (BSCS)

Duration

4 Years (8 Semesters)

Total Credit Hours

Approximately 135 credit hours. (Annexure-1)

8.8.9 Curriculum Structure/Courses:

Same as of MUET Jamshoro.

The program of BS Computer Science is fully transformed to practice in true spirit the education system based on outcome-based education (OBE) system.

Vision: To build a strong research and teaching environment that responds swiftly to the challenges of the current era.

Mission: To produce computer science graduates design and develop quality software solutions, be able to work successfully within challenging environments and will be good professionals.

Chairman of the Department (In-Charge)

Dr. Nouman Qadeer Soomro

Phone: +92 243-715365

8.9 Bachelor of Science in Cyber Security (BS CYS)

8.9.1 The Program:

Information and Communication Technologies have evolved and new avenues such as Cyber Security has become the mainstream concern of technology industries. Currently, industries like health, banking, finance, manufacturing and social media require expertise in the field of Cyber Security along with Government and Defense sectors. With high demand in market, the Bachelor of Science in Cyber Security program intends to produce skilled professionals to work as Security Analyst, Security Engineer, Security Architect, Security Administrator, Security Software Developer, Cryptographer, Cryptanalyst and Security Consultant among others.

Vision of the University:

To become world world-class educational and research institute and contribute effectively towards building up indigenous and technological capabilities for sustainable socio-economic development.

Mission of the University:

To equip our undergraduate, postgraduate, and doctoral students with advanced knowledge through collaborative opportunities that emerged from linkages with academia, industry, and government.

Vision of the Department:

Build a strong research and teaching environment that responds swiftly to the challenges of the current era.

Mission of Program:

To educate and prepare computer scientists with cyber security expertise, enabling them to address the challenging issues of the cyber world and contribute to society by imparting knowledge and skills that safeguard against cyber threats and ensure a secure cyber environment against external attacks.

Program Educational Objectives (PEOs):

The program educational objectives (PEOs) were prepared by the OBE implementation committee for outcome-based education implementation and approved through the Board of Studies, Board of Faculty and Academic Council. The PEOs were prepared on the basis of stakeholders' needs and linked with ten program learning outcomes. The PEOs has been published on official webpage of the department at Mehran University website and has been displayed at various notice boards of the department. The PEOs of Bachelor of Computer Science describe that our graduates, 3-5 years after graduation, should be able to:

1. Have strong computer science knowledge that will be leading to the development of technical competency and participate in professional practices with appropriate consideration for health and safety, environmental, legal, social, and cultural aspects.
2. Attain success in technical careers and demonstrate professional skills in the field of computer science.
3. Become responsible citizens with high ethical and professional standards as well as awareness of the societal impact of computer and information technologies.

BS Cyber Security program prepares students to attain educational objectives by ensuring that students demonstrate achievement of the following outcomes (PLOs):

Program Learning Outcome (PLO)	Computing Professional Graduate
1. Academic Education	To prepare graduates as computing professionals
2. Knowledge for Solving Computing Problems	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
3. Problem Analysis	Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
4. Design/Development of Solutions	Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
5. Modern Tool Usage	Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.
6. Individual and Teamwork	Function effectively as an individual and as a member or leader in diverse teams and in multi- disciplinary settings.

8.9.2 B.S. Cyber Security Framework:

PARAMETER		
Duration	4 years	4 years
Semesters	8	8
Weeks per Semester	21 weeks	Minimum 18 weeks
Teaching	1G weeks	Minimum 15 weeks
Conduct of Mid Semester Examination	1 week	
Preparation of Final Examination	1 week	
Conduct of Final Examination	2 weeks	
Semester Break	1 week	
Summer Break / Summer Semester	8 weeks	
Winter Break	2 weeks	
Credit Hours per Semester	16 to 18	16 to 15
Grand Total Credit Hours (CHs)	134	Minimum 130
Theory Credit Hours (CHs)	105	
Lab. Credit Hours (CHs)	2G	
Total Number of Domain Credit Hours (CHs)	30	30
Domain Core Credit Hours (CHs)	18	18
Domain Elective Credit Hours (CHs)	12	12
Total number of Courses	45	Minimum 41
Total Number of Domain Courses	10	10

Domain Core Courses	6	G
Domain Elective Courses	4	4
General Education Courses	10	
General Education Credit Hours	22	19
University Elective Courses	4	4
University Elective Credit Hours	13	12
Computing Core Courses	11	11
Computing Core Credit Hours	39	39
Computer Science Core Courses	5	5
Computer Science Core Credit Hours	18	18
Cyber Security Core Courses	5	6
Cyber Security Core Credit Hours	18	18
Cyber Security Elective Courses	4	Maximum 4
Cyber Security Elective Credit Hours	12	Maximum 12
Computing Domain Courses	74.62Pc	
Non-Computing Domain Courses	25.37a	
Contact Hours* per Semester (All Courses)	2976	
Contact Hours for 3 CH Theory Subject	48	1 : 1
Contact Hours for 2 CH Theory Subject	32	1 : 1
Contact Hours for 1 CH Practical Subject	48	1 : 3

Chairman of the Department

Dr. Irfan Ahmed

Ph. No.: 0243-686074 / **Ext.:** 7701

8.10 Bachelor of Science in Mathematics (BSM)

8.10.1 The Program:

The (BSRS) department at MUET SZAB campus Khairpur Mirs, is offering Bachelor of Science in Mathematics (BSM) to provide quality education in the field of Applied Mathematics at the doorstep of local area.

Chairman of the Department
Dr. Hadi bux Chhijan
Associate Professor

8.11 MUET, SZAB Campus Amenities

8.11.1 Information Communication and Processing Centre (ICPC)

The **Information Communication and Processing Centre (ICPC)** manages and provides information technology, networking, and communication services for the faculty, staff, and students of the campus. The center maintains modern IT infrastructure to support teaching, research, and administrative activities and ensures reliable access to digital resources across the campus.

All academic departments, administrative offices, and residential hostels are interconnected through a **high-speed optical fiber network**, providing reliable connectivity. Both **wired (LAN)** and **Eduroam-based wireless (Wi-Fi)** internet services are available to facilitate academic and administrative operations.

The campus IT infrastructure is supported through **modern servers, network switches, and security systems** installed at ICPC. The total available **internet bandwidth for the campus is approximately 175 Mbps**.

ICPC Services

- Provision of Internet accounts for students, faculty, and staff
- Microsoft Teams and official email services
- Issuance and management of Smart Cards for students and staff
- Management and maintenance of the campus website
- Technical support for IT systems including LAN and Eduroam Wi-Fi

Surveillance

- The campus has a state-of-the-art surveillance system with a central control room to monitor & review the entire Campus premises for security concerns.

For technical assistance related to internet services, email accounts, or other IT facilities, students may contact:

Abdul Rasheed Phulpoto
Deputy Director, ICPC
supporticpc@muetkhp.edu.pk

8.11.2 Transport Facilities:

The campus provides transport service to the students, faculty and staff along the routes, viz. Sukkur-Khairpur Mir's, Ranipur-Khairpur Mir's, Nangreja-Khairpur Mir's, Pir Jo Goth-Khairpur Mir's, Sukkur-Khairpur Mir's and within Khairpur Mir's City.

8.11.3 Sports Facilities:

The campus has established a sports section which arranges various indoor and outdoor sports occasion on its own as well as in liaison with the Directorate of Sports of the University. However, sports complex has been planned in the premises of residential complex for students & staff where the construction work has already commenced. Gymkhana Khairpur is facility this campus to have sports activities there also.

8.11.4 Library:

The Campus Library contains more than 25000 books related to Engineering Science and Technology and its allied subjects. There are more than 7000 (approximately) in form of textbooks.

The Campus Library offers video conferencing with excellent image and sound quality, which includes video conferencing equipment. The room is available to campus departments; faculty and students also Library has two Group Discussion Rooms available for academics or students.

In Library & Online Information Center students and faculty members are also provided internet facility to use Digital Library for their project work for which Advance PCs are installed in the Online Information Center of the library.

Online Public Access Catalogue (OPAC) accessible through this URL <http://121.52.155.178:8000> to access interface for books catalog, full-text electronic journals and e-books on web. The Campus Library also offers Wi-Fi service.

The library is heavily used by the students, faculty members and researchers and is open from 8:00 am to 9:00 p.m. and also on Holidays during examination period. Professional staff available at service points to meet needs of the readers.

8.11.5 Residential Accommodation for Students & Staff:

The residence facility for male students & male staff is being provided at Residential Complex (New Land). The resident facility for girls is also provided within the campus premises for the time being. The two (02) boys' hostels will start functioning in next session. The following facilities are available:

1.	Boys Hostel	03 Nos.
2.	Girls Hostels	01 Nos.
3.	Teachers Hostel	01 No.
4.	Mosque	01 No. (Within Campus)

The following are in planning and construction phase:

1.	Shopping Centre	01 No.
2.	Health Centre	01 No.
3.	Sports Complex including Gymnasium.	01 No.
4.	Teachers Houses	40 Nos.

8.11.6 Cafeteria:

The Campus cafeteria was inaugurated in December-2015 with sitting capacity of approximately 100 people. The cafeteria is providing mess facility to the students (Male and Female), staff and teachers.

8.11.7 Auditorium:

The Campus has state of the art Auditorium facility with the capacity of approximately 400 persons seating to hold conferences, seminars, symposiums etc.

10. RULES AND PROCEDURES FOR ADMISSION

A(I). For B.E, B.Arch., B.CRP, and BE Tech. Programs under Regular Scheme

9.1 Admission:

- (i) Admissions to the First Year for all the degree courses are made according to the policies and rules, framed by the authorities of the University from time to time. The rules mentioned in this prospectus are subject to revision by the competent authorities as and when deemed necessary and without any notice. The number of seats has been fixed as shown in **Table-9.6.1**. There are other categories of candidates who are also eligible for admission, which are described in detail in the subsequent clauses.
- (ii) The candidates who apply for admission on the basis of fake certificates/documents (detected before or after their admission) shall be prosecuted under criminal law and their admission shall be cancelled. Additionally, they may also be debarred for a period of three years for future admission and all payments made to the University shall be forfeited in favor of the University.

9.2 Eligibility for Admission:

- (i) a). The candidates who have passed their **HSC Part-I** in Annual Examination of 2025 or **HSC Part-II** earlier up to 2023 with 60% marks under **Pre-Engineering Group or equivalent** with Physics, Chemistry and Mathematics (**excluding Grace Marks**) from any recognized Board of Intermediate and Secondary Education in Pakistan or from foreign countries, are eligible to apply for admission.
- b). In addition, the candidates who have passed their **HSC Part-I** in Annual Examination of 2025 or **HSC Part-II** earlier up to 2023 with 60% marks under **General Science Group or equivalent (excluding Grace Marks)** from any recognized Board of Intermediate and Secondary Education in Pakistan or from foreign countries are eligible to apply for admission only in Computer Systems Engineering, Software Engineering, Electronic Engineering, Telecommunication Engineering, **Architecture, and City & Regional Planning** provided that they shall not claim their admission in any other BE disciplines.
- c). The candidates who have passed their **HSC Part-I** in Annual Examination of 2025 or **HSC Part-II** earlier up to 2023 with 60% marks under **Pre-Medical Group or equivalent (excluding Grace Marks)** from any recognized Board of Intermediate and Secondary Education in Pakistan or from foreign countries are eligible to apply for admission only in Bio-Medical Engineering provided that they shall not claim their admission in any other BE disciplines.
- (ii) The candidates who have passed their Diploma of Associate Engineer (**DAE***) in Annual Examination of 2025 or earlier up to Annual Examination 2023 with 60% marks (**excluding Grace Marks**) from any recognized Board of Technical Education in Pakistan in any of the approved disciplines (i.e., Civil, Electrical, Mechanical, Electronics, Chemical, Glass & Ceramics, Petroleum and Architecture Technology) are also eligible to apply for admission only in the relevant discipline under the Regular and Self-Finance Schemes.
- (iii) The candidates who have passed their **HSC Part-II/DAE*** in the Annual Examination before 2023 under any of the above-mentioned groups or equivalent shall not be eligible to apply for admission.
- (iv) a). The candidates who are changing their groups from Pre-Engineering to Pre-Medical or vice-versa; they have to provide evidence for the change of group in shape of slip issued by the controller of the concerned education board. The slip shall be uploaded on the Admission Portal.

- b). Further that CPN of such candidates shall be calculated on the basis of HSC-I marks certificate provided by the candidate at the time of submission of documents decided by the University.
- c). Furthermore, the pre-admission test for such candidates will align with the group mentioned in the slip. Once they have taken the test within that group, they will only be eligible for admission in disciplines relevant to that group, and no subsequent group changes will be allowed under any circumstances.
- d). The group changing candidates shall submit an affidavit that he/she shall not claim any additional marks after the declaration of result of changed subject in any case whatsoever.
- (v) The candidates who are getting admission on the basis of the result of HSC Part-I have to secure 60% marks **(excluding Grace Marks)** in **HSC Part-II**, otherwise, their admission shall stand canceled and none of the fees shall be refunded. However, for students of Bachelor of Engineering Technology Programs, the candidates have to secure at least 50% marks **(excluding Grace Marks)** in **HSC Part-II** /DAE (Refer **Clause 9.30 of Section-B** of BS Programs).
- (vi) Those students, who were admitted to any other institutes/universities before applying for admission in Mehran UET and were rusticated, debarred or their admissions were canceled, shall not be considered for admission in the University. Additionally, if the students withhold information regarding such disciplinary action and they were granted admission; their admission shall be canceled immediately after ascertaining such facts. Those candidates who have been convicted involving of moral turpitude shall also be refused admission in the University.
- (vii) The candidates who have been allowed admission previously with any batch by this University shall not be considered for fresh admission. Their admission forms, if received by the University shall be rejected without any notice and their admission shall be cancelled at any stage later on. However, if any of the admitted students desires to seek admission in any discipline under Self-Financing Scheme or University Support Program, he/she may apply for the same for which he/she will be required to submit an undertaking on the stamp paper to the effect that he/she will not claim admission under Regular Scheme. Similarly, if any of the students admitted under SFS or USP, applies for admission under Regular Scheme, he/she may apply for the same for which he/she will be required to submit an undertaking on the stamp paper to the effect that if he/she is admitted in the desired discipline he/she will not claim the refund of the money whatsoever, he/she has paid with the previous batch. Besides that, all the students of BS Programs of the University are eligible to apply for admission in any of the Engineering, B.Arch. and CRP Programs, if they meet the eligibility criteria.

9.3 Admission Form:

Call for admissions is advertised in the prominent newspapers of national and regional repute as well as on the University website **muet.edu.pk**. The candidates who intend to apply for admission must follow the guidelines mentioned on the Directorate of Admissions website **admissions.muet.edu.pk**. A valid email address and NIC number is mandatory to complete the registration process. The candidates are required to deposit the admission processing fee in any branch of Habib Bank Ltd. The candidates have to upload the scanned copies of all the required documents and paid copy of bank challan as indicated. The candidates have to download their admit slips for pre-admission test, which will be uploaded by the Admission Office after verifying their application form and processing fee. The candidates have to print their admit slips and bring them on the day of pre-admission test along with original CNIC/ B-Form / FRC. The appearance/passing in the pre-admission test does not mean the candidate is eligible for admission. The eligibility of candidate for admission is decided by the admission office of the University after scrutinizing the documents provided by the candidates. The eligibility criteria for admission are given in **Clause 9.2**. Since the admission form is a legal

document, any wrong information provided therein or tampering it in any other way is illegal and may result in rejection of the form out rightly.

9.4 Pre-Admission Test:

In accordance with the policies adopted by the Federal as well as Provincial Governments, all the eligible candidates applying under all categories except nominees are required to appear in the Pre-Admission Test organized by the University. Candidates having secured less than 40% marks in the Pre-Admission Test shall not be eligible for the admission in this University.

The Pre-admission tests shall be conducted district wise and the corresponding district wise merit list shall also be displayed on the same day(s) followed by the interviews on the next day.

The final merit list of the candidates for each district/category is prepared by calculating their overall merit, based on the marks obtained in each of the following examinations, multiplying them with the respective weightage and adding the result to calculate the “Composite Percentage Number” (CPN) as described below:

Sr. No.	Percentage of Marks in	Multiplying Weightage
A.	Secondary School Certificate (Science Group) - Matriculation:	0.10
B.	Higher Secondary School Certificate (HSC-I) / Equivalent: (Pre-Engineering / Pre-Medical / General Science / Humanities / Commerce Groups or equivalent with adjusted marks ¹) / DAE.	0.30
C.	Pre-admission Test Score:	0.60

For example, if a candidate has secured 70% marks in SSC, 60% marks in HSC-I and 50% marks in Pre-Admission Test; his / her CPN² would be calculated as under:

$$(70 \times 0.1) + (60 \times 0.3) + (50 \times 0.6) = 7 + 18 + 30 = 55.0000$$

1. “Adjusted marks” shall mean the marks secured in the HSC examination together with additional marks if any, as defined in **Clause 9.11**, or marks to be deducted due to gap in education as defined in **Clause 9.12**.
2. The CPN of the candidates on the merit list may be calculated with four digits after decimal point. The following steps may be taken, in case of candidates having same CPN even after exercising the above action:
 - i. The candidate having higher pre-admission test marks will be higher in merit.
 - ii. The candidate having higher HSC-I marks will be higher in merit.
 - iii. The candidate having higher SSC marks will be higher in merit.
 - iv. The candidate having higher HSC Math-I/Biology-I marks will be higher in merit.

Note: All local/foreign nominees are required to submit the result of HEC, SAT, UETs, NUST, officially approved National/International Organization or other International-Level Test which they have passed for their admission purpose or appear in the Pre-Admission Test of this University and clear the same. In case they do not clear the test, they would not be considered for admission at this University.

9.5 Interviews:

Following the declaration of the result of Pre-Admission Test, a comprehensive merit list of candidates, qualifying the test, shall be prepared for each district/category and a number of candidates roughly equivalent to the reserved seats of concerned category is called for interview before the Admission Committee. The candidates must be accompanied with his/her guardian declared in his/her admission form during interview.

District wise interviews shall be held at Mehran UET, Jamshoro. Interviews shall be held on the next day after the display of merit list of respective districts. The schedule for the tests and interviews will be announced on the official website of the MUET: muet.edu.pk.

The candidates will also be required to bring their original documents as mentioned below for verification:

- (i) Marks Certificate of SSC – (Matriculation).
- (ii) Marks Certificate of **HSC Part-I** (Pre-Engineering / General Science / Pre-Medical Group in case of change of group from Pre-Medical to Pre-Engineering, marks certificate of Pre-Medical Group) / DAE (Pass).
- (iii) Marks Certificate of **HSC Part-II** (Pre-Engineering / Pre-Medical / General Science / Commerce / Humanities and other group)
- (iv) Admit card / Slip issued by the concerned Boards (**For group changing candidates**).
- (v) Affidavit (**For group changing candidates**)*.
- (vi) Domicile Certificate of candidate.
- (vii) PRC on 'C' Form of candidate.
- (viii) National Identity Card / B-form / FRC (as applicable).
- (ix) Medical Certificate on prescribed proforma*.
- (x) Undertaking Certificate on prescribed proforma*.

* Proformas can be downloaded from admissions.mueta.edu.pk.

It is mandatory for the candidates to appear before the Admission Committee for interview. If any candidate fails to produce all or any of the above-mentioned documents, he/she shall not be allowed to appear in the interview and will be disqualified from the process of admission.

The admission in any of the disciplines shall be allowed on the day of interview; and if admitted, an attested photocopy set of all the above documents and the original marks certificate of HSC-I or equivalent be retained. However, the Directorate of Admissions is competent to hold any particular document(s). The candidates have to deposit the fees as mentioned in **Clause 9.21** at the time of interview.

9.6 Distribution of Seats:

The distribution of seats for admissions is strictly made according to the rules framed for the purpose by the authorities of the University on population basis among the rural and urban areas for Hyderabad, Mirpurkhas, Larkana, Sukkur Divisions. Twenty (20) seats have also been reserved for the candidates of Karachi Division. The admission in various districts/ categories at Mehran UET, Jamshoro and Mehran UET, SZAB Campus, Khairpur Mirs' is given on quota basis for the urban and rural areas. However, the award of discipline shall be given on the interview day as per availability of seats of the district / category. Any saving from the urban areas seats of any district is given to the rural areas of the same districts and vice-versa. Any saving of seats from district quota will be given to respective division on open merit basis. The number of seats allocated to each district, discipline and category at MUET, Jamshoro is given in **Table-9.6.1**, while the distribution of seats among urban and rural areas of Sindh Province is given in **Table-9.6.2** and the description of the seat under **Category-B** is given in **Table-9.6.3**.

The number of seats allocated to each district, discipline and category at MUET, SZAB Campus, Khairpur is given in **Table-9.6.4**, while the distribution of seats among urban and rural areas of Sindh Province is given in **Table-9.6.5**.

The distribution and description of discipline-wise extra seats reserved for nominees are given in **Table-9.6.6** and **Table-9.6.7**.

Table-9.6.1 Discipline-wise Distribution of Seats for Various Districts and Categories at Mehran UET, Main Campus Jamshoro under Regular Scheme:

Cat.	Description	CE	EL	ME	ES	CS	TL	SW	CH	IN	MN	MT	PG	AR	CRP	TE	EE	BM	MTE	Total
A-1	Sukkur	1	1	1	2	2	2	2	2	1	2	2	2	1	1	2	1	1	2	28
	Ghotki	1	1	1	2	2	3	2	2	1	1	1	2	2	2	2	1	1	2	29
	Khairpur	2	2	2	3	3	4	4	3	2	2	2	3	3	3	3	1	1	1	44
	S. Benazirabad	1	1	1	3	2	3	3	2	1	1	1	2	3	2	2	1	1	1	31
	N. Feroze	1	2	1	3	2	3	3	2	1	2	2	2	1	1	3	1	1	1	32
A-2	Larkana	1	1	1	2	2	2	3	2	1	2	2	2	2	1	2	1	1	1	29
	Kambar/Shahdadt	1	1	1	2	2	2	2	2	1	1	2	2	1	1	2	1	1	1	26
	Shikarpur	1	1	1	2	2	3	2	1	1	1	2	1	1	1	2	1	1	1	25
	Jacobabad	1	1	1	2	2	2	2	2	2	1	1	2	1	1	2	1	1	1	26
	Kashmore	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	-	1	1	18
A-3	Hyderabad	7	7	8	6	8	7	7	2	4	3	2	3	4	4	5	3	2*	4	86
	Matari	2	3	2	2	2	2	2	1	2	2	1	1	1	1	2	1	2*	1	30
	T. M. Khan	3	3	3	2	2	2	3	1	1	1	1	2	1	1	2	1	2*	1	32
	T. Allahyar	2	2	3	1	2	3	2	1	1	1	2	1	1	1	1	1	2*	1	28
	Dadu	5	6	7	4	5	5	6	3	3	2	2	2	2	3	4	2	2*	3	66
	Jamshoro	3	3	3	3	3	3	2	1	1	1	1	2	1	1	2	1	2*	2	35
	Thatta	3	3	4	2	3	2	3	2	1	1	1	1	2	1	2	1	1	1	34
	Sujawal	3	3	2	2	2	3	2	1	1	1	1	2	1	1	2	1	1	1	30
	Badin	6	6	7	4	5	5	5	3	3	2	2	3	3	3	4	2	2*	3	68
A-4	Mirpurkhas	5	6	6	3	4	4	4	2	2	2	2	2	1	2	3	2	2*	3	55
	Umerkot	3	3	3	3	3	3	3	2	2	2	2	2	1	1	2	1	2*	2	40
	Tharparkar	5	5	5	4	4	4	4	2	2	3	3	2	1	2	3	2	2*	2	55
	Sanghar	7	8	8	6	6	7	7	3	3	3	2	4	4	4	5	3	2*	4	86
A-5	Karachi (All Districts)	-	-	-	2	2	2	2	2	0	2	2	-	1	2	2	-	1	-	20
B	MUE, Jamshoro	12	8	6	4	4	2	4	-	-	-	-	2	-	-	-	-	2	-	44
	Total	77	78	78	70	75	79	81	45	38	40	40	48	40	41	60	30	37	40	997

CE Civil Engineering
EL Electrical Engineering
ME Mechanical Engineering
ES Electronic Engineering
CS Computer Systems Engg.
EE Environmental Engineering
MUE MUET, Jamshoro Employees

TL Telecommunication Engg.
SW Software Engineering
CH Chemical Engineering
IN Industrial Engineering & Mgt.
MN Mining Engineering
BM Biomedical Engineering

MT Metallurgy & Materials Engg.
PG Petroleum & Nat. Gas Engg.
AR Architecture
CRP City & Regional Planning
TE Textile Engineering
MTE Mechatronics Engineering

* One seat of Biomedical Engineering discipline shall be reserved for the candidates with Pre-Engineering Group in the districts having two seats.

Table-9.6.2 District-wise Distribution of Seats (Urban/Rural Basis) in Sindh Province at Mehran UET, Main Campus Jamshoro under Regular Scheme:

Category	Districts	Number of Seats		
		Urban Areas	Rural Areas	Total Seats
A-1	Sukkur	10	18	28
	Ghotki	3	26	29
	Khairpur	5	39	44
	Shaheed Benazirabad	5	26	31
	Naushahro Feroze	2	30	32
	Total	25	139	164
A-2	Larkana	9	20	29
	Kambar/Shahdadkot	3	23	26
	Shikarpur	4	21	25
	Jacobabad	4	22	26
	Kashmore	2	16	18
	Total	22	102	124
A-3	Hyderabad	73	13	86
	Matiali	2	28	30
	Tando Muhammad Khan	4	28	32
	Tando Allahyar	5	23	28
	Dadu	10	56	66
	Jamshoro	3	32	35
	Thatta	2	32	34
	Sujawal	0	30	30
	Badin	6	62	68
	Total	105	304	409
A-4	Mirpurkhas	10	45	55
	Umerkot	0	40	40
	Tharparkar	0	55	55
	Sanghar	13	73	86
	Total	23	213	236
A-5	Karachi (All Districts)	20	*	20
	Grand Total	195	758	953

*All districts of Karachi are considered as urban areas.

Table-9.6.3 Priority-wise Description of Candidates Seeking Admission at Mehran UET, Main Campus Jamshoro under Category-B:

Category	Description	Seats
(B)	Real sons/daughters/brothers/sisters of Mehran University employees (serving or retired, deceased, on lien or working on deputation with other Institutions) shall be considered for admission to first year class against the reserved seats on the following criteria: - First preference is given to real sons/daughters of employees who are confirmed in the University service and have at least three years continuous university service at their credit. - Second preference is given to real sons/daughters of regular employees who are not confirmed in the University service but have at least three years continuous university service at their credit. - Third preference is given to real brothers/sisters of employees who are confirmed in the University service and have at least three years continuous university service at their credit. - Fourth preference is given to real brothers/sisters of regular employees who are not confirmed in the University service and have at least three years continuous university service at their credit. - Fifth preference is given to real sons/daughters of employees who are confirmed in the University service and have less than three years continuous university service at their credit. - Sixth preference is given to real sons/daughters of employees who are not confirmed in the University service and have less than three years continuous university service at their credit. - Seventh preference is given to real brothers / sisters of employees who are confirmed in the University service and have less than three years continuous university service at their credit. - Eighth preference is given to real brothers / sisters of employees who are not confirmed in the University service and have less than three years continuous university service at their credit. Note: - The merit with regard to the Category-B is determined as per policy of the University. A copy of the appointment order, confirmation order and Affidavit regarding relationship of the candidate with the employee be attached with the admission form. - The students of the University who had already availed seats under Category-B shall not be eligible to apply again under the same quota in any BE or BS program.	
	Seats under Category-B	44

Table-9.6.4 Discipline-wise Distribution of Seats for Various Districts, Disciplines, and Categories at Mehran UET, SZAB Campus, Khairpur Mirs' under Regular Scheme:

Category	Description	Number of Seats and Disciplines						
		CE-K	EL-K	ME-K	PG-K	SW-K	ES-K	Total
A-1	Sukkur	6	7	4	4	3	4	28
	Ghotki	7	7	4	4	4	3	29
	Khairpur	10	10	7	6	5	6	44
	Shaheed Benazirabad	7	7	3	4	3	2	26
	Naushahro Feroze	7	7	3	4	3	2	26
A-2	Larkana	4	4	3	2	2	2	17
	Kambar/Shahdadkot	3	4	3	2	2	2	16
	Shikarpur	3	4	2	3	2	2	16
	Jacobabad	3	4	3	2	2	2	16
	Kashmore	3	3	1	1	1	2	11
A-3	Hyderabad	3	3	2	1	2	1	12
	Matiori	0	0	1	1	1	0	3
	T. M. Khan	0	1	0	1	1	0	3
	T. Allahyar	1	1	0	1	0	1	4
	Dadu	1	1	1	2	1	2	8
	Jamshoro	1	1	0	1	1	1	5
	Thatta	0	1	1	1	0	1	4
	Sujawal	1	0	0	1	0	1	3
	Badin	1	1	1	2	1	1	7
A-4	Mirpurkhas	1	1	1	1	1	1	6
	Umerkot	1	0	1	1	1	1	5
	Tharparkar	1	1	1	1	1	1	6
	Sanghar	3	3	2	2	1	1	12
A-5	Karachi (All Districts)	1	1	0	1	1	0	4
B	MUE, Khairpur	3	2	1	1	1	1	9
	Total:	71	74	45	50	40	40	320

CE-K Civil Engineering

EL-K Electrical Engineering

SW-K Software Engineering

MUE-K Employees of Mehran UET, SZAB Campus

ME-K Mechanical Engineering

PG-K Petroleum & Natural Gas Engineering

ES-K Electronics Engineering

Table-9.6.5 District-wise Distribution of Seats (Urban/Rural Basis) in Sindh Province at Mehran UET, SZAB Campus, Khairpur Mirs' under Regular Scheme:

Category	Districts	Number of Seats		
		Urban Areas	Rural Areas	Total Seats
A-1	Sukkur	8	20	28
	Ghotki	3	26	29
	Khairpur	9	35	44
	Shaheed Benazirabad	6	20	26
	Naushahro Feroze	2	24	26
	Total	28	125	153
A-2	Larkana	6	11	17
	Kambar/Shahdadkot	2	14	16
	Shikarpur	2	14	16
	Jacobabad	4	12	16
	Kashmore	3	8	11
	Total	17	59	76
A-3	Hyderabad	9	3	12
	Matiori	0	3	3
	Tando Muhammad Khan	0	3	3
	Tando Allahyar	0	4	4
	Dadu	2	6	8
	Jamshoro	0	5	5
	Thatta	0	4	4
	Sujawal	0	3	3
	Badin	0	7	7
	Total	11	38	49
A-4	Mirpurkhas	2	4	6
	Umerkot	0	5	5
	Tharparkar	0	6	6
	Sanghar	2	10	12
	Total	4	25	29
A-5	Karachi (All Districts)	4	*	4
	Grand Total	64	247	311

*All districts of Karachi are considered as urban areas.

Table-9.6.6 Discipline-wise Seats Reserved for Nominees from Government Departments / Agencies and for Religious Minorities:

Cat.	Description	CE	EL	ME	ES	CS	TL	SW	CH	IN	MN	MT	PG	AR	TE	EE	BM	MTE	Total
C-1	Balochistan	-	-	-	2	2	-	-	2	-	-	2	-	2	-	-	-	-	10
C-2	Foreigners	1	1	1	1	1	1	1	1	-	-	-	1	-	1	-	-	-	10
C-3	Azad Kashmir	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2
C-4	Ex-FATA	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	4
C-5	Govt. of Punjab	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
C-6	Northern Areas	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2
C-7	GHQ, Rawalpindi	3	2	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	8
C-8	IO Kashmir	2	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	5
C-9	Religious Minorities (on Open Merit)*	2	1	2	3	1	3	4	1	1	1	-	3	-	2	2	2	2	30
	Total	10	6	6	6	5	5	7	4	2	2	2	4	3	4	2	2	2	72

* Only for the candidates holding domicile of Sindh Province.

Table-9.6.7 Description of Category-wise Seats Reserved for Nominees from Government Departments / Agencies and for Religious Minorities:

Category	Description	Seats
C-1	i). Candidates domiciled in Balochistan Province, nominated by the Education Department, Government of Balochistan. (02 in Electronics Engineering, 01 Chemical Engineering, 01 Metallurgy & Materials Engineering and 01 Architecture).	5
	ii). Candidates domiciled in Balochistan Province, nominated by the Higher Education Commission, Islamabad. (02 in Computer Systems Engineering, 01 Chemical Engineering, 01 Metallurgy & Materials Engineering and 01 Architecture).	5
C-2	Foreign students (under Pakistan Technical Assistance Program) nominated by the Ministry of Finance and Economic Affairs (Economic Affairs Division), Government of Pakistan, Islamabad.	10
C-3	Candidates belonging to Azad Kashmir, nominated by the Azad Govt. of the Azad State of Jammu & Kashmir, Muzafarabad.	2
C-4	Candidates belonging to Federally Administered Tribal Area, nominated by the State and Frontier Region Division, Government of Pakistan, Islamabad.	4
C-5	Candidate domiciled in Punjab Province, nominated by the Education Department, Government of Punjab.	1
C-6	Candidates belonging to Northern Areas, nominated by the Directorate of Education, Government of Gilgit Baltistan.	2
C-7	Candidates nominated by the General Head Quarters, Rawalpindi.	8
C-8	Candidates belonging to Indian Occupied Kashmir, nominated by the Ministry of Economic Affairs & Statistics (Economic Affairs Division), Government of Pakistan, Islamabad.	5
C-9*	Candidates belonging to Religious Minorities (Open Merit).	30
	Total Seats	72

* Only for the candidates holding domicile of Sindh Province.

9.7 List of Designated Urban Areas of Sindh Province:

MUNICIPALITIES WITHIN DISTRICTS	
1. <u>Sukkur District</u> a) Sukkur Municipality b) Rohri Municipality	13. <u>Tando Muhammad Khan District</u> a) Tando M. Khan Municipality
2. <u>Ghotki District</u> a) Ghotki Municipality b) Mirpurmathelo Municipality	14. <u>Tando Allahyar District</u> a) Tando Allahyar Municipality
3. <u>Khairpur District</u> a) Khairpur Municipality b) Gambat Municipality c) Pir Jo Goth Municipality	15. <u>Dadu District</u> a) Dadu Municipality b) Mehar Municipality c) K.N. Shah Municipality
4. <u>Shaheed Benazirabad District</u> a) Nawabshah Municipality	16. <u>Jamshoro District</u> a) Kotri Municipality
5. <u>Naushahro Feroze District</u> a) Moro Municipality	17. <u>Thatta District</u> a) Thatta Municipality
6. <u>Larkana District</u> a) Larkana Municipality b) Ratodero Municipality c) Naudero Municipality	18. <u>Sujawal District</u> No Urban Areas
7. <u>Kambar/Shahdadkot District</u> a) Shahdadkot Municipality b) Kambar Municipality	19. <u>Badin District</u> a) Badin Municipality b) Matli Municipality
8. <u>Shikarpur District</u> a) Shikarpur Municipality	20. <u>Mirpurkhas District</u> a) Mirpurkhas Municipality
9. <u>Jacobabad District</u> a) Jacobabad Municipality	21. <u>Umarkot District</u> No Urban Areas
10. <u>Kashmore District</u> a) Kandhkot Municipality	22. <u>Tharparkar District</u> No Urban Areas
11. <u>Hyderabad District</u> a) Hyderabad Municipality b) Tandojam Municipality	23. <u>Sanghar District</u> a) Sanghar Municipality b) Shahdadpur Municipality c) Tando Adam Municipality d) Sinjhor Municipality
12. <u>Matiari District</u> a) Hala Municipality	24. <u>Karachi District</u> No Rural Areas

Note: All municipalities and municipal committees are designated as urban areas, not limited to those listed above. Any modifications made by the Government of Sindh will be considered as urban, as and when notified.

9.8. Award of Discipline:

The award of discipline/technology is made on the day of interview. The candidates have to opt discipline/technology from their own respective districts/categories. However, if any candidate has applied in more than one category, he/she has to select/decide on any one of them on the day of interview. On the contrary, if he/she is not interested in any of them, he/she has to withdraw from admission in writing and his/her name shall be deleted from the list(s). The candidates shall have to pay the admission fees on the same day and obtain roll number accordingly.

Candidates who are selected but do not get admission in their desired discipline/technology, or who have opted for the waiting option, they may submit maximum of five (5) choices for their desired disciplines/technologies within three days after the day of interview by logging into their respective accounts on the admission portal.

Such candidates shall thereafter be considered on merit, and in accordance with the order of preferences, in the event that any seat in the relevant discipline/technology subsequently becomes available.

9.9 Rectification of Mistakes:

The Admission Merit Lists/Call Lists announced by the University are provisional and if any mistake is detected, it is rectified accordingly.

However, no candidate shall be permitted to submit or produce any fresh, new, or additional document that contradicts, alters, or is inconsistent with the documents previously uploaded on admission portal at the time of application or admission processing. Any documentation provided after submission must remain fully consistent with the original records uploaded by the candidate.

9.10 Admission of Candidates Who Fail to Deposit the Admission Fees on the Interview Day:

If any of the candidates fails to deposit admission fees on the day of interview, his/her seat will be allotted to the following candidate on the merit list.

9.11 Additional Marks:

The candidates, who have produced certificates of Hafiz-e-Quran from registered Madressahs and clear the test of Hifz taken by the University, are also considered to have additional 10 marks to be added to the marks of HSC.

9.12 Deduction of Marks Due to Gap in Education:

In case of a gap or repetition of HSC-I/Diploma Examinations, the merit is determined as described below:

One percent of the aggregate marks is deducted for each gap of one academic year after Matriculation examination from the total marks of HSC-I / Diploma Examination or equivalent for the purpose of determination of merit in each District / Category. This deduction is applicable whether the HSC-I / Diploma Examination had been repeated or the gap had occurred owing to any other reason.

9.13 Selection Procedure against various Categories:

All the candidates who have applied for admission against the seats reserved under **Category-B** are considered first for admission against the seats reserved for their respective districts under

Category-A. If a candidate who is selected against the district quota but does not get the discipline of his/her choice, his/her seat and discipline of that district may be transferred to the category applied for and he/she is given priority on merit basis in that category.

9.14 Closing of Admissions Process:

The admissions process for the session is made up to the end of **FOURTH week** from the date of start of the classes. After this period, no new admission is made. However, any change of discipline on merit is made up to seven (7) days after the closing date of admissions. The seats fallen vacant are not filled-up.

9.15 Transfer on Reciprocal Basis:

There is a provision for transfer of students admitted in Mehran UET with some other Institutions of Pakistan as described below:

Three candidates, two in Chemical Engineering and one in Civil Engineering having the domicile of **Categories-A.1 to A.4** (Sukkur, Larkana, Hyderabad and Mirpurkhas Divisions) are nominated for admission in the *University of Engineering & Technology, Lahore*, on reciprocal basis.

One candidate in Civil Engineering having the domicile of **Categories-A.1 to A.4** (Sukkur, Larkana, Hyderabad and Mirpurkhas Divisions) is nominated for admission in the *University of Engineering & Technology, Taxila* on reciprocal basis.

Three candidates, one in Civil Engineering, one in Mechanical Engineering and one in Architecture having the domicile of **Categories-A.1 to A.4** (Sukkur, Larkana, Hyderabad and Mirpurkhas Divisions) are nominated for admission in the *University of Engineering & Technology, Peshawar, Khyber Pakhtunkhwa* on reciprocal basis. They are required to pay Rs. 38,000/- as educational expenses in addition to admission and other normal user charges at the time of admission in the University of Engineering & Technology, Peshawar, Khyber Pakhtunkhwa. Similarly, the nominees from the University of Engineering & Technology, Peshawar, Khyber Pakhtunkhwa on reciprocal basis are required to pay Rs. 38,000/- as educational expenses in addition to admission and other normal user changes at the time of admission in Mehran UET, Jamshoro.

However, refund of fees to such students shall be made under HEC Refund Policy.

Sr. No.	Name of Institute	Civil Engg.	Chemical Engg.	Mechanical Engg.	Architecture
1.	UET, Lahore	1	2	-	-
2.	UET, Taxila	1	-	-	-
3.	UET, Peshawar	1	-	1	1

The candidates desiring to be considered for this nomination are required to give their intent in writing at the time of interview. The final selection for this purpose is made by the Mehran University authorities as per merit. Similarly, the UET, Lahore is authorized to nominate three candidates, UET, Taxila is authorized to nominate one candidate and UET, Peshawar is authorized to nominate three candidates for admission in Mehran UET in the same disciplines as mentioned above.

9.16 NOC and Study Leave Order for Candidates already in Service:

The candidates who are already in service at the time of submission of admission form should attach NO OBJECTION CERTIFICATE from their employers for their admission. After selection to the First Year Class, they are required to submit study leave order and relieving

order from their employers for study purpose at the University because the Bachelor's Degree Program is a regular full time and day program and no student admitted in this University is allowed to engage himself/herself in any employment during his/her studies.

9.17 Admission in any Other Institute:

Being a full-time program of studies, no student of this University is allowed to enroll in any other full time or part time courses of studies in any other educational institution without prior permission of the authorities of the University. Violation of the above may lead to the cancellation of his/her admission.

9.18 University Smart Identity Card:

The students, after getting admission at the University, are issued university smart identity cards by ICPC. It is necessary for the students to keep their valid identity cards with them while attending the classes, traveling in the point buses or staying on the campus.

9.19 Re-Admission Policy:

The Re-admission Policy may be read with the Revised Regulations regarding the General Scheme of Studies for the Bachelor's Degree Programs (including B.E., B.Arch., B.CRP, BS, and BBA) of Mehran University of Engineering and Technology under Section 47(1)(n) of the Act 1977.

Those students who are eligible for any semester of any year but remained absent from their classes and examinations for any reason, are considered for re-admission in the appropriate semester where they left their studies with the appropriate batch subject to application of other relevant rules by the Re-Admission Committee, provided that their absence is not more than **two calendar years**. However, their attendance to determine their eligibility to appear in the semester examination is considered from the date of issuance of re-admission order. Such admissions may be made **within four weeks** from the date of start of classes of particular session with full admission fee excluding enrollment card fee, smart card fee and caution money.

9.20 Enrolment Card:

Each student is required to enroll himself/herself in the University after the finalization of the discipline in the First Semester of First Year and obtain smart enrolment card accordingly.

9.21 Fees for all BE, B.Arch., B.CRP, and BE Tech. Programs:

I.	Fees payable at the time of admission:	Amount	
a.	Admission Fee (Per Year)	Rs.	27,800
b.	Subject Society/PERN Fee (Per Year)	Rs.	2,700
c.	Student Identity Card Fee (Per Year)	Rs.	750
d.	Enrolment Card Fee (Once)	Rs.	1,600
e.	HSC Marks Certificate Verification Fee (Once)	Rs.	3,000
f.	Caution Money Deposit – Refundable (Once)	Rs.	6,600
	Total Fee Payable:	Rs.	42,450

II.	Fees and Charges payable at the start of each semester	Amount	
a.	Tuition Fee (Per Semester)	Rs.	25,000
b.	Games Fee (Per Semester)	Rs.	1,500
c.	Development Charges (Per Semester)	Rs.	1,300
d.	Exams Fee (including Marks Certificate) for Regular Exams (Per Semester)	Rs.	3,000
e.	Transport Charges (Per Semester)	Rs.	18,000
	Total Fee Payable:	Rs.	48,800

III.	Fees payable at the time of hostel allotment:	Amount	
a.	Hostel Identity Card Fee (Per Year)	Rs.	600
b.	Allotment Processing Fee (Once)	Rs.	1,500
c.	Room Deposit–Refundable (Once)	Rs.	6,600
	Total Fee Payable:	Rs.	8,700

VI.	Fees to be charged at the start of each semester (For Boarders):	Amount	
a.	Admission Fee (Per Semester)	Rs.	3,100
b.	Room Charges (Per Semester)	Rs.	12,000
c.	Medical Charges (Per Semester)	Rs.	700
d.	Utility Charges (Per Semester)	Rs.	6,000
e.	Transport Charges	Rs.	14,000
	Total Fee Payable:	Rs.	35,800

Note:

- 1). The foreign students are charged USD \$ 1000 / equivalent per year (USD \$ 500 / equivalent per semester) as room charges. The other fees are the same as given above.
- 2). The University reserves the right to change its policies and fee structure at any time.

A(II). For B.E, B.Arch. and B.CRP Programs under Self-Financing Scheme

9.22 Admission:

The admission under Self-Financing Scheme is made on the basis of district quota as per **Table-9.22 (a) and (b)** at Mehran UET, Main Campus, Jamshoro and Mehran UET, SZAB Campus, Khairpur Mirs' respectively and further explained in **Clause 9.1** of Regular Scheme.

The saving seats are filled up on overall open merit basis of the Province of Sindh. Following rules have been framed for admissions under the Self-Financing Scheme. These rules are subject to revision by the competent authorities of the University at any time and without any prior notice.

9.22.1 Eligibility for Admission:

The eligible candidates under Self Financing Scheme should have:

- i. As prescribed in **Clause 9.2** under Regular Scheme.
- ii. Appeared in Pre-Admission Test and secured at least 40% marks.
- iii. Produced domicile of Sindh Province.

9.22.2 Pre-admission Test:

As prescribed in **Clause 9.4** under Regular Scheme.

9.22.3 Interviews:

As prescribed in **Clause 9.5** under Regular Scheme.

9.22.4 Available Seats:

Under this scheme the disciplines have been distributed in three categories, i.e., **Category-I, Category-II, Category-III, Category-IV, Category-V, and Category-VI** as mentioned below:

The number of seats for each discipline is reserved on district basis and given in **Table-9.22(a)** and **Table-9.22(b)**.

Category-I: (Rs. 1,470,000-00)

1. Software Engineering

Category-II: (Rs. 1,260,000-00)

1. Computer Systems Engineering

Category-III: (Rs. 1,050,000-00)

1. Civil Engineering

Category-IV: (Rs. 735,000-00)

1. Mechatronics Engineering
2. Biomedical Engineering

Category-V: (Rs. 630,000-00)

1. Architecture
2. Electrical Engineering
3. Mechanical Engineering
4. Civil Engineering (Khairpur)

Category-VI: (Rs. 425,000-00)

1. Electronics Engineering
2. Petroleum & Natural Gas Engineering
3. Environmental Engineering
4. Chemical Engineering
5. Industrial Engineering & Management
6. Textile Engineering
7. City & Regional Planning
8. Telecommunication Engineering
9. Electrical Engineering (at Khairpur Mirs')
10. Mechanical Engineering (at Khairpur Mirs')

9.22.5 Admission fee under Self-Financing Scheme:

The following fees are payable to the University by the candidates applying for admission under Self-Financing Scheme:

Category-I

The fee amounting to Rs. 1,470,000/- (Rupees One Million Four Hundred Seventy Thousand Only) in the form of Demand Draft prepared by any branch of Bank, in favor of "Director Finance, Mehran UET, Jamshoro". The draft in original must be submitted in the office of Director Admissions, MUET, Jamshoro before closing date.

Category-II

The fee amounting to Rs. 1,260,000/- (Rupees One Million Two Hundred Sixty Thousand Only) in the form of Demand Draft prepared by any branch of Bank, in favor of "Director Finance, Mehran UET, Jamshoro". The draft in original must be submitted in the office of Director Admissions, MUET, Jamshoro before closing date.

Category-III

The fee amounting to Rs. 1,050,000/- (Rupees One Million Fifty Thousand Only) in the form of Demand Draft prepared by any branch of Bank, in favor of "Director Finance, Mehran UET & Technology, Jamshoro". The draft in original must be submitted in the office of Director Admissions, MUET, Jamshoro before closing date.

Category-IV

The fee amounting to Rs. 735,000/- (Rupees Seven Hundred Thirty-Five Thousand Only) in the form of Demand Draft prepared by any branch of Bank, in favor of "Director Finance, Mehran UET, Jamshoro". The draft in original must be submitted in the office of Director Admissions, MUET, Jamshoro before closing date.

Category-V

The fee amounting to Rs. 630,000/- (Rupees Six Hundred Thirty Thousand Only) in the form of Demand Draft prepared by any branch of Bank, in favor of "Director Finance, Mehran UET, Jamshoro". The draft in original must be submitted in the office of Director Admissions, MUET, Jamshoro before closing date.

Category-VI

The fee amounting to Rs. 425,000/- (Rupees Four Hundred Twenty-Five Thousand Only) in the form of Demand Draft prepared by any branch of Bank, in favor of "Director Finance, Mehran UET, Jamshoro". The draft in original must be submitted in the office of Director Admissions, MUET, Jamshoro before closing date.

Note: All other fees as payable under regular scheme shall also be payable after the admission has been granted to the candidate under this scheme.

Table-9.22(a) Discipline-wise Distribution of Seats for Various Districts, Disciplines, and Categories at Mehran UET, Main Campus Jamshoro under Self-Financing Scheme (SFS):

Cat.	District	CE	EL	ME	ES	CS	TL	SW	CH	IN	PG	AR	CRP	TE	EE	BM	MTE	Total
A-1	Sukkur	3	2	2	2	1	1	2	1	0	1	1*	1*	1	0	0	1*	16
	Ghotki	3	1	1	1	0	0	2	1	0	1			0	0	0		10
	Khairpur	4	1	1	2	1	1	2	1	0	1			1	1	0		16
	S. Benazirabad	4	1	1	1	1	0	2	1	0	0			0	0	0		11
	N. Feroze	4	1	1	1	1	1	2	1	0	1			1	0	0		14
	Total	18	6	6	7	4	3	10	5	0	4	1	1	3	1	0	1	70
A-2	Larkana	3	2	1	1	1	1	2	1	0	1	1*	1*	1	0	0	1*	14
	Kambar/ Shahdadkot	4	1	1	1	0	0	2	1	0	1			1	0	0		12
	Shikarpur	3	1	1	1	1	1	2	1	0	1			1	0	0		13
	Jacobabad	3	1	1	1	1	0	2	0	0	1			1	0	0		11
	Kashmore	3	1	1	1	0	0	2	1	0	1			0	0	0		10
	Total	16	6	5	5	3	2	10	4	0	5	1	1	4	0	0	1	63
A-3	Hyderabad	6	4	4	5	1	1	5	2	1	2	3*	1*	1	1	1	3*	34
	Matiori	4	1	1	1	1	1	2	1	0	1			1	1	0		15
	T. M. Khan	4	1	1	2	1	1	2	1	0	1			0	0	0		14
	T. Allahyar	4	1	1	1	1	1	2	1	0	1			1	0	0		14
	Dadu	6	2	2	3	1	1	2	2	0	2			1	0	1		23
	Jamshoro	4	1	2	2	1	1	2	1	0	1			1	1	0		17
	Thatta	4	1	1	2	1	1	2	1	0	1			0	1	0		15
	Sujawal	4	1	1	1	0	1	2	1	0	1			0	0	0		12
	Badin	6	2	2	3	1	0	2	2	0	1			1	0	0		20
	Total	42	14	15	20	8	8	21	12	1	11	3	1	6	4	2	3	171
A-4	Mirpurkhas	5	2	3	2	1	1	3	2	1	1	2*	1*	1	1	0	3*	23
	Umerkot	4	2	1	2	1	1	2	1	0	1			0	0	0		15
	Tharparkar	4	2	1	3	1	0	3	1	0	1			1	0	1		18
	Sanghar	6	3	3	4	1	1	4	3	0	2			1	1	0		29
	Total	19	9	8	11	4	3	12	7	1	5	2	1	3	2	1	3	91
A-5	Karachi (All Districts)	3	0	1	1	1	0	2	1	0	1	0	0	0	0	0	0	10
	Total Seats	98	35	35	44	20	16	55	29	2	26	7*	4*	16	7	3	8*	405

* Seats reserved for respective divisions.

Table-9.22(b) Discipline-wise Distribution of Seats for Various Districts, Disciplines, and Categories at Mehran UET, SZAB Campus Khairpur Mirs' under Self-Financing Scheme (SFS):

Category	Districts	Number of Seats in Each Discipline			
		CE-K	EL-K	ME-K	Total
A-1	Sukkur	1	1	1	3
	Ghotki	1	0	1	2
	Khairpur	2	1	1	4
	Shaheed Benazirabad	1	0	0	1
	Naushahro Feroze	1	0	0	1
	Total	6	2	3	11
A-2	Larkana	2	1	1	4
	Kambar/Shahdadkot	2	2	0	4
	Shikarpur	2	1	0	3
	Jacobabad	2	1	0	3
	Kashmore	1	1	1	3
	Total	9	6	2	17
A-3	Hyderabad	2	2	0	4
	Matiori	1	1	0	2
	T. M. Khan	0	1	0	1
	T. Allahyar	1	1	0	2
	Dadu	2	3	0	5
	Jamshoro	1	1	0	2
	Thatta	0	1	0	1
	Sujawal	0	1	0	1
	Badin	1	2	0	3
	Total	8	13	0	21
A-4	Mirpurkhas	1	2	0	3
	Umerkot	2	1	0	3
	Tharparkar	1	1	0	2
	Sanghar	1	0	0	1
	Total	5	4	0	9
A-5	Karachi (All Districts)	1	1	0	2
	Total Seats	29	26	5	60

9.23 Admissions under University Support Program (USP):

For this scheme, **13** seats in Civil and **13** seats in Software Engineering disciplines are reserved for the candidates having the domicile of Sindh Province as shown in **Table-9.23**. The basic requirement for admission is the same as approved for admission under Regular Scheme. The candidates are required to pay Rs. 1,260,000/- (Rupees One Million Two Hundred Sixty Thousand Only - once) for admission in Civil Engineering and Rs. 1,680,000/- (Rupees One Million Six Hundred Eighty Thousand Only - once) for admission in Software Engineering disciplines in the form of Demand Draft prepared by any branch bank, in favor of “Director Finance, Mehran UET, Jamshoro”. The draft in original must be submitted to the office of Director Admissions, MUET, Jamshoro before the closing date. All other fees as payable under the regular scheme shall also be payable after the admission has been granted to the candidate under this scheme.

Table-9.23.1 Discipline-wise Distribution of Seats for Various Districts, Disciplines, and Categories at Mehran UET, Main Campus Jamshoro under the University Support Program (USP):

Category	Districts	Number of Seats in Each Discipline		
		CE	SW	Total Seats
A-1	Sukkur	1	3*	6
	Ghotki	0		
	Khairpur	1		
	Shaheed Benazirabad	0		
	Naushahro Feroze	1		
A-2	Larkana	1	1*	2
	Kambar/Shahdadkot	0		
	Shikarpur	0		
	Jacobabad	0		
	Kashmore	0		
A-3	Hyderabad	1	5*	10
	Matari	1		
	T. M. Khan	0		
	T. Allahyar	0		
	Dadu	1		
	Jamshoro	1		
	Thatta	0		
	Sujawal	0		
	Badin	1		
A-4	Mirpurkhas	1	4*	8
	Umerkot	1		
	Tharparkar	1		
	Sanghar	1		
A-5	Karachi (All Districts)	0	00*	0
	Total Seats	13	13	26

*Seats reserved for respective divisions.

The refund of admission fee is only allowed to every unsuccessful/withdrawing* candidate who has applied for admission under Self-Financing Scheme and University Support Program through special cross cheque mentioning the name of refundee with bank account, the name of bank and branch. Therefore, in case of refund of the fee candidates are required to download the fee refund application proforma (from admissions.muett.edu.pk), fill-in and submit the same at Directorate of Admissions.

* Conditions apply as mentioned in **Clause 9.27**.

9.24 Admissions of Foreign Candidates under Self-Financing Scheme at Mehran UET, Jamshoro:

The following seats in each discipline are reserved for foreign candidates at main campus under this Self-Financing Scheme who are otherwise eligible for admission as described in **Clause**

9.22.4. The foreign candidates must apply for admission through their Embassies, via Higher Education Commission, Islamabad.

CE	EL	ME	ES	CS	TL	SW	CH	IN	MN	MT	PG	AR	CRP	TE	EE	BM	MTE	Total
6	3	3	4	2	2	-	4	-	-	-	4	-	-	2	1	-	1	32

The foreign candidates are required to pay admission fee in USD \$ 6,000/- (Dollars Six Thousand Only) along with the admission form. They will also be charged the usual fees as payable by other students under regular scheme.

The saving seats of the above Self-Financing Scheme, if any, may be allocated to the candidates of Sindh Province under University Support Program (USP) on open merit.

9.25 Admission of Overseas Pakistani Candidates under Self-Financing Scheme at Mehran UET, Jamshoro:

The following seats in each discipline are reserved for Overseas Pakistani Candidates under this Self-Financing Scheme who are otherwise eligible for admission. They are required to pay admission fee of US\$ 6,000/- (Dollars Six Thousand Only) along with the admission form. They will also be charged the usual fees as payable by other students.

CE	EL	ME	ES	CS	TL	SW	CH	IN	MN	MT	PG	AR	CRP	TE	EE	BM	MTE	Total
4	3	3	2	2	2	-	2	-	-	-	2	-	-	2	1	-	1	24

The saving seats of the above Self-Financing Scheme, if any, may be allocated to the candidates of Sindh Province under University Support Program (USP) on open merit.

9.26 Admission of Candidates from Azad Jammu & Kashmir under Self-Financing Scheme at Mehran UET, Jamshoro:

Maximum eight (8) seats in the following disciplines are reserved for the candidates domiciled in Azad Jammu and Kashmir under this Self-Financing Scheme:

CE	EL	ME	ES	CS	TL	SW	CH	IN	MN	MT	PG	AR	CRP	TE	EE	BM	MTE	Total
2	1	1	-	1	1	1	-	-	-	-	-	-	-	-	1	-	-	8

The candidates are required to apply directly to the Directorate of Admissions in response to the advertisement. All the other conditions concerning eligibility and fees are the same as described in **Clauses 9.2** and **9.22.5** also apply.

The saving seats of the above scheme, if any, may be allocated to the candidates of Sindh Province under University Support Program (USP) on open merit.

9.27 Other Information:

- Admission fee is payable every year.
- Admissions fee is not refundable in any case whatsoever.
- The University reserves the right to change its policies and fee structure at any time.
- Fee refund process would require 40-45 days or earlier after receipt of refund application along with all required documents. Moreover, if admission is offered after commencement of classes, date of commencement of classes will be considered as mentioned in offer letter.
- The University refunds only tuition fee as per HEC Fee Refund Policy as stated below:

Sr. No.	Timeline for Refund of Tuition Fee	Percentage of Fee Refund
1.	Up to 10 th day of commencement of classes	100% fee refund
2.	Up to 15 th day of commencement of classes	80% fee refund
3.	Up to 20 th day of commencement of classes	60% fee refund
4.	Up to 30 th day of commencement of classes	50 % fee refund
5.	31 st day onwards of commencement of classes	No Refund

Note: The timelines for refund of tuition fee are inclusive of the weekends / holidays.

- The candidates applying under these schemes is also considered for admission under Regular Scheme, if they are in merit against their districts.
- The University also follows the Fee Refund Policy for the students admitted against Self-Financing Scheme which is as under:

Sr. No.	Timeline for Refund of Self-Financing Amount	Percentage of Refund of SFS Amount
1.	Up to 10 th day of commencement of classes.	80% Refund
2.	Up to 15 th day of commencement of classes.	60% Refund
3.	Up to 20 th day of commencement of classes	40% Refund
4.	Up to 30 th day of commencement of classes	20% Refund
5.	31 st day onwards of commencement of classes	100% Penalty – No Refund

Note: The Timelines for refund of self-financing amount are inclusive of the weekends / holidays.

9.28 Migration / Transfer:

- Migration is only allowed from HEC recognized Universities.
- The program / discipline from where migration is desired should be accredited by respective accredited councils.
- The admission criteria should be in line with the Mehran UET, Jamshoro.
- Migration / Transfer is only allowed in the 3rd or 4th semester. The credit hours to be transferred shall not be more than 50% of the total credit hours of the degree program of the Mehran UET, Jamshoro.
- Migration / Transfer is not allowed to the students admitted on reciprocal basis.
- Migration / Transfer is allowed only in the cases of extreme hardship for the students or if it is considered in the best interest of the University by the competent authority. The decision of the University is final and binding in this regard.
- The students failing in previous semesters (i.e., less than 50% marks) shall not be eligible for admission on migration/transfer basis.
- An amount of Rs. 15,000/- shall be charged for migration/transfer application processing (non-refundable) fee.
- The migration / transfer of the local students would be allowed on the payment of Rs. 1,050,000/- (Rupees One Million Fifty Thousand Only) to the Mehran UET; while foreign students would be required to pay Rs. 1,260,000/- (Rupees One Million Two Hundred Sixty Thousand Only) as migration fee.
- The nominees are required to submit NO OBJECTION CERTIFICATE (NOC) of the nominating agency.
- Admission on migration basis is made up to the fourth week of the start of the classes of a particular session.

B. Bachelor of Science Programs

B (I). For BS Programs under Regular Scheme

9.29 Admission:

As prescribed in **Clause 9.1** under Regular Scheme.

9.30 Eligibility for Admission:

- (i) The candidates who have passed their **HSC Part-I** Annual Examination of 2025 under any of the following group or equivalent or have passed their **HSC Part-II** Annual Examination earlier up to 2023 and have secured at least 60% marks (**whereas, 50% for all Bachelor of Engineering Technology Programs**) with no Grace marks shall be considered from any recognized Board of Intermediate and Secondary Education in Pakistan or from foreign countries, are eligible to apply for admission in the disciplines mentioned against them in the table given below. Besides that, all the students of Engineering, B.Arch. and CRP Programs of the University can also apply for admission in any of BS programs, if they meet the above eligibility criteria.

Name of Degree Program	Name of Group
BS Programs	
Bachelor of Business Administration.	- Pre-Engineering - Pre-Medical - General Science - Commerce - A-Level in Business/Humanities
Bachelor of Science in Computer Science.	- Pre-Engineering - Pre-Medical (On Condition) * - General Science
Bachelor of Studies in English.	All Groups.
Bachelor of Science in Mathematics.	- Pre-Engineering - General Science
Bachelor of Science in Environmental Sciences.	- Pre-Engineering - Pre-Medical
Bachelor of Science in Cyber Security.	Pre-Engineering
Bachelor of Science in Artificial Intelligence.	General Science

*The students need to clear Foundation Mathematics-I and II in the first year of their studies.

BE Technology Programs	
Bachelor of Engineering Technology – Civil	- Pre-Engineering - DAE in Civil, Construction Technology, Civil with any Specialization, Architecture, Environmental, and Land & Mine Surveying.
Bachelor of Engineering Technology - Electrical	- Pre-Engineering - DAE in Electrical, Electronics, Automation, Avionics, Computer/Computer & IT, Information, Instrumentation, Instrumentation & Process Control, Mechatronics, Precision Mechanical & Instrument, RADAR, RADIO, and Telecom.

Note: The above B.E Technology programs shall be started subject to the admission of 15 students in each discipline.

- (ii) The candidates who have passed the above examinations or equivalent before Annual Examination 2023 shall not be eligible for admission. The candidates who are getting admission on the basis of the result of **HSC Part-I/DAE** have to secure 60% marks (**Excluding Grace Marks**) in **HSC Part-II/DAE**, otherwise, their admission shall stand canceled and none of the fees shall be refunded.
- (iii) Those students, who were admitted to any other institutes/universities before applying for admission in Mehran UET and were rusticated, debarred or their admissions were cancelled, shall not be considered for admission in the University. Additionally, if the students withhold information regarding such a disciplinary action and they were granted admission; their admission will be cancelled immediately after ascertaining such facts. Those candidates who have been convicted involving moral turpitude shall also be refused admission in the University. Since the admission form is a legal document, any wrong information provided therein or tampering it in any other way is illegal and may result in rejection of the form outrightly.

9.31 Admission Form:

As prescribed in **Clause 9.3** under Regular Scheme.

9.32 Pre-Admission Test:

As prescribed in **Clause 9.4** under Regular Scheme.

9.33 Interviews:

As prescribed in **Clause 9.5** under Regular Scheme.

9.34 Distribution of Seats:

The distribution of seats for admission are strictly made according to the rules framed for the purpose by the authorities of the University on population basis among the rural and urban areas for the Hyderabad, Mirpurkhas, Larkana and Sukkur Divisions. Five (5) seats have also been reserved for the candidates of Karachi Division. The admission is given on quota basis among various districts / categories at Mehran UET, Jamshoro. However, the award of discipline shall be given on the interview day as per availability of seats of the district/category. Any saving seats from any district are given on open merit basis. The number of seats allocated to each district in various disciplines is given in the **Table 9.34.1** and the description of the seat under **Category-B** and **C** is given in **Table-9.34.2**.

Table-9.34.1 Discipline-wise Distribution of Seats for Various Districts, Disciplines, and Categories at Mehran UET, Main Campus Jamshoro under Regular Scheme:

Cat.	Description	BBA	BSCS	BSE	BSES	BSM	BSAI	BSCYS	BETC	BETE	Total
A-1	Sukkur	1	1	1	1	1	1	1	1	1	9
	Ghotki	1	1	1	1	1	1	1	1	1	9
	Khairpur	1	1	1	1	1	1	1	1	1	9
	Shaheed Benazirabad	1	1	1	1	1	1	1	1	1	9
	Naushahro Feroze	1	1	1	1	1	1	1	1	1	9
A-2	Larkana	1	1	1	1	1	1	1	1	1	9
	Kambar/Shahdadkot	1	1	1	1	1	1	1	1	1	9
	Shikarpur	1	1	1	1	1	1	1	1	1	9
	Jacobabad	1	1	1	1	1	1	1	1	1	9
	Kashmore	1	1	1	1	1	1	1	1	1	9
A-3	Hyderabad	6	6	6	6	6	6	6	6	6	54
	Matiari	2	2	2	2	2	2	2	2	2	18
	T.M. Khan	2	2	2	2	2	2	2	2	2	18
	Tando Allahyar	2	2	2	2	2	2	2	2	2	18
	Dadu	3	3	3	3	3	3	3	2	2	25
	Jamshoro	4	4	4	4	4	4	4	3	3	34
	Thatta	3	3	3	3	3	3	3	2	2	25
	Sujawal	2	2	2	2	2	2	2	2	2	18
	Badin	3	3	3	3	3	3	3	2	2	25
A-4	Mirpurkhas	3	3	3	3	3	3	3	3	3	27
	Umerkot	2	2	2	2	2	2	2	2	2	18
	Tharparkar	3	3	3	3	3	3	3	2	2	25
	Sanghar	3	3	3	3	3	3	3	3	3	27
A-5	Karachi	1	1	1	1	1	1	1	1	1	9
B*	MUE, Jamshoro	1	1	1	1	1	1	1	1	1	9
	Totals	50	50	50	50	50	50	50	45	45	440

BBA Bachelor of Business Administration

BSCS Bachelor of Science in Computer Science.

BSE Bachelor of Studies in English

BSES Bachelor of Science in Environmental Sciences

BSM Bachelor of Science in Mathematics

BSAI Bachelor of Science in Artificial Intelligence

BSCYS Bachelor of Science in Cyber Security

BETC Bachelor of Engineering Technology - Civil

BETE Bachelor of Engineering Technology - Electrical

Note: The minimum number of students should be 30 and 15 for running BS and B.E. Technology programs respectively.

Table-9.34.2 Priority-wise Description of Candidates Seeking Admission at Mehran UET, SZAB Campus Khairpur Mirs' under Category-B:

Category	Description	Seats
(B)	Real sons/daughters/brothers/sisters of Mehran University employees (serving or retired, deceased, on lien or working on deputation with other Institutions) shall be considered for admission to first year class against the reserved seats on the following criteria: - First preference is given to real sons/daughters of employees who are confirmed in the University service and have at least three years continuous university service at their credit. - Second preference is given to real sons/daughters of regular employees who are not confirmed in the University service but have at least three years continuous university service at their credit. - Third preference is given to real brothers/sisters of employees who are confirmed in the University service and have at least three years continuous university service at their credit. - Fourth preference is given to real brothers/sisters of regular employees who are not confirmed in the University service and have at least three years continuous university service at their credit. - Fifth preference is given to real sons/daughters of employees who are confirmed in the University service and have less than three years continuous university service at their credit. - Sixth preference is given to real sons/daughters of employees who are not confirmed in the University service and have less than three years continuous university service at their credit. - Seventh preference is given to real brothers/sisters of employees who are confirmed in the University service and have less than three years continuous university service at their credit. - Eighth preference is given to real brothers/sisters of employees who are not confirmed in the University service and have less than three years continuous university service at their credit. Note: ▪ The merit with regard to the Category-B is determined as per policy of the University. A copy of the appointment order, confirmation order and Affidavit regarding relationship of the candidate with the employee be attached with the admission form. ▪ The students of the University who had already availed seats under Category-B shall not be eligible to apply again under the same quota in any BE or BS program.	
	Seats under Category-B	9

Table-9.34.3 Discipline-wise Distribution of Seats for Various Districts, Disciplines, and Categories at Mehran UET, SZAB Campus Khairpur Mirs' under Regular Scheme:

Cat.	Description	BSM-K	BSCS-K*	BSCYS-K*	Total
A-1	Sukkur	5	4	4	13
	Ghotki	5	5	5	15
	Khairpur	5	9	9	23
	Shaheed Benazirabad	4	1	1	6
	Naushahro Feroze	5	2	2	9
A-2	Larkana	5	2	2	9
	Kambar/Shahdadkot	5	1	1	7
	Shikarpur	5	2	2	9
	Jacobabad	5	2	2	9
	Kashmore	5	2	2	9
A-3	Hyderabad	-	1	1	2
	Matari	-	1	1	2
	T.M. Khan	-	-	-	-
	Tando Allahyar	-	-	-	-
	Dadu	-	1	1	2
	Jamshoro	-	1	1	2
	Thatta	-	1	1	2
	Sujawal	-	1	1	2
	Badin	-	1	1	2
A-4	Mirpurkhas	-	-	-	-
	Umerkot	-	1	1	2
	Tharparkar	-	1	1	2
	Sanghar	-	1	1	2
A-5	Karachi	-	-	-	-
B	MUE, Jamshoro	1	-	-	1
	Totals	50	40	40	130

BSM-K Bachelor of Science in Mathematics.
BSCYS-K Bachelor of Science in Cyber Security.

BSCS-K Bachelor of Science in Computer Science.

* Subject to the approval of concerned authorities.

Note: The above programs shall not be started with less than 25 students.

9.35 Award of Discipline:

As prescribed in **Clause 9.8** under Regular Scheme. Whereas, the saving seats of the above scheme, if any, may be allocated to the candidates of Sindh Province on open merit.

- 9.36 Rectification of Mistakes:**
As prescribed in **Clause 9.9** under Regular Scheme.
- 9.37 Admission of Candidates Who Fail to Deposit the Admission Fees on the Interview Day:**
As prescribed in **Clause 9.10** under Regular Scheme.
- 9.38 Additional Marks:**
As prescribed in **Clause 9.11** under Regular Scheme.
- 9.39 Deduction of Marks Due to Gap in Education:**
As prescribed in **Clause 9.12** under Regular Scheme.
- 9.40 Selection Procedure against Various Categories:**
As prescribed in **Clause 9.13** under Regular Scheme
- 9.41 Closing of Admissions Process:**
As prescribed in **Clause 9.14** under Regular Scheme
- 9.42 NOC and Study Leave Order for Candidates already in Service:**
As prescribed in **Clause 9.16** under Regular Scheme
- 9.43 Admission in any Other Institute:**
As prescribed in **Clause 9.17** under Regular Scheme
- 9.44 Identity Card:**
As prescribed in **Clause 9.18** under Regular Scheme
- 9.45 Re-Admission Policy:**
As prescribed in **Clause 9.19** under Regular Scheme
- 9.46 Enrolment Card:**
As prescribed in **Clause 9.20** under Regular Scheme
- 9.47 Other Information:**
As prescribed in **Clause 9.27** under Regular Scheme
- 9.48 Migration/Transfer:**
As prescribed in **Clause 9.28** under Regular Scheme
- 9.49 Fees for all BS Programs:**

Sr. No.	Fees payable at the time of admission:	Amount	
a.	Admission Fee (Per Year)	Rs.	27,800
b.	Subject Society / PERN Fee (Per Year)	Rs.	2,700
c.	Student Identity Card Fee (Per Year)	Rs.	750
d.	Enrollment Card Fee (Once)	Rs.	1,600
e.	HSC Marks Certificate Verification Fee (Once)	Rs.	3,000
f.	Caution Money Deposit – Refundable (Once)	Rs.	6,600
	Total Fee Payable:	Rs.	42,450

Sr. No.	Fees payable at the time of admission:		Amount
a.	Tuition Fee (Per Semester)	Rs.	80,500
b.	Games Fee (Per Semester)	Rs.	1,500
c.	Development Charges (Per Semester)	Rs.	1,300
g.	Exams Fee (including Marks Certificate) for Regular Exams (Per Semester)	Rs.	3,000
h.	Transport Charges (Per Semester)	Rs.	18,000
	Total Fee Payable:	Rs.	104,300

B(II). For BS Programs under Self-Financing Scheme

9.50 Admission:

The admission under Self-Financing Scheme is made on the open merit basis to the respective district and leftover seats (if any) may be allocated on respective division basis of the Province of Sindh.

Following rules have been framed for admissions under the Self-Financing Scheme. These rules are subject to revision by the competent authorities of the University at any time and without any prior notice.

9.50.1 Eligibility for Admission:

The eligible candidates under Self Financing Scheme should have:

- i. As prescribed in **Clause 9.2** under Regular Scheme.
- ii. Appeared in Pre-Admission Test and secured at least 40% marks.
- iii. Produced domicile of Sindh Province.

9.50.2 Pre-admission Test:

As prescribed in **Clause 9.4** under Regular Scheme.

9.50.3 Interviews:

As prescribed in **Clause 9.5** under Regular Scheme.

9.50.4 Available Seats:

Under this scheme the disciplines have been distributed as under:

Category-I: (Rs. 1,050,000-00)

1. BS Computer Science*

Category-II: (Rs. 630,000-00)

1. BS Computer Science (Khp.)*
2. BS Cyber Security (Khp.)*

* Subject to the approval of concerned authorities.

Note: All other fees as payable under regular scheme shall also be payable after the admission has been granted to the candidate under this scheme.

Table-9.51(a) Discipline-wise Distribution of Seats for Various Districts, Disciplines, and Categories at Mehran UET, Main Campus Jamshoro under Self-financing Scheme*:

Cat.	Description	BSCS*	Total
A-1	Sukkur	1	1
	Ghotki	1	1
	Khairpur	1	1
	Shaheed Benazirabad	1	1
	Naushahro Feroze	1	1
A-2	Larkana	1	1
	Kambar/Shahdadkot	1	1
	Shikarpur	1	1
	Jacobabad	1	1
	Kashmore	1	1
A-3	Hyderabad	6	6
	Matiari	2	2
	T.M. Khan	2	2
	Tando Allahyar	2	2
	Dadu	3	3
	Jamshoro	4	4
	Thatta	3	3
	Sujawal	2	2
	Badin	3	3
A-4	Mirpurkhas	3	3
	Umerkot	2	2
	Tharparkar	3	3
	Sanghar	3	3
A-5	Karachi	1	1
B*	MUE, Jamshoro	1	1
	Totals	50	50

BSCS Bachelor of Science in Computer Science.

* Subject to the approval of concerned authorities.

Table-9.51(b) Discipline-wise Distribution of Seats for Various Districts, Disciplines, and Categories at Mehran UET, SZAB Campus, Khairpur Mirs' under Self-financing Scheme*:

Cat.	Description	BSCS-K*	BSCYS-K*	Total
A-1	Sukkur	2	2	4
	Ghotki	1	1	2
	Khairpur	2	2	4
	Total	5	5	10
A-2	Larkana	1	1	2
	Kambar/Shahdadkot	1	1	2
	Shikarpur	1	1	2
	Jacobabad	1	1	2
	Kashmore	1	1	2
	Total	5	5	10
	Totals	10	10	20

BSCS-K Bachelor of Science in Computer Science.

BSCYS-K Bachelor of Science in Cyber Security

* Subject to the approval of concerned authorities.

10. REGULATIONS FOR SEMESTER SYSTEM

MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Regulations (Revised) regarding the **General Scheme of Studies for the Bachelor's Degree Programs (including B.E, B.Arch., B.CRP, B.E Tech, BS, and BBA)** of the Mehran University of Engineering and Technology, under Section 47(1) (n) of the Act 1977.

1. **Short Title.** These Regulations may be called the Mehran University of Engineering and Technology Bachelor of Degree Courses **Regulations 2026**.
2. These Regulations shall be subject to the Mehran University of Engineering and Technology General scheme of Studies for the bachelor's degree courses Statutes 2012.
3. **Commencement.** These Regulations shall be deemed to have come into force with effect from **26 Batch and onwards**.
4. **Definitions.** In these Regulations unless otherwise expressly stated,
 - i. "University" means the Mehran University of Engineering and Technology, Jamshoro.
 - ii. "Academic Year" means the Academic Year of the University.
 - iii. "Spring / Fall Semester" means a Period of 21 weeks out of an academic year for teaching and evaluation and /or guidance of the students of the University.
 - iv. "Summer Semester" means a Period of 08 weeks out of an academic year for teaching and evaluation and /or guidance of the students of the University.
 - v. "Vice-Chancellor", "Pro Vice Chancellor", "Dean", "Director", "Chairman/ Chairperson" "Teacher" and "Controller of Examinations" means respectively the Vice-Chancellor, the Pro Vice Chancellor, the Dean of Faculty, the Director of Institute, the Chairman/Chairperson of Teaching Department, the Teacher and the Controller of Examinations of the University.
 - vi. "Departmental Committee". Each Department/ Institute will have a Departmental Committee consisting of three seniors most teachers of the Department / Institute including Chairman/ Chairperson/ Director as convener.
 - vii. "Credit Hours (C.H.)" have been defined in section 6.
 - viii. "Quality Point (Q.P.), Grade Point Average (G.P.A.), and "Cumulative Grade Point Average (C.G.P.A.) has been defined in section 17.

Approved by Academic Council in its 110th meeting held on 9th April 2025 vide resolution 110.1a and approved by the Syndicate in its 160th meeting held on 9th July 2025 vide Resolution No. 160.4(i)

5. Undergraduate Structure of the bachelor's degree Programs including B.E, B.Arch., B.CRP, B.E Tech, BS, and BBA is given below Table 5.1

Table 5.1: Undergraduate Structure of bachelor's degree Course

<i>Description</i>	<i>Degree Programs</i>	
	<i>04 Year</i>	<i>05 Year</i>
Total No. of Credit Hours (Minimum)*	134	172
Total No. of Credit Hours (Maximum)*	140	188
Semester Duration	Minimum of 16 weeks of teaching excluding examinations	
Course Duration**	Minimum of 8 semesters Maximum time limit of 6 years, further extendable for one year with the approval of Statutory Bodies	Minimum of 10 semesters Maximum time limit of 7 years, further extendable for one year with the approval of Statutory Bodies
Summer Session	For deficiency / failure, repetition of courses up to 9 credit hours (08 Weeks duration)	
Course Load per Fall/Spring Semester for Regular Full-Time Students	15-18 Credit Hours (In special cases 15 –21 Credit Hours) ²	

* Subjected to meeting the requirements of the respective Accreditation Councils.

** A student must complete the degree course within the allowable degree course duration i.e., 06 years for 04-year degree program and 07 years for 05-year degree program. In cases of valid reasons, the duration of study for any university program may be extended by one additional year (two semesters). Request for extension in duration of study can only be made after 06 years of study for 04-year degree program/ after 07 years of study for 05-year degree program. Students who do not complete their studies within the specified period, including the extension, shall be removed from the university rolls. Students granted an extension shall be required to pay the full admission fee.

6. Credit hours for undergraduate degrees

- 6.1 A credit hour means teaching/learning a theory course for one hour each week throughout the semester.
- 6.2 One credit hour in laboratory or practical work/project would require lab contact of three hours per week throughout the semester. For B.Arch. Program, each credit hour will be equal to 02 Contact Hours.
- 6.3 The credit hours are denoted by two digits within brackets with a plus in between. The first digit represents the theory part while the second (right side) digit represents the practical. Below Table 6.1 gives the possible distribution of Theory and Practical Credit hours.

² Approved by Academic Council in its 113th special meeting held on 14th April 2026 vide resolution 113.5(a)

Table 6.1 Distribution of Theory and Practical Credit Hours

Credit Hours	Distribution in Theory and Practical Hours
01	(1+0) / (0+1)
02	(2+0) / (0 + 2)
03	(3+0) / (2 + 1) / (0 + 3)
04	(3+1) / (0 + 4)

7. Course layout for undergraduate students

7.1 4-year undergraduate degree programs are composed of 134-140 Credit Hours in which 134 represents the minimum and 140 represents the maximum credit hours required to be completed, subject to meeting the requirements of the respective Accreditation Councils.

7.2 5-year undergraduate degree program (Bachelor of Architecture) is composed of 172-188 Credit Hours in which 172 represents the minimum and 188 represents the maximum credit hours required to be completed, subject to meeting the requirements of the respective Accreditation Councils.

7.3 Undergraduate curriculum structure

i. **For Engineering programs:** The courses for the Engineering programs will consist of minimum 134 credit hours out of which:

- a minimum of **72** credit hours of engineering domain
- a minimum of **42** credit hours of non-engineering domain
- FYDP Project=**06** Credit Hours
- Multi-Disciplinary Engineering Courses = Min. **06** Credit Hours
- **08-14** Credit Hours (Flexible Engineering / Non-Engineering Courses) may be adjusted as per requirements.

The above distribution is subject to the requirements of respective Accreditation Councils. Table 7.1 shows the course structure for the engineering programs.

Table 7.1: Course Structure of Engineering Programs (In line with PEC Framework and HEC UG Education Policy-2023)

Knowledge Profile (WK-1 to WK-8)	Knowledge Area	Sub-Area	Courses	Credit Hours
Non-Engineering Domain				
WK-2	Natural Science	Math	Quantitative Reasoning-I (or equivalent courses for all Engineering Discipline)	3
			Quantitative Reasoning-II (or equivalent courses for all Engineering Discipline)	3
WK-1			Advanced Applied Math Courses (as per requirement of the Engineering Discipline)	6-9

Knowledge Profile (WK-1 to WK-8)	Knowledge Area	Sub-Area	Courses	Credit Hours
		Natural Science (Physics, Chemistry, Math)	Applied Physics	3-9
			Applied Chemistry	
			Math Electives	
WK-7	Humanities	English	Functional English	3
			Expository Writing	3
		Culture/ Study of Religion	Islamic Studies OR Religious Education/Ethics	2
			Understanding of Holy Quran – I&II (Fehm-e-Quran I & II)	2
			Ideology and Constitution of Pakistan	2
			Pakistan Studies	2
			Arts & Humanities (Languages of study of religion)	2
			Social Sciences	2
		Social Sciences	Application of ICT	5
			Civics and Community Engagement	
	Management Sciences	Professional Practice	Project Management	2
			Entrepreneurship	2
Total (Non-Engineering)				Min 42

Engineering Domain				
WK-2/ WK-4/ WK-5/ WK-6/	Computer and Information Science	AI / Data Science / Cyber Security		6-9
WK-3/ WK-2/	Foundation Engineering Courses		Specific to program objective and outcomes	22 - 24
WK-4/ WK-2/ WK-1/	Core Breadth of Engineering Discipline		Specific to program objectives and outcomes	22 - 24
WK-5/ WK-6/	Core Depth of Engineering Discipline		Specific to program objectives and outcomes	22 - 24
				Min 72
WK-2/ WK-4/ WK-5/ WK-6/	Multidisciplinary Engineering Courses		Specific to program objectives and outcomes	6
			Occupational Health and Safety (mandatory-01 CH)	
WK-6/ WK-8/ WK-7/	Final Year Design Project		Design Project (FYDP) / Capstone	6

Knowledge Profile (WK-1 to WK-8)	Knowledge Area	Sub-Area	Courses	Credit Hours
	(FYDP)/ Capstone			
WK-6/ WK-7	Industrial Training		Internship (06-08 Weeks)	Mandatory & qualifying
WK-4/ WK-5/ WK-6/ WK-7/ WK-8/ WK-2			Innovative and Critical Thinking (under relevant courses): 1 Complex problem solving 2 Complex Engineering Activities 3 Semester Project 4 Case Studies 5 Open ended labs 6 Problem Based Learning (PBL)	
Total (Engineering Domain)				Min 84
			Flexible Engineering / Non-Engineering Courses may be adjusted as per the requirement	8-14
Total Credit Hours				134-140

- ii. **For Computer Science programs:** The courses for the Computer Science program will consist of minimum 130 credit hours, out of which a minimum of 100 credit hours of Computing and Computer Science courses and minimum of 30 credit hours of general and university courses, subject to meeting the requirement of the respective Accreditation Councils.
- iii. **For Social & Basic Sciences programs:** The courses for social and basic sciences disciplines will consist of 60-65% of curriculum towards the discipline specific areas, and 35-40% minor/electives, subject to meeting the requirement of the respective Accreditation Councils.
- iv. **For Engineering Technology programs:** The courses for Engineering Technology programs will be consisting of 70% of curriculum towards the core technology subjects, and 30% of curriculum towards the related subjects, subject to meeting the requirement of the respective Accreditation Councils.

7.4 **Final Year Project (FYP) / Thesis / Business Plan:** Every student should write a thesis project report /Business Plan in the final year, of 06 credit hours individually or in a group comprises of maximum 03 students, on approved research.

7.5 **Internship:** Mandatory and qualifying Industrial internship as per requirement of respective accreditation council.

8. Fall/spring semester

8.1 There will be two regular semesters (Fall & Spring) in an academic year. Following is the breakup:

Sr. No.	Description	No. of Weeks
i.	Teaching duration of Fall semester	16 Weeks
ii.	Conduct of Mid Semester Exam	01 Week
iii.	Conduct of final Fall Semester Exam	03 Weeks
iv.	Semester Break	01 Week
v.	Teaching duration of Spring Semester	16 Weeks
vi.	Conduct of Mid Semester Exam	01 Week
vii.	Conduct of final Spring Semester Exam	03 Weeks
viii.	Semester Break	01 Week
ix.	Summer Break / Summer Semester	08 Weeks
x.	Winter Break	02 Weeks
	Total Weeks	52

9. Summer Semester

- 9.1 Summer semester will be offered as an optional semester of 08 weeks duration. Students will be offered courses to remove deficiencies and can register up to 09 credit hours for summer semester.
- 9.2 Moreover, a student who has either failed or has been stopped to take the examination due to shortage of class attendance or wishes to improve his/her grade (if obtained 'C' Grade or below) is allowed to register in summer semester.
- 9.3 The contact hours per week during the Summer Semester will be doubled to ensure that the course is completely taught in a summer session with half of the duration as compared to a regular (Fall/Spring) semester.
- 9.4 All the qualifying rules for Fall / Spring semester will be applicable to summer semester.
- 9.5 There will be no supplementary / special examination after the adoption of summer semester.
- 9.6 The course in Summer Semester will be offered with the minimum course registration of 05 students (where intake of students is small, minimum course registration should be 50 % failure students)

10. Academic Calendar

- 10.1 The calendar will include the following information: to be adopted from next academic year.
- Date of start of classes
 - Conduct of mid semester
 - Date of suspension of classes
 - Conduct of final semester exam
 - Announcement of results
 - Semester Break

The academic calendar will be prepared for Fall Semester and Spring Semester of each academic year.

- 10.2 In case a university is closed due to unusual circumstances, then makeup classes may be arranged on weekends or in evening time to cover the lapsed period of the students.

11. Withdrawal of Courses from Fall / Spring Semester

- 11.1 Students may be allowed to withdraw from a course during first 6 week of the semester. In such a case the transcript shall record that the student enrolled in the course and withdrew. Consequently, grade W will be awarded to the student which shall have no impact on the calculation of the CGPA of the student.
- 11.2 A student withdrawing after the 6th week shall be automatically awarded "F" grade which shall count in the GPA and stay on the transcript.

12. Repeating courses / improvement of CGPA

- 12.1 If a student gets 'F' grade, he/she will be required to repeat the course. However, "F" grade obtained earlier will also be recorded on the transcript.
- 12.2 Undergraduate students may be allowed to repeat a course in which he/she has obtained grade "C" or below. In such a case both the previous and new grade obtained will be recorded on the transcript, however, only the better grade shall be used in the calculation of CGPA.
- 12.3 In case of CGPA improvement, it would be recorded with (Imp) on the transcript.

13. Attendance

Minimum 75 % attendance in a course is required to appear in the examination of that course.

14. Examination

- 14.1 In each semester, students may be required to appear in quizzes, tests, mid semester, final semester examinations, presentations (individual/group), group discussion, and submit projects/ assignments/lab reports etc. These assessment marks (to be determined by the teacher concerned) may have different weightage contributing towards the overall assessment in percent marks. This weightage may be determined on the basis of following table:

THEORY			
Description		Theory of Maximum 100 Marks	Theory of Maximum 50 Marks
1.	Quizzes / Test(s)	15	07
2.	Assignments/ Project / Presentation	15	08
3.	Mid Semester Exam	30	15
4.	Final Examination*	40	20
PRACTICAL			
Description		All Departments	Subjects having Course Code of Architecture Department
1.	Guided Lab	30%	30%
2.	Open Ended Lab / Mini Project / PBL	20%	20%
3.	Final Exam; Objective Test	30%	20%
4.	Final Exam; (Conduct of Practical/Viva Voce/Jury)*	20%	30%

*Appearance in Final Exam; (Conduct of Practical / Viva Voce / Jury) is mandatory

FINAL YEAR PROJECT / THESIS / BUSINESS PLAN

All Departments (except Architecture and City & Regional Planning)

Semester	Thesis CH	Thesis Credit Marks	Maximum Sessional Marks (By Supervisor)	Maximum Marks for Thesis Viva Voce / Exam		
				Internal	External	Chairman
7 th	3	100	25	25	25	25
8 th	3	100	25	25	25	25

Department: City & Regional Planning

Semester	Thesis CH	Thesis Credit Marks	Maximum Sessional Marks (By Supervisor)	Maximum Marks for Thesis Viva voce/Exam		
				Internal	External	Chairman
7 th	3	100	25	15	45	15
8 th	3	100	25	15	45	15

Department: Architecture

Semester	Thesis CH	Marks	Maximum Sessional Marks (By Supervisor)	Maximum Marks for Thesis Viva voce/Exam / Jury		
				Internal	External	Chairman
9 th	5	250	50	40	120	40
10 th	10	500	100	80	240	80

- 14.2 In the beginning of a semester, the Instructor of each course should hand out a syllabus providing information to the students about assessment criteria, paper specification, schedule of material to be taught (TTP and Lesson Plan), take home assignment policy, recommended reading materials and any other information important for the successful completion of the course and its requirements.
- 14.3 To implement semester system effectively the subject teacher must display his/her provisional result within five days after the conduct of Mid and Final exam of that subject and submit the same to the Controller of Examination for final announcement. Mid exam copies/Assignments/Class test(s) are to be shared with the students after the assessment.
- 14.4 Expert/External examiner will be called only for Final Year Project/Thesis/Business Plan Examination.

15 Grade Equivalent

GRADE	GRADE POINT	PERCENTAGE OF MARKS
		THEORY / PRACTICAL / PROJECT
A+	4.0	≥ 90%
A	3.5	81% - 89%
B+	3.0	73% - 80%
B	2.5	65% - 72%
C+	2.0	60% - 64%
C	1.5	55%- 59%
C-	1.0	50% - 54%
F	0.0	< 50%
W*	N/A	N/A
I**	N/A	N/A

* Withdrawn ** Incomplete

Note: The results will be prepared on the basis of Grade Point Average (G.P.A). Fraction is to be considered as a whole number.

16. Computation of semester grade point average (GPA) and cumulative grade point average (CGPA)

GPA:

This is a figure ranging preferably from 0.00 to 4.00 be used to indicate the performance of a student in the semester concerned. A standard scale of 0.00 to 4.00 is adopted.

GPA=	$\frac{\text{Sum of all courses taken in a semester (Course Credit Hours x Grade Point Earned)}}{\text{Total Credit Hours taken in the semester}}$
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Semester Grade Point Average (GPA) and Cumulative Grade Point Averages (CGPAs) will be calculated using following relationship:

CGPA=	$\frac{\text{Sum of all courses taken in all semesters (Course Credit Hours x Grade Point Earned)}}{\text{Total Credit Hours taken in all Semesters}}$
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17. CGPA required for the completion of undergraduate degree programs

17.1 For completion of the degree, the minimum qualifying CGPA for all Bachelor's Degree Programs is 2.00.

17.2 In case a student secures less than 2.00 CGPA (minimum qualifying CGPA) after the last Semester of the degree program, he/she may be allowed to get re-admission in one or more courses, in which his/her Grade is C or below, provided that he/she is not debarred under the time duration specified for the program (as defined in Table 5.1). The readmission will be allowed after the payment of full admission fee.

17.3 A student, securing 2.00 or higher CGPA, after the last semester of the degree program may be allowed to improve one or more courses, in which his/her Grade Point is 2.5 or less¹, provided that he/she is not debarred under the time duration specified for the program (as defined in Table 5.1); he/she may be allowed to get re-admission in that course(s). The readmission will be allowed after the payment of full admission fee. A student can opt this option only if pass certificate, transcript and degree certificate are not issued in his/her favour.

18. Transfer of credit hours for undergraduates

18.1 Credits are transferred on course-to-course basis, i.e., a person taking course A at University X is allowed to transfer his/her credits to University Y provided that course A is equivalent to course B taught at the Y University.

18.2 No credit hour of a course will be transferred if the grade is less than C for undergraduate.

18.3 The transfer of credit hours should not be more than 50% of the total credit hours required for the degree.

18.4 Credit hours may only be transferred between duly recognized HEIs and Internationally recognized Universities.

¹ Approved vide Resolution 111.8 of 111th Academic Council, dated 22nd May 2025

19. Format of final transcript

The final transcript for the award of degree includes following information:

Front Side:

- Name of Student
- Father's Name
- Surname/Last Name
- Date of Birth
- Roll No.
- Enrolment No
- Name of the Programme
- Date of Admission / Date of Migration into Degree Program
- Semester Wise Break-up
- Subjects Name along with Credit Hours
- Type of Enrolment – Full Time
- Picture of the Applicant be Printed on Transcript
- Date of Completion of Degree Requirements
- Mode of Study – Regular
- Medium of Instruction- English
- Online Result Verification Key/ID (Front Side at the End of the Transcript)
- GPA/CGPA (at the End of the front side of Transcript)

Back Side:

- Basic Admission Requirement of the Programme
- Previous Degree held by the student along with Institution Name
- Credit Hours Exempted/Transferred if any/applicable.
- CNIC No. for Pakistani and Passport No. for Foreign Students
- Grading System must be mentioned on Back Side of the Transcript
- Charter Date of the University/DAI may be mentioned
- Name of Campus/College be mentioned along with HEC Permission Date
- Signature of Issuing Officer(s) (Front and Back Side at the end of the Transcript)
- The transcript must have the water-mark seal on it.
- For equivalence of CGPA to percentage, for Transcript purpose only, as per table placed below:

CGPA	4.00	3.5 – 3.99	3.0 - 3.49	2.5 - 2.99	2.0 - 2.49	1.0 - 1.99
Equivalent (%)	95	87	79	70	62	55

20. Departmental committee

Each Department/ Institute will have a Departmental Committee consisting of three senior most teachers of the Department / Institute including Chairman/ Director to assess the progress of the students during the semester and the results of all the examinations including the final semester examination. In case of any discrepancy in the results, during scanning process, the concerned committee will assign a subject expert (other than the Subject teacher) for rechecking the Scripts. The final recommendations of the Departmental Committee concerning the results will be submitted through the concerned Dean and Pro Vice Chancellor/ Vice Chancellor for consideration and approval.

21. Course file

Maintaining the Course File is compulsory for all faculty members. It should have complete record of every activity that happens during the course. The course file should contain:

(For Theory)

1. Academic Calendar
2. Course contents with defined CLOs, taxonomy level and linking to PLOs
3. Tentative Teaching Plan
4. Lesson Plan
5. Classes Timetable and student counselling hours including record of makeup classes (if any)
6. Semester Progress Report
7. Student's attendance register
8. Teaching material
9. Class sessional activities and record (Tests/ Assignments / etc. with solutions)
10. Mid Semester and Final Exams Question papers and solutions
11. Sample of best, worst and average answer sheets of Tests / Assignment / Exams
12. Award Lists
13. Assessment Sheet conforming to the CLOs and PLOs
14. Course Evaluation Report

(For Practical)

1. Academic Calendar
2. List of Experiments
3. Tentative Teaching Plan
4. Laboratory Time Table
5. Student's attendance register
6. Laboratory Manual / Workbook
7. Rubrics Sheet
8. Sample of Objective type paper with solution
9. Sample of Best, Worst, and average Objective type test
10. Award Lists
11. Assessment Sheet conforming to the CLOs and PLOs
12. Course Evaluation Report

22. Freezing of semester

- 22.1 If a student freezes a semester(s), he/she will resume his/her studies from the same stage where he/she left (froze). No freezing during the semester will be allowed. The maximum duration of the degree program shall remain the same.
- 22.2 The duration of Freezing is one year; a candidate who gets a semester freeze can get readmission next year with upcoming session.

23. Indiscipline in examinations (Unfair Means Cases Committee)

- 23.1 Any candidate found guilty of following matters; his/her case will be submitted to Unfair Means Cases Committee constituted by the University.

Removes a leaf from his/her answer book, the answer book shall be cancelled.
Submits forged or fake documents in connection with the examination.
Commits impersonation in the examination.
Copies from any paper book or notes.
Mutilates the Answer Book.
Possesses any kind of material, which may be helpful to his/her in the examination.
Does anything that is immoral or illegal in connection with the examination and which may be helpful to him/her in the examination.

Refuses to obey the invigilation staff or refuses to follow the instructions issued by the University in connection with the examination.
 Misbehaves or creates any kind of disturbance in or around the examination centre
 Uses abusive or obscene language on the answer script.
 Possesses any kind of weapon in or around examination centre.
 Possesses any kind of electronic device which may be helpful in the examination

His/her case shall result in penalties keeping in view the nature and intensity of offence.

- i. Cancellation of paper*.
- ii. Suspension from programme for one semester.
- iii. Heavy and light Fine
- iv. Expulsion forever from the University.
- v. Any other.

** Unfair Means Cases Committee will decide that the student will have to appear in summer semester/with regular semester for the cancelled paper.*

24. Appeal against the decision of the Unfair Means cases Committee

If a student is not satisfied with the decision of the Unfair Means Cases Committee, he/she can submit his/her appeal within a week after the decision of the Committee to the Vice Chancellor. No appeal shall lie against the decision of the Syndicate.

25. Probation

Probation is a status granted to the student whose academic performance falls below the minimum University standard.

- i. Students who fail in any course in a semester shall be placed on probation. Additionally, students who pass all their courses but have a GPA below 1.7 out of 4.00 shall also be placed on probation. Such students shall register themselves in summer semester for passing the course/improving their GPA.
- ii. In an academic year [Odd Semester + Even Semester+ Summer Semester] if a student remains on probation for both semesters [Odd + Even], even after attending a Summer Semester of that academic year, he/she shall be removed from the university rolls. However, he/she will be eligible to seek re- admission. Re-admission will be allowed after the payment of full admission fee.
- iii. A student must complete the degree course within the allowable degree course duration, i.e., 06 years for 04-year degree program and 07 years for 05-year degree program. In cases of valid reasons, the duration of study for any university program may be extended by one additional year (two semesters). Request for extension in duration of study can only be made after 06 years of study for 04-year degree program/ after 07 years of study for 05-year degree program. Students who do not complete their studies within the specified period, including the extension, shall be removed from the university rolls. Students granted an extension shall be required to pay the full admission fee [Reference Table 5.1].

26. Permission of writer for special students

- 26.1 A visually impaired student may be allowed to attempt the Mid/Final Examinations of the University on Braille/ Computer/any other means of facilitation.

26.2 In case a student is physically handicapped/visually impaired, he/she may apply to the Chairperson of the respective department (with medical certificate as proof of her/his disability) for permission to engage a writer in Tests/ Examinations of the University two weeks before the start of Tests/ Examinations. He/she will be allowed 45 minutes (maximum) extra time to solve the question paper.

26.3 The qualification of the person who acts as writer of a handicapped student must be at least one step lower than that of the student. (e.g. for level 6 student, the writer should be at the most of level 5).

27. Damaged/lost answer script

In an exceptional case where an answer script is damaged, lost or destroyed due to unavoidable circumstances, then the student may be given the following options:

- a. Average marks shall be awarded to the student in that subject/course.
- b. In case of Final Year Examination, if the candidate so desires, he/she shall be given another chance as a special case to take the Examination in that subject/course in the next examination and no examination fee shall be charged from the student.

28. Awards and distinctions

- i. Medals/Positions will be awarded to the students passing their courses/papers in Semester System in the first attempt only.
- ii. In the Semester System, Letter Grades will be awarded on the basis of GPA / CGPA and Positions would be given on the basis of CGPA. The CGPA calculation will be considered up to four (04) decimal places for the award of Positions. In case two or more students are acquiring same CGPA up to four (04) decimal places, only then the Positions will be shared among those students.
- iii. No medal and position will be granted to candidates who passed the examination in 2nd attempt.
- iv. No medal and position will be granted to candidates who registered himself/herself in summer semester/special semester(s).
- v. No medal and position will be granted to candidates who completes the degree beyond the minimum prescribed duration.
- vi. No Medal/Roll of Honor will be awarded in the case of improving CGPA.
- vii. The disciplines where number of students is less than 10, no position will be awarded in semester system.

29. Re-admitted Students

These rules & regulations are also applicable to those student(s) who have got re-admission with 26 and onward batch(es).

11. STUDENTS CONDUCT AND DISCIPLINE REGULATIONS

The **Regulations (Revised)** regarding **the conduct and discipline of students** of Mehran University of Engineering and Technology, under section 47(1) of the Act, 1977.

1. Short Title:

These Regulations may be called the Mehran University of Engineering & Technology Students' Conduct and Discipline Regulations, 1978 as amended up to 31.03.2007.

2. Commencement and Applications:

These Regulations shall come into force with immediate effect and shall apply to all the students of the University/Campus, and the Colleges/Institutes/Centre of Excellence affiliated to the University.

3. Definitions:

In these regulations, unless otherwise expressly stated:

- (i) "University" means the Mehran University of Engineering and Technology Jamshoro.
- (ii) "Campus" means all area, anti-building structures including Academic Block/teaching departments, Hostels or Halls of residence of students, Administration Block, sports grounds- gymnasium and any staff residential area, recreational areas for students and staff and my other such areas, buildings or facilities created within the specified boundary of the University and likewise areas of affiliated Colleges/ Institutes/Center of Excellence.
- (iii) "Syndicate" means the Syndicate of the University.
- (iv) "Vice-Chancellor" means the Vice-Chancellor of the University.
- (v) "Pro-Vice Chancellor means the Pro-Vice Chancellor of the main campus or any other campus of the University
- (vi) "Discipline Committee" means the Discipline Committee of the University constituted under the First Statutes appended to Mehran University Act, 1977, and/or constituted separately for the constituent or affiliated Colleges/ institutes/ Center of Excellence by the governing body or management of that College/ Institute/Center of Excellence with the approval of the Vice- Chancellor, Mehran University of Engineering & Technology.
- (vii) "Deans*, "Director of an Institute/Chairman of the Department", "Teacher In-charge of the Class/ Class Advisor", "Subject Teacher", "Workshop Instructor", "Workshop Superintendent", "Provost", "Deputy Provost", "Warden", "Director Sports", "Games In- charge", "Director Students Affairs", "Student Welfare Officer", "Advisor Student's Affairs" and "Principal"/ "Director" of the Affiliated College/Institute/Center of Excellence, respectively, means the Dean, Director of Teaching institute/Chairman of a Teaching Department, Teacher in-charge of the class/Class Advisor, Subject Teacher, Workshop Instructor, Workshop Superintendent, Provost, Deputy Provost, Warden, Director Sports, Games In-charge, Director Students' Affairs, Shldems Welfare Officer, Advisor Students' Affairs appointed as such by the competent authority and mutatis-mutandis officers/teachers in the affiliated college/Institute/ Center of excellence.

**In case of Campus "Director Administration"*

The Regulation approved by the Syndicate vide Resolution No. 104.3 (ix.x), dated 31st March, 2007.

**Amended by the Academic Council vide Resolution No. 97.18, dated 4th, June 2020 and approved by the Syndicate vide Resolution No. 150.4 (iv), dated 11th July, 2020.*

4. Every Student Shall Observe the Following:

- (a) He / She must be faithful to his/her religious duties and respect the convictions of others in matters of religion and customs.
- (b) He / She must be loyal to his/her country and refrain from doing anything which might lower its honor and prestige.
- (c) He / She shall be truthful and honest in his/her dealings with all people.
- (d) He / She must respect the elders and be polite to all specially to the women, the children, the old people, the weak and the helpless.
- (e) He / She must respect his/her teachers and others in authority in the University.
- (f) He / She must keep his/her mind clean and be clean in speech, sports and habits.
- (g) He / She shall help his/her fellow beings especially those in distress.
- (h) He / She must devote himself/herself faithfully to his/her studies and obey and follow the rules, instructions, guidelines issued by the University authorities from time to time.
- (i) He / She must observe thrift and protect property.

5. No Student Shall:

- (a) Smoke in his / her classroom, laboratory, workshop, library, examination hall or convocation hall, within any University building and during any academic functions/ academic activity.
- (b) Consume alcoholic liquor or other intoxicating drugs within the University Campus or during the instructional, sports or cultural tours or survey camps or enter any such place or attend any such tour or camp while under the influence of such intoxicants.
- (c) Organize or take part in any function within the University Campus, organize any club or society of students without prior permission from the University authorities.
- (d) Invite any speaker without the permission of the University authorities.
- (e) Indulge into activities against the Islamic and Pakistan Ideology or national solidarity.
- (f) Indulge into activities promoting, prompting or involving violence or hatred or contempt.
- (g) Affiliate himself / herself with any political party or group and organize or take part in holding political gatherings and invite any politician, expelled or rusticated or debarred students, and anti-social elements in the University Campus.
- (h) Use pressure tactics or political or personal influence in seeking academic / non- academic favor concessions or financial benefits or in other matters concerning academic / non-academic and administrative functions of the University authorities.
- (i) Copy or help others in copying in examination, or cause by any means any disturbance in examinations including harassment of any teacher or other staff member or staging of walkout / boycott by himself / herself or by forcing others to do so or appear in examination in place of a bonafide eligible candidate or manage an outsider for impersonation or take unauthorizedly the whole or part of answer book/script out of an examination premises or tear scripts or any part thereof or indulge in substitution of Answer books or influence any employee to indulge in any malpractices;

- (j) Bring, keep or use any kind of weapon or firearms within the University Campus.
- (k) Use or occupy fully or partially any room or any building of the University Campus without prior permission from universities authorities.
- (l) Organize or take part in procession or meeting within the University Campus, prejudicial to the peaceful atmosphere of the University.
- (m) Stage, incite, or participate in or abet any walk-out, strike, or any other form of agitation against the University or its employee.
- (n) Collect any money or receive donations or pecuniary assistance for or on behalf of the University or any organization except with the written permission of the Vice-Chancellor or any other person authorized by him in this regard.
- (o) Bring, keep, or use mobile phone during Examinations.
- (p) Use mobile phone during class/practical or in the library without prior permission from the concerned authority.
- (q) Commit any cyber offense against individuals or group of individuals or organization with a criminal motive to intentionally harm the reputation of the victim or cause physical or mental harm/loss, threaten a person or a nation's security or financial health, or loss, to the victim directly or indirectly, using modern telecommunication networks and mobile phones.
- (r) Commit online defamation, harassment, threat and blackmailing via social networking sites such as Facebook, Twitter etc. against university or any employee of the University.
- (s) Use official logo(s) of the University on any form without prior permission from the University authorities.
- (t) Snatch any item, tease any male/female students, demonstrate indecent or immoral gestures/ attitude towards any male/ female students on the Campus.
- (u) Show indecent behavior during the class (including online class) and /or disturb Teacher or any other student of the class by any means
- (v) Abuse/violate TT policies framed or to be framed from time to time.

6. Responsibility to Maintain Discipline:

The teachers and officers of the University or committees formed under them for the purpose and others concerned with the students in the University are responsible for the maintenance of discipline and order among the students, \ while under their charge, and for dealing with any disorderly behavior promptly in the manner prescribed by these regulations.

7. Discipline Committee:

The Discipline Committee shall deal with serious cases of indiscipline requiring such actions as prescribed by Regulation 10.

8. Act of Indiscipline:

A teacher or an officer in whose presence or in relation to whom an act of indiscipline is committed or who obtains knowledge of such an act on report or otherwise, shall deal with the case himself/herself as he/she may be competent as provided under the Regulation 10 below, and in other cases, he/she shall inform and recommend the case to the higher authorities/ bodies for necessary action as prescribed.

9. Grounds of Penalties:

- (i) Any one or more of the penalties mentioned in Regulation 10 may be imposed on a student who is guilty of one or more of the following acts/ charges:
- (a) commits breach of any of the clauses specified in Regulations 4 or 5 above; or
 - (b) disobeys the lawful order of a teacher or other person in authority in the University; or
 - (c) habitually neglects his/her work or habitually absents himself / herself from the class without reasonable cause; or
 - (d) willfully damages University property or the property of a fellow student or any teacher or any employee of the University; or
 - (e) does not pay the fees, fines or other dues livable under the University Regulations; or
 - (f) does not comply with the Regulations relating to the residence in the hostels or halls of residences.; or
 - (g) uses indecent language, wears immodest dress, makes indecent remarks or gestures or behaves in a disorderly manner; or
 - (h) commits any criminal, immoral or dishonorable act (whether commit within the University Campus or otherwise) which brings bad name to the University.
- (ii) The penalty or penalties imposed shall be appropriate and proportional to the nature and gravity of the above act or acts.

10. Penalties:

The penalties which may be imposed and the authority or authorities competent to impose each kind of penalty are specified below:

SR. NO.	PENALTY	AN OFFICER OR AUTHORITY COMPETENT TO IMPOSE THE PENALTY
(A).	(i) Exclusion from classroom/laboratory/field work/workshop for a period not exceeding one week from his / her own classes.	Subject Teacher /Workshop Instructor
	(ii) Impose a fine up to Rs. 1000/-	-do-
(B).	(i) Exclusion from the games or the field for the day.	In charge concerned
	(ii) Exclusion from Study or sports tour or survey camp	-do-
(C).	Fine not exceeding Rs. 1,000/-	Teacher In Charge / Class Advisor or Superintendent of Workshop.
(D).	Taking any digital device, containing objectionable data, into custody.	In charge concerned.
(E).	(i) Exclusion from the department for a period not exceeding one week.	Chairman/Chairperson of the Teaching Department/Director of the Teaching Institute.
	(ii) Impose fine up to Rs. 3,000/-	-do-
	(iii) With-holding of issuance of character certificate.	-do-

SR. NO.	PENALTY	AN OFFICER OR AUTHORITY COMPETENT TO IMPOSE THE PENALTY
(F).	Fine not exceeding Rs. 7,000/-	Advisor Students' Affairs or on the recommendation of Advisory Committee Member(s)
(G).	(i) Exclusion from the department for a period not exceeding two weeks.	Dean of concerned Faculty on recommendations of the concerned Departmental Committee.
	(ii) Suspension of admission from the University for a period specified or unspecified pending the final decision.	-do-
	(iii) Fine not exceeding Rs. 10,000/-.	Dean of concerned Faculty on recommendations of the concerned Departmental Committee.
(H).	(i) Fine not exceeding Rs. 25,000/-	Pro-Vice Chancellor; (i) on the recommendations of the Dean of the concerned and the concerned Departmental Committee. (ii) on the recommendations of the Advisory Committee.
	(ii) Exclusion from the department for a period not exceeding three weeks.	-do-
(I).	(i) Fine not exceeding Rs. 100,000/-	Vice Chancellor on the recommendations of Pro-Vice Chancellor/discipline committee/unfair means committee.
	(ii) Cancellation of examination or part thereof or debarring from appearing in any examination or part thereof	Vice-Chancellor on the recommendations of the Discipline Committee.
	(iii) Cancellation of remission of fee or University Scholarship.	Vice-Chancellor on the recommendations of the Pro-Vice Chancellor / Dean of the Faculty concerned/ Advisor Student Affairs
	(vi) Suspension or removal from position of authority in the University Sports	Vice-Chancellor on the recommendations of the Executive Committee of the University Sports Board
	(v) Rustication / Expulsion from the University for a period not exceeding one year	Vice-Chancellor on the recommendations of the Discipline Committee.
(J).	(i) Rustication/expulsion from university for a period exceeding one year	Syndicate on the recommendations of the Discipline Committee.
	(ii) Cancellation of admission from the University.	Syndicate on the recommendations of the Discipline Committee.
	(iii) With-holding issuance of any degree	Syndicate on the recommendations of the Discipline Committee.

Provided that the superior authorities shall be equally competent to impose lighter penalties with the competence of interior authorities as prescribed above.

11. Chance of Defense:

No student shall be rusticated or expelled from the University unless he/she has been allowed a reasonable chance of defending the accusation against him/her provided that if the competent authority is satisfied it may take such an action under emergency to avoid any grave consequences.

12. Appeal against penalties:

- (i) An appeal against imposition of the penalties shall lie with the Vice-Chancellor, provided that where the penalty has been imposed by the Vice-Chancellor, himself: an appeal shall lie with the Syndicate. Provided that when a penalty has been imposed by the Syndicate, an application for review can be made to the Syndicate.
- (ii) No appeal by a student under these Regulations shall be entertained unless it is presented within two weeks from the date on which the decision is communicated to him/her, provided that the Vice-Chancellor may for valid reasons condone delay in any individual case.

13. Compensation:

The Vice-Chancellor or any teacher or officer duly authorized by the Vice Chancellor/ Principal/ Director of the Affiliated Colleges / Institutes / Center of Excellence may direct a student to pay compensation for any loss or damage to property belonging to the University or to fellow student or to an employee of the University, caused by willful act or gross negligence of the student and if the student does not pay such compensation within a reasonable time, competent authority, as the case may be, may take suitable action against him / her for indiscipline and impose upon him/her any of the penalties prescribed by Regulation 10 above.



GENERAL INSTRUCTIONS

In order to conduct the test efficiently and transparently, the candidate must follow the following instructions and the instructions given by the Invigilators:

1. The Test consists of 100 questions and is divided into four parts as follows:

Total time to attempt all questions is 60 minutes (01 hour).

Pre-Engineering group: Physics, Chemistry, Mathematics and English (25 questions each)

Pre-Medical group: Physics, Chemistry, Biology and English (25 questions each)

General Science group: Physics, Computer Science, Mathematics and English
(25 questions each)

Commerce / Humanities / Other groups: General Science (25 questions), General Mathematics
(30 questions), Intelligent Quotient (20 questions) and English (25 questions)

2. The request of group change (Pre-Engineering, Pre-Medical, General Science or Others) will not be allowed on the Test Day.
3. There will be no negative marking on wrong answer. Each correct answer carries one mark.
4. The Computer Based Test (CBT) credentials shall be provided to the candidate.
5. The candidate shall follow the instructions by Invigilators for login and commencement of the test.
6. All rough work must be done only on the provided rough-work sheet. The rough work sheet is the property of the University, and each candidate will have to return the rough work sheet at the end of the Test. If any candidate takes away the rough work sheet for any reason, he/she will be treated according to the law and his/her name will be removed from the list of the candidates for admission.
7. The selected answer can be changed any time before termination of the Test.
8. Opening of any other website or software is strictly prohibited.
9. During the Test, if any candidate terminates the test intentionally or unintentionally, he/she will not be allowed to continue the Test.
10. During the Test, do not talk, whisper, or turn eyes away from your dedicated screen. Candidate(s) found doing so will be removed from the list of the candidates for admission.
11. Any evidence of impersonation, cheating or non-compliance with instructions will disqualify the candidate(s) and will be removed from the list of the candidates for admission.
12. Don't leave your seats unless and until allowed.



PRE-ADMISSION TEST SAMPLE TEST PAPER

(A) FOR PRE-ENGINEERING, PRE-MEDICAL AND GENERAL SCIENCE GROUPS

General Instructions

The test is divided into following four parts and sub-parts:

Part I:	English	25 Questions
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- Vocabulary
- Grammar
- From Text
- Sentence correction

Part II:	Physics	25 Questions
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- All chapters (XI and XII)

Part III:	Mathematics/Biology	25 Questions
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- All chapters (XI and XII)

Part IV:	Chemistry/Computer Science	25 Questions
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- All chapters (XI and XII)

Part I

English

Vocabulary

1. Ali was so nervous during his first public speech that he started to _____ his words.
- a) Undermine
 - b) Stammer
 - c) Admonish
 - d) Belittle

Grammar

2. We _____ dinner at 7 PM every evening.
- a) have
 - b) having
 - c) is having
 - d) are have

From Text

3. How were Quaid's feelings even though he drove through the unceasing shouts of People?
- a) Gay and Gaiety
 - b) Calm and serene
 - c) Quite happy
 - d) Quite gloomy
4. Who wrote the novel "The Prisoner of Zenda"?
- a) Shakespeare
 - b) Words Worth
 - c) Anthony Hope
 - d) John Milton

Sentence Correction

5. The team of experts was working on the project.
- a) were
 - b) had
 - c) will
 - d) have

Part II

Physics

1. The measure of the amount of matter in an object is called:
 - a) Weight
 - b) Volume
 - c) Density
 - d) Mass
2. The energy possessed by a body due to its motion is called:
 - a) Potential Energy
 - b) Kinetic Energy
 - c) Chemical Energy
 - d) Thermal Energy

Part III

Mathematics

1. If $y = e^{3x}$, then $\frac{dy}{dx}$ is:
 - a) $3e^x$
 - b) $3e^{3x}$
 - c) e^{3x}
 - d) e^x
2. If $\sin \theta \cdot \cos \theta = \frac{1}{2}$, then θ is:
 - a) $\frac{\pi}{3}$
 - b) $\frac{\pi}{4}$
 - c) $\frac{\pi}{6}$
 - d) $\frac{\pi}{2}$

Biology

1. Enzymes act as catalysts by:
 - a) Increasing activation energy
 - b) Decreasing activation energy
 - c) Consuming reactants
 - d) Producing energy
2. If non-protein part is covalently bonded, it is known as:
 - a) Co-enzyme
 - b) Activation
 - c) Prosthetic group
 - d) Product

Part IV

Chemistry

1. Which element has the chemical symbol 'O'?
 - a) Gold
 - b) Oxygen
 - c) Osmium
 - d) Ozone
-
2. Which gas is most abundant in Earth's atmosphere?
 - a) Oxygen
 - b) Carbon Dioxide
 - c) Nitrogen
 - d) Hydrogen

Computer Science

1. Which of the following is the brain of the computer?
 - a) RAM
 - b) Hard Drive
 - c) CPU
 - d) Monitor
-
2. A hard drive is used for:
 - a) Input
 - b) Processing
 - c) Storage
 - d) Output

(B) FOR OTHER GROUPS

General Instructions

The test is divided into following four parts and sub-parts:

Part I:	English	25 Questions
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- Vocabulary
- Grammar
- Comprehension
- Sentence correction

Part II:	General Mathematics	30 Questions
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- Sets and series problems
- Algebraic problems
- Arithmetic problems
- Geometric and trigonometric problems

Part III:	General Science	25 Questions
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- Physics
- Chemistry
- Biology
- Computer Science

Part IV:	Intelligence Quotient (IQ)	20 Questions
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English

Vocabulary

1. Due to the heavy rain, the streets began to _____ with water, causing traffic congestion.

- a) Evaporate
- b) Inundate
- c) Diminish

Grammar

1. I _____ tennis every Sunday morning.

- a) playing
- b) play
- c) am playing
- d) am play

Comprehension

A man is known by the book he reads as well as by the company he keeps; for there is a companionship of books as well as of men and one should always live in the best company, whether it be of books or of men.

A good book may be among the best of friends. It is the same today that it always was, and it will never change. It is the most patient and cheerful of companions. It does not turn its back upon in times of adversity or distress. It always receives us with the same kindness; amusing and interesting us in youth, comforting and consoling us in age.

1. Which of the following would be the most appropriate title for the given passage?

- a) Books show the reader's character
- b) Books as man's abiding friends
- c) Books are useful in the youth
- d) The importance of books in old age

Sentence Correction

1. The team of experts was working on the project.

- a) were
- b) had
- c) will
- d) have

General Mathematics

Sets and Series Problems

1. If $B = \{x, y, z\}$, then how many subsets of B can be formed?

- a) 6
- b) 8
- c) 4
- d) 12

Algebraic Problems

2. If $P(x) = 3x^2 + (k-1)x + 9$ and $P(3) = 0$; then $k = ?$

- a) - 13
- b) 11
- c) 13
- d) - 11

Arithmetic Problems

3. If the ratio of two numbers is 5:2, and their difference is 18, what are the two numbers?

- a) 25 and 7
- b) 30 and 12
- c) 35 and 14
- d) 40 and 16

Geometric and Trigonometric Problems

4. In a right-angled triangle, the sum of all three angles is always _____ degrees.

- a) 90
- b) 120
- c) 180
- d) 360

General Science

Physics

1. The resistance of an object to any change in its state of motion is called:
- a) Momentum
 - b) Force
 - c) Inertia
 - d) Acceleration

Chemistry

2. The study of matter and the changes it undergoes is called:
- a) Biology
 - b) Physics
 - c) Chemistry
 - d) Astronomy

Biology

3. Which component of blood is responsible for clotting?
- a) Red Blood Cells
 - b) White Blood Cells
 - c) Platelets
 - d) Plasma

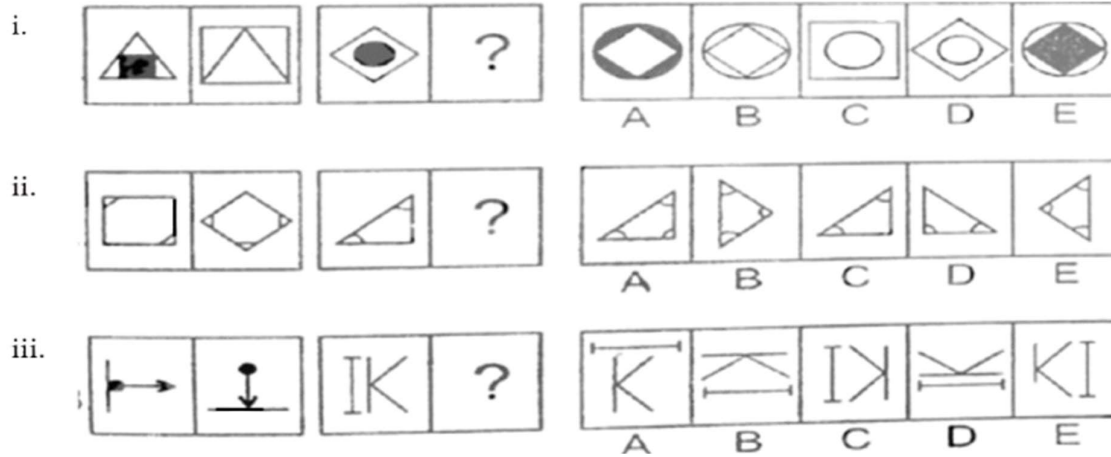
Computer Science

4. The CPU is known as the:
- a) Brain of the computer
 - b) Storage unit
 - c) Display system
 - d) Input device

Part IV

Intelligence Quotient (IQ)

1. Find the missing pattern in the next pair.



2. Which three words have the same meaning?

i. Information; ii. Indoctrinate; iii. Brainwash; iv. Convince; v. Class

- a) ii; iii; iv
- b) i; iii; iv
- c) iii; iv; v
- d) i; ii; iv

-----GOOD LUCK-----



All the candidates who have qualified the Pre-admission Test of this University, are hereby advised in their own interest to **read the following INSTRUCTIONS very carefully**. Those having their names appear in the Interview Call List / First Provisional Merit List should also note down the schedule for their personal appearance to submit their original documents, interview and admission.

1. All the pre-admission test qualified candidates shall enter **their obtained marks of HSC-I/DAE/IBCC or Equivalent and upload their Marks Certificates of HSC-I/DAE or Equivalent/IBCC Equivalency Certificates within three days of the announcement of their result** on their respective accounts on the Admissions Portal of the University. All those who fail to follow the above conditions shall be excluded from the General Merit List/First Provisional Interview Call List.
2. The **Data Record (Provisional General Merit List)** of all the candidates will be displayed on the website of the Directorate of Admissions: **admissions.muett.edu.pk** once their obtained marks of HSC-I/DAE/IBCC or Equivalent are uploaded. If any of the candidates wants to make correction(s) in his/her Data Record, may contact Admissions Office soon after publication of Provisional General Merit List.
3. The **District-wise Provisional Merit Interview Call List** for each district and category under Regular and Self-finance Schemes will be notified and displayed on the official websites of the University: **admissions.muett.edu.pk**; **muett.edu.pk**.
4. Each candidate shall then be required to appear before the Admissions Committee of the University for an interview at Mehran UET, Jamshoro campus on specific date and time as per schedule displayed on the Admissions website to choose the discipline of his / her choice from the available seats in their respective categories. **Each candidate shall report personally along with a parent/ a guardian for his / her interview according to the order of the Interview Call List.**
5. All the candidates must bring **ALL** the following **ORIGINAL** documents (including previous and improved/changed group marks certificates, if available) along with photocopies of the documents as mentioned on the date and time according to the schedule. Candidate should come prepared to choose the discipline. No candidate in any circumstances will be entertained with short of the any of the following documents:

a)	SSC or Equivalent Marks Certificate	<u>Original</u> and one attested photocopy
b)	HSC-I/DAE or Equivalent Marks Certificate	<u>Original – (to be retained)</u> and one attested photocopy
c)	Admit Card (Slip) for the Group Changers	One attested photocopy
d)	Affidavit for Group Changing Candidates	Original copy
e)	IBCC Equivalency Certificate (For foreign examinations)	<u>Original</u> and one attested photocopy
f)	Domicile Certificate of Candidate	<u>Original</u> and one attested photocopy
g)	PRC (Form-C) of Candidate	<u>Original</u> and one attested photocopy
h)	CNIC / B-Form	<u>Original</u> and one attested photocopy
i)	Affidavit*	<u>Original</u> and one attested photocopy
j)	Physical Fitness Certificate*	<u>Original</u> and one attested photocopy
k)	Hifz-e-Quran Sanad (for Hafiz)	<u>Original</u> and one attested photocopy

*The specimen of the Affidavit and Physical Fitness Certificate proformas can be downloaded from Admissions Website.

6. If any of the candidates is unable to attend the interview in case of *exceptional circumstances* shall contact the Directorate of Admissions at least 24 hours prior to his / her interview date. He/ She shall be required to present the proof of his / her absence. The candidate if allowed, must authorize (authority letter) any of his parents/ guardians to appear and carryout all decisions/ formalities in the interview on his / her behalf. The authority letter must contain specimen signature of the candidate and a copy of CNIC.
7. All the candidates/parents shall bear in mind that they are appearing in the interview with their own consent and they shall wear mask as precautionary measure to avoid any infection while traveling to / from the university, during interview, and after they leave the university premises.
8. If any of the candidates reports after his / her scheduled final reporting time, University authority may consider him / her for admission on merit against leftover seats under respective category at the end of the day.
9. If any of the candidate does not report on his / her scheduled day, the University authority may consider him / her for admission on merit against leftover seats in subsequent lists of respective categories.
10. The candidates who do not appear for interview on the specified schedule dates for any category shall not be considered for admission and his / her name shall be deleted from the Merit List.
11. All candidates should bring **CASH (Payment shall be made on spot)** to deposit the following fees (whichever applicable) on the day of interview:

Fee Charged from the Students of Engineering and BS Programs	Admission Fee for First Year and Tuition Fee for the First Semester
BE, B.Arch., B.CRP, & BE Tech. Programs*	Rs. 91,550/-
BS Programs*	Rs. 147,050/-

* Library fee amounting to Rs. 300 is also included in the total fee at the time of admission.

Note: For the purpose of reference the printed documents related to admission (e.g., Prospectus, Merit List, and Admission Schedule etc.) shall be quoted in case of any objections/claims. No telephonic or personal statements shall be considered relevant in any of such claims. The University will not be responsible for any infection to any of the candidates/parents/guardians appear in the interview.

Director Admissions

Contact: 022 2771704

Email: ask.admissions@admin.muet.edu.pk