2019-20
PROSPECTUS
BACHELOR'S
Degree Program

ISO 9001 Certified

MEHRAN UNIVERSITY
OF ENGINEERING & TECHNOLOGY
JAMSHORO, SINDH, PAKISTAN

Acknowledgment

All Photographs in this Prospectus feature our current students. We'd like to thank them for their involvement.

Disclaimer

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admissions@admin.muet.edu.pk

ISO 9001 Certified

For Undergraduate Studies

in

Engineering, Architecture and City & Regional Planning

SESSION 2019-20

MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY, JAMSHORO

and

SHAHEED ZULFIQAR ALI BHUTTO (SZAB) CAMPUS, KHAIRPUR MIR'S

PROSPECTUS

2019-20

MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY

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

3. Stakeholders Focus: University consider every stakeholder very important and therefore 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.

OUR MAJOR ACHIEVEMENTS

- Ranked amongst top 400 Universities of the world in QS Ranking 2010.
- Ranked 1st in Province of Sindh and 2nd amongst Public Sector Engineering Universities in Pakistan, this year by HEC.
- ISO Certified since 2003.
- More than One Hundred PhD faculty members.
- State-of-Art physical infrastructure.
- University Academic Calendar strictly followed.
- Produced more than 100 PhDs.
- Our more than 150 students availed Erasmus Mundus & US Fulbright funded exchange program to study for one semester in Europe or USA.
- Got credit of organizing Four International Conferences in a single calendar year in diversified Engineering disciplines.
- Organized "Asian Regional school of FPGA design for scientific applications" where more than 45 scientists and academicians from all around world participated in collaboration with Abdus Salam International Centre for Theoretical Physics (ICTP) Italy.
- Organized 1st International Workshop on Embedded Systems and its Applications (IWEMSA'15) .
- Organized Five-Day Workshop on Water Quality Monitoring and Assessment.
- MUET IEEE Student branch organized mega event IEEE DIALOGUE (Discovering Abilities and Life time Opportunities for Graduating Engineers).
- Launching of Eco-Friendly car.
- Celebrated International Women's Day and Launched Society of Women Engineers (SWE).
- MUET & WAPDA Signed MoU on Joint Venture Research in Water Sector.
- Became partner university of Erasmus Mundus INTACT (It's Time for Collaboration towards Close cooperation) scholarship Program between Regional Asia and EU.
- Launching of CTIF (Centre for Telecommunication Infrastructure) for South East Asia region at MUET (Being 6th centre after Denmark, USA, Japan, India, Italy).
- Excellent progress in Establishment of Advance water resource Management Institute under USAID program (About Rs. 2 Billion).
- USAID Mission Director Lays Foundation Stone for Water Research Center at MUET.
- 73 Fully funded USAID Scholarships for students to be awarded through Students Financial Aid Office (SFAO).
- Establishment of LabView International Academy 1st ever in any university in Sindh and 2nd in Pakistan after Air University Islamabad.

MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY, JAMSHORO

ACADEMIC CALENDAR 2020

ACADEMIC AND EXAMINATION SCHEDULE FOR 19 BATCH

ISO 9001 Certified

Duration of a Semester	
Teaching:	16 Weeks
Mid Semester Conduct:	01 Week
Final Semester Exam Preparation:	01 Week
Final Semester Exam Conduct:	02 Weeks
Total	**20 Weeks**

Duration of a Year	
Duration of Two Semesters	20x2=40 Weeks
Semester Breaks	1x2=02 Weeks
Summer Break/Summer Semester	08 Weeks
Duration of Winter Break:	02 Weeks
Total	**52 Weeks**

Minimum attendance requirement to be eligible to appear in the Semester Examination is 75%
Mininmum number of Lectures during the Semester in a subject of 3 CH shall be 45.
Minimum number of contact hours for a practical of 1 CH per Semester is 45.

FALL SEMESTER

Batch & Semester	19-Batch (1st Semester)
Date of Start of Classes	14-10-2019
Conduct of Mid Semester Exams	09-12-2019
WINTER BREAK 21-12-2019 TO 05-01-2020	
Date of suspension of classes	21-02-2020
Schedule of Examination	24-02-2020
Display of Sessional Marks	28-02-2020
Examination Preparation up to	01-03-2020
Conduct of Final Semester Exam	02-03-2020
Semester Break 14-03-2020 to 22-03-2020	14-03-2020
Announcement of results (Expected)	13-04-2020
Marks Sheet / Trascript issue date (Expected)	24-04-2020

SPRING SEMESTER

Batch & Semester	19-Batch (2nd Semester)
Date of Start of Classes	24-03-2020
Conduct of Mid Semester Exams	18-05-2020
SUMMER BREAK/SUMMER SEMESTER: 06-06-2020 TO 02-08-2020	
Date of suspension of classes	11-09-2020
Schedule of Examination	14-09-2020
Display of Sessional Marks	18-09-2020
Examination Preparation up to	20-09-2020
Conduct of Final Semester Exam	21-09-2020
Semester Break 03-10-2020 to 11-10-2020	03-10-2020
Announcement of results (Expected)	02-11-2020
Marks Sheet / Trascript issue date (Expected)	13-11-2020

SUMMER SEMESTER

Registration 04-05-2020 to 15-05-2020	04-05-2020
Date of Start of Classes	08-06-2020
Conduct of Mid Semester Exams	04-07-2020
Date of suspension of classes	31-07-2020
Conduct of Final Semester Exams	04-08-2020

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1. INTRODUCTION

1.1 THE UNIVERSITY

The Mehran University is a distinctive, pioneering and connected university that shapes the future through educating and empowering people to meet the real challenges of tomorrow.

Industrial and technological development in Pakistan has been quite rapid since its independence and particularly during the sixties and seventies. The main fields of development have been related to the enhancement of agriculture, establishment and up-gradation of industries and exploration of its indigenous resources. This development has resulted in increased demand for qualified engineers in different fields in addition to other professionals. In order to meet this demand and to provide an opportunity of engineering education to the people hailing from the interior of Sindh Province, Sindh University Engineering College was established in 1963 as a constituent college of University of Sindh in Jamshoro about 15 km. from Hyderabad on the right bank of river Indus.

The Education Policy of 1972 provided for up-gradation of the Sindh University Engineering College to the level of a University of Engineering and Technology. Accordingly, the college was first declared as an additional campus of the University of Sindh in July 1976 and later upgraded to the level of a full-fledged independent University on 1st March, 1977 named as Mehran University of Engineering and Technology (Mehran UET), Jamshoro.

Mehran UET is one of the most engaged, supportive and responsive universities in Pakistan which focuses on making higher education and research accessible and relevant to all people of Pakistan in general and Sindh in particular. The University has continued to put in efforts to address community engagement opportunities, financial sustainability and growth, improvement in teaching and learning and research excellence, program up gradation and expansion into new discipline areas. Mehran UET believes that this scrutiny is an opportunity to provide the public with a confirmation of high standards in academic quality and student centered and holistic approach to education. This university is proud to claim that the students are getting the high-quality education which they expect and deserve.

Mehran UET is becoming a role model to other universities with desire to grow and flourish through engagement. This university is achieving this by working more closely with students, communities, industries, regional employers and with government at all levels. This year is golden jubilee celebration of Mehran UET. It is a dream of every individual at Mehran UET that with the dedicated, committed and motivated team who work together to reaffirm and pledge on the occasion of Golden jubilee celebrations to keep up the name of the University as has been the tradition. Over the years, Mehran UET has focused on four core elements: becoming a national leader in the quality of our academic programs; being universally recognized for the quality of the learning experience; creating an environment that truly values and is enriched by pluralistic diversity; and expanding the mission to address our society's most challenging needs.

The end product of the University is academic excellence, measured by the quality of the research, scholarship, and graduates it produces along with their collective impact on the society at large. To be a leader of Public Sector Universities, the prevailing culture demands excellence in all endeavors, this can only be achieved when all parts of the University administration, faculty, staff, and students, and alumni are committed to the highest standards of performance.

1.2. OFFICERS OF THE UNIVERSITY

Following are the main Officers of the University, responsible for overall administration, academic activities and development work in the University.

Post	Name	Phone
Vice-Chancellor	Prof. Dr. Mohammad Aslam Uqaili	022-2771197
Pro-Vice-Chancellor, Main Campus, Jamshoro	Prof. Dr.Tauha Hussain Ali	022-2771360
Pro-Vice-Chancellor, MUET, SZAB, Khairpur, Mirs Campus	Prof. Dr. Muhamnmad Moazam Baloch	0243-714005
Dean, Faculty of Architecture and Civil Engineering	Prof. Dr. Khan Muhammad Brohi	022-2771638
Dean, Faculty of Electrical Electronic & Computer Engineering	Prof. Dr. Mukhtiar Ali Unar	022-2771558
Dean, Faculty of Engineering	Prof. Dr. Khanji Harijan	022-2771312
Dean, Faculty of Science, Technology & Humanities	Prof. Dr. Abdul Sami Qureshi	022-2771352
Registrar	Prof. Dr. Abdul Waheed Umrani	022-2771371
Director Finance	Mr. Muneer A. Shaikh	022-2771442
Controller of Examinations	Mr. Khalid Feroz Channa	022-2771631
Director Admissions	Prof. Dr. Agha Faisal Habib	022-2771704
Provost (Hostels)	Prof. Ghulam Abbas Mahar	022-2772299
Director Works & Strategic Planning	Mr. Saghir Ahmed Memon	022-2771311
Director Services/Incharge, Transport Section	Mr. Qazi Riaz Hassan Qureshi	022-2109073
Resident Auditor	Mr. Muhammad Ashraf Abro	022-2772285
Incharge Librarian	Mr. Azam Ali Halepoto	022-2771169

FACULTY OF ARCHITECTURE AND CIVILENGINEERING

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 includes environmental consideration for both urban and sub-urban setting. Studies in Architecture are related to 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 to acquaint the students with basic planning, aesthetics, design and drawing of plans and specification of various buildings. At the same time, some subjects concerning the basic Architectural design including Computer Aided Design (CAD) and socio-economic design are also included in the curriculum. Teachings through lectures in the class rooms are adequately supported by studios and laboratory work.

2.1.2 The Faculty

Chairman of the Department:

Prof. Muhammad Hashim Jokhio
Phone: 022-2772293 Ext:3100

Assistant Professors	
Mr. Muhammad Hashim Jokhio	B.Arch. Pakistan
Mr. Abdul Rehman Halepoto	Pg.D. Pakistan
Mr. Moazam Ali Pathan	Pg.D. Pakistan
Mr. Muhammad Afzal Brohi	M.Arch. Pakistan
Mr. Irfan Ahmed Memon	Pg.D. Pakistan
Dr. Sabeen Qureshi	Ph.D. Malaysia
Ms. Raheela Laghari	M.E. Pakistan
Ms. Shahnila Ansari	M.E. Pakistan

Lecturers	
Ms. Khalida Baloch	Pg.D. Pakistan
Ms. Fareeda Mughari	B.Arch. Pakistan
Mr. Abdul Waheed Memon	Pg.D. Pakistan
Ms. Naheed Rohail	M.E. Pakistan
Mr. Abdul Salam Talpur	Pg.D. Pakistan
Ms. Firdous Parveen	Pg.D. Pakistant

2.1.3 Laboratory Facilities

Thus, the numbers of laboratories have been established in the department, which include:

1. Model Making Lab **2.** Computer Graphics Lab **3.** Computer Lab
4. Photographic Lab **5.** Surveying and Environment Materials Lab

Seminar Hall & Seminar Library have also been established to conduct the seminars and reference facilities in the department. In addition, frequent field visits are organized for the students to keep them abreast with 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 design, 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 of all examinations and tests for practical work.

2.1.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
AR111	Foundation Studio-I	02	04
AR 112	Visual Communication	02	04
AR 113	Sociology	02	00
SS 111	Islamic Studies/Ethics	02	00
PS 106	Pakistan Studies	02	00
	Total	**10**	**08**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
AR121	Foundation Studio-II	02	04
AR 122	Building Materials-I	02	00
AR 123	Model Making	00	03
CE 135	Surveying	02	01
EN 101	Functional English	03	00
	Total	**09**	**08**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
AR 211	Architectural Design-I	02	04
AR 212	Building Materials-II	02	00
AR 213	Physical Environmental Studies	02	00
AR 214	History of Art & Architecture-I	03	00
AR 215	Computer Aided Design-I	00	02
CE 250	Statics	02	00
	Total	**11**	**06**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
AR 221	Architectural Design-II	02	04
AR 222	Building Construction-I	02	00
AR 223	Building Services-I	03	00
AR 224	History of Art & Architecture-II	03	00
AR 225	Computer Aided Design-II	00	02
AR 226	Structure in Architecture-I	02	00
	Total	**12**	**06**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
AR 311	Architectural Design-III	02	04
AR 312	Building Construction-II	02	00
AR 313	Building Services-II	02	00
AR 314	History of Art & Architecture-III	03	00
AR 315	Computer Aided Design-III	00	02
AR 316	Structure in Architecture-II	02	00
	Total	**11**	**06**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
AR 321	Architectural Design-IV	02	04
AR 322	Working Drawings & Details-I	00	03
AR 323	Landscape Design	02	01
AR 324	Muslim Architecture	02	00
AR325	Theories & Criticism in Architecture	02	00
AR 326	Structure in Architecture-III	02	00
	Total	**10**	**08**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
AR 411	Architectural Design-V	02	04
AR 412	Working Drawings & Details-II	00	03
AR 413	Interior Design	02	01
AR 414	Architecture in Pakistan	02	00
AR 415	Building Economics	02	00
AR 416	Structure in Architecture-IV	02	00
	Total	**10**	**08**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
AR 421	Architectural Design-VI	02	04
AR 422	Urban Planning & Design	03	00
AR 423	Energy Efficient Architecture	03	00
AR 424	Architectural Conservation	02	01
AR 425	Architectural Research Methods	03	00
	Total	**13**	**05**
Course Code	**Subject Name**	**Credit Hours**	
9th Semester		*Theory*	*Practical*
AR 511	Architectural Design-VII	02	04
AR 512	Research & Development project –I (Thesis Report)	00	05
AR 513	Sustainable Architecture	03	00
CE 510	Quantity Surveying & Accounting	03	00
	Total	**08**	**09**
Course Code	**Subject Name**	**Credit Hours**	
10th Semester		*Theory*	*Practical*
AR 521	Research & Development Project-II(Thesis Project)	00	10
AR 522	Disaster Management	02	00
AR 523	Professional Practice & Management	02	00
	Total	**04**	**10**

2.1.5 Career Opportunities (Govt: Organization +Private & Self)

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 human kind through construction of various structures. It applies engineering practices to the planning, design, 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 of the University is the largest discipline in terms of student enrollment and faculty. It provides essential and advance engineering education according to the requirements of field. The various fields of specialization are introduced to the final year students by assigning them a thesis project. The thesis projects may be specific to a particular branch of Civil Engineering like Structural Engineering, Geotechnical Engineering, Irrigation Engineering, Highway Engineering and Construction Management etc.

The curriculum is designed to cover the wide range of various sub discipline of the department including Structural Engineering, Concrete Technology, Geotechnical Engineering, Foundation Engineering and Design, Irrigation & Drainage Engineering, Transportation Engineering, Environmental Engineering, Construction Engineering, Construction Project Management etc. The course is designed to keep the present demands of construction industry by involving the industry's expert professionals. Theory classes of different subjects are complemented by tutorials and laboratory works, for which adequate facilities with equipment have been established. In addition, the students are taken to field visits of the Civil Engineering projects such as water distribution structures, bridge & building structures, road construction works, geotechnical works etc. During the summer vacations the students are also sent on various Civil Engineering projects in the form of internship to the organizations such as WAPDA, NESPAK, NHA, C&W Department, Irrigation Department, etc. This is to expose them to practical engineering knowledge being actually implemented.

The department has a well-organized student's based society which is actively engaged in conducting several curriculum & extra curriculum activities such as seminars, workshops, trainings, short courses, sports events, debates, competitions etc.

The Department also offers various postgraduate degrees such as Master of Engineering (M.E.), Master of Philosophy (M.Phil.) and Doctor of Philosophy (Ph.D.) in the following fields.

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

The department has recently moved on Outcome Based Education (OBE) system in order to meet the criteria of Pakistan Engineering Council (PEC) as per Washington Accord. All the class tests, class & field assignments and

semester exams are being assessed on the basis of specific course learning objectives associated with each course. This student centric approach focuses on outcomes from individual student by the end of the course. All the class rooms of the department are equipped with multimedia tools. The laboratories are equipped with the latest equipment and tools and are supervised by the highly experienced faculty and technical staff.

Mission of the Program:

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, life-long learning, and societal leadership, by providing a dynamic learning environment that emphasizes problem-solving skills, teamwork, communication, and leadership skills.

Program Educational Objectives (PEOs):

1. Our graduates should solve complex civil engineering problems faced by the industry in different areas of Civil Engineering by utilizing their theoretical, technical and professional knowledge.

2. Our graduates should function in team-oriented, multidisciplinary open-ended engineering activities considering the societal, environmental and economic impacts of engineering decisions, and the professional and ethical responsibilities of civil engineers.

3. Our graduates should pursue professional growth through moral and continuous learning attitude.

2.2.2 The Faculty

Chairman of Department:

Dr. Aneel Kumar

Phone: 022-2772254-72 Ext.no 7100

Professor	
Dr. Tauha Hussain Ali	Ph.D. Australia
Dr. Abdul Sami Qureshi	Ph.D. Germany
Dr. Aneel Kumar	Ph.D. Japan
Dr. Rizwan Ali Memon	Ph.D. Pakistan
Dr. Khalifa Qasim Laghari	Ph.D. Pakistan
Dr. Nafees Ahmed Memon	Ph.D. Romanin
Dr. Shafi Muhammad Kori	Ph.D Pakistan
Dr. Zubair Ahmed Memon	Ph.D. Malaysia (On Lien)
Dr. Ashfaque Ahmed Memon	Ph.D. Pakistan
Dr. Agha Faisal Habib	Ph.D. United Kingdom
Dr. Zaheer Ahmed Almani	Ph.D. United Kingdom
Dr. Pervez Shaikh	Ph.D. Pakistan
Dr. Fareed Ahmed Memon	Ph.D. Malaysia
Dr. Naeem Aziz Memon	Ph.D. United Kingdom

Associate Professors	
Dr. Ashfaque Ahmed Pathan	Ph.D. Pakistan

Assistant Professors:	
Mr. Jawaid Kamal Ansari	M.E. Pakistan
Mr. Arshad Ali Memon	M.E. Pakistan
Mr. Samar Hussain Rizvi	M.E. Pakistan
Mr. Azizullah Jamali	M.E. Pakistan
Mr. Amjad Ali Pathan	M.E. Pakistan

Lecturers	
Mr. Shabir Hussain Khero	M.E. Malaysia (On Lien)
Mr. Masroor Ali Jatoi	M.E. Pakistan
Mr. Farhan Qureshi	M.E. Pakistan
Mr. Ali Murtaza Phull	M.E. Pakistan (On Study Leave Abroad)
Mr. Abdul Raqeeb Memon	M.E. Pakistan
Mr. Ali Raza Khoso	M.E. Pakistan (On Study Leave Abroad)
Mr. Fahad Ali Shaikh	M.E. Pakistan
Mr. M. Abu Bakar Shaikh	M.E. Pakistan
Mr. Fida Hussain Siddiqui	M.E. Pakistan (On Study Leave Abroad)
Mr. Anees Raja	M.E. Pakistan (On Study Leave Abroad)
Mr. M. Rehan Hakro	M.E. Malaysia
Mr. Lal Chand	M.E. Pakistan
Mr. Shankar Lal Meghwar	M.E. Pakistan (On Study Leave Abroad)
Mr. Muhammad Ali Moriyani	B.E. Pakistan
Mr. Awais Ahmed Mirza	B.E. Pakistan
Mr. Anees Ahmed Vighio	B.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. Soil Mechanics Laboratory
2. Highway Engineering Laboratory
3. Engineering Geology Laboratory
4. Concrete Laboratory
5. Material Testing Laboratory
6. Engineering Mechanics Laboratory
7. Environmental Engineering Laboratory
8. Hydraulics Laboratory
9. Software laboratory
10. Surveying Laboratory

2.2.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
CE102	Geometrical Drawing	02	01
CE106	Civil Engineering Materials	03	01
CE116	Engineering Mechanics	03	01
FE101	Functional English	03	00
CS146	Introduction to Computing &Programming	02	01
	TOTAL	**13**	**04**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
CE111	Surveying-I	03	01
MTH108	Applied Calculus	03	00
SS111/SS104	Islamic Studies / Ethics	02	00
PS106	Pakistan Studies	02	00
CE121	Civil Engineering Drawing	02	01
CE125	Engineering Geology	03	01
	TOTAL	**15**	**03**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
CE202	Surveying-II	03	01
CE206	Transportation Engineering	03	00
CE211	Strength Materials-I	03	00
MTH 204	Differential Equations, Fourier Series and Laplace Transforms	03	00
CE226	Fluids Mechanics and Hydraulics	03	01
	TOTAL	**15**	**02**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
CE221	Theory of Structures	03	00
CE240	Applied Hydraulics	03	01
CE231	Construction Engineering	03	00
CE250	Strength of Materials- II	03	00
MTH206	Complex Analysis, Statistical Methods and Probability	03	00
CE246	Architectural and Town Planning	02	00
	TOTAL	**17**	**01**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
MTH303	Linear Algebra and Numerical Methods	03	01
CE306	Structural Analysis	03	00
CE345	Plain and Reinforced Concrete	03	01
CE350	Environmental Engineering –I	02	01
CE355	Project Management	02	00
	TOTAL	**13**	**03**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
CE375	Hydrology	02	01
CE326	Soil Mechanics	03	01
CE336	Reinforced and Pre-Stressed Concrete	03	01
CE316	Steel Structures	03	00
CE360	Highway and Traffic Engineering	03	01
	TOTAL	**14**	**04**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
CE406	Structural Design and Drawing	03	01
CE411	Geotechnical Engineering	03	01
CE416	Irrigation Engineering	03	01
CE445	Quantity Surveying and Estimation	03	00
CE498	Project / Thesis-I	00	03
	TOTAL	**12**	**06**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
CE426	Foundation Engineering	03	00
CE431	Environmental Engineering-II	03	00
CE436	Construction Planning& Management	03	00
CE441	Drainage Engineering	02	00
CE499	Project / Thesis-II	00	03
	TOTAL	**11**	**03**

2.2.5 Career Opportunities

Our graduates can follow careers in many different fields and organizations related with Civil Engineering Projects and can also set up 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. The BE program at MUET, Jamshoro provides a clear route to a professional career in Civil Engineering.

2.3 DEPARTMENT OF CITY & REGIONAL PLANNING

2.3.1 The Department

In order to meet the ever-increasing demand for qualified Urban and Regional planners, to provide better and pollution-free living environment to 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 aim of the program is to produce Urban and Regional Planners with the interdisciplinary skill s to meet the demands of rapidly increasing cities which can meet the sustainable development and planning millennium goals.
Keeping in view the baseline curriculum prepared by the National Curriculum Revision Committee constituted by the Higher Education Commission (HEC), the curriculum was revised and updated for 13-Batch and onwards, to bring it in line with local, national and international requirements and to introduce innovation to ensure quality of education and uniformity of curriculum in the Pakistani universities, which is also in accordance with the recommendations of the Pakistan Council of Architects and Town Planners (PCATP).

The curriculum is designed in such a way that it involves a wide spectrum of activities regarding the preparation of master plans and development plans for villages, towns, cities, and regions. To provide the practical knowledge, the study visits of different towns and cities are conducted to collect the primary data about the physical, social and economic aspects of housing, infrastructure, traffic and transportation, slums and katchi-abadies, etc. It also involves analysis, preparation and implementation of proposed policies, programs and plans for improvement of old urban areas and development of new settlements at both urban and regional levels.

On successful completion of the entire requirement for the degree, the students will be awarded the degree of Bachelor of City and Regional Planning (B.CRP). Four batches are admitted in year 2016, F-2016, 2017 & 2018 respectively. The department also offers the degree of Masters (M.CRP and Doctor of Philosophy (Ph.D) in the field of City and Regional Planning.

Objectives of the Department

Following are the main objectives of the Department

- To provide world-class advanced education knowledge and skills in the field of City and Regional Planning;
- To conduct outstanding technical basis and applied research in the field of City and Regional Planning profession;
- To provide professional in various streams of specializations in City and Regional Planning.

2.3.2 The Faculty

Chairman of the Department:
Dr. Imtiaz Ahmed Chandio
Tel: 022 2772294 Ext:7200

Associate Professor	
Dr. Imtiaz Ahmed Chandio	Ph.D. Malaysia
Dr.Mir Aftab Hussain Talpur	Ph.D. Malaysia

Assistant Professors	
Ms. Saima Kalwar	Ph.D. Malaysia
Mr. Fahad Ahmed Shaikh	M.CRP. Pakistan
Mr. Noman Sahito	M.CRP. Pakistan, On Study Leave

Lecturers	
Mr. Naveed Agro	B.CRP. Pakistan, On Study Leave
Mr.Taufique Ahmed Qureshi	B.CRP. Pakistan, On Study Leave
Mr. Irfan Ahmed Memon	Ph.D. Malaysia
Mr. Muhammad Yousif Mangi	B.CRP. Pakistan, On Study Leave
Mr. Ubedullah Soomro	B.CRP. Pakistan
Mr. Shahbaz Khan	B.CRP. Pakistan

2.3.3 Laboratory Facilities

The following laboratory facilities are available in the department:

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

2.3.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
CRP111	Introduction to Planning	03	01
CRP112	Technical Drawing	02	02
MATH110	Calculus & Statistical Methods	03	00
SS111	Islamic Studies / Ethics	02	00
PS106	Pakistan Studies	02	00
AR154	Model Making	00	02
	Total	**12**	**05**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
CRP121	Socio-economic Aspects of Planning	03	00
CRP122	Architectural Design for Planners	02	02
CE120	Surveying-I	03	01
MATH 114	Planning Data Analysis	03	00
ENG 111	Functional English	03	00
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
CRP 211	History of Urban Planning	03	00
CRP212	Transportation Engineering	03	01
CRP213	Construction Technology	03	01
CE 201	Surveying-II	03	01
CRP214	Communication Skills & Report Writing	02	00
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
CRP 221	Planning Law	03	00
CRP 222	Housing	03	00
CRP223	Transportation Planning	03	01
CRP224	Mapping & Remote Sensing	03	01
CRP 225	Computer Aided Design	02	01
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
CRP 311	Urban Renewal	02	01
CRP 312	Planning Techniques	03	00
CRP313	Site Planning and Urban Design	03	01
CRP314	Environmental Engineering	03	01
CRP315	Information & Database Management	02	01
	Total	**13**	**04**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
CRP 321	Research Methods	03	00
CRP 322	Planning of New Towns	03	01
CRP 323	Rural Planning	02	01
CRP 324	Environmental Planning & Management	03	01
CRP 325	Introduction to Geographical Information System	02	01
	Total	**13**	**04**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
CRP 411	Master Planning-I	02	01
CRP 412	Landuse & Building Control	02	01
CRP 413	Project Planning and Management	03	01
CRP 414	District & Regional Planning	03	01
CRP 415	Community Development	02	01
CRP 499	Thesis/Project*	00	00
	Total	**12**	**05**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
CRP 421	Master Planning-II	03	02
CRP 422	Estate Management	03	00
CRP 423	Finance Planning & Management	03	00
CRP 424	Planning Practice	02	00
CRP 425	Project	00	06
	Total	**11**	**08**

2.3.5 Career Opportunities

After qualifying, our graduates can serve the nation as professional Planners in the public sectors such as, Ministry of Planning and Development (Housing and Physical Planning), Ministry of Local Government (Sindh Building Control Authority), Ministry of Communication, Planning Commission of Pakistan, Ministry of Environment, Military Engineering Services (MES) of Pakistan, Private Planning and Development Consultant Firms and nonprofit research organizations.

The department of City & Regional Planning has played a vital role not only in Town Planning Education but also in the development of Urban Research in the Country.

2.4 INSTITUTE OF ENVIRONMENTAL ENGINEERING & MANAGEMENT

2.4.1 The Institute

With increased awareness about environmental issues at the global and national levels, environmental engineering has become a fast-emerging discipline with vast scope for progression in the future. The Institute of Environmental Engineering & Management (IEEM) has been established with an aim of creating new ideas and finding innovative solutions related to local and global environmental issues. Today, Pakistan stands on the threshold of implementing environmental standards. Environmental Protection Agencies (EPAs) of the five provinces and federal government have been assigned task to implement environmental standards that will provide the need for large number of qualified experts in the field of Environmental Engineering. The scope of Environmental Engineer goes beyond the community and regional levels to global level.

The Bachelor of Engineering (B.E.) program is based on sound theoretical knowledge and thorough practical training supported by field visits and industrial training. The syllabus of B.E degree program includes variety of subjects related within the scope of environmental engineering. The faculty members of Institute of Environmental Engineering & Management (IEEM) are highly qualified having Ph.D and M.E in the relevant field.

a. Vision of the Institute

To produce the highest quality of learning and research opportunities for the students in the field of Environmental Engineering as well as to provide state-of-the-art education to aspiring environmental engineering graduates to make them competent with high professional ethics to compete on a global scale.

b. Mission of the Program

This program is aimed to impart high quality education with the vision of developing professionals to provide innovative solutions to the engineering challenges of future and nurture personal growth skills as creative and entrepreneurial minds along with professional ethics to begin their career as successful engineers, researchers, consultants, regulators and managers.

c. 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 are based on stakeholder's needs. After 3 to 5 years of graduation, our students will be:

1. Apply engineering knowledge to identify and address the technical and societal problems.
2. Enhance students' intellectual and analytical abilities in taking initiative and/or developing innovative ideas for technological and professional growth in the field of environmental engineering.
3. Work effectively as a team member or lead multidisciplinary teams while determining / demonstrating the interpersonal and management skills and ethical responsibilities.

2.4.2 The Faculty

Director of the Institute:
Dr. Sheeraz Ahmed Memon
Phone: 022-2772253Ext:7300

Professors	
Dr. Khan Muhammad Brohi	Ph.D. Japan
Dr. Rasool Bux Mahar	Ph.D. China (On lien)

Associate Professors	
Dr. Abdul Razaque Sahito	Ph.D. Pakistan
Dr. Sheeraz Ahmed Memon	Ph.D. Korea

Assistant Professor	
Engr. Mohammad Ali Memon	M.E. Pakistan
Dr. Muhammad Safar Korai	Ph.D. Pakistan
Mr. Azizullah Channa	M.E. Pakistan, On Study Leave
Ms. Maryam	M.E. Pakistan

Lecturers	
Dr. Imdad Ali Kandhar	Ph.D. Pakistan
Engr. Sajid Hussain Mangi	M.E. Pakistan
Engr. Ahsan Ali Memon	B.E. Pakistan

2.4.3 Laboratory Facilities

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

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

2.4.4 Course

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
EE101	Introduction to Environmental Engineering	3	0
CS146	Introduction to Computing and Programming	2	1
CE137	Surveying	3	1
ENG101	Functional English	3	0
EE110	Environmental Physics	2	0
	Total	**13**	**02**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
IS111/ SS104	Islamic Studies/Ethics	2	0
PS106	Pakistan Studies	2	0
MTH108	Applied Calculus	3	0
EE121	Environmental Chemistry	2	1
CE116	Engineering Mechanics	3	1
EE131	Introduction to Microbiology	2	1
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
EE202	Ecological Management	3	0
CE277	Engineering Drawing Practices	2	1
MTH211	Linear Algebra & Analytical Geometry	3	0
CE263	Fluid Mechanics	2	1
MT250	Engineering Materials and Environment	2	1
EE203	Water Supply Engineering	3	1
	Total	**15**	**04**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
EE242	Environmental Economics	2	0
ME276	Applied Thermodynamics	3	1
MTH202	Differential Equations & Fourier Series	3	0
CE276	Computer Aided Design (CAD)	2	1
EE272	GIS & Remote Sensing	2	1
EE233	Wastewater Engineering	3	1
	Total	15	04

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
ENG310	Communication Skills& Technical Writing	3	0
MTH319	Numerical Analysis	3	1
EL301	Electrical Technology	2	1
CE372	Water Resources Engineering and Management	3	1
EE331	Environmental Biotechnology	2	1
	Total	**13**	**04**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
ME390	Renewable and Emerging Energy Technologies	3	1
EE313	Solid Waste Engineering & Management	3	1
EE323	Entrepreneurship	2	0
MTH317	Statistics and Probability	3	0
EE326	Air and Noise Pollution Control Engineering	3	1
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
CE461	Soil Mechanics for Environmental Engineers	3	1
EE414	Modelling of Environmental Systems	3	1
EE494	Natural Resources Management	3	0
CE471	Project Planning & Management	3	0
EE434	Environmental Management System & Standards	2	0
EE499	Design Project - I / Thesis - I	0	3
	Total	**14**	**05**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
EE465	Hazardous Waste Risk Assessment & Management	3	0
EE424	Health, Safety & Environment	3	0
EE454	Environmental Impact Assessment	3	0
EE484	Cleaner Production Techniques	2	1
EE499	Design Project - II / Thesis - II	0	3
	Total	**11**	**04**

2.4.5 Career Opportunities

Environmental Engineering undergraduate and post graduate program 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; storm water management; solid waste disposal; industrial hygiene; radiation protection; health; safety and environment (HSE), environmental impact assessment (EIA); cleaner production; natural resource management; public health and land pollution control. Environmental engineers are also leaders of 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 sub-categories.

This institute provides opportunities to the students with great hands-on and pragmatic approach by arranging internships abroad such as Turkey, China to help students become aware of environmental problems encompassed by world.

Environmental Engineering provides opportunities as to type of work, for whom you work, and where you work. A career in Environmental Engineering provides a comfortable salary, job security, and considerable personal satisfaction.

FACULTY OF ELECTRICAL, ELECTRONICS AND COMPUTER SYSTEMS ENGINEERING

3.1 DEPARTMENT OF BIOMEDICAL ENGINEERING

3.1.1 The Department

Mehran university of Engineering and technology has got the privilege to establish the Biomedical Engineering Department for the first time in the history of all Public sector universities of Pakistan. The program of Biomedical Engineering was started in 2003. Since 2011 the Department of Biomedical Engineering is housed in the newly built beautiful edifice with young, dynamic and visionary leadership. It is a progressive educational unit of Mehran UET and serving the nation by producing engineers who have a very versatile expertise of Medical Imaging, Diagnostics, Radio and laser surgery, Biotechnology, Nano-technology, Computer Science, Electronics, Telemedicine, and other related domains.

The Department aims to produce engineers who can serve as advanced drug designers, prosthetic device engineers, biomedical equipment designers, maintenance engineers, sales managers, after-sale service managers, telemedicine engineers and researchers.

The Department of Biomedical Engineering at MUET also commenced its journey towards OBE from October 2017, with effect from the 1st semester of 17BM. The following five Program Educational Objectives (PEOs) of B.E. Biomedical Engineering degree program are presented below.

To produce engineers with the capabilities of

I. working as Prosthetic Product Designers
II. working as Biomedical Equipment Designer
III. working as Medical Diagnostic Equipment Procurement Experts / Sales Promotion Managers
IV. working as Telemedicine and E-health Experts
V. pursuing higher education/research careers in Biomedical and E-health Engineering related fields

The Department of Biomedical Engineering has all the necessary infrastructure to support its vibrant academic, research and extra-curricular activities, including spacious and airy edifice, seminar library, adequate laboratory equipment, efficient administrative staff, free internet (both Ethernet and WiFi), and the printing and scanning facilities.

Students of the Department are trained in the industry, hospitals and other national and international healthcare institutions, through study visits and internships. We are actively involved in guiding the students on their research projects with close interaction of the industry, to have them the right feel of the current issues in the field and looking for the solutions to the problems facing the society. The Department has also signed the Memoranda of Understanding with Atomic Energy Commission of Pakistan, Liaquat University of Medical and Health Sciences Jamshoro, Hashmani Hospital Karachi along with many others (https://www.muet.edu.pk/departments/biomedical-engineering/industrial-linkages/mous).

Currently, the Department of Biomedical Engineering is in the process of getting accredited under Outcome Based Education system with the Pakistan Engineering Council. For this, I applaud the efforts of my team who helped devise Program Educational Objectives, devise Course Learning Outcomes, map them to the Program Learning Outcomes, work out rubrics for OBE assessment, work out key performance indicators, and prepare the Self-Assessment Report. I would like to express my gratitude to all our faculty members and other experts of this field in particular for their valuable suggestions in updating the curriculum and laboratories for making this program successful.

FACULTY OF ELECTRICAL, ELECTRONICS AND COMPUTER SYSTEMS ENGINEERING

3.1.2 The Faculty

Chairman of the Department:

Prof. Dr. Ahsan Ahmad Ursani
Ph: 022-2772279, Ext: 7000

Professor	
Dr. Ahsan Ahmad Ursani	Ph.D. France

Associate Professors	
Dr. Syed Amjad Ali Shah	Ph.D. China

Assistant Professors	
Engr. N.P. Chowdhry	M.S. United Kingdom
Dr. Muhammad Arif	Ph.D. United Kingdom, On Study Leave
Dr. Abdul Qadir Ansari	Ph.D. Pakistan
Ms. Rabia Chandio	M.E. Pakistan
Dr. Maheen Mahwish Surhio	Ph.D. China

Lecturers	
Mr. Syed Faisal Ali	B.E. Pakistan
Mr. Salman Afridi	M.E. Pakistan, On Study Leave
Mr. M. Aamir Panhwar	M.E. Pakistan, On Study Leave
Ms. Kandeel Fatima	M.E. Pakistan

3.1.3 Laboratory Facilities

Biomedical Engineering department has the following five well equipped laboratories:

1. Biomedical Instrumentation lab
2. Biomedical Sciences Lab
3. Biomedical Computing Lab
4. Biomedical Engineering lab
5. Telemedicine and Research Lab

3.1.4 Course

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
ENG101	Functional English	3	0
EL101	Basic Electrical Engineering	2	1
BM102 / MTH107	Basic Biology / Basic Mathematics	3*	0
CS145	Introduction to Computing	3	1
BM111	Applied Physics	3	1
BM121	Applied Chemistry	2	1
	Total	**13**	**4**

* These credits do not count towards the total credit hours of the program

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
ES133	Basic Electronics	3	1
EL201	Electrical Circuits and Systems	3	1
BM131	Biophysics	3	0
MTH102	Applied Calculus	3	0
PS106	Pakistan Studies	2	0
IS111/ SS104	Islamic Studies / Ethics	2	0
	Total	**16**	**2**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
ES262	Electronic Circuit Design	3	1
BM211	Biochemistry	2	1
BM222	Physiology I	3	1
BM232	Human Anatomy	2	1
MTH236	Linear Algebra and Analytical Geometry	3	0
	Total	**13**	**4**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
MTH224	Differential Equations	3	0
BM280	Computer Aided Drawing	0	1
ENG2--	Communication Skills	2	0
BM241	Physiology II	2	0
ES285	Electronic Instrumentation	3	1
ES273	Digital Electronics	3	1
BM290	Radiation and Environment	2	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
MT310	Biomaterials	3	1
BM311	Biomedical Instrumentation I	3	1
ES352	Microprocessor and Microcontroller	3	1
MTH315	Statistics and Probability	3	0
MTH306	Complex Variable and Transforms	3	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
TL372	Signals and Systems	3	1
BM331	Biomedical Instrumentation II	3	0
BM341	Biophotonics	3	0
MTH336	Numerical Analysis and Computer Applications	3	1
ENG302	Technical Report Writing and Presentation Skills	2	0
	Total	**14**	**2**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
BM401	Digital Signal & Image Processing	3	1
BM411	Biomechanics	3	1
ES432	Control Systems	3	1
BM421	Modeling and Simulation	2	1
BM499	BM Engineering Project	0	3
	Total	**11**	**7**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
BM431	Economics and HC Management	3	0
BM440	Medical Imaging	3	1
BM450	Medical and Healthcare Ethics	2	0
BM460	Emerging Trends in BME	2	1
BM499	BM Engineering Project	0	3
	Total	**10**	**5**

3.1.5 Career Opportunities

Biomedical Engineering is a broad and multidisciplinary field that encompasses industry ranging from Pharmaceutics to Genetics, and from Diagnostics to Rehabilitation. Therefore, its graduates find their full role within the auspices of state-of-the-art diagnostic centers, hospitals, telemedicine centers, biomedical equipment manufacturers and distributors, drug manufacturers, software development houses, automobile industry, research laboratories and research institutions.

There is a huge demand for biomedical engineers in Pakistan. Biomedical engineers who monitor and maintain the databases of electronic patient records, medical instrumentation and work with physicians to adapt instrumentation for the specific needs of the physician and hospitals are most wanted in hospitals in Pakistan. Rehabilitation engineers who develop hardware, software, computer adaptations and provide cognitive aids to assist patients with memory impairment are also sought after. Our graduates are serving at national and international organizations of high repute here and abroad such as National Specialty Alloys Inc. USA, Siemens, Almosawiq Al-Arabia SA, Al-Sharq Hospital, Fujairah Hospital Dubai, Al-Noor Hospital Bahrain, and many others.

Modern hospitals, pharmaceutical companies, biomedical device manufacturers and vendors, Diagnostic Research laboratories, Government, Automobile industry, and even Software Development Companies hire Biomedical Engineers. Biomedical engineering is the design and manufacturing faction of the healthcare industry. Employers look for biomedical engineers to manage hospitals, help develop and use many innovative instruments to diagnose and treat diseases, restore self-reliance and functionality to patients.

3.2 DEPARTMENT OF COMPUTER SYSTEMS ENGINEERING

3.2.1 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

Department of Computer Systems Engineering (CSE) permeates all modern endeavors in academia, industry and government, and this role will continue to grow. Through education and research, the department of CSE will be recognized universally as a promoter of the essence and diversity of computing in society.

Mission of the Department

The mission of the department of Computer Systems Engineering is to educate undergraduate and graduate majors as well as the broader campus community in the fundamental concepts of the computing disciplines, to create and disseminate computing knowledge and technology, and to use our expertise in computing to help society solve problems.

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. To produce graduates having strong computer engineering knowledge that will be leading towards the development of technical competency and participate in professional engineering practices with appropriate consideration for health and safety, environmental, legal, social and cultural aspects
2. To prepare graduates to attain success in technical careers and demonstrate professional skills in the field of computer systems engineering.
3. To prepare graduates to become responsible citizens with high ethical and professional standards as well as awareness of the societal impact of computer and information technologies.
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.

3.2.2 The Faculty

Chairman of the Department

Prof. Dr. Shahnawaz Talpur (In charge)
Phone: 92- 2772250-73 (Ext. 4210)

Meritorious Professor	
Dr. Mukhtiar Ali Unar	Ph.D. United Kingdom
Professor Emeritus	
Dr. A. Q. K. Rajput	Ph.D. United States of America
Professor	
Dr. T.J. Saifullah Khanzada	Ph.D. Germany
Associate Professors	
Dr. Sheeraz Memon	Ph.D. Australia
Dr. Shahnawaz Talpur	Ph.D. China
Assistant Professors	
Dr. Liaquat Ali Thebo	Ph.D. Pakistan
Mr. Naveed Ahmed Jaffari	M.E. Pakistan
Mr. Arbab Ali Samejo	M.E. Pakistan
Ms. Zartasha Baloch	M.E. Pakistan, On Study Leave
Mr. Rizwan Badar Baloch	M.E. Pakistan
Dr. Adnan Ashraf	Ph.D. Pakistan
Mr. M. Moazzam Jawaid	Ph.D. United Kingdom
Dr. Noor-u-Zaman Leghari	Ph.D. United Kingdom
Dr. Sammer Zai	Ph.D. South Korea
Dr. M. Ahsan Ansari	Ph.D South Korea
Mr. Ali Asghar Manjotho	M.E. Pakistan, On Study Leave
Dr. Bushra Naz	Ph.D. China
Dr. Sanam Narejo	Ph.D Italy
Dr. Irfan Ali Bhacho	P.h.D South Korea
Lecturers	
Mr. Salahuddin Jokhio	M.E. Pakistan, On Study Leave
Mr. Fawad Ali Mangi	M.E. Pakistan, On Study Leave

3.2.3 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

3.2.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
CS-151	Computer Programming	3	1
CS-152	Digital Logic and Design	3	1
ENG-102	Communication Skills	2	0
MTH-112	Linear Algebra and Analytical Geometry	3	0
ISS-111/SS-104	Islamic Studies/Ethics	2	0
PS-106	Pakistan Studies	2	0
	Total	**15**	**02**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
CS-101	Computer Fundamentals	3	1
EL-101	Basic Electrical Engineering	3	1
ES-121	Electronic Engineering	3	1
ENG-101	Functional English	3	0
MTH-102	Applied Calculus	3	0
	Total	**15**	**03**

FACULTY OF ELECTRICAL, ELECTRONICS AND COMPUTER SYSTEMS ENGINEERING

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
CS-201	Computer Architecture and Assembly Programming	3	1
CS-202	Object Oriented Programming	3	1
CS-204	Computer Graphics	2	1
EL-107	Electrical Circuits	3	1
MTH-224	Differential Equations	3	0
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
CS-251	Data Structure and Algorithm Analysis	3	1
CS-252	Microprocessors & Interfacing Techniques	3	1
CS-253	Modeling and Simulation	2	1
CS-255	Database Management Systems	3	1
MTH-226	Fourier Series and Transforms	2	0
	Total	**13**	**04**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
CS-301	Analogue and Digital Signal Processing	3	1
CS-302	Operating Systems Design Concepts	3	1
CS-305	Technical Report Writing	3	0
INM-302	Engineering Economics and Management	3	0
MTH-311	Statistics and Probability	3	0
	Total	**15**	**02**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
CS-351	Communication Systems	3	1
CS-354	Embedded Systems	2	1
CS-355	Professional Ethics	2	0
CS-356	Mobile Application Development	2	1
CS-370	Web Engineering	3	1
	Total	**12**	**04**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
CS-401	Digital Image Processing	3	1
CS-403	Computer Communication and Networks	3	1
CS-404	Software Engineering	3	1
CS-499	Computer Engineering Project*	0	3
	Total	**09**	**06**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
CS-451	Mobile and Wireless Communication	2	1
CS-452	Artificial Intelligence	3	1
CS-453	Entrepreneurship and Leadership	2	0
CS-454	Data Science and Analytics	3	1
CS-499	Computer Engineering Project	0	3
	Total	**10**	**06**

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.

3.2.5 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 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.

3.3 DEPARTMENT OF ELECTRICAL ENGINEERING

3.3.1 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 25 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.
The degree conferred to the undergraduate students is based on successful completion of four year degree program. The postgraduate students receive M.E degree after successful completion of 18-months course and research

work. Currently 557 undergraduate, 104 postgraduate and 20 PhD students are enrolled in the department.

The undergraduate and postgraduate students are drawn from 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 great confidence.

3.3.2 The Faculty

Chairman of the Department:

Prof. Dr. Ashfaque Ahmed Hashmani
Ph.: 022-2771351

Professors	
Dr. Muhammad Aslam Uqaili	Ph.D. United Kingdom
Dr. Ashfaque Ahmed Hashmani	Ph.D. Germany
Dr. Abdul Sattar Larik	Ph.D. Pakistan
Dr. Zubair Ahmed Memon	Ph.D. Pakistan
Dr. Syed Asif Ali Shah	Ph.D. Austria
Dr. Mukhtiar Ahmed Mahar	Ph.D. Pakistan
Dr. Ali Asghar Memon	Ph.D. United Kingdom
Associate Professor	
Dr. Amir Mahmood Soomro	Ph.D. China
Dr. Anwar Ali Sahito	Ph.D. Pakistan
Assistant Professors	
Mr. Anwar Ahmed Memon	M.E. Pakistan
Mr. Noor Nabi Shaikh	B.E. Pakistan
Dr. Faheemullah Shaikh	Ph.D. China
Mrs. Mokhi Maan	M.E. Pakistan, On Study Leave
Mr. Muhammad Rashid Memon	M.E. Pakistan
Mr. Mansoor Ahmed Soomro	M.E. Pakistan, On Study Leave
Mr. Shah Murad Tunio	M.E. Pakistan, On Lien
Mr. Abdul Jabbar Memon	M.E. Pakistan
Dr. Nayar Hussain Mirjat	Ph.D. Pakistan
Dr. Abdul Hakeem Memon	Ph.D. China
Mr. Mahesh Kumar Rathi	Ph.D. Malaysia
Mr. Shoaib Ahmed Khatri	M.E. Pakistan, On Study Leave
Mr. Shafi Muhammad Jiskani	M.E. Pakistan
Lecturers	
Mr. Abdul Latif Samoon	M.E. Pakistan, On Study Leave
Mr. Zohaib Ahmed Leghari	M.E. Pakistan, On Study Leave
Mr. Faheem Shafeeque Channar	B.E. Pakistan
Mr. Shoaib Shaikh	B.E. Pakistan
Mr. Mustafa Memon	B.E. Pakistan

3.3.3 Laboratory Facilities

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

- Power System Lab
- Electrical Machines Lab
- Clean Energy Lab
- Electrical Circuit &Measurement Lab
- Applied Electricity Lab
- Computer Lab
- Electrical Power Transmission & Distribution Lab
- Power Electronics Lab
- High Voltage Engineering Lab
- Control and Automation Lab
- Equipment and Training Lab
- Communication Lab
- Advance Computer Lab
- Electrical Workshop Lab

3.3.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		***Theory***	***Practical***
EL-111	Electrical Workshop Practice	0	1
EL-112	Applied Physics	3	1
CS-104	Introduction to Computing & Programming	3	1
MTH-102	Applied Calculus	3	0
ENG-101	Functional English	3	0
	Total	**12**	**3**

Course Code	Subject Name	Credit Hours	
2nd Semester		***Theory***	***Practical***
EL-121	Linear Circuit Analysis	3	1
MTH-112	Linear Algebra and Analytical Geometry	3	0
PS-106	Pakistan Studies	2	0
IS-111, SS-104	Islamic Studies/ Ethics	2	0
ENG-102	Communication Skills	2	0
CE-118	Applied Mechanics	3	1
	Total	**15**	**2**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
EL-211	Electronic Devices & Circuits	3	1
EL-212	Digital Logic Design	3	1
EL-213	Electrical Network Analysis	3	1
MTH-212	Differential Equations and Fourier series	3	0
ME-271	Applied Thermodynamics	3	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
EL-221	Theory of Electromagnetic Field	3	0
EL-222	Electrical Machines	3	1
EL-223	Applied Electronics	3	1
CS-260	Microprocessor Systems	3	1
MTH-213	Complex Variables & Transforms	3	3
	Total	**15**	**6**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
EL-311	Advanced Electrical Machines	3	1
EL-312	Electrical Power Transmission	3	1
EL-313	Instrumentation & Measurement	3	1
MTH-336	Numerical Analysis & Computer & Computer Applications	3	1
ENG-304	Technical Writing	2	3
	Total	**14**	**7**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
EL-321	Power Generation Systems	3	1
ES-325	Linear Control Systems	3	1
TL-380	Communication Systems	3	1
EL-324	Power Economics & Management	3	0
MTH-311	Statistics and Probability	3	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
EL-411	Power System Analysis	3	1
EL-412	Electrical Machines Design & Maintenance	3	1
EL-413	High Voltage Engineering	3	1
EL-414	Power Distribution & Utilization	3	1
	Senior Design Project-I	0	3
	Total	**12**	**7**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
EL-421	Power Electronics	3	1
EL-422	Power System Stability & Control	3	1
EL-423	Power System Protection	3	1
EL-499	Senior Design Project-II	0	3
	Total	**9**	**6**

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

3.4 DEPARTMENT OF ELECTRONICS ENGINEERING

3.4.1 The Department

Electronic Engineering is an increasingly important engineering discipline that significantly affects the other disciplines of engineering. It is in great demand in both developed and developing nations. Continual advances in electronic engineering in the areas of materials, processes, devices, and circuits have been leading to rapid advances, in the existing applications of engineering as well as in the emergence of new applications. To harness the full potential of electronic engineering developments and further advance the state of electronic technology, it is important to have strong programmes to educate and train individuals in this key discipline of engineering. Electronic Engineering artifacts play major role in the evolution of mankind and culture. Today, the Electronic Engineering profession and the education of engineers are challenged by the rapidly changing nature of those engineering systems which determine what is meant by 'modern technology'. The advent of Microprocessor Technology has probably made Electronic Engineering the exemplary technology of this century, along with emergence of new species, with higher levels of integration. The existing and potential uses and applications of Electronics are multitudinous. Indeed it is difficult to point to any industrial or commercial area which may not eventually be affected by this technology. The Department of Electronic Engineering offers degrees at undergraduate and postgraduate level equally. It offers:

- B.E. (Electronic Engineering)
- M.E. (Electronic System Engineering) under the umbrella of Institute of Information & Communication Technologies.

It fulfills the more acute need of the development of the country by producing more qualified Engineers at undergraduate & postgraduate levels. The programmes offered provide technical manpower for the development and production of the Electronic Engineering in the country to provide qualified human resources as engineers and technology experts to develop indigenous capability of planning, designing and executing various projects in Electronic Engineering.

The field of Electronic Engineering encompasses the knowledge of electronic circuits & devices and their applications. The students learn variety of subjects of diverse fields including, Microprocessors & Interfacing, Automation and Robotics, Analog & Digital Communication, Optoelectronics, Wired & Wireless Communications, Signal Processing, Industrial Electronics, Integrated Electronics, Instrumentation & Control, Embedded System, Sequential Circuit Design, Laser & Fiber Optics, Microwave Engineering, FPGA, Electromagnetic Fields, Computer Communication & Networking, Mechatornic Applications, Advanced Communication Systems, Artificial Intelligence etc.

The department has played major role in sending undergraduate and postgraduate students abroad (Europe and USA) on scholarships and short visits on Erasmus Mundus Program and US Fulbright Program.

Frequent visits to industries are also organized by the department to acquaint students with practical environment. Specifically internship program is launched in collaboration with local industry during summer break for third year and final year students. In addition to that, students are also encouraged to participate in Seminars, Conferences and Software Competitions, such as IEEEP student seminar, A.Q. Khan Software at national level software competition held annually on and around campus. The department has centrally air-conditioned seminar library named after the late Professor M.D. Makhdoom.

Vision of the 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 the 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 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 DBoS, FBoS and ACM. 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:

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.

3.4.2 The Faculty

Chairman of the Department:

Dr. Tayab Din Memon
Phone: +92-22-2771334, +92-22-2772250-70 (Ext. 4100)

Emeritus Professor	
Dr. B.S Chowdhry	Ph.D.United Kingdom

Professors	
Dr. Wajiha Shah	Ph.D. Austria
Dr. ArbabNighatKalhoro	Ph.D. China

Associate Professors	
Dr. Tayab Din Memon	Ph.D. Australia
Dr. Irfan Ahmed Halepoto	Ph.D. Pakistan
Dr. Farzana Rauf Abro	Ph.D. Pakistan
Dr. Farida Memon	Ph.D. Pakistan
Assistant Professors	
Mr. Tufail Ahmed Waseer	M.E. Pakistan
Dr.Khalil-ur-Rehman Dayo	Ph.D. Pakistan
Mr. Mehboob Khuwaja	M.E (Pakistan)
Dr. Attiya Baqai	Ph.D. Pakistan
Ms. Kehkashan Asma	On Study Leave
Mr. Kamran Kazi	M.E. Pakistan
Ms. Saba Baloch	On Study Leave
Ms. Shakila Memon	M.E. Pakistan
Ms. Yasmeen NazPanhwar	On Study Leave
Mr. Khuhed Memon	M.E. (Singapore)
Mr. M. Zaigham Abass Shah	On Study Leave
Mr. Aamir Ali Patoli	M.E. Pakistan
Ms. Sara Qadeer Rajput	M.E. Pakistan
Mr. Mansoor Ali Teevno	M.E. Pakistan
Dr. Shoaib Rehman Soomro	Ph.D Turkey
Lecturer	
Mr. Qurban Ali Memon	M.E. Pakistan

3.4.3 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:

- Analog Electronics Laboratory
- Digital System Design Laboratory
- Communication Systems Laboratory
- Computing Laboratory
- Modeling & Simulation Laboratory
- Power Electronics & Drives Laboratory
- Embedded Systems Laboratory
- Instrumentation & Control Laboratory
- Electronic Design Automation Laboratory
- Project Laboratory-I
- Project Laboratory-II

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 due practical experience, provide ample job opportunities to our graduates in both public and private sector organizations, national & multinational companies. There is a huge job market of Electronic Engineers in Middle East, Europe, USA and Canada.

3.4.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
ENG-101	Functional English	3	0
MTH-102	Applied Calculus	3	0
CS-150	Introduction to Computing	2	1
EL-116	Applied Physics	3	1
SS-107	Professional Ethics	2	0
ES-102	Electronics Workshop	0	1
	Total	**13**	**3**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
MTH-112	Linear Algebra & Analytical Geometry	3	0
CS-113	Computer Programming	2	1
ES-112	Basic Electronics	3	1
EL-107	Electrical Circuits	3	1
PS-106	Pakistan Studies	2	0
SS-111	Islamic Studies/Ethics	2	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
ES-203	Electronic Circuit Design	3	1
ES-213	Digital Electronics	3	1
ES-223	Measurements & Instrumentation	2	1
MTH-201	Differential Equations & Fourier Series	3	0
INM-291	Engineering Management	2	0
CS-215	Computer Aided Engineering Design	0	1
	Total	**13**	**4**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
ES-233	Sequential Circuit Design	2	1
ES-243	Electromagnetic Fields	3	0
ES-253	Integrated Electronics	3	1
EL-202	Electrical Machines	2	1
MTH-211	Complex Variables & Transforms	3	0
ENG-201	Communication Skills	2	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
ES-304	Signals & Systems	3	1
ES-313	Microprocessors & Microcontrollers	3	1
ES-324	Probability & Random Signals	3	0
ES-319	Power Electronics	2	1
MTH-310	Numerical Methods	3	1
	Total	**14**	**4**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
TL-351	Analog & Digital Communication	3	1
ES-353	Control Systems	3	1
ES-363	Digital Instrumentation Systems	2	1
ES-373	FPGA-Based System Design	3	1
ES-393	Laser & Fiber Optics	3	0
	Total	**14**	**4**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
TL-411	Computer Communication & Networking	2	1
ES-413	Digital Control System	3	1
ES-423	Embedded Systems Design	3	1
ENG-402	Technical Report Writing & Presentation Skills	2	0
ES-499	Electronic Engineering Project-1	0	3
	Total	**10**	**6**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
TL-451	Advanced Communication Systems	3	0
ES-451	Mechatronics Applications	3	0
CS-490	Artificial Intelligence	3	1
ES-433	Digital Signal Processing	3	1
ES-499	Electronic Engineering Project-2	0	3
	Total	**12**	**5**

3.4.5 Career Opportunities

Electronic Engineering Department works in strong collaboration with Directorate of Student Affairs along with the student societies of similar scope for career counseling of graduating students. The emphasis is on the effective placement of students and graduates in the industry along with counseling sessions which provide career advice to the students. The Department organizes different workshops in routine e.g. “Interviewing Skills”, “Resume Writing”, “Effective Job Hunting” and “Study Abroad”.

With acquired educational and technical skill set, an Electronic engineer can find a competitive position in well reputed public and private sector organizations for last several years. Highly recognized organizations such as SUPARCO, KE, Angro Pakistan, PTCL, etc arranges on campus recruitment test hiring candidates straightaway.

3.5 DEPARTMENT OF SOFTWARE ENGINEERING

3.5.1 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 Software engineering. The Goal has been, and continues to be, to provide a high degree program in Software Engineering, that prepares students for lifelong learning as they take on professional careers in computing.

Software Engineering program enables to gain a thorough understanding of the role of IT in enterprise and how information systems impact on business and organizational processes.

The department offers a range of courses that teach the fundamentals of programming to advanced topics in computing such as software testing and software architecture and design etc. The Department of Software Engineering has completed its transformation to 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. Three PEOs have been finalized after thorough deliberation and comprehensive meetings. The program has also adapted to twelve PLOs. The curriculum has also been updated and CLOs for each course are designed along with its difficulty level as per Blooms taxonomy, i.e., Cognitive, Affective and Psychomotor.

Vision of the department

To produce professionals who have a mastery of principles, theory, practices and processes necessary to develop quality Software systems.

To prepare them to apply proficiently their engineering and interpersonal skills to design, develop deploy and maintain Software systems.

To develop capacity for innovation, research and passion for lifelong learning in Software Engineers.

FACULTY OF ELECTRICAL, ELECTRONICS AND COMPUTER SYSTEMS ENGINEERING

Mission of the department

To train and prepare liberally educated, articulate and skilled Software Engineers for leadership and professional careers who can meet current needs and foresee future requirement of the nation in the field of Software by deploying skilled 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 DBoS, FBoS and ACM. The PEOs were prepared based on stakeholders needs and linked with twelve PLOs. The PEOs of B.E. Software Engineering degree program are:

PEO 1: To produce engineers, who can work in constantly changing disciplines and to join an appropriate and respectable level position in a computing-related field, and to maintain their professional skills in rapidly evolving field.

PEO 2: To produce graduates, who can apply concepts, theories and practices to provide innovative and creative solutions for complex software systems and computing problems.

PEO 3: To prepare graduates with strong sense of professional & ethical values to work effectively both as an individual and collaboratively in a team environment.

3.5.2 The Faculty

Chairman of the Department:

Prof. Dr. Naeem Ahmed Mahoto
Ph: 022-2772255Ext:6900

Associate Professors	
Dr. Sania Bhatti	Ph.D. United Kingdom
Dr. Naeem Ahmed Mahoto	Ph.D. Italy
Dr.Mohsin Ali Memon	Ph.D. Japan

Assistant Professors	
Dr. Nasrullah Memon	Ph.D. Denmark, On Lien
Mr. Qasim Ali Arain	Ph.D. China
Mr. Salahuddin Sadar	M.E. Pakistan
Dr. Shahzad Ahmed Nizamani	Ph.D. United Kingdom
Ms. Amirita	M.E. Pakistan
Ms. Areej Fatemah	M.E. Pakistan, On study Leave
Mr. S. M. Shehram Shah	M.Sc. United Kingdom, On study Leave

Lecturers	
Ms. Samita Bai	M.E. Pakistan, On Study Leave
Mr. Zubair Sangi	B.E. Pakistan
Ms. Anoud Majid	M.E. Pakistan, On Study Leave
Ms. Memoona Sami	M.E. Pakistan
Mr. Vijdan Khalique	Ph.D. China
Dr. Isma Farah Siddiqui	Ph.D. South Korea
Mr. Din Muhammad Sangrasi	M.E. Pakistan, On study leave
Mr. Zahid Hussain Khaskheli	M.E. Pakistan
Ms. Hira Nouman	M.E. Pakistan
Ms. Shafia Qadeer Memon	M.E. Pakistan, On study leave
Mr. Junaid Ahmed Baloch	M.E. Pakistan
Ms. Rabeea Jaffari	B.E. Pakistan
Ms. Maryam Memon	B.E. Pakistan

3.5.3 Laboratory Facilities

To meet the latest treads in software and hardware technology the department has 6 well –resources IT laboratories where students are skilled to meet the future needs of the technology.

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

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 50 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.

3.5.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
MTH 108	Applied Calculus	03	00
EL101	Basic Electrical Engineering	03	01
SW111	Computer Programming	03	01
ENG111	Functional English	03	00
ES121	Electronic Engineering	03	01
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
SW121	Object Oriented Programming	03	01
SW122	Digital Computer & Logic Design	03	01
MTH112	Linear Algebra & Analytical Geometry	03	00
PS106	Pakistan Studies	02	00
SS111/SS104	Islamic Studies / Ethics	02	00
SS125	Professional Ethics	02	00
	Total	**15**	**02**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
SW211	Software Economics & Management	02	00
SW212	Data Structures & Algorithms	03	01
SW213	Computer Architecture & Organization	03	00
SW214	Introduction to Software Engineering	03	00
MTH212	Differential Equation & Fourier series	03	00
	Total	**14**	**01**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
SW221	Operating Systems Concepts	03	01
SW222	Database Management & Administration	03	01
SW223	Operations Research	03	00
SW224	Microprocessor Technologies	02	01
MTH217	Laplace Transforms & Discrete Mathematics	03	00
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
SW311	Theory of Automata & Formal Languages	03	00
SW312	Digital Communication	03	01
MTH317	Statistics & Probability	03	01
SW313	Data Analytics & Business Intelligence	03	00
SW314	Mobile Programming	03	01
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
SW321	Computer Networks & Management	03	01
SW322	Software Project Management	03	01
SW323	Human Computer Interaction	03	01
SW324	Artificial Intelligence Concepts & Techniques	03	01
ENG319	Technical Report Writing & Presentation Skills	02	00
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
SW411	Interactive Multimedia Systems & Graphics	03	01
SW412	Web Technologies	03	01
SW413	Software Design & Architecture	02	01
SW414	Computer Vision	03	01
SW499	Thesis/Project	00	03
	Total	**11**	**07**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
SW421	Data Warehousing & Mining Techniques	03	01
SW422	Distributed Computing	03	01
SW423	Software Testing & Quality Assurance	03	01
SW499	Thesis/Project	00	03
	Total	**09**	**06**

3.5.5 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.

Our Department works in strong collaboration with Directorate of Student Affairs along with the student societies of similar scope for career counseling of graduating students. The emphasis is on the effective placement of students and graduates in the industry along with counseling 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
- SPARCO

OBE Implementation Model

The model has three CQI cycles for assessment of PEOs, PLOs and CLOs. The Key Performance Indicators (KPIs) are set for each assessment method with data fed from direct and indirect assessment methods. Four committees work in the department, which are Departmental Management Review Committee, Advisory board, Industrial Liaison Committee and departmental board of studies.

Departmental Management Review Committee (DMRC): All data pertaining to course file, curriculum and direct/indirect assessment is centrally maintained at the Department. The DMRC is responsible for Curriculum revision according to the suggestions given by stakeholders (employer, alumni, and industrial representatives). The committee is also responsible to prepare corrective action request forms with CQI suggestions for further discussion/approval.

Advisory Board: Key responsibilities of this board include to provide recommendations for B.E (Software) Course Curriculum, improvement of technical and communication skills and review of FYP ideas.

Industrial Liaison Committee: This committee is responsible to establish link between academia and Industry. In particular, it would help in making arrangements for internships, job interviews, seminars, trainings, workshops for the students of our department.

Departmental Board of Studies (DBoS): DBoS is responsible to provide the recommendations for B.E (Software) Course Curriculum, check attainment of CLOs and PLOs and to discuss any changes / improvements as suggested by the faculty.

3.6 DEPARTMENT OF TELECOMMUNICATION ENGINEERING

3.6.1 The Department

Keeping in view the demand of Telecommunication sector, MUET got the privilege to establish the Telecommunication Engineering Department for the first time in the history of all Public and Private sector universities of Pakistan in the year of 2001. The main objective of department is to augment its existing programs to produce high quality Telecom personnel in various specialized areas such as Mobile and Wireless Communication, Terrestrial Satellite Communication, Multimedia and Broadband Communication etc. The department is under the establishment of Institute of Communication Technologies (ICT). In last 12 years, graduates of this Institute have established their footprint in leading telecom industries of Pakistan, and they are playing vital role in ICT development. The opportunities for Telecom engineers have been further extended with the emerging growth of 4G/5G mobile networks.

Vision of Department

To provide the highest quality of learning and research opportunities for the students in the field of Telecommunication Engineering as well as make them competent professionals with high professional ethics to compete on a global scale.

Mission of Program

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

Program Educational Objectives

1. Aimed at training students for successful careers as qualified system designers/analysts, managers, academic professionals and researchers.
2. To produce graduates having in-depth discipline knowledge, and the necessary skills, innovation and creativity to formulate and solve problems through scientific and intuitive methods.
3. To inculcate professional ethical values and principles in the graduates to function electively as an individual and in a group to lead the society.

3.6.2 The Faculty

Chairman of the Department:

Dr. Faisal Karim Shaikh
Phone: +92-22-2772277 Ext.6000

Meritorious Professor	
Dr. Aftab Ahmed Memon	Ph.D. Japan, On Lien

FACULTY OF ELECTRICAL, ELECTRONICS AND COMPUTER SYSTEMS ENGINEERING

Professors	
Dr. Abdul Waheed Umrani	Ph.D. Singapore
Dr. Faisal Karim Shaikh	Ph.D. Germany

Associate Professors	
Dr. Fahim Aziz Umrani	Ph.D. United Kingdom
Dr. Abdul Latif Memon	Ph.D. China
Dr. Imran Ali Qureshi	Ph.D. China
Dr. Faheem Yar Khuhawar	Ph.D. Italy
Dr. Sajjad Ali Memon	Ph.D. China

Assistant Professors	
Dr. Badar Munir	Ph.D. China
Dr. Nasrullah Pirzada	Ph.D. Malaysia
Dr. Faisal Ahmed Memon	Ph.D Italy
Dr. Abi Waqas Memon	Ph.D. Italy
Dr. Zafi Sherhan Shah	Ph.D. United Kingdom
Engr. Nafeesa Bohra	M.E. Pakistan
Engr. Naeem Aijaz Yousfani	M.E. Pakistan
Engr. Zulfiqar Ali Arain	M.E. Pakistan, On Study Leave
Engr. Syed Mohsin Ali Shah	M.E. Pakistan, On Study Leave
Engr. Shanzah Mohsin	M.E. Pakistan
Engr. Riaz Ahmed Soomro	M.E. Pakistan, On Study Leave
Engr. Saima Hafeez	M.E. Pakistan
Engr. Shakeel Ahmed Laghari	M.E. Pakistan
Engr. Mehran M. Memon	M.E. Malaysia
Engr. Saadullah Kalwar	M.E. Pakistan, On Study Leave
Engr. Hyder Bux Mangrio	M.E. Pakistan
Engr. Syed Rizwan Ali Shah	M.E. Pakistan

Lecturers	
Engr. Umair M. Qureshi	M.E. Pakistan, On Study Leave
Engr. Zuneera A. Memon	M.E. Pakistan, On Study Leave
Engr. Umair Ahmed Korai	M.E. Pakistan, On Study Leave
Engr. Anum Talpur	M.E. Pakistan, On Study Leave

3.6.3 Laboratory Facilities

Keeping in view the industry demands, the department of Telecommunication Engineering has established state of the art laboratories. These laboratories enable students with the latest technological advancements and make them able to meet with the market requirements.

Following laboratories are available at the Department of Telecommunication, MUET, Jamshoro;

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

3.6.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
MTH108	Applied Calculus	03	00
TL121	Applied Physics	03	01
CS104	Introduction to Programming	03	01
ENG101	Functional English	03	00
SSS111	Islamic Studies / Ethics	02	00
PS106	Pakistan Studies	02	00
	Total	**16**	**02**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
ES112	Basic Electronics	03	01
CS123	Object Oriented Programming	03	01
TL112	Introduction to Simulation Tools	00	01
EL102	Circuit Analysis	03	01
MTH112	Linear Algebra and Analytical Geometry	03	00
	Total	**12**	**04**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
ES205	Amplifiers and Oscillators	03	01
ES215	Digital Logic Design	03	01
MTH212	Differential Equations and Fourier Series	03	00
IN202	Engineering Management	03	00
ENG201	Communication Skills	02	00
	Total	**14**	**02**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
ES256	Microprocessors and Microcontrollers	03	01
TL231	Signals and Systems	03	01
TL202	Electromagnetics	03	00
MTH213	Complex Variables and Transforms	03	00
SS221	Professional Ethics	02	00
	Total	**14**	**02**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
TL323	Communication Systems	03	01
TL304	Antennas and Wave Propagation	03	01
TL354	Probability and Stochastic Processes	03	00
TL345	Digital Signal Processing	03	01
MTH336	Numerical Analysis and Computer Applications	02	01
	Total	**15**	**04**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
TL371	Digital Communication	03	01
TL334	Computer Communication and Networking	03	01
TL391	Optoelectronics	02	01
TL362	Microwave Engineering	03	01
ENG320	Technical Report Writing Skills	02	00
	Total	**13**	**04**

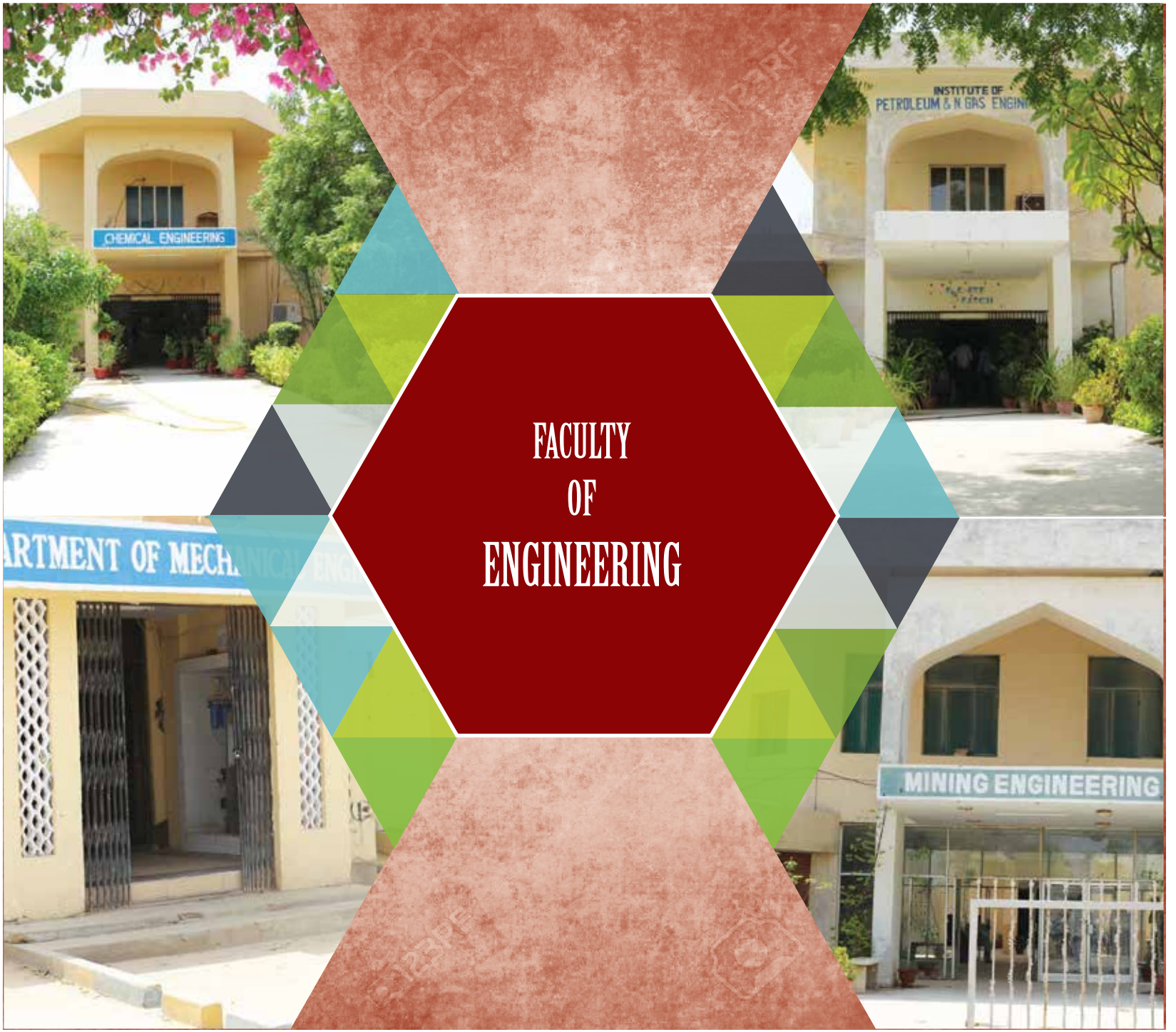
Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
TL474	Fiber Optic Communication Systems	03	01
TL445	Transmission and Switching Systems	03	01
TL431	Queueing Theory	02	01
TL424	Wireless Communications	03	01
TL499	Thesis/Project	00	03
	Total	**11**	**07**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
TL413	Satellite and Radar Communications	03	00
TL484	Emerging Wireless Technologies and RF Planning	02	00
TL455	Network Protocols and Architecture	02	01
TL461	Telecom Policies and Standards	02	00
STD951	Entrepreneurship	02	00
TL499	Thesis/Project	00	03
	Total	**11**	**04**

3.6.5 Career Opportunities

Telecommunication engineers 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. Some engineers concentrate on applying technical knowledge, whilst others focus on managerial activities. Many posts 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.

- **Telecom Industries in Pakistan**
  - o Pakistan Telecommunication Corporation Limited (PTCL)
  - o Pakistan Telecommunication Authority (PTA)
  - o Wateen Telecom
  - o Warid Telecom
  - o Jazz (VimpelCom and Dhabi Group)
  - o Telenor (Telenor Group)
  - o Zong (China Mobile)
  - o Ufone (PTCL+Ehtisalat)
  - o SCO (Special Communication Organization initially started from Azad Kashmir and Gilgit Baltistan, now available throughout Pakistan)
- **WLL Companies in Pakistan**
  - o PTCL
  - o Telecard Limited
  - o Wi-Tribe Pakistan Limited
  - o DV Com Data (Pvt.) Limited
  - o WorldCall Telecom Ltd.
  - o Wateen WiMax (Pvt.) Ltd.
  - o Cyber Internet Services Limited
  - o LINKDotNET Telecom Ltd.
  - o Super Dialogue (Pvt.)
  - o MyTel (Pvt.) Ltd.
  - o Metrotel (Pvt.) Ltd.
  - o Sharp Communications (Pvt.) Ltd.
- **Telecom, Vendors in Pakistan**
  - o Nokia Siemens Networks (NSN) – Huawei
  - o Ericson
  - o ZTE
  - o Nortel
  - o Myson Telecom
  - o Combit Telecom
  - o People's Logic Telecom
- **Satellite TV channels in Pakistan**
  - o Numerous groups of channels such as Sindh TV, Geo Group, Dawn Group etc.
- **Pakistan Forces**
  - o Pakistan Army (Communication Core)
  - o Pakistan Navy (Communication Sector)
  - o Pakistan Air Force (Communication Sector)
  - o Maritime Technologies Complex (MTC)
  - o Pakistan Space and Upper Atmosphere Research Commission (SUPARCO)
- **Aeronautical Companies**
  - o Civil Aviation Authority of Pakistan
  - o Civil Aviation Training Institute
  - o Pakistan International Airline (PIA)
  - o Airblue
  - o Air Indus
  - o Shaheen Air



FACULTY OF ENGINEERING

4.1 DEPARTMENT OF CHEMICAL ENGINEERING

4.1.1 The Department

The Chemical Engineering Department is working since 1970 as one of the pioneer departments of the university. Prof. Dr. Syed Wadal Shah was the founder of the department. Chemical Engineering is a multi-disciplinary field and deals with Processes, Biochemical, Food, Environment, Petroleum and Gas, Safety and Materials Processing. After becoming a part of Washington Accord, the courses have been designed at par with the world ranked universities. The aim is to train the students in all relevant fields including the basic subjects. Well-equipped and relevant laboratories have been established for practical training of the students. Along with these laboratory facilities, the department has an access to the laboratory and research facilities of the Universities abroad by virtue of the agreements and Memorandum of Understanding with universities of international reputation. As the department has adopted the Outcome Based Education (OBE) system of learning therefore every student has to acquire, knowledge based on his/her practical approach. Program Education Objectives were reviewed and approved through the Industrial Advisory Board, further the board also approved the syllabus as per need of the time and finalized by the competent authorizes. Industrial trainings, tours and internships in chemical and biochemical industries are organized for the students in order to expose them to real plants working conditions and practical approach. National and multinational organizations arrange their Campus Drives for the fresh graduates in the university premises.

Around 300 students are registered in the Chemical Engineering from BE to PhD. 11 PhD and 06 Masters are available to inculcate the knowledge to the students. Students enrolled in the postgraduate program are carrying out research in the areas of Processing and Bioprocess Engineering, Energy, Environment, Coal, Polymers and other relevant fields and strategic policy. The research work is carried out in collaboration with reputable national & international institutions such as; Western Sydney University Australia, Brunel University UK, DelPHE Research Project, Exeter University UK, Winston University UK, Arizona University USA, SUPARCO, PCSIR, Sui Southern Gas Company Ltd (SSGC) and in the last but not the least the Department has signed the University Alliance of the Silk Road Chemical Sub-alliance initiated by the School of Chemical Engineering and Technology of Xi'an Jiaotong University, Xi'an, China.

Funded Projects of Department of Chemical Engineering

- HEC-BC Knowledge Economy Partnership Pakistan-UK (KEP) Program funded by Higher Education Commission, Pakistan & British Council, 2015-2017 in Collaboration with University of Manchester, UK *"Effective Utilization and Up-Gradation of Nagar Parker Kaolin, a Natural Resource Mineral for Economic Development of Thar Desert"*
- HEC-BC Higher Education link with Brunel University, West London, UK funded by Higher Education Commission, Islamabad 2007-2009 *"Waste Treatment & Management"*
- Pakistan – US Science and Technology Program, 2010-2013 in Collaboration with University of Arizona, USA. *"Removal of Arsenic from Drinking Water using Iron Ores as Low Cost Reactive Adsorbent Media"*
- HEC-BC DelPHE project, 2008-2009 in Collaboration with Exeter University U.K. *"Grey water characterization and treatment"*
- National Research Program for Universities funded by HEC, 2019-21, *"Parametric Investigation of Arsenic Adsorption in Modified Polyacronitrile Packed Bed Column through Dynamic Simulations";*
- National Scientific Research and Development Board Islamabad 1991-1992, *"Environmental problems due to sugar mills of Sindh and its solution",*
- National Research Program for Universities funded by HEC, *"Enhanced production of Biofuel"*

Department has organized a couple of International event such as; First and Second Workshops on Food and Bioprocessing, International Workshop on Women Professionals, three International Conferences on Chemical Engineering and Advanced Materials and Processing. The department provides academic cooperation to other institutions in training their students and conduct Laboratory Practicals. Dawood College of Engineering and Technology Karachi, Quaid-e-Awam University of Engineering, Sciences and

Technology Nawabshah and Baluchistan University of Information and Technology, Quetta remained main beneficiary of this academic support. Laboratory facilities has been provided to Rafhan Maize Products Kotri; a unit of Ingredion Incorporated, USA and Shah Murad Sugar Mills Jhoke Sharif, Thatta, Gul Paper Industry, Kotri. Faculty members are serving in many professional bodies such as Pakistan Engineering Council, Pakistan Institute of Chemical Engineers, Institute of Engineers Pakistan, Society of Women Engineers, USA are the sole examples.

The department also organizes Professional training courses for students of the department and other Universities and institutes and young professional engineers from industry. The courses include Maintenance Management System (MMS), Aspen HYSYS, Computational Fluid Dynamics (CFD), ANSYS FLUENT, High Performance Liquid Chromatography HPLC, Food and Bio Processing, Health. Safety and Environment, Fuel cell, Process Safety, Human Resources Management, Publication Skills and Analytical Techniques. A new trend has been developed by the department that Professional Seminars for the Professional Engineers and managers at their industries and respective fields are organized by the Resource Persons of International repute. Recently two Seminars have been organized by the department at SSGC Hyderabad Region and Archroma Pakistan at Jamshoro. A close linkage have been developed with the industry and as result SSGC has financed our 04 energy related Research Projects at Masters and PhD level through formal agreement. Mehran University Chemical Engineers' Society (MUCES) has been established in 2010 by this department. Graduates from all over the world are members of this Society. MUCES serves as a bridge between academia and industry. Chapters of two international bodies i.e.; American Institute of Chemical Engineers (AIChE) and American Chemical Society are initiated in the department to work with the international community.

Program Eduation Objectives (PEOs)

The Chemical Engineer graduate will be able to

PEO1. Demonstrate proficiency of applying the acquired knowledge & skills to solve engineering problem related to the chemical industry.

PEO2. Consider economic and environmental impacts of chemical engineering projects and contribute to the society through their problem solving attitude

PEO3. Exhibit effective communication, teamwork, leader ship skills

PEO4. Pursue professional growth through moral and continuous learning attitude.

4.1.2 The Faculty

Chairperson of the Department

Prof. Dr. Khadija Qureshi
Phone: 022-2771262, 022-772255-3 Extt: 4400

Professors	
Dr. Syed Farman Ali Shah	Post. Ph.D.Unites State of America
Dr. Khadija Qureshi	Post. Ph.D.Unites State of America
Dr. Suhail Ahmed Soomro	Ph.D. Pakistan
Dr. Shaheen Aziz	Ph.D. Pakistan
Dr. Abdul Rehman Memon	Ph.D.United Kingdom
Dr. Zeenat Muhammad Ali	Ph.D. Pakistan
Dr. Aziza Aftab	Ph.D. Pakistan

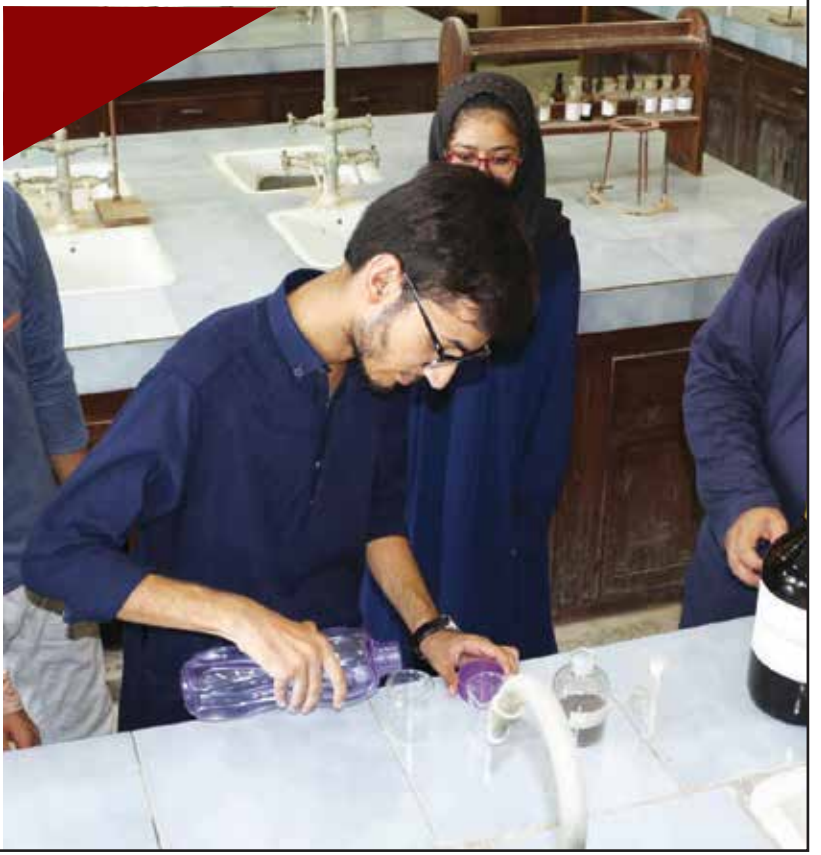
Associate Professor	
Dr. Muhammad Shuaib Shaikh	Ph.D. Malaysia

Assistant Professors	
Engr. Ashfaque Hussain Pirzada	M.E. Pakistan
Dr. Manzoor Ul Haq Rajput	Ph.D. Pakistan
Engr. Khan M. Qureshi	M.E. Pakistan, On Study Leave
Dr. Zulfiqar Ali Bhatti	Ph.D. Pakistan
Dr. Imran Nazir Unar	Ph.D. Pakistan
Engr. Aisha Kousar Effendi	M.E. Pakistan
Engr. Sikander Mustafah Almani	M.E. Pakistan, On Study Leave

Lecturers	
Engr. Masroor Ahmed Abro	M.E. Pakistan, On Study Leave
Engr. Zulfiqar Ali Solangi	M.E. Pakistan, On Study Leave
Engr. Mairaj Muhammad	M.E. Pakistan

4.1.3 Laboratory Facilities

1. Analytical Chemistry Laboratory
2. Biochemical Engineering Laboratory
3. Computer Laboratory
4. Water Quality Laboratory
5. Fuels & Combustion/Environmental Engineering Laboratory
6. Fluid Mechanics Laboratory
7. General Chemistry Laboratory
8. Heat Transfer Laboratory
9. Instrumentation and Control Laboratory
10. Polymer Engineering Laboratory
11. Quality Control Laboratory
12. Unit Operations Laboratory



4.1.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
CH102	Inorganic & Organic Chemistry	03	01
PS106	Pakistan Studies	02	00
SS111	Islamic Studies/ Ethics	02	00
MTH108	Applied Calculus	03	00
CH105	Basic Chemical Engineering	02	00
INM111	Engineering Drawing & Graphics	02	02
ME121	Workshop Practice	00	02
	Total	**14**	**05**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
MTH112	Linear Algebra & Analytical Geometry	03	00
ENG111	Functional English	03	00
CE115	Engineering Mechanics	03	00
EL102	Basic Electrical Technology	03	01
CH116	Chemical Process Technology	03	00
CH120	Chemical Process Calculations-I	02	00
	Total	**17**	**01**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
CH202	Physical & Analytical Chemistry	02	01
CH206	Engineering Economics	02	00
CH211	Engineering Materials	02	00
CH216	Chemical Process Calculations-II	03	00
CH221	Engineering Thermodynamics	03	01
MTH201	Differential Equations and Fourier Series	03	00
	Total	**15**	**02**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
CH226	Chemical Engineering Thermodynamics	03	00
CS227	Introduction to modern Computer Languages	03	01
MTH211	Complex Variable and Laplace Transforms	03	00
CH240	Chemical Engineering Fluid Mechanics-I	03	00
CH236	Particulate Technology	03	01
	Total	**15**	**02**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
CH302	Maintenance Engineering & Risk Management	02	00
	Food Technology	02	01
CH331	Heat Transfer Operations	03	01
CH316	Chemical Engineering Fluid Mechanics-II	03	01
CH321	Mass Transfer	03	01
MTH301	Numerical Analysis and computer Applications	03	01
	Total	**16**	**05**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
CH326	Chemical Engineering Plant Design	03	00
CH341	Simultaneous Heat & Mass Transfer	03	01
CH306	Fuel and Energy	03	01
CH350	Chemical Reaction Engineering	03	00
	Statistical Analysis	02	01
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
CH401	Biochemical Engineering	03	01
CH406	Transport Phenomena	03	00
CH411	Instrumentation & Process Control	03	01
CH416	Petroleum Refinery Engineering	03	00
CH421	Pollution Control Engineering	03	01
	Report writing and Presentation Skills	2	01
	Total	**17**	**04**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
CH426	Industrial Management	03	00
CH450	Chemical Process Design & Simulation	02	01
CH435	Petrochemicals	03	00
CH440	Nuclear Engineering	03	00
CH499	Thesis/ Project	06	00
CH335	Quality Control Laboratory	00	02
	Total	**17**	**03**

4.1.5 Career Opportunities

A chemical engineer may be involved in industry or university research where they are tasked in designing and performing experiments to create new and better ways of production, controlling pollution, conserving resources and making these processes safer. They may be involved in designing and constructing plants as a project engineer. In this field, the chemical engineer uses their knowledge in selecting plant equipment and the optimum method of production to minimize costs and increase profitability. After its construction, they may help in upgrading its equipment. They may also be involved in its daily operations. Chemical engineers may be permanently employed at chemical plants to manage operations. Alternatively, they may serve in a consultant role to troubleshoot problems, manage process changes and otherwise assist plant operators.

Many graduates of the chemical engineering department are now serving in important public as well as private sector organizations within Pakistan for example Engro Chemicals, Engro Polymers, FFBL, NRL, PRL, BYCO Refinery, PCSIR, OGDCL, SSGC, SNGPL, BHP Oil and gas, OMV Oil and gas PPL, Novatexetc and even outside the country.

4.2 DEPARTMENT OF INDUSTRIAL ENGINEERING

4.2.1 The Department

This department was established in the year 1975 under the umbrella of Department of Mechanical Engineering and Full-fledged Department was shifted to new building in 1987. 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.

Industrial Engineering is a rapidly developing and broad professional discipline. It deals with 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 especially deals with managerial problems requiring knowledge of fundamental science and engineering practice for their solutions.

While manufacturing industry has a wide scope and demand for Industrial Engineering, increasing numbers are finding satisfying employment in other kinds of business, hospitals, Hotels, Banks, Air Lines are availing the services of Industrial Engineers.

Vision of the Department

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

Mission of the Department

The program mission is to produce Industrial Engineers who design, install, and improve the complex engineering operations in services, industry, technology, business and government and to foresee future development.

Program Education Objectives (PEOs)

The Graduates of B.E Industrial Engineering and Management will have:

PEO-1 strong foundation in Engineering and Management fundamentals which lead them for a successful career as an Industrial Engineer in manufacturing and service industry.

PEO-2 ability to function at technically competent level within realistic constraints in economic, environmental and social context.

PEO-3 ability to effectively lead, work and communicate in cross functional teams or to be able to develop entrepreneurial skill to operate their own business.

4.2.2 The Faculty

Chairman of the Department:

Prof. Dr. Abdul Salam Soomro
Ph. No. +92 22 2771247

Professors	
Dr. Abdul Salam Soomro	Ph.D. Malaysia
Dr. Ghulam Yasin Shaikh	Ph.D. Pakistan
Dr. Muhammad Saleh Jumani	Ph.D.United Kingdom

Associate Professors	
Dr. Shakeel Ahmed Shaikh	Ph.D. United Kingdom

Assistant Professors	
Mr. Abdul Qayoom Lakhair	Pg.D, Pakistan
Mr. Hafiz Karim Bux Indhar	M.E. Pakistan
Dr. Sonia Irshad Mari	Ph.D. South Korea
Dr. Muhammad Saad Memon	Ph.D. South Korea
Mr. Ali Arsalan Siddiqui	M.E. Pakistan

Lecturers	
Mr. Muhammad Ali Khan	M.E. Pakistan
Mr. Miskeen Ali Gopang	M.E. 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 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
MTH102	Applied Calculus	03	00
SS111	Islamic Studies/Ethics	02	00
PS106	Pakistan Studies	02	00
INM101	Industrial Economics and Management	03	00
INM111	Engineering Drawing & Computer Graphics	03	01
EL102	Electrical Technology	03	01
	Total	**16**	**02**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
MTH103	Linear Algebra Differential Equations		
	& Analytical Geometry	03	00
INM121	Basic Business Management	02	00
ENG111	Functional English	03	00
CE	Mechanics of Materials	03	01
INM131	Manufacturing Processes	02	02
	Total	**13**	**03**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
MT220	Materials & Processes	03	01
INM201	Management Information Systems	02	00
INM211	Mechanics of Machines	02	01
INM221	Basic Thermodynamics	02	01
CS218	Introduction to Com & C++ Programming	03	01
	Total	**12**	**04**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
INM231	Production Planning and Control	03	00
INM241	Industrial Probability and Estimations	03	01
INM251	Managerial Accounting	03	00
INM261	Basic Machine Design	03	01
CE261	Fluid Mechanics	03	01
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
INM301	Entrepreneurship	03	00
MTH336	Numerical Analysis & Com. Application (N.A.C.A)	03	01
INM311	Basic Operations Research	03	01
INM321	Manufacturing Strategy	03	00
ES361	Instrumentation & Control	03	01
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
INM331	Organizational Behavior	03	00
INM341	Work Study & Methods Engineering	03	01
INM351	Production Systems Design	03	00
INM361	Project Management	03	01
INM371	Environmental Management	02	00
	Total	**14**	**02**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
INM401	Human Resources Management	03	00
INM411	Human Factors Engineering	02	01
INM421	Advanced Operations Research	02	01
INM431	Industrial Maintenance and Safety	03	00
INM441	Supply Chain and Logistical Management	03	00
INM499	Dissertation/Project	00	03
	Total	**13**	**05**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
INM451	Quality and Reliability Control	03	00
INM461	Marketing Principles and Practices	03	00
INM471	Principles of Decision Making	03	00
INM481	Computer Integrated Manufacturing	03	01
INM499	Dissertation/Project	00	03
	Total	**12**	**04**

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 work place 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 prominent departments of the university with student's strength of about 600. With devoted faculty and staff, the department strives to produce the engineers, which are capable to contribute in exploration of affordable and sustainable development of the country.

Vision: To impart high quality engineering education for producing skilled, innovative and entrepreneurial engineers who meet the ever changing engineering demands.

Mission: To produce engineers with sound knowledge in traditional and emerging areas of engineering and develop skills of the students to make them competent engineers by providing quality education.

Program Education objectives (PEOs):

PEO 01 To produce graduates with core knowledge of various domains of mechanical Engineering.

PEO 02 To produce engineers with analytical and problem solving abilities

PEO 03 To produce responsible and ethical professionals with integrity and demonstrable communication and leadership skills.

Mechanical Engineering Department offers two undergraduate programs of four-year duration, leading to the degree of Bachelor of Engineering.

1- Mechanical Engineering **2- Mechatronics Engineering**

The goal of the undergraduate programs is to produce the graduates that are globally competitive for the requirements of industries. The student, graduated from this department, becomes capable of taking leading positions in industry, academia and government in both Pakistan and abroad.

The department also offers the Ph.D and post graduate programs in Energy System Engineering, Manufacturing Engineering and Mechatronics Engineering.

4.3.1.1 Mechanical Engineering Undergraduate Program

Mechanical engineering department strives 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.

Program Education objectives (PEOs): Mechatronic Engineering

PEO 01 To produce Mechatronic Engineers with core knowledge of related multiple disciplines.

PEO 02 To inculcate analytical and problem solving abilities in graduating students.

PEO 03 To produce responsible and ethical professionals with integrity and demonstrable communication and leadership skills

4.3.1.2 The Faculty

Chairman of the Department:

Prof. Dr. Dur Muhammad Pathan
Phone: +92-022- 2771275,+92-22772250-70 (Ext: 2300)

Professors	
Dr. Dur Muhammad Pathan	Ph.D. Pakistan
Dr. Mujeeb-Uddin Memon Sahrai	Ph.D. United Kingdom, On Lien
Dr. Khanji Harijan	Ph.D. Pakistan
Dr. Rizwan Ahmed Memon	Ph.D.Hong Kong
Dr. Abdul Fatah Abbasi	Ph.D. Pakistan
Dr. Tanweer Hussain Phulpoto	Ph.D. United Kingdom

Assistant Professors	
Mr. Shoukat Ali Memon	B.E. Pakistan
Mr. Ghulam Yasin Mughal	M.E. Pakistan
Mr. Abdul Samad Memon	M.E. Pakistan
Mr. Muhammad Jurial Sangi	B.E. Pakistan
Mr. Muhammad Sharif Jamali	M.E. Pakistan
Mr. M. Atif Qaim Khani	M.E. Pakistan
Dr. Abdul Ghafoor Memon	Ph.D. Pakistan
Mr. Imtiaz Ali Memon	M.E. Pakistan

Lecturers	
Mr. Javed Rehman Larik	PGD. Pakistan
Mr. Zain-ul-Abdin Qureshi	PGD. Pakistan
Mr. Laveet Kumar	M.E. Pakistan, On Study Leave
Mr. Roshan Kumar	B.E. Pakistan
Mr. Samiullah Qureshi	M.E. Pakistan
Mr. Hafeez Khoharo	B.E. Pakistan
Mr. Farhan Haider Joyo	B.E. Pakistan
Mr. Raheel Ahmed Nizamani	M.E. Pakistan

4.3.1.3 Laboratory Facilities

Department of Mechanical Engineering is one of the oldest and prestigious department of the University supported and equipped with highly qualified faculty and modern laboratories.

1. Aerodynamics Laboratory
2. Automobile Laboratory
3. Computer Laboratory
4. Drawing Hall
5. Energy Technology Laboratory
6. Engineering Mechanics Laboratory
7. Fluid Mechanics Laboratory
8. Heat Transfer Laboratory
9. Material Testing Laboratory
10. Mechanical Vibrations Laboratory
11. Mechanics of Machines Laboratory
12. Mechatronics Laboratory
13. Refrigeration and Air Conditioning Lab
14. Thermodynamics Laboratory
15. Instrumentation and Control Laboratory

4.3.1.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
(SS 111)	Islamic Studies/Ethics	2	0
(PS 106)	Pakistan Studies	2	0
(MTH 102)	Applied Calculus	3	0
(ME 102)	Engineering Drawing &Computer Graphics	2	2
(ME 112)	Engineering Statics	2	1
(ME 122)	Engineering Materials	3	0
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
(EN 101)	Functional English	2	0
(MTH 113)	Linear Algebra, Differential Equations & Analytical Geometry	3	0
(ME 132)	Engineering Dynamics	2	0
(EL 102)	Electrical Technology	2	1
(ME 142)	Workshop Practice	0	2
(ES 281)	Basic Electronics	2	1
(ME 151)	Applied Physics	2	0
	Total	**13**	**04**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
(MTH 213)	Complex Variables & Transforms	3	0
(ME 202)	Strength of Materials-I	2	0
(CH 202)	Applied Chemistry	2	0
(ME 222)	Thermodynamics-I	3	0
(ME 252)	Fluid Mechanics-I	3	1
(CS 255)	Computer programming	2	1
	Total	**15**	**02**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
(MTH 336)	Numerical Analysis & Computer Applications	3	1
(ME 232)	Strength of Materials-II	3	1
(ME 242)	Thermodynamics-II	3	1
(ME 226)	Fluid Mechanics-II	3	1
(ME 212)	Mechanics of Machines-I	2	0
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
(ME 302)	Heat & Mass Transfer	3	1
(ME 312)	Applied Aerodynamics	3	1
(EE 425)	Safety, Health & Environment	2	0
(ME 332)	Machine Design -I	3	0
(EN 306)	Communication Skills and Technical Writing	3	0
(ME 366)	Mechanics of Machine-II	2	1
	Total	**16**	**03**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
(ME 342)	Instrumentation & Measurement	2	1
(MTH 317)	Statistics & Probability	3	0
(ME 352)	Machine Design-II	3	0
(ME 372)	Refrigeration & Air Conditioning	3	1
(ME 382)	Mechanical Vibrations	3	1
(ME 356)	Computer Aided Machine Design (CAMD)	0	1
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
(ME 402)	Entrepreneurship & Engineering Management	3	0
(ME 491)	Control Engineering	2	1
(ME 462)	Manufacturing Processes	3	1
(ME 442)	Thermal Power Plants	3	0
(ME 499)	Project/Thesis –I	0	3
	Total	**11**	**05**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
(ME 452)	Renewable and Emerging Energy Technologies	3	1
(ME 472)	Maintenance Engineering	2	0
(ME 412)	Automobile Engineering	3	1
(ME 482)	Project Management & Optimization	3	0
(ME 499)	Project/Thesis-II	0	3
	Total	**11**	**05**

4.3.1.5 Career Opportunities

Mechanical Engineering has diverse applications in all fields of engineering and technology. The graduates of Mechanical Engineering have opportunities to work in many public as well as private sector industries. With the rapid growth in industrial sector, the employment potential for mechanical engineers has increased manifold. Graduating students with rich technical skills could find job opportunities in technical and managerial positions in public as well as private sector.

The Mechanical Engineers have opportunities to be employed in the following sectors

- Automation and Control
- Technical Wings of Armed Forces
- Automobile
- Renewable energy
- Power Plants
- Oil refineries
- Research and Development, etc.
- Manufacturing process plants
- Marine engineering
- Biomedical
- Food processing
- Petrochemical
- Railways.

4.3.2.1 Mechatronic Engineering Undergraduate Program

The Mechatronics Engineering undergraduate program is administered by the Department of Mechanical Engineering. A Mechatronic Engineer pursues an inter-disciplinary approach, which enables him/her to design and develop devices and systems that encompass multiple conventional engineering disciplines. A Mechatronic system is composed of integration of mechanical and electronic components, sensors, actuators and controllers.

The courses in Mechatronics undergraduate program are offered by Mechanical Engineering department in collaboration with Electrical Engineering, Electronics Engineering, Telecommunication engineering and Computer System Engineering departments. This makes it an ideal choice for students, who would prefer a broad interdisciplinary engineering education to counter the challenges of demanding technological horizons.

4.3.2.2 The Faculty

Chairman of the Department:

Prof. Dr. Dur Muhammad Pathan
Phone:,+92-22772250-70 (Ext: 2300)

a- Dedicated Faculty:

Professor	
Dr. Jawaid Daudpoto	Ph.D. United Kingdom

Assistant Professors	
Dr. Saifullah Samo	Ph.D. China
Dr. Sufyan Ali Memon	Ph.D. South Korea

b- Shared Faculty:

Associate Professor	
Dr. Farzana Rauf Abro	Ph.D. Pakistan

Assistant Professors	
Mr. Arbab Ali Samejo	M.E. Pakistan
Mr. Muhammad Rashid Memon	M.E. Pakistan
Dr. Khalil Ur Rehman Dayo	Ph.D. Pakistan
Mr. Mehboob Khuwaja	M.E. Pakistan

Lecturers	
Dr. Mahesh Kumar Rathi	Ph.D. Malaysia
Mr. Faheem Shafique Channar	B.E. Pakistan

4.3.2.3 Laboratory Facilities

Following lab facilities are available to students of Mechatronics Engineering.

1. Mechatronics Laboratory
2. Computer Laboratory
3. Electrical Measurements and Circuit Laboratory
4. Electrical Workshop
5. Instrumentation and Control Laboratory
6. Digital Electronics and Microprocessor Laboratory
7. Power Electronics Laboratory
8. Drawing Hall
09. Engineering Mechanics Laboratory
10. Fluid Mechanics Laboratory
11. Heat Transfer Laboratory
12. Automobile Laboratory
13. Mechanical Vibrations Laboratory
14. Mechanics of Machines Laboratory
15. Refrigeration and Air Conditioning Laboratory
16. Thermodynamics Laboratory

4.3.2.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
MTH108	Applied Calculus	3	0
EN101	Functional English	3	0
EL117	Applied Physics	2	1
CS191	Computer Programming	2	1
ME106	Engineering Statics	3	1
ME116	Engineering Materials	2	0
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
ME126	Engineering Drawing and Computer Graphics	2	2
IS111 / SS104	Islamic Studies / Ethics	2	0
PS106	Pakistan Studies	2	0
MTH112	Linear Algebra and Analytical Geometry	3	0
EL125	Linear Circuit Analysis	2	1
ME136	Fluid Mechanics	2	1
ME146	Workshop Practice	0	1
	Total	**13**	**05**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
ME206	Mechanics of Materials	2	1
MTE201	Actuating Systems	3	1
ME216	Engineering Dynamics	3	0
CS291	Data Structures and Object Oriented Programming	2	1
ES216	Digital Logic Design	2	1
MTH227	Ordinary and Partial Differential Equations	3	0
	Total	**15**	**04**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
MTH217	Laplace Transforms and Discrete Mathematics	3	0
ME226	Fundamentals of Thermal Sciences	3	1
ES246	Electronic Devices and Circuits	3	1
ME236	Mechanics of Machines	3	1
MTE211	Instrumentation and Measurements	3	1
	Total	**15**	**04**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
MTH336	Numerical Analysis and Computer Applications	3	1
ES316	Microcontroller and Embedded Systems	3	1
TL301	Signals and Systems	2	1
ME306	Mechanical Vibrations	3	1
	Total	**11**	**04**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
MTH311	Statistics and Probability	3	0
MTE301	Control Systems	3	1
ME316	Machine Design and CAD / CAM	3	1
EN113	Communication Skills	2	0
EL329	Power Electronics	3	1
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
ME406	Engineering Economics and Project Management	3	1
MTE401	Robotics	3	0
MTE411	Mechatronics System Design	2	1
CS492	Digital Signal & Image Processing	3	1
ME416	Manufacturing Processes	3	1
MTE499	Project / Thesis –I	0	3
	Total	**14**	**07**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
CS491	Machine Intelligence	3	1
MTE421	Industrial Automation	2	1
EE425	Safety, Health and Environment	3	0
STD951	Entrepreneurship	2	0
MTE499	Project / Thesis -II	0	3
	Total	**10**	**05**

4.3.2.5 Career Opportunities

Mechatronic Engineers have opportunities to work in emerging fields in public and private sectors. Modern industry has transformed from electromechanical type to fully automated type; thus, Mechatronic engineering skills are in demand by both national and international companies. They require personnel with multi-disciplinary expertise having knowledge of all the related systems to run industries and improve automated systems.

Mechatronic Engineers are in demand in the following sectors:

- Automation and Control
- Automobile
- Power Plants
- Manufacturing process plants
- Biomedical
- Petrochemical
- Robotics
- Renewable energy
- Oil refineries
- Marine engineering
- Food processing
- Research and Development, etc

4.4 DEPARTMENT OF METALLURGY & MATERIALS ENGINEERING

4.4.1 The Department

The Department of Metallurgy & Materials Engineering is one of the leading department in the engineering disciplines at Mehran University of Engineering & Technology. 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.

The mission of Metallurgy and Materials Engineering program is to produce material engineers and scientists with adequate understanding of structure-property-processing-performance relationships for engineering materials. Metallurgy and Materials Engineering is the only discipline in Mehran University of Engineering & Technology which is equipped with advanced research equipment and highly qualified academics staff of around 15, including research fellows. Henceforth, research activity traverse 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 students 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 stu-dents in the field of metallurgy and materials engineering. MME department has adopted the out-come based education (OBE) system on 2017 batch and onwards.

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 Department

The department will be a nationally recognized leader in the education of stu¬dents in the field of metallurgy and materials engineering.

Mission of Program

To instruct next generation of engineering leaders and future scientist, to create knowledge and to serve society. Our mission is to develop and disseminate understanding of structure-property-processing-perfor¬mance relationships for engineering materials and provide fundamental knowledge of metallurgical processes through instruction and research.

Program Educational Objectives (PEOs):

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

PEO-1 Graduates will excel in the field of metallurgy and materials engineering with excellent knowledge and problem solving skills. Graduates will pursue for post-graduation and professional career in the field of metallurgy and materials related industries.

PEO-2 Graduates will contribute to resolve engineering problems with professional attributes and excellent communication skills.

PEO-3 Graduates participate effectively in research and development for designing of advanced materials and processes for particular applications.

4.4.2 The Faculty

Chairman of the Department

Prof. Dr. Muhammad Ishaque Abro
Phone: 0333-2705953 Ext: 4500 - 4501

Professors	
Dr. Muhammad Moazam Baloch	Ph.D. United Kingdom
Dr. Muhammad Ishaque Abro	Ph.D.Pakistan

Assistant Professors	
Mr. Sikandar Ali Memon	M.E. Pakistan
Mr. Riaz Ahmed Memon	M.E. Pakistan
Mr. Nisar Ahmed Memon	M.E. Pakistan
Mr. Ashfaque Ahmed Issani	M.E. Pakistan
Dr. Muhammad Wasim Akhtar	Ph.D. Korea
Mr. Umair Aftab	M.E. Pakistan, on study leave
Mr. Shafique Ahmed	M.E. Pakistan, on study leave

Lecturers	
Mr. Muddassir Ali Memon	M.E. Pakistan
Mr. Imtiaz Ali Soomro	M.E. Pakistan, on study leave
Mr. Ayatullah Qureshi	M.E. Pakistan
Mr. Mukesh Kumar	M.Phil. Pakistan

4.4.3 Laboratory Facilities

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

- Material Testing Lab-1
- Material Testing Lab-2
- Sand Testing Lab
- Heat Treatment Lab
- Fabrication Lab
- Advanced Characterization Lab
- Materials Synthesis Lab
- Metallography Lab
- Electrochemical and Corrosion Lab
- Computer and Simulation Lab

4.4.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
MT131	Introduction to Engineering Materials	3	0
MT132	Applied Chemistry	3	0
MT133	Applied Physics	3	0
MTH108	Applied Calculus	3	0
IS111	Islamic studies	2	0
SS104	Ethics (For Non-Muslims)		
PS106	Pakistan studies	2	0
MT134	Basic Science Lab	0	1
	Total	**16**	**01**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
MT135	Mineral Processing	2	0
MT136	Engineering Drawing and CAD	2	1
MTH125	Linear Algebra and Differential Equation	3	0
ENG101	Functional English	3	0
CS115	Introduction to Computing	2	1
ME176	Workshop Practice	0	2
MT137	Mineral Processing Lab	0	1
	Total	**12**	**05**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
MT231	Materials Thermodynamics	3	0
MT232	Physical Metallurgy-I	3	0
EE215	Industrial Safety & Environmental Management	3	0
ENG201	Communication Skills	3	0
ES292	Instrumentation & Control	2	1
MT233	Metallurgy and Materials Lab-1	0	1
	Total	**14**	**02**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
MT234	Iron and Steel Making Technology	3	0
MT235	Non Ferrous Metallurgy	3	0
MT236	Mechanical Behavior of Materials	3	0
MT237	Engineering Ceramics & Glasses	3	0
MTH215	Numerical Methods & Computation	3	1
MT238	Metallurgy and Materials Lab-2	0	1
	Total	**15**	**02**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
MT331	Inspection and Testing of Materials	3	0
MT332	Polymeric Materials	3	0
MT333	Physical Metallurgy-II	3	0
MT334	Advanced Steels	2	0
ENG301	Technical and Scientific Writing	2	0
MTH317	Statistics & Probability	3	0
MT335	Inspection and Quality Control Lab	0	1
	Total	**16**	**01**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
MT336	Foundry Engineering	3	0
MT337	Powder Metallurgy	2	0
MT338	Manufacturing Processes	3	0
MT339	Welding & Joining Process	3	0
MT340	Corrosion & Protection	3	0
MT341	Composite Materials	2	0
MT342	Metal Shaping and Joining Lab	0	1
MT343	Electrochemistry and Corrosion Lab	0	1
	Total	**16**	**2**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
MT431	Heat Treatment Processes	3	0
MT432	Advanced Materials & Nanotechnology	3	0
MT433	Nuclear Metallurgy & Materials	2	0
MT434	Research Methodology	2	0
MT435	Metallurgical Plants and Quality Control	2	0
MT442	Heat Treatment Lab	0	1
MT436	Nanomaterials Synthesis Lab	0	1
MT499	Project	0	3
	Total	**12**	**05**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
MT437	Fracture Mechanics and Failure Analysis	3	0
MT438	Design and Selection of Materials	2	0
MT439	Computational Materials Science	2	1
MT440	Tribology and Surface Engineering	2	0
INM491	Entrepreneurship and Marketing	3	0
MT441	Failure Analysis Lab	0	1
MT499	Project	0	3
	Total	**12**	**05**

4.4.5 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 Pakistan Steel Mill, Bolan Casting limited, Agha Steel Mill, Pakistan Machine tool factory, Heavy Mechanical Complex, Pakistan Ordinance Factory. 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.

4.5 DEPARTMENT OF MINING ENGINEERING

4.5.1 The Department

"If it is not Grown, it has to Mine", Mining may well have been the second of humankind's earliest endeavors-granted that agriculture was the first. The two industries ranked together as the primary or basic industries of early civilization.

Mineral sector always plays a vital role for industrial development and economic growth of nations. The demand for minerals of all kinds is higher today than ever before, and it continues to increase as the nations of the world strive to improve their standards of living. Mining Engineering is a highly technical field. Today the challenges of mining are greater than before. Now high-tech techniques are being designed to make tomorrow's mines more productive, safer, and economically successful. Mining engineers are seeking ways to extract essential raw materials without causing undue disturbance to the environment.

Mining provides the mineral resources for society, including coal, metallic & non-metallic minerals, ores, gemstones as well as basic products such as; gravel, limestone, sandstone etc., that are essential for the construction of highways, bridges, power plants, and building foundations. Wherever productive minerals deposits are found in our country, the technical skills of Mining and mineral processing engineers are required. The Department of Mining Engineering offers degrees in B.E. in Mining Engineering, M.E. in Mining Engineering and Ph.D. in Mining Engineering Department of Mining Engineering is actively engaged in various projects of national and strategic importance in the fields of coal mining, coal gasification and mineral processing, and have developed strong academic and research collaboration with university of Nottingham UK, Montan University, Leoben Austria, Hacettepe University, Turkey and China University of Mining and Technology, 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:

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

Program Learning Outcomes (PLOs)

BE Mining Engineering Program at MUET aims to instill in our graduates the following attributes

1. Engineering Knowledge: Ability to apply the knowledge of mathematics, science, engineering fundamentals and engineering specialization to the solution of complex engineering problems.
2. Problem Analysis: An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated

conclusions using first principles of mathematics, natural sciences and engineering sciences.

3. Design/Development of Solutions: An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
5. Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
6. The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.
7. Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
9. Individual and Teamwork: An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.
10. Communication: An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project Management: An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.
12. Lifelong Learning: ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

4.5.2 The Faculty

Chairman of the Department:

Dr. Fahad Irfan Siddiqui
Phone: 022-2771391, 022-2772260-73 Ext. 4600

Professor	
Dr. Abdul Ghani Pathan	Ph.D. United Kingdom, On Contract

Associate Professor	
Mr. Parvez Ahmed Shakeel	MSc. Pakistan, Honorary

Assistant Professors	
Mr. Ahsan Ali Memon	B.E. Pakistan
Mr. Muhammad Hashim Rind	B.E. Pakistan
Mr. Muhammad Yaqoob Behan	M.E. Pakistan
Mr. Saeed Ahmed Memon	B.E. Pakistan
Mr. Sikandar Ali Channa	M.E. Pakistan
Dr. Fahad Irfan Siddiqui	Ph.D. Pakistan
Mr. Safiullah Memon	M.E. Pakistan

Lecturers	
Mr. Munawar Ali Pinjaro	M.E. Pakistan, On Study Leave
Mr. Agha Shafi Muhammad Pathan	M.E. Pakistan
Mr. Muhammad Raheel Memon	M.E. Pakistan, On Study Leave
Mr. Mairaj Hyder Soomro	M.E. Pakistan, On Study Leave
Mr. Sultan Ahmed Khoso	M.E. Pakistan, On Study Leave

4.5.3 Laboratory Facilities

The department has 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
2. Mineral Processing Laboratory
3. Software Laboratory
4. Surveying and Mine Planning Laboratory
5. Mine Ventilation Laboratory
6. Advanced Research Laboratory

4.5.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
MTH102	Applied Calculus	3	0
PS106	Pakistan Studies	2	0
IS111	Islamic Studies	2	0
INM111	Engineering Drawing	0	2
ME181	Workshop Practice	0	2
MN101	Mining Engineering Fundamentals	3	0
	Total	**10**	**4**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
EN101	Functional English	3	0
MTH111	Linear Algebra and Analytical Geometry	3	0
MN111	Applied Chemistry	3	1
EL102	Electrical Technology	3	1
CE115	Engineering Mechanics	3	1
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
MTH201	Differential Equation & Fourier Series	3	0
ENG201	Communication Skills	2	0
MN201	General Geology	3	1
ME291	Applied Thermodynamics	3	1
CE265	Strength of Material	3	1
	Total	**14**	**3**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
MN241	Mine Surveying	3	1
CE285	Fluid Mechanics	3	1
MN221	Mineralogy and Petrology	2	1
MN231	Mineral Processing – I	2	1
MN251	Coal Technology	2	1
	Total	**12**	**5**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
MTH301	Numerical Analysis and Computer Programming	3	1
MN311	Mineral Processing - II	2	1
MN301	Structural Geology	3	0
MN321	Rock Mechanics	3	1
MN331	Mining Laws	2	0
MN361	Mine Management	2	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
MTH317	Statistics and Probability	3	0
MN381	Drilling and Blasting Engineering	3	1
EN301	Technical and Scientific Writing	3	0
MN351	Mine Ventilation	3	1
MN391	Mineral and Ore Deposits	3	0
	Total	**15**	**2**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
MN401	Strata Control	3	0
MN442	Mineral Resource Estimations	2	1
MN411	Mine Water and Dewatering Design	3	1
MN421	Planning and Design of Underground Mines	3	0
MN443	Mine Economics	2	0
MN491	Project/Thesis-I	0	3
	Total	**13**	**5**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
MN451	Computer Application to Mining Industry	0	2
MN471	Mine Rescue and Safety	3	1
MN461	Surface Mine Design and Practice	3	0
MN481	Cement Technology	2	0
MN491	Project / Thesis-II	0	3
	Total	**8**	**6**

4.5.5 Career Opportunities

A degree in Mining Engineering offers attractive careers both in private and public sectors. The graduates of the Mining engineering department are employed in the public sector including Directorate of Mineral Development, Government of Sindh, Sindh Coal Authority (SCA), Sindh Engro Coal Mining Company (SECMC), Lakhra Coal Development company (LCDC); Pakistan Atomic Energy Commission (PAEC); Pakistan Mineral Development Corporation (PMDC); and various other mineral related projects like; coal mines, cement Industries, mineral processing units, tunneling and underground excavations.

4.6 INSTITUTE OF PETROLEUM AND NATURAL GAS ENGINEERING

4.6.1 About 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 center 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 Post graduate 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 Engineering Education at International Standard, technical achievements through research and producing competent engineers to serve petroleum industry at home and abroad.

Mission:

The mission of IPNGE is to provide student focused excellent teaching and educational environment that nurtures the intellectual and professional growth of students, who will become leading human resource 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. To produce dynamic petroleum graduates capable of practicing advanced knowledge to promote oil and gas industry.
2. To provide the leadership and communication skills to promote teamwork for strengthening the petroleum industry.
3. To provide quality research for innovative strategies to enhance environmentally sustainable oil and gas production to meet the global fuel demand.

4.6.2 The Faculty

Director of the Department:

Prof. Dr. Abdul Haque Tunio
Ph:022-2771241, 2772250-73 (Ext. 4300)

Professors	
Dr. Abdul Haque Tunio	Ph.D. Pakistan
Dr. Sarfaraz Ahmed Jokhio	Ph.D. U.S.A

Assistant Professors	
Mr. Shahzad Ali Baladi	M.E. Pakistan
Mr. Allah Dino Samoon	Pgd. Pakistan
Dr. Muhammad Khan Memon	Ph.D. Malaysia
Mr. Aftab Ahmed Mahesar	M.E. Pakistan, On Study Leave
Mr. Khalil Rehman Memon	M.E. Malaysia, On Study Leave
Mr. Naveed Ahmed Ghirano	M.E. Pakistan
Mr. Habib U Zaman Memon	M.E. Pakistan

Lecturers	
Engr. Abdul Qadir Shaikh	Pgd. Pakistan
Mr. Mukhtiar Ali Talpur	M.E. Pakistan
Mr. Ubedullah Ansari	M.E. Pakistan, On Study Leave
Mr. Irshad Ali Gopang	M.E. Pakistan
Mr. Faisal Najam Abro	BE. Pakistan
Mr. Muhammad Zubair	M.E. Pakistan
Mr. Muhammad Ali Memon	Pgd. Pakistan
Mr. Sohail Nawab	M.E. Pakistan
Mr. Ghulam Mustafa Kamboh	M.E. Pakistan
Mr. Imran Ahmed Hullio	B.E. Pakistan

4.6.3 Laboratory Facilities

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

a) Petroleum Refinery Engineering
b) Gas Engineering
c) Drilling & Reservoir Simulation
d) Production Engineering
e) Drilling Fluids
f) Computer
g) General / Oil Testing
h) PVT laboratory

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.

4.6.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
PG-101	Fundamentals of Petroleum Engineering	3	0
HU-101	Functional English	3	0
PS-106	Pakistan Studies	2	0
IS-111/SS-104	Islamic Studies / Ethics	2	0
MTH-108	Applied Calculus	3	0
EL-112	Applied physics	3	1
	Total	**16**	**1**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
WS-105	Workshop Practice	0	2
ME-110	Engineering Drawing & Graphics	2	1
ENG-111	Communication Skills	2	0
PG-111	Applied Chemistry	2	1
MTH-112	Linear Algebra &Analytical Geometry	3	0
PG-121	Applied Geology	2	1
PG-131	Applied Thermodynamics	2	0
	Total	**13**	**5**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
ENG-215	Technical Report Writing & Presentation Skills	2	0
EL-215	Introduction to Electrical Engineering	2	1
PG-221	Petroleum Geology & Geo-Physical Prospecting	3	0
MTH-223	Differential Equation & Complex Variable	3	0
CS-231	Computer Programming & Software Applications	2	1
CE-261	Fluid Mechanics	2	1
	Total	**14**	**3**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
PG-201	Petrophysics	3	1
PG-211	Drilling Engineering-I	3	1
PG-222	Organizational Behavior	3	0
PG-231	Properties of Reservoir Fluids	3	1
CE-281	Mechanics of Materials	3	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
PG-321	Reservoir Geo Mechanics	2	0
PG-341	Drilling Engineering-II	3	1
PG-361	Reservoir Engineering	3	1
PG-371	Petroleum Refinery Engineering	3	1
PG-381	Environment & Safety Management	3	0
	Total	**14**	**3**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
PG-301	Instrumentation & Process Control	2	1
PG-311	Natural Gas Engineering	2	1
MTH-321	Applied Numerical Methods	2	1
PG-331	Gas Reservoir Engineering	3	1
PG-351	Well Logging	2	1
	Total	**11**	**5**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
PG-401	Well Testing	3	1
PG-411	Petroleum Production Engineering-I	3	1
PG-421	Reservoir Simulation	3	1
PG-441	Project Planning & Management	2	0
PG-491	Final Year Project	3	0
	Total	**14**	**3**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
PG-451	Principles of Enhanced Oil Recovery	3	1
PG-461	Petroleum Production Engineering-II	3	1
PG-471	Unconventional Reservoirs	3	0
PG-481	Petroleum Economics	2	0
PG-491	Final Year Project	3	0
	Total	**14**	**2**

4.6.5 Career 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 populated 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.

4.7 DEPARTMENT OF TEXTILE ENGINEERING

4.7.1 The Department

The Department of Textile Engineering was established in 1993 for undergraduate program (i.e. Bachelor of Engineering (B.E) in Textile Engineering) with the aim of imparting the knowledge and skills in the field of textile materials, manufacturing and processing to the students as per international standards. Consequently, after graduation, students could contribute towards the development and modernization of Pakistan s Textile Industry and Services. This department is the first Textile Engineering Institute in Sindh province and Pakistan s first recognized institute by Pakistan Engineering Council. The department also offers masters and PhD programs in the field of Textile Engineering since 2005. Further, since 2016, the Outcome Based Education (OBE) system has been implemented in the department as per revised PEC accreditation manual 2014 and in pursuance of Washington Accord.

Vision of the Department

Our vision is to be an educational institution that provides an education at the international level and research based solution providers to the industry.

Mission of the Program

B.E. Textile Engineering program aims to provide a quality education to produce professionals with adequate knowledge, skills and attitude for successful career.

Program Educational Objectives (PEOs)

The PEOs are prepared on the basis of stakeholders' needs and linked with twelve program learning outcomes. The PEOs of Bachelor of Textile Engineering describe that our graduates, 3-5 years after graduation, should be able to:

1 Participate in professional engineering practices with appropriate consideration for health and safety, environmental, legal, social and cultural aspects.
2 Conduct themselves as responsible professionals to complete their tasks/projects.
3 Pursue professional growth through moral and continuous learning attitude.

4.7.2 The Faculty

Chairman of the Department:

Dr. Rafique Ahmed Jhatial
Ph: 022-2771565

Professors	
Dr. Rafique Ahmed Jhatial	Ph.D. England
Dr. Zeeshan Khatri	Ph.D. Japan
Dr. Farooq Ahmed	Ph.D. Pakistan

Associate Professors	
Dr. Mazhar Hussain Peerzada	Ph.D. England, On Sabbatical Leave
Dr. Awais Khatri	Ph.D. Australia
Dr. Iftikhar Ali Sahito	Ph.D. South Korea
Dr. Shamshad Ali Shaikh	Ph.D. South Korea

Assistant Professors	
Dr. Raja Fahad Qureshi	Ph.D. Pakistan
Dr. Samander Ali Malik	Dr. Eng. Germany
Ms. Sanam Irum Memon	M.E. Pakistan
Dr. Alvira Ayoub Arbab	Ph.D. South Korea
Dr. Naveed Mengal	Ph.D. South Korea
Mr. Abdul Wahab Memon	M.S. Italy, On Study Leave
Dr. Noor Ahmed Sanbhal	Ph.D. China
Dr. Anam Ali Memon	Ph.D. South Korea

Lecturers	
Ms. Sadaf Aftab Abbasi	M.E. Pakistan, On Study Leave
Dr. Abdul Wahab Jatoi	Ph.D. Japan
Ms. Rabia Almas Arain	M.E. Pakistan
Mr. Nadir Ali Rind	M.E. Pakistan, On Study Leave
Ms. Umaima Saleem	M.E. Pakistan, On Study Leave
M. Abdul Khalique Jhatial	M.E. Pakistan

4.7.3 Laboratory Facilities

1. Yarn Manufacturing
2. Weaving
3. Knitting
4. Textile Chemical Processing
5. Colour research
6. Garment Manufacturing
7. Textile Testing and Quality Control
8. Textile Composites
9. Nano-materials
10. Non-Wovens

4.7.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		***Theory***	***Practical***
TE111	Introduction to Textile Engineering	03	00
TE112	Applied Chemistry	03	01
TE113	Engineering Drawing	00	02
EL112	Electrical Engineering	02	01
MTH116	Calculus	02	00
IS111/SS104	Islamic Studies/Ethics	02	00
PS106	Pakistan Studies	02	00
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
2nd Semester		***Theory***	***Practical***
TE121	Textile Raw Materials	03	00
TE122	Textile Mechanics	03	01
ES122	Electronics Engineering	03	01
MTH115	Differential Equations and Laplace Transform	02	00
ENG101	Functional English	03	00
TE123	Workshop Practice	00	02
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
3rd Semester		***Theory***	***Practical***
TE211	Fiber Science	02	01
TE212	Yarn Manufacturing – I	03	01
TE213	Applied Physics	02	01
CS240	Introduction to Computers and C++ Programming	02	01
TE214	Textile Engineering Utilities and Services	02	01
	Total	**11**	**05**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
TE221	Synthetic Fiber Manufacturing	02	00
TE222	Yarn Manufacturing – II	03	01
TE223	Fabric Manufacturing – I	03	01
TE224	Textile Pretreatment	03	01
MTH220	Numerical Analysis and Computer Applications	03	01
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
TE311	Yarn Manufacturing – III	03	01
TE312	Fabric Manufacturing – II	03	01
TE313	Textile Dyes and Dyeing	03	01
TE314	Automation and Control Engineering	02	01
ENG301	Communication Skills	02	00
	Total	**13**	**04**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
TE321	Yarn Manufacturing – IV	02	01
TE322	Fabric Design and Structure	02	01
TE323	Textile Testing and Quality Control	03	01
TE324	Colour Physics	02	01
TE325	Environmental Engineering	02	00
MTH311	Statistics and Probability	03	00
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
TE411	Fabric Manufacturing – III	02	01
TE412	Textile Printing	03	01
TE413	Textile Marketing and Merchandising	02	00
	Technical and Scientific Writing	03	00
TE414	Entrepreneurship	03	00
TE499	Thesis/Project - I *	00	03
	Total	**13**	**05**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
TE421	Yarn Manufacturing - V	02	00
TE422	Fabric Manufacturing - IV	02	00
TE423	Textile Finishing	03	01
INM487	Production Management	02	00
TE499	Thesis/Project -II	00	03
	Total	**09**	**03**

4.7.5 Career Opportunities

After graduation, the candidate will be

- able to join any textile manufacturing and processing industry in Pakistan and abroad as a management trainee or at similar position.
- able to join textile services sector such as testing, merchandising and auditing…etc.
- eligible for admission in Master degree program (also PhD degree in some cases) in any reputed university in the country and around the globe. The areas of further study may be expanded to other Science, Engineering, Management and Applied Sectors such as Technical and Smart Textiles, Materials, Environment, Medical, Automobile and Aerospace, Defense, and so on.

FACULTY OF SCIENCE, TECHNOLOGY & HUMANITIES

5.1 DEPARTMENT OF BASIC SCIENCES & RELATED STUDIES (BSRS)

5.1.1 The Department

The four-year Bachelor degree program in Mathematics intends to produce graduates with foundational knowledge, competency in critical thinking and proficient in using mathematical tools and techniques to model and solve complex problems. It is because of the skills of critical thinking, mathematical modeling and problem solving that make Mathematicians versatile and adaptable to work in areas including but not limited to academia, energy and environment, communications, business and finance, medical and health industry. New areas in science and engineering are constantly emerging where application of mathematical tools and techniques is required. The program, thus, is crucial to impart education and produce graduates with an understanding of mathematical theory, techniques and skills for their implementation to various fields of human interest.

Why BS in Mathematics at Department of Basic Sciences & Related Studies?
BSRS is proposing to initiate 4-year BS program in Mathematics. The program aims to provide students with a strong foundation and extensive knowledge in core mathematical areas – calculus, algebra, geometry, analysis, number theory, differential and integral equations, mathematical physics, numerical methods, fluid dynamics, statistics, operations research, optimization, modelling and simulation. To inculcate among students creative thinking, make them capable of critical analysis and equip them with problem-solving skills are the prime objectives of this program. Students would be given appropriate training to prepare them to render significant contribution towards the field as academicians, researchers, data analysts and decision makers. The entire program is in line with the mission and vision of Higher Education Commission of Pakistan with the intent to promote mathematical knowledge among students so that they realize the importance and use of mathematics in modern sciences.

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

Mission of Program:
To provide an environment, where students can learn and became good Mathematicians and to be equipped with insight and research skills in the field of Mathematics, so as to inculcate them with strong communication, management and leadership skills.

Program Educational Objectives (PEOs):
To provide the students knowledge of Mathematics applied in various fields of engineering and daily life problems and to equip them for higher studies and research in different disciplines.

5.1.2 The Faculty

Chairman of the Department:
Prof. Dr. Muhammad Anwar Solangi

Professor	
Dr. Muhammad Anwar Solangi	Ph.D (Maths):Pakistan
Dr. Syed Feroz Shah	Ph.D (Maths). China
Dr. Asif Ali Shaikh	Ph.D (Maths): Pakistan
Assistant Professors	
Mr. Saifullah Abro	M.Phil (Maths). Pakistan
Mr. Ghulam Abbas Mehar	M.A (Pak Study): Pakistan
Mr. Abdul Saleem Memon	M.Phil(Maths): Pakistan
Mr. Muhammad Urs Jhatial	M.Phil (Maths) Pakistan, (on Study leave)
Ms. Saima Bhatti	M.Phil (Maths): Pakistan
Ms. Fozia Shaikh	M.Phil (Maths): Pakistan
Mr. Imran Qasim Memon	M.Phil (Maths): Pakistan
Dr. Kashif Ali Abro	Ph.D (Maths): Pakistan
Mr. Hammeer Abro	
Lectures	
Ms. Naseem Khalid Memon	M.Sc (Maths): Pakistan
Dr. Raheem Bux Khokhar	PhD (Maths): U.K, On Study Leave
Hafiz Abdul Aziz Memon	M.Phil (Islamic Culture): Pakistan
Mr. Shafqat Chandio	B.S (Maths): Pakistan

Ms. Sara Mahasar	M.Phil (Maths): Pakistan
Ms. Sania Qureshi	M.Phil (Maths): Pakistan
Ms. Zaib-un-Nisa Memon	M.Phil(Maths): Pakistan
M.Phil (Maths): Pakistan	
Mr. Ayaz Ali Siyal	M.Phil (Maths): Pakistan
Mr. Ali Asghar Sangah	M.Phil (Maths): Pakistan
Dr. Muhammad Mujtaba Shaikh	PhD (Maths): Pakistan
Mr. Hafiz Shoaib Ahmed Kalhoro	M.A (Islamic Culture): Pakistan
Mr. Mansoor Ali Bhagat	B.S(Maths): Pakistan
Mr. Javed Iqbal Larik	M.A.(Pakistan Studies): Pakistan
Mr. Sarfraz Ali Banbhan	M.Sc(Pakistan Studies): Pakistan

5.1.3 Laboratory Facilities

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

i. Computer Lab for Undergraduate Students
ii. Computer Lab for Postgraduate Students

Both of the labs have latest Corei-7 PCs with high speed internet connection. Forty PCs of undergraduate lab are used for conducting C++ programming practical of students in addition to be used for running 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 Microsoft Office.

Postgraduate lab consists of about ten PCs and mostly remained occupied by students of M.Phil., PhD and sometimes faculty members of the department. This lab plays a substantial role in order to meet research needs of Postgraduate students. Printers installed in both labs are accessed by postgraduate students and teachers to get hard copy of most needed research papers, proceedings and other official documents.

5.2 ENGLISH LANGUAGE DEVELOPMENT CENTRE

5.2.1 The Department

In 1988 a Directorate named English Language Development Centre was established in collaboration with the British Council and the University Grant's Commission (Presently the Higher Education Commission of Pakistan) at Mehran University Jamshoro. This Directorate was initially run by a British Director Prof Brian Bamber. During this project the faculty members were awarded scholarships to pursue Masters in ELT/TESOL from British and American universities. After Mr. Bamber, Prof. Bodlo M Hassan took over as Director who received ELT training from UK and administrative training from USA. Mr. Bodlo contributed the best way he could in field of research and development and helped the Directorate get going very successfully. He initiated Teachers' Education and staff training courses for School, College and University teachers and officers. The ELDC is relocated to its new state of the art building at MUET Jamshoro. The Directorate was amongst 5 shortlisted institutions in public universities of Pakistan which were considered by English Language Teaching Reforms Project (ELTR) of HEC Pakistan for establishment of National Centre for English Language Teaching and Research. The ELTR Project of the HEC of Pakistan has recently established the state of the art self-access center at the ELDC MUET. This is the first SAC in province Sindh and hub of teachers' training in the province. The SAC offers training on Computer Assisted Language Learning (CALL) and Internet based learning (IML). Catering to the needs of the teacher community, ELDC has successfully started its MS/MPhil and PhD program in field of Applied Linguistics.

Objectives

- To assist various departments of the University in terms of teaching English as a compulsory and foundation course as required by HEC curriculum policy, Pakistan.
- To teach technical writing as to give them academic and professional edge in their various composition challenges of their field.
- To arrange various co-curricular activities as to provide the students with ample opportunities to grow dynamically.
- To help improve the research standards in the field of Applied Linguistics by offering MS leading to PhD degree programs.
- To facilitate Teaching and Non-Teaching Staff of the University in coping with academic, professional and language-related challenges by providing

them with the congenial training environment.

- To help the students learn effective communication by helping them develop both written and oral skills of communication
- To help them learn and practice different techniques for the improvement of their listening, reading, speaking and writing skills.
- To familiarize the students with the purpose, importance and different types of IELTS &TOEFL tests.
- To familiarize the students with the concept, style and format of GMAT, GRE & GAT and to explain the basic verbal, analytical and quantitative concepts in GMAT, GRE & GAT.

Academic Programs

Directorate offers following courses for Undergraduate Studies

i. Functional English/EAP
ii. Communication skills for Engineers/ESP
iii. Technical Report writing & Presentation skills
iv. Technical & Scientific Writing

Directorate of Postgraduate Studies offers following research degrees

- MS/MPhil in Applied Linguistics

Approved Academic Programs to be started in 2019

- BS in English Linguistics

Other Programs

i. Teachers' training- ELT teachers' education
ii. Computer Assisted Language Learning and Internet Mediated Language Learning
iii. IELTS iv. Speaking classes v. TOEFL
vi. GRE vii. GMAT viii. SAT
ix. CSS/PCS Preparatory Classes

Laboratory Facilities

ELDC has well established language laboratory with following facilitates:

- Spacious laboratory room
- IT equipment, computers (25),
- Multimedia projector
- Boards

5.2.2 The Faculty

Director of the Department:

Dr. Habibullah Pathan
Phone: 022-2771286 Ext.6600

Associate Professor	
Dr. Habibullah Pathan	Post Doc. United States of America
Dr. Shumaila Aijaz Memon	PhD: United Kingdom

Assistant Professors	
Ms. Quratul Ain Mirza	Ph.D Pakistan, On Study Leave
Ms. Sahiba Taheem	Ph.D Malaysia
Mr. Shoukat Lohar	Ph.D Pakistan

Lectures	
Mr. Jam Khan Muhammad	Ph.D Pakistan, On Study Leave
Ms. Sadia Aftab Memon	M.A (Linguistic) : Pakistan
Ms. Sania Sachal Memon	M.A (Linguistic) : Pakistan
Mr. Syed Waqar Ali Shah	M.S (Linguistic) : Pakistan
Ms. Um-e-Farwa Thalho	M.Phil (Applied Linguistics) Pakistan

Adjunct Faculty	
Ms. Rosy Ilyas	M.Ed. TESOL (Leeds)
Dr. Ambreen Shahryar	PhD: United Kingdom
Dr. Shabana Tunio	Ph.D Malaysia

Research Associates	
Ms. Shazia Muheodin	MS English (Linguistics) Pakistan
Mr. Ali Raza Khoso	MS English (Applied Linguistics) Pakistan
Mr. Mansoor Ahmed Memon	MS English (Linguistics) Pakistan

5.3 Affiliated Colleges/Institutes

Following Colleges/Institutes are affiliated with Mehran University.

1. Government College of Technology, Hyderabad is affiliated with Mehran University which offers courses in B.Tech.(Pass) and B.Tech.(Hons.) in Civil, Electrical and Mechanical Technologies. Mehran University conducts the examinations of this college and awards degrees. Further information of these courses may be obtained from:

The Principal,
Government College of Technology, **Hyderabad.**
Phone: 022-9240124 & 022-9240122

2. The Hyderabad Institute of Arts, Science and Technology, Hyderabad is affiliated with Mehran University which offers courses in BS (Information Technology) and MS (Business Information Technology). The Pre-admission Test of the candidates will be conducted by the agency prescribed by Mehran University of Engineering and Technology, Jamshoro. Also Mehran University conducts the examinations of this Institute and award degrees. Further information of these courses may be obtained from:

Justice (Retrd.) Abdul Majeed Khanzada
Chairman, Hyderabad Institute of Arts, Science & Technology,
Auto Bhan Road, Hyderabad
Phone: 022-3821474

3. **Hyderabad College of Science and Technology, Hyderabad** is affiliated with Mehran University which offers courses in B.Tech.(Pass) and B.Tech.(Hons.) in Civil, Electrical and Mechanical Technologies. Mehran University conducts the examinations of this college and awards degrees. Further information of these courses may be obtained from:

The Principal,
Hyderabad College of Science & Technology,Hyderabad.
Phone: 022-3820223

RESEARCH AND DEVELOPMENT

RESEARCH AND DEVELOPMENT

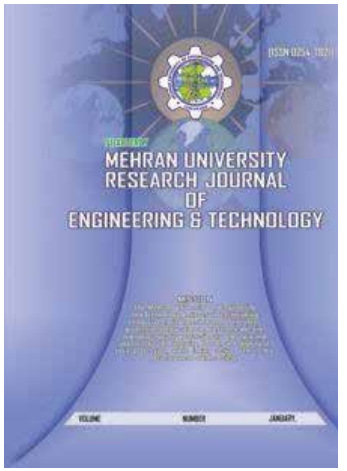
6.1 OUR PH.D FACULTY

Mehran UET is consistently ranked among the top engineering universities in the country, but what does that mean for our students?

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 and English Language. It means that, from day one of your degree, you will be taught by experts at the forefront of their fields. Your lecturers and tutors are engaged in research into everything from Sensor Networks to Irrigation and Environmental Engineering.

Your teachers are industry leaders and researchers at the forefront of discovery, At Mehran UET, you'll 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 with you.

6.2 MEHRAN UNIVERSITY RESEARCH JOURNAL OF ENGINEERING & TECHNOLOGY



The main aim of Mehran University Research Journal of Engineering & Technology is to publish refereed, well written original research articles that describe the latest research and developments in Engineering, Science & Technology. This journal is being published since 1982, and is registered with ISSN. This year the journal is included in Thomson Reuters (Clarivate Analytics – Master Journal List), this is indeed a matter of high prestige as only few research journals of Pakistan are indexed in Thomson Reuters. Mehran University Research Journal of Engineering & Technology is recognized by the Higher Education Commission (HEC) under Category X. The journal along with Thomson Reuters is also indexed by a number of international abstracting agencies including INSPEC, ACI (American Concrete Institute), British Library, Library of Congress and TRB (Transportation Research Board). This journal is a peer-reviewed journal and is published in January, March, July and October, i.e. four times a year.

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 2017-2018, Mehran UET hosted several international conferences including 5th International multi topic conference (IMTIC′18), 2ndInternational Conference on Chemical engineering. 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.

Mega International event IMTIC'18 held at **MUET**

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, Spain.

Beside conferences a number of workshops and symposia of national and international repute were called upon at Mehran UET, including Comprehensive Training on Garment Engineering, Workshop "Institutional Repository Management (DSpace)-IRM-2018", 33rd All Pakistan IEEEP 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 is 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 RESEARCH GROUPS

Since the age we are living in, research in isolation has become a stone age idea. The growth and acceleration appears when there is an active collaboration amongst researchers. For this purpose research groups play a vital role. At Mehran UET a number of research groups involving undergraduate and postgraduate (masters and PhD) students along with our skilled and experienced PhD faculty are working on a number of industrial projects.

A. Faculty of Engineering

i. Energy and Environmental Engineering Research Group (EEERG)

EEERG, is continually engaged in discovering solutions to the recent problems of the society and has successfully managed to bring research out of the lab. EEERG has successfully organized conferences and symposia at national and international level, and has contributed by publishing their research work into the leading research journals of the world.
(For more details please visit http://sites.muet.edu.pk/eeerg/).

ii. Nanomaterials Research Group (NRG)

Nanomaterial Research Group (NRG) was formed in January 2014 and run under Office of Research, Innovation and Commercialization (ORIC). The major facility of research is available at nanomaterials Research Lab, Department of Textile Engineering. The team has been assembled with eminent senior scientists and young researchers, faculty members and

students. The researchers are committed to address society's problems through scientific and innovative research. The growing application of nanomaterials in various fields has stimulated nanomaterials research around the world. These materials have outstanding physical, chemical and mechanical properties usually not observed in conventional materials. NRG is rising star of Mehran University and has number of unique credentials:

- 1 US Patent filed
- 2 US Patent submitted
- 12 International publications (Impact factor 30.0)
- 3 products ready for commercialization
- 4 various cities: Out reached and showcased product and technologies
- MoU with Shinshu University, Japan

(For more details please visit: http://nanorg.weebly.com)

B. Faculty of Electrical, Electronics and Computer Engineering

- Smart Grid and Energy Management
- Embedded Systems
- Computer Vision
- Communication Systems and Networks
- Semiconductor Devices and Materials
- Power System
- Software Engineering
- Electrical Machines
- Artificial Intelligence and Control Systems
- Wireless Sensor Networks

6.5 Office of Research Innovation And Commercialization (ORIC)

Office of Research Innovation and Commercialization (ORIC) is established in MUET to develop linkage with emerging and existing business firms across Pakistan for technological innovation and commercialization of research. It serves an umbrella to coordinate with the researchers, on campus incubators and science and technology park. It also serves as channel to local, regional and federal partners to ensure research outcomes contributing in the growth of country s economy. ORIC developed its mechanism for research commercialization and established business/technology incubator to promote innovation and entrepreneurship culture.

ORIC ROLE

ORIC performs its functioning in three significant capacities.

a. Research Operations & Development

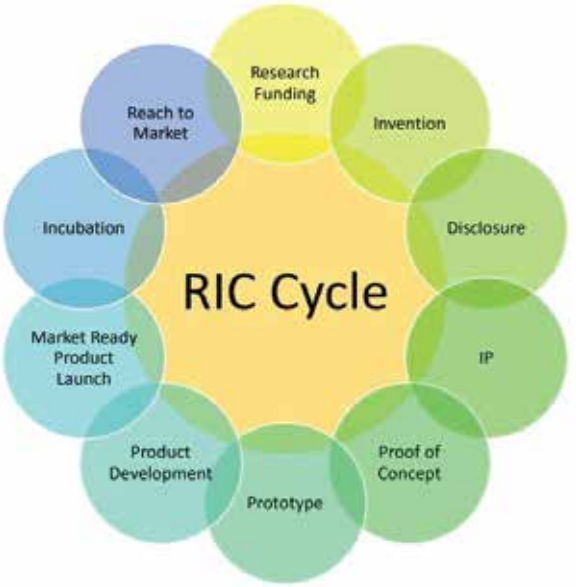
b. University Industry Linkages and Technology Transfer

c. Research Commercialization/Entrepreneurship

The core objective of ORIC is to enhance innovation and its commercialization. In this context it promotes startups to incubate, grow, create new jobs, products, services, and markets from the institutions to generate financial revenues and enhance academia industry linkage. ORIC activities revolve around the following research cycle to ensure research impact on economy and society.

ORIC implements triple helix model in its true spirit while developing strong linkages with the academia, industry and the government. Mehran University of Engineering & Technology is equipped with qualified PhDs, certified

professionals, researchers from diversified fields. These can produce the skilled workers, to support the industry, corporate sector, development sector, as well as public sector by providing basic technology, technical assistance and education. This appraises human capital in public interest for socio-economic development of the society, quality of life and ease of business. ORIC highly encourages in making research groups and research cells within university and provides awareness on market based trends in research and development.



The ORIC provides opportunities for the students of the university in getting essential tools to sharpen their skills, such as,

- Trainings exposure and grooming during summer and winter holidays.
- Continuing Professional Development (CPD) courses in collaboration with (PEC)
- Seminars, conferences and workshops
- Chinese Language Courses with native Chinese faculty
- Internships and job trainings
- Industrial visits

RESEARCH AND DEVELOPMENT

ORIC-MUET liaison with national and multinational organizations, industries to contribute in university's research and innovation and resolve challenges faced within the industry. This section also arranges job and trade fair to allow students for interaction with industry partners and recruitment drive for fresh graduates of Mehran University on the basis of their merit. ORIC facilitates entire university, its administrative and academic staff, and students in:

- Capacity building
- Career advancement
- Professional development by providing state-of-the-art trainings as well as certifications.
- International student exchange programs and international summer camps in different countries.

The infrastructure of ORIC is equipped with all modern facilities, having advanced computer labs, conference rooms, classrooms, library and auditorium with audio visual systems. ORIC never believes in boundaries, but it excels with the innovation, encourage faculty and students to think out of the box and come up with new ideas.

6.6.1 The University has signed Memorandum of Understanding with the following NATIONAL INDUSTRY-ACADEMIA

S.NO	NAME OF INSTITUTE	DATE OF AGREEMENT	PERIOD
1.	Benazir Bhutto Shaheed Youth Development Program, Irrigation & Power Department, Government of Sindh, Pakistan.	12-01-2009	No Limit
2.	Pakistan Atomic Energy Commission (PAEC), Islamabad.	30-03-2009	Ten Years
3.	The United States Educational Foundation in Pakistan, Islamabad.	11-12-2009	No time limit
4.	Isra University, Hyderabad, Sindh, Pakistan.	16-08-2010	No time limit
5.	The Promotion of Education PEF Foundation, USA, Islamabad.	4-03-2013	No time limit
6.	Indus University, Karachi.	10-04-2014	Five Years
7.	Ms. Rafhan Maize Products limited, Kotri.	13-05-2014	No time limit
8.	Pakistan Space & Atmosphere Research Commission (SUPARCO), Karachi, Pakistan.	13-02-2015	Five Years
9.	Ms. Indus Resource Center, Karachi.	23-02-2015	No time limit
10.	Pakistan Steel Mills, Karachi.	25-06-2015	No time limit
11.	Pakistan Council of Research in Water Resources, Islamabad.	03-08-2015	Five Years
12.	Sindh Irrigation & Drainage Authority (SIDA), Hyderabad.	03-08-2015	Five Years
13.	Sindh Agriculture University Tandojam, Tamdojam.	03-08-2015	Five Years
14.	Water and Power Development Authority, Lahore.	21-09-2015	Five Years
15.	Analytical Measuring Systems (Private) Limited, Karachi.	5-11-2015	No time limit
16.	Pakistan Institute of Management (PIM), Karachi.	07-12-2015	Five Years
17.	Institute of Cost & Management Accountants of Pakistan, Karachi.	10-02-2016	Five Years
18.	Pakistan Council for Science and Technology (PCST), Ministry of Science & Technology, Government of Sindh, Karachi.	16-11-2016	Five Years
19.	Eco Science Foundation (ECOSF) & Technology Times, Karachi.	16-11-2016	Three Years
20.	Irrigation Department, Government of Sindh "Capacity Building of Officers / Officials of Sindh Irrigation Department".	23-09-2016	Five Years
21.	NORDTEC, Karachi.	23-12-2016	Five Years
22.	Sustainable Development Policy Institute, Islamabad.	05-05-2017	Five Years
23.	National Textile University, Faisalabad.	01-06-2017	Five Years
24.	Archorma, Textile Chemical Company, Karachi.	1-08-2017	Five Years
25.	Institute of Business Administration (IBA), Karachi.	25-08-2017	Three Years
26.	British Council Pakistan, Karachi.	19-07-2017	Three Years
27.	Sindh Engro Coal Mining Company (SECMC), Karachi.	04-10-2017	Two Years
28.	World Wide Funds for Nature Pakistan, Karachi	22-01-2018	Two Years
29.	Confucius Class Rooms at Cadet College Petaro, Jamshoro.	06-03-2018	Four Years

6.6.2 The University has signed Memorandum of Understanding with the following INTERNATIONAL INDUSTRY-ACADEMIA:

S.NO	NAME OF INSTITUTE	DATE OF AGREEMENT	PERIOD
1.	University of Leeds, UK.	28-06-2005	No time limit
2.	Middle East Technical University, Ankara, Turkey.	13-09-2006	No time limit
3.	Aalborg University Esbjerg, Denmark.	09-06-2007	No time limit
4.	University of Bedfordshire, UK.	20-11-2008	No time limit
5.	University of Malaya, Malaysia.	20-09-2011	No time limit
6.	University of Limerick, Limerick, Ireland.	12-10-2013	No time limit
7.	Hacettepe University, Turkey.	12-08-2014	Five Years
8.	University Technology Malaysia, Malaysia.	25-11-2014	Five Years
9.	Faculty of Textile, Science and Tech., Shinshu University, Japan.	22-12-2014	Five Years
10.	China University of Mining and Technology, Xuxhou, China.	26-04-2015	Five Years
11.	University of Utah, USA.	11-08-2015	Five Years
12.	Clothing and Designing Faculty, Minjiang University, China.	21-10-2015	Five Years
13.	Perdana School of Science, Technology & Innovation Policy, University Technology Malaysia, Kuala Lumpur, Malaysia.	16-11-2016	Five Years
14.	Korea Institute of Science & Technology Evaluation & Planning (KISTEP), Republic of Korea.	16-11-2016	Three Years
15.	Charles Sturt University, Australia.	05-05-2017	Five Years
16.	AMC-Metropolitan College-Athens-Greece.	06-10-2017	Five Years
17.	University of Nottingham, UK. (This revised agreement applies to the University of Nottingham s campuses in the United Kingdom, China & Malaysia).	22-02-2018	Five Years
18.	Montan Universitaet, Leoben, Republic of Austria.	22-02-2018	No time limit

Prof. Dr. Inamullah Bhatti
Director, Office of Research Innovation and Commercialization (ORIC)


CAMPUS LIFE

7.1 STUDENTS' TEACHER CENTRE

It is a matter of immense pleasure that this University has developed befitting and communal facilities for students and staff like, Students Centre. Hence, the said Students Centre has been constructed over an area of 20000 sft. as per Vision & Perspective Plan of the University. However the said Centre is consisting of the following facilities for the students.

- Information Service
- Indoor Games
- Shops 04 Nos
- Cafeteria (for Boys & Girls)
- Kitchen
- Debating Society
- Alumni Office
- Graduate Registration
- Space for Bank
- Post Office
- Store
- Internet Café
- Indoor Games

7.2 LIBRARY

Mehran University of Engineering & Technology Library & Online Information Center contains more than 168,000 books related to Engineering, Science and Technology. Access to 29 E-databases for electronics journals and e-books are available on-line within the university campus and outside the campus under Digital Library Program - a Project of Higher Education Commission, most of these resources are available full text.

There are more than 26,000 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. This service is further enhanced by cooperation among Muslim Countries under COMSTECH.

Mehran University of Engineering & Technology Library & Online Information Center also offers following services:

7.2.1 INTERNET FACLITIES

MUET Library & Online Information Center provides the internet facilities to undergraduate and postgraduate students for their research projects, assignments and online lecturers work for which PCs are installed in the Online Information Center.

The MUET Library & Online Information Center also offered Wi-Fi service inside and outside the Library Building.

7.2.2 E-SERVICES

MUET Library & Online Information Center provides articles, abstract bibliographic information to the faculty members, researchers and undergraduate students under Whatsapp and email service.

There are also a blogs *http://muetlfacultycoordination.blogspot.com* to give the access of books recommended in teaching plan. Another blog *http://www.muetloic.blogspot.com* to give the awareness trainings regarding HEC Digital Library, *http://muetdigitallibrary.blogspot.com* access of E-books, Journals, Tutorials and Thesis Guidance, video lectures, dictionaries and encyclopedias etc.

7.2.3 DIGITAL LIBRARY AWARNESS PROGRAM

The MUET library offers the trainings program regarding awareness of HEC Digital Library resources, e-brary, science direct and IEEE to the faculty members, postgraduate students and undergraduate students of the University.

7.2.4 ONLINE PUBLIC ACCESS CATALOGUE (OPAC)

The catalog of books is marc-21 based and accessible through Library of Congress Gateway *http://www.loc.gov/z39.50* serving one point access interface for books catalog, full text electronic journals and e-books on web.

7.2.5 MULTI-MEDIA & RESEARCH DEVELOPMENT CENTER

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 (zotero, Endnote). In Multimedia & Research development Center research articles and e-books are provided to the faculty members and students on their demands.

7.2.6 PASTIC DESK

Pakistan Scientific & Technological Information Center **(PASTIC)** Desk is available at MUET library & Online Information Center providing free, fast and easy access to S&T literature, full text articles, Pakistan Science Abstract, Union Catalogue of Pakistan Libraries, Directory of Scientific Periodicals of Pakistan Information on Indigenous Technologies National Sciences Reference Library.

7.2.7 TIMINGS

The library is heavily used by the students, faculty members and researchers and is open from 8:00 am to 12:00 mid-night including Saturday and Sunday. Professional staff available at service points to meet the needs of the readers. Besides this under library system program the seminar libraries have been established in various institutes/departments.

7.3 Student Financial Aid Office (SFAO)

A SINCERE COMMITMENT TO ALL DESERVING STUDENTS AND THEIR FAMILIES

We strive to eliminate financial and other barriers through merit and need based Scholarships, Financial Assistance/Aid, Zakat and Educational Loans (Qarz-e-Hasana)

(National International Recognition)

History and Scope

Mehran University of Engineering & Technology by realizing the continuous rise in educational expenses, took the initiatives and established the Student Financial Aid Office (SFAO) in August 2006, to elevate the socio-economic position of the needy and deserving students by providing access to quality education through Need-based and Merit Scholarships. All Scholarships / Financial Aid cases are routed through SFAO. A centralized record of all students getting any Financial Aid is kept in SFAO.

It is worth mentioning that Student Financial Aid Office of Mehran University of Engineering & Technology has become one of the popular Financial Aid Office among all Public and Private Sector Universities of Pakistan, by having national and international reorganization. The Office is equipped by the support of more than sixty national and international donors and their contributions to support the needy, deprived and meritorious students of the University. The SFAO is committed to all national and international donors/partners for transparent and vigilant process/procedure. This is what we have proved that, our faculty, officers, Staff, also support the needy students along with Alumni of the University. Consequently, the SFAO also supports the needy students from own income generated by getting profit from various endowment funds.

The office under the dynamic supervision of Prof. Dr. Tauha Hussain Ali, Pro. Vice-Chancellor / Focal Person (SFAO) awards and facilitates more than 35% of students from the total strength of undergraduate students through

various Scholarship, Financial Assistance/Aid, Zakat and Qarz-e-Hassna programs.

Mission Statement

The office aims to eliminate financial barriers of needy and meritorious students in higher education. We strive for socioeconomic development of deserving students by providing access to quality education through need based scholarship / financial assistance programs.

Objectives

The primary objective is to provide assistance through Scholarships, Financial Assistance /Aid, Zakat and Educational Loans (Qarz-e-Hasna) programs, to the students who are unable to pursue their higher education due to financial barriers. To accomplish the main objective, the office also establishes the following objectives:

- To provide financial relief to the meritorious and needy students.
- To provide quality advising services by addressing individual student needs, responding to student inquiries in a timely manner.
- To use effective procedures to ensure that the funds are provided to students who demonstrate the greatest financial need.
- To comply with all prescribed rules, regulations, and policies of financial aid and scholarship programs as set by the donor agency and the University.

LIST OF DONORS / SCHOLARSHIPS OPPORTUNITIES:

S#	NAME OF SCHOLARSHIP	DONOR
1.	Internal Merit Scholarship	Mehran U.E.T, Jamshoro
2.	Financial Assistance	
3.	Student Advancement fund Endowment Scholarship	
4.	USAID Merit & Need Based Scholarship	USAID Pakistan with the collaboration of HEC, Islamabad
5.	HEC Needs Based Scholarship Program	Higher Education Commission, Islamabad.
6.	OGDCL Need Based Scholarship	OGDCL with the collaboration with HEC, Islamabad.
7.	SSGC Scholarship	Sui Sothern Gas Company limited
8.	BHP (Pakistan) Need Cum Merit Scholarship	BHP Billiton (Pakistan)
9.	National ICT Scholarship	Prime Minister's National ICT R&D Fund, Islamabad.
10.	NBP Loan	National Bank of Pakistan.
11.	Sindhi Association of North America Dr. Feroz A. Memorial Educational (FAME) Scholarships.	Sindhi Association of North America.
12.	PEC Scholarship	Pakistan Engineering Congress, Lahore.
13.	PEC Merit Scholarship	Pakistan Engineering Council, Islamabad.
14.	Balochistan Scholarship	Directorate of Collages Higher and Technical Education Balochistan, Quetta.
15.	PIP Scholarship	Petroleum Institute of Pakistan (PIP), Karachi.
16.	IEP-SAC Scholarship	Institution of Engineering Pakistan, Saudi Arabian Center.
17.	MUTA – Need Cum Merit Scholarship	Mehran University Teacher Association, MUTA, Jamshoro.
18.	Merit Scholarship (formerly called MORA)	All District Zakat & Ushar Committees of Sindh
19.	Endowment Fund Scholarship	Education & Literacy Department, Government of Sindh
20.	PEF Scholarship	Professional Educational Foundation
21.	Provision of Higher Education Opportunities for Student of Baluchistan and Fata	Higher Education Commission (HEC), Islamabad.
22.	Minority Scholarship	Ministry of Religious Affairs, Islamabad.
23.	PEEF Scholarship	Punjab Education Endowment Fund (PEEF), Lahore.
24.	Scholarship for Foreigner students	Various Embassies
25.	Zila Nazim Khairpur Scholarship	Office of Zila Nazim District Government Khairpur
26.	Scheduled Caste (Tharparkar)	Office of Deputy Commissioner, Tharparkar
27.	SEAFA Scholarship	Mr. Tufail A.Memon and Friends from USA
28.	Sain G. M Sayed Need cum Merit Scholarship	Shah Hyder Educational Society SANN (SHESS), SANN UC, District Jamshoro
29.	DIYA Scholarship	Kaneez Fatima Welfare Trust, Rawalpindi
30.	FFC- Scholarship	Fauji Fertilizer Company Limited
31.	Syeda Mubarik Begum Scholarship	Babar Ali Foundation, Pakistan

S#	NAME OF SCHOLARSHIP	DONOR
32.	Quaid-E-Azam Aligarh Scholarship	Quaid-E-Azam Aligarh Trust
33.	Mentoring a Talent	TEXPO, IT consultant Company
34.	FF_ Scholarship	Fauji Foundation, Rawalpindi
35.	(Late) Abdul Qayoom Uqaili Need cum Merit Base Scholarship	Prof. Dr. M. Aslam Uqaili, Vice-Chancellor Mehran U.E.T, Jamshoro.
36.	(Late) Taj Mohammad Sahrai Need cum Merit Base Scholarship	Prof. Dr. Mujeeb-u-ddin Sahrai, Professor, Department of Mechanical
37.	Sardar Begum Sehrai Need cum Merit Base Scholarship	Engineering MUET, Jamshoro.
38.	(Late) Master Kishan Chand Chowdhry Need cum Merit Base Scholarship	Prof. Dr. B.S. Chowdhry, Dean FEECE, Mehran U.E.T, Jamshoro.
39.	(Late) Mr. & Mrs. Jhando Khan Lashari Need cum Merit Base Scholarship	Prof. Dr. Bakhshal Khan Lashari, Director, Water Resources Engineering & Management, MUET, Jamshoro
40.	Agha Habibullah Khan, Need Cum Merit Scholarship	Prof. Dr. Agha Faisal Habib, Depratament of Civil Engineering.
41.	Mr. & Mrs. Pyaro Khan Shaikh, Need Cum Merit Base Scholarship	Dr. Ghulam Yaseen Shaikh, Industrial Engineering Department
42.	Dr. Asma Junejo, Need Cum Merit Scholarship for a Female Student	Dr. Asma Junejo, Senior Gynecologist, Hyderabad.
43.	Dr. Khadija Qureshi, Need Cum Merit Scholarship	Prof. Dr. Khadija Qureshi, Department Of Chemical Engineering.
44.	Mr. Jawed Akhtar Arbab. Scholarship	Late) Muhammad Khan Arbab, Need Cum Merit Scholarship
45.	United Memon Jamat Scholarship	United Memon Jamat of Pakistan
46.	Mrs. Anwar Muhammad Memon.	(Late) Mr. Anwar Mohammad Memon, Need Cum Merit Base Scholarship
47.	Mrs. Noshaba Qabool Muhammad, Need Cum Merit Base Scholarship and Mrs. Sonia Abdul Manan Need Cum Merit Base Scholarship	Mr. Mian Abdul Manan, Team Leader (I & C), Karachi.
48.	Scholarship for Foreigner students	Various Embassies in Pakistan
49.	Other Foundations / Agencies	General Scholarships
50.	Indian Occupied Kashmiri Scholarship / J & K State Financial Assistance	Government of Pakistan Ministry of Inter Provincial Coordination (IPC Division)
51.	Mr. Ilyas Ishqie to a needy female student, Need Cum Merit Base Scholarship.	Madam Rosy Ilyas, Retired Professor ELDC, MUET.
52.	(Late) Mr. Zahid Suleman, Need Cum Merit Base Scholarship.	Mr. & Mrs. Qazi Suleman,
53.	Mr. Muhammad Hassan Laghari, Need Cum Merit Base Scholarship. MUET.	Mr. Muhammad Hassan Laghari, Ex-Chief Security Officer
54.	Engr. Ghulam Ali Mirza Need Cum Merit Base Scholarship.	Mr. Ghulam Ali Mirza, from UK.
55.	93-Batch Need Cum Merit Scholarship	Ex-Students of 93 Batch
56.	Mir Hassan Rind Need Cum Merit Scholarship	Mir Hassan Rind Former Member of National Highway Authorities (NHA)
57.	2K1- Batch(Civil) Need Cum Merit Base Scholarship Program	2K1-Batch (Civil).
58.	(Late) Mrs. Mahrunish Shaikh Need Cum Merit Base Scholarship	Engr. Arz Mohammad Shaikh, Hyderabad.
59.	Dr. Mir Saad Hussain Sacharvi, Need Cum Merit Base Scholarship	Dr. Mir Saad Hussain Sacharvi, Hyderabad.
60.	Mr. Mir Mahammad Talpur, Need Cum Merit Scholarship.	Mr. Mir Mahammad Talpur

Dr. Amir Mahmood Soomro
Deputy Focal Person, Student Financial Aid Office
Phone # (Exchange) +92 22 2772250-70 (Ext. 7715) (Direct) +92 22 2771274

7.4 QUALITY ENHANCEMENT CELL (QEC)

In order to provide quality higher education, Mehran University of Engineering & Technology is striving hard and adopted dynamic changes in the education system. Working on the mission, the University implemented Quality Management System under ISO 9001:2000 and was certified in September 2003. Quality Management System (QMS) was developed and implemented by ISO-9000 Cell established in year 2000 and was redesigned as QEC on 15th February, 2007 on the receipt of PC-1 from Quality Assurance Agency of Higher Education Commission and its scope was extended by adding the function of implementation of Self-Assessment Mechanism in the University.

The QEC is on the way of developing quality assurance processes and methods of evaluation to affirm that the quality of provision and the standard of awards are being maintained and to foster curriculum, subject and staff development, together with research and other scholarly activities. The QEC serves as the king pin to achieve the objective of quality learning standards by auditing academic standards and the quality of teaching, learning and management in each subject area. It promotes public confidence that the quality and standards of the award of degrees, management and overall quality of knowledge being imparted by the institutions are enhanced and safeguarded.

QEC's Core Processes

- Implement and continuously improve quality management system of the university as ISO 9001:2015 standard.
- Institutional Performance Evaluation (IPE) as per HEC guidelines.
- Self-Assessment of postgraduate programs as per HEC guidelines.
- PhD and MS/MPhil Program review as per HEC guidelines.
- Online Feedback System

Key achievements of QEC:

- Implemented ISO 9001:2015 Quality Management System requirements and got certification for three years from Lloyd's Register Quality Assurance (LRQA), UK.
- Successfully implemented HEC quality assurance criteria and secured 93.53% marks in HEC QECs Ranking (2017-18)

Director
Prof. Dr. Abdul Sami Qureshi
Office Phone:+92-22-2109013 (Ext:#7712)
E-mail: qec@admin.muet.edu.pk
Website Link: http://www.muet.edu.pk/qec

7.5 TRANSPORT

The university has a fleet of buses to facilitate the students, running on various routes between the campus and Jamshoro, Hyderabad / Qasimabad/ Latifabad / Kotri. Students have to pay nominal transport charges on yearly basis for the use of this facility. In addition to that, the University has different type of equipment/vehicle viz, Mechanical Sweeper, Aerial Plate Form, Garbage Compactor etc for cleaning of entire campus to make the better environment. As well as University has planned to procure Solar Panel shuttles for students, which will be used in university premises.

Engr. Qazi Riaz Hassan Qureshi
Incharge Transport Section/ Director (Services)
Phone: (022)2109073 and (022)2771153

7.6 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 2100 male and female Pakistani, overseas Pakistani and foreign students. Almost all twelve, including three female students', hostels are spacious and airy two-storied buildings, located near main academic buildings, with well-furnished rooms to accommodate two to three students with internet facility. 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 through a prescribed Admission Form available with the Office of the Provost Hostels, at the Student Teacher Center of the University. The seats in the hostels are allotted by allocating the 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 from by the University (like Jamshoro, Hyderabad, Karachi, Matiari, Tando Allahyaar, 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 that can seat around 30 to 40 students 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 common halls are well equipped with recreational facilities like large wall-mounted televisions / LCDs, table tennis, badminton and newspapers and magazines. Most of the hostels have outdoors basketball courts and inter-hostels sports events and debate contests are organized regularly. 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. A double-bed clinic located at Students Techers Center provides medical facilities from 4:00 to 6:00 in the evening. Besides that, day and night emergencies are attended by the ambulance service and duty vehicle. 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.

University hostels are built upon the principles of professionalism, caring and mutual respect to the students. During the stay in the hostels, they maintain high standards of professional ethical values and for development of personal relationship which provides the best grooming facilities to fulfill our mission. The residents of MUET hostels have always demonstrated the ethos of dedication, sincerity and care for others. The hostel inculcates the characteristics like co-operation and respect for different cultures in the residents as they come from diverse cultures. As a part of extended family of the University fraternity, MUET hostels add a dimension of vigor and commitment to the academic and extracurricular ambience of the institution. While providing an opportunity of campus living, MUET hostels look forward residents to shoulder and maintain the best traditions of the University as a whole.

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:
Prof. Ghulam Abbas Mahar,
Provost Hostels,
Tel. No. 022 2109137
Cell No. 0345 3530672, 0333 2603032 Ext. No. 3005
Email: provost.hostel@admin.muet.edu.pk

7.7 INFORMATION AND COMMUNICATION PROCESSING CENTRE

ICPC Stands for Information & Communication Processing Center. It is considered as backbone of the university. ICPC contains different types of networks, i.e. voice & data networks, which facilitates inter departmental communication related to internet & voice communication. It also connects MUET Intranet to the outside world through a bandwidth of 800 Mbps on fiber link.

The ICP Center is having a powerful and scalable switching fabric that carries gigabit traffic on fiber optics backbone and interconnects all buildings of university including administration building, departments and hostels. It is designed on the VLAN infrastructure. Apart from data service, ICPC is also providing voice services through the modern Alcatel-Lucent OmniPCX 4400, EPABX System since 2003. ICPC provides following services as well as facilities in the university:

7.7.1 DATA AND VOICE SERVICES

ICPC facilitates each & every section of MUET with voice and data services. It has deployed data points in every building of the university including all hostels. The internet service can be accessed anywhere by using internet account credentials provided by ICPC through a very simplified online registration process. ICPC also provides voice service and have deployed more than 750 voice points in the campus.

7.7.2 WIRELESS CONNECTIVITY

ICPC has deployed 490 WiFi access points throughout the campus including hostels with the support of HEC/PERN under Smart University Project recently and thus providing internet with high speed in all over the university through WiFi service.

7.7.3 TRAININGS & INTERNSHIPS

ICPC has conducted many training sessions to help end users to utilize domain resources effectively. Troubleshooting and network related problems are also taught in the trainings. lCPC also conducts various HR Capacity Building trainings for ministerial staff of the University and it also provides internship opportunities to various students of MUET to enable them how to work professionally in the industry environment.

7.7.4 SMART ID CARDS

ICPC has taken initiative to provide smart ID cards to faculty, officers, staff and students of the university. The new smart ID card has features like RF ID chips, QR Code as well as barcode. It is proudly to say that more than 40000 cards have been generated till to date.

7.7.5 SECURITY SURVEILLANCE SYSTEM

ICPC team is very actively contributing in the deployment of Security Surveillance System in various departments of the University, such as at MUET Library and On-Line Information Center, New Admin Block and Student Teacher Center. The entire boundary of the campus has been covered through state-of-the-art and modern IP based surveillance system through HEC/PERN under Safe Campus Project very recently and every movement on the boundary walls as well as at entry/exit gates remain under strict surveillance over 24X7.

7.7.7 SMS ALERT SERVICE

ICPC provides SMS Alert Service since 2013 to all stake holders for swift information broadcasting. SMS alerts also play vital role in online admission system developed by ICPC web team.

7.7.8 WEB SERVICES

ICPC Web team provides number of services including

- Online Undergraduate Admission System (Developed under the supervision of PATCO Committee)
- Online Course Management System using Moodle CMS.
- Online Feedback System Conforming to QEC's standards.
- Web Hosting Service for various departmental websites.
- Web Development & Design Services for various conferences and workshop websites.

Engr. Saleem Ahmed Memon (Director),
Engr. Sajidullah Memon (Manager Systems),
Dr. Piyar Ali Jatoi (Deputy Manager, IT)
Engr. Muhammad Akram Shaikh (Manager Systems)
Engr. Muhammad Murtaza Chang (Manager Webs)
Information Communication and Processing Centre (ICPC)
Phone: (022) 2772277 Ext: 6000

7.8 MEDICAL ASSISTANCE

A part-time dispensary has been established in one of the hostels for the resident students, 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 Liaquat University Hospital, which is quite nearby. An ambulance is also available for the sick students to take them to the hospital in any emergency.

7.9 SPORTS FACILITIES

The Directorate of Sports has been arranging wide range of indoor as well as outdoor sports activities and fitness/health services to the university students on daily basis. The University has arranged facilities of highly specialized nature of training techniques, coaching camps and indoor and outdoor sporting events for boarding as well day scholar students. Inter batch, inter departmental and inter hostel sporting events for boys & girls are regular feature of our university sports calendar.

We have a state of the art Sports Complex in the campus, having a modern Gymnasium and fitness center facilities, equipped with latest fitness machines to provide our students a best possible sporting and healthy activities.

The University also hosts/organizes and participates in a number of Inter University Sports events under HEC every year regularly. Our University students have won Gold, Silver and Bronze Medals in such events. The new batch students are encouraged to participate in Inter -University, 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. every students gets a chance to play, compete and represent University sports teams.

Organizing of Sports Week/ Gala event is becoming a very popular annual

event at Mehran in which a huge number of students participate in a wide range of indoor as well as outdoor sports and games.

Director Sports,
Engr.Saleem Ahmed Memon
Ph: 022-2109103, 022-2772250 (Ext: #2026)
Email: dir.sports@admin.muet.edu.pk
http://www.muet.edu.pk/directorates/directorates-sports

7.10 STUDENTS' ADVISORY COMMITTEE

Mehran University Students' Advisory Committee was formed to bridge the gap between administration, teaching community and students. Committee helps students to organize academic and social activities and also to resolve their academic and legal grievances. The committee leads, directs, and administers overall functions of student counseling, hostel residence, student societies and discipline. The important function of Students' Affairs Office is to enhance the quality of student life both in and outside of the classroom. The Student' Affairs Office functions as a friend and guide to a student. It administers their needs from the time they step in the University, to their graduation. We provide proactive support and capacity building services to promote co-curricular activities to enhance interpersonal skills of the students. Using the platform of Students' Affairs Office, students can build strong relationships with their peers, faculty, administration and other stakeholders. The formation of Mehran University Students' Advisory Committee is as under:

Dr. Tanweer Husssain
Professor, Department of Mechanical Engineering,
Advisor Students' Affairs
Direct: +92 22 2109136, Landline:0222772251-72 (Ext: 2030)
Email: tanweer.hussain@faculty.muet.edu.pk, asa@admin.muet.edu.pk

Dr. Ifthikhar Ali Sahito
Associate Professor, Department of Textile Engineering.
Deputy Advisor Students' Affairs
Landline:0222772251-72 (Ext: 6116)
Email: iftikhar.sahito@faculty.muet.edu.pk

Dr. Ismah Farah Siddiqui
Assistant Professor, Department of Software Engineering
Deputy Advisor Students' Affairs
Landline: 0222772251-72
Email: isma.farah@faculty.muet.edu.pk

Dr. Faheemullah Shaikh
Assistant Professor, Department of Electrical Engineering
Deputy Advisor Students' Affairs
Landline: 0222772251-72 (Ext: 2512)
Email: faheemullah.shaikh@faculty.muet.edu.pk

Engr. Mansoor Ali
Assistant Professor, Department of Electronics Engineering
Deputy Advisor Students' Affairs
Landline: 0222772251-72
Email: mansor.ali@faculty.muet.edu.pk

MUET
SHAHEED ZULFIQAR ALI BHUTTO
KHAIRPURMIR'S CAMPUS

MUET, SHAHEED ZULFIQAR ALI BHUTTO KHAIRPURMIR'S CAMPUS

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, KhairpurMir,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 Zulfiquar 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 disciplines, viz. Civil Engineering, Mechanical Engineering, Electrical Engineering, Petroleum & Natural Gas Engineering, Electronics Engineering and Software Engineering.

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

Prof. Dr. Muhammad Moazam Baloch	Pro-Vice Chancellor, MUET, SZAB Campus
Dr. Mujeeb Iqbal Soomro	Director, dministration/Chairman, Mechanical Engineering
Dr. Syed Naveed Raza Shah	Chairman, Civil Engineering Department
Prof. Dr. Hassan Ali Khan Durrani	Chairman/Incharge Transport Mechanical Engineering Department
Dr. Mohsin Ali Tunio	In-charge Chairman, Electrical Engineering Department
Dr. Muhammad Yakoob Soomro	Chairman/Focal Person SFAO, P&G Engineering Department
Dr. Noman Qadeer Soomro	Focal Person Software Engineering Department
Mr. Halar Haleem Memon	Focal Person, Electronics Engineering Department
Prof. Abdul Qadir Chang	Focal Person, Industrial Liaison
Dr. Muhammad Ali Abro	Focal Person QEC/ISO
Mr. Nadeem Ahmed Tunio	Focal Person Examinations/ Additional Provost Hostels
Dr. Sajid Hussain Qazi	Focal Person ORIC Dr. Bilal Shams Memon In-charge MIS
Mr. Waqas Ali Channa	Deputy Director Finance
Mr. Abdul Rasheed Phulpoto	Deputy Director ICPC

Mr. Sajjad Ali Memon	Project Director
Mr. Allah Bachayo Memon	Deputy Librarian
Mr. Pir Syed Asif Hussain Shah Jilani	Assistant Director Sports
Pir Nadeem Ahmed Sarhandi	Security Officer
Mr. Ayaz Ali Memon	Student Welfare Officer

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.

1. Civil Engineering
2. Electrical Engineering
3. Mechanical Engineering
4. Petroleum & Natural Gas Engineering
5. Electronic Engineering
6. Software Engineering

8.3.1 DEPARTMENT OF BASIC SCIENCES & RELATED STUDIES (BSRS)

8.3.1.1 About The Department

This department teaches the various courses of Mathematics including Statistics, Computer Science, Pakistan Studies, Islamic Studies/Ethics, Functional English, Presentation & Technical Writing and Communication Skills. The Department has its own beautiful state of art building. In addition, the department has a furnished computer Lab equipped with Core i7 for fifty (50) students.

8.3.1.2 The Faculty

Chairman of the Department:

Dr.Rafique Ahmed Memon
Ph: 0243-715365 Ext:7141

Professors	
Prof. Lal Chand (Contract)	M.Sc (Maths): Pakistan
Dr. Rafique Ahmed Memon	Ph.D. (Maths): Pakistan

Assistant Professor	
Mr.Hadi Bux Chijjan	Ph.D (Islamic Studies): Pakistan
Mr.Nek Muhammad Katber	M.Sc. (Maths): Pakistan
Ms. Quratulain Talpur	M.A. (English): Pakistan

Lecturers	
Mr. Ashfaque Hussain Soomro	M.Phil. (English): Pakistan
Dr.Basheer Ahmed Drus	Ph.D. (Islamic Studies): Pakistan
Mr.Masoom Ali Shahani	M.S (Maths): Pakistan
Mr. Sajid Ali Magsi	M.A. (English): Pakistan
Mr.Fayaz Ahmed Khuhro	M.Sc. (Maths): Pakistan
Mr. Kaleemullah Bhatti	M.Sc.(Maths): Pakistan, On Study Leave
Mr. Jalil Ahmed Chandio	M.Phil. (Pak Studies): Pakistan
Mr. Sanaullah Memon	M.Sc.(Maths): Pakistan
Mr.Abdul Majid Indhar	M.Sc. (Maths): Pakistan
Ms. Naina Khalid Hussain	M.Sc. (Maths): Pakistan

8.3.2 DEPARTMENT OF CIVIL ENGINEERING

8.3.2.1 About the Department

The Department of Civil Engineering of the Mehran University of Engineering & Technology, Shaheed Z.A Bhutto Campus Khairpur Mir's provides essential and advance engineering education according to the requirements of field. The various fields of specialization are introduced to the final year students by assigning them a thesis project. The thesis projects may be specific to a

particular specialization of civil engineering like Structural Engineering, Geotechnical Engineering, Transportation Engineering, Irrigation and Drainage Engineering, Construction Management, Environmental Engineering, etc.

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 are with equipment have been established. 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, etc. During the summer vacations the students are also sent on various Civil Engineering projects for internship. This is to expose them to practical engineering practices being actually implemented. The department also has a a software Laboratory which provides computing facility using application of various software related to the field of Civil Engineering.

8.3.2.2 Laboratory Facilities

1. Concrete Lab.
2. Fluid Mechanics & Hydraulics Lab.
3. Surveying Lab.
4. Computer Lab.
5. Software Lab.
6. Highways Engineering Lab.
7. Soil Mechanics Lab.
8. Environmental Engineering Lab.
9. Engineering Drawing Hall

8.3.2.3 Career Opportunities

Our graduates can choose career in various fields and organizations related to the Civil Engineering and also choose to set up their own businesses. Typical employment sectors for Civil Engineering includes: consulting, contractors, local authorities, public sector departments (Buildings, Highways, Railways, Airports, Irrigation, Water and Power, Ports etc) non-profit and research organizations. The B.E program at MUET SZAB Campus provides clear route to a professional career in Civil Engineering.

8.3.2.4 The Faculty

Chairman of the Department:

Dr. Syed Naveed Raza Shah

Associate Professors	
Dr. Kanya Lal Kahtri	Ph.D. Australia
Dr. Syed Naveed Raza Shah	Ph.D. Malaysia

Assistant Professors	
Dr. Muhammad Jaffar Memon	Ph.D. China
Dr. Ghulam Shabir Solangi	Ph.D. Pakistan
Mr. Sajid Ali Mangi	M.E. Pakistan, On Study Leave
Ms. Rabia Soomro	M.E. Pakistan, On Study Leave

Lectures	
Mr. Abdul Razzaque Sandhu	M.E. Pakistan
Mr. Hemu Karira	M.E. Pakistan
Mr. Dildar Ali Mangnejo	M.E. Pakistan
Mr. Mudasar Hussain Janwery	B.E. Pakistan
Mr. Touqeer Ali Rind	M.E. Pakistan

8.3.2.5 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
CE 102	Geometrical Engineering	2	1
CE 105	Civil Engineering Materials	3	1
CE 116	Engineering Mechanics	3	1
EN 111	Functional English	3	0
CS 146	Introduction to Computing and Programming	2	1
	Total	**13**	**4**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
CE 120	Surveying-I	3	1
MTH 108	Applied Calculus	3	0
IS 111/ SS 104	Islamic Studies/Ethics	2	0
PS 106	Pakistan Studies	2	0
CE 121	Civil Engineering Drawing	2	1
CE 125	Engineering Geology	3	1
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
CE 201	Surveying II	3	1
CE 205	Transportation Engineering	3	0
CE 201	Strength of Materials I	3	0
MTH 204	Differential Equations, Fourier Series and Laplace Transforms	3	0
CE 215	Fluid Mechanics and Hydraulics-I	3	0
	Total	**15**	**2**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
CE 220	Theory of Structures	3	0
CE 320	Applied Hydraulics	3	1
CE 230	Construction Engineering	2	0
CE 305	Strength of Materials II	3	1
MTH 206	Complex Analysis, Statistical Methods & Probability	3	0
CE 245	Architecture and Town Planning	2	0
	Total	**16**	**2**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
CE 301	Strength of Materials II	3	0
CE 305	Structural Analysis	3	0
CE 310	Fluid Mechanics and Hydraulics-II	3	1
CE 315	Steel Structures	3	0
MTH 303	Linear Algebra and Numerical Methods	3	0
	Total	**15**	**1**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
CE 320	Applied Hydraulics	3	1
CE 325	Soil Mechanics	3	1
CE 330	Modern Methods of Structural Analysis	3	0
CE 335	Reinforced and Pre-stressed Concrete	3	1
CE 340	Quantity Surveying and Estimation	3	0
	Total	**15**	**3**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
CE 401	Highway and Traffic Engineering	3	1
CE 410	Geotechnical Engineering	3	1
CE 415	Irrigation Engineering	3	1
CE 420	Environmental Engineering-I	2	1
	Total	**14**	**4**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
CE 425	Foundation Engineering	3	0
CE 430	Environmental Engineering-II	3	0
CE 435	Construction Management and Planning	3	0
CE 440	Hydrology and Drainage Engineering	3	0
CE 405	Structural Design and Drawing	3	0
CE 445	Project/Thesis	6	0
	Total	**18**	**0**

8.3.3 DEPARTMENT OF ELECTRICAL ENGINEERING

8.3.3.1 About The Department

Electrical Engineering is an important discipline of engineering which deals with the study and application of Electricity, Electronics, and Electromagnetism. Electrical Engineering Department of this campus had been established in 2010 and 1st intake of 47 students (10 Batch), 2nd intake of 56 students (11 Batch), 3rd intake of 53 students (12 Batch), 4th intake of 49 students (13 Batch), 5th intake of 41 students (14 Batch) and 6th intake of 55 students (15 Batch) have successfully completed B.E Electrical Engineering Program which has also been accredited by Pakistan Engineering Council as well.

The Department offers both the undergraduate and postgraduate programs. The courses of the programs have been drawn from the curriculum guidelines of HEC/PEC and duly approved by the Academic Council of the university. The Department has 12 full time qualified faculty members with vast teaching and research experience.

8.3.3.2 The Faculty

Incharge Chairman of the Department:

Dr. Mohsin Ali Tunio
Phone: 0243-715365 Ext: 7401

Professors	
Prof. Agha Zafarullah Pathan	M.Sc. Germany, On Contract
Prof. Abdul Qadir Chang	M.E. Pakistan, On Contract

Assistant Professors	
Engr. Shakir Ali Soomro	M.E. Pakistan
Dr. Mazhar Hussain Baloch	Ph.D. China, On Study Leave
Engr. Nadeem Ahmed Tunio	M.E. Pakistan
Dr. Mohsin Ali Tunio	Ph.D. Malaysia
Engr. Touqeer Ahmed Jumani	M.E. Pakistan, (On Study Leave)
Engr. Irfan Ahmed	M.E. Pakistan
Engr. Ahsanullah Memon	M.E. Pakistan, (On Study Leave)
Dr. Sajid Hussain Qazi	Ph.D. Malaysia

Lectures	
Ms. Kalsoom Baghat	M.E. Pakistan, (On Study Leave)
Mr. Rasool Akhtar	B.E Pakistan

8.3.3.3 Laboratory Facilities

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.

i) Basic Electrical Engineering Lab
ii) Basic/ Applied Electronic Lab
iii) Electrical Machines Lab
iv) Instrumentation and Control Lab
v) Communication System Lab
vi) Power System Lab
vii) High Voltage Lab
viii) Power Electronics Lab
ix) Computer Lab
x) Software Lab
xi) Project Lab
xii) Seminar Library

8.3.3.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
EL-111	Electrical Workshop Practice	0	1
EL-112	Applied Physics	3	1
CS-104	Introduction to Computing & Programming	3	1
MTH-102	Applied Calculus	3	0
ENG-101	Functional nglish	3	0
	TOTAL	**12**	**3**

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
EL-311	Advanced Electrical Machines	3	1
EL-312	Electrical Power Transmission	3	1
EL-313	Instrumentation & Measurement	3	1
MTH-336	Numerical Analysis & Computer Applications	3	1
ENG-304	Technical Writing	2	0
	TOTAL	**14**	**4**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
EL-121	Linear Circuit Analysis	3	1
MTH-112	Linear Algebra and Analytical Geometry	3	0
PS-106	Pakistan Studies	2	0
IS-111/SS-104	Islamic Studies/ Ethics	2	0
ENG-102	Communication Skills	2	0
CE-118	Applied Mechanics	3	1
	TOTAL	**15**	**2**

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
EL-321	Power Generation Systems	3	1
ES-325	Linear Control Systems	3	1
TL-380	Communication Systems	3	1
EL-324	Power Economics & Management	3	0
MTH-311	Statistics and Probability	3	0
	TOTAL	**15**	**3**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
EL-211	Electronic Devices & Circuits	3	1
EL-212	Digital Logic Design	3	1
EL-213	Electrical Network Analysis	3	1
MTH-212	Differential Equations and Fourier series	3	0
ME-271	Applied Thermodynamics	3	0
	TOTAL	**15**	**3**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
EL-411	Power System Analysis	3	1
EL-412	Electrical Machine Design & Maintenance	3	1
EL-413	High Voltage Engineering	3	1
EL-414	Power Distribution & Utilization	3	1
	Senior Design Project –I	0	0
	TOTAL	**12**	**04**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
EL-221	Theory of Electromagnetic Field	3	0
EL-222	Electrical Machines	3	1
EL-223	Applied Electronics	3	1
CS-260	Microprocessor Systems	3	1
MTH-213	Complex Variables & Transforms	3	0
	TOTAL	**15**	**3**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
EL-421	Power Electronics	3	1
EL-422	Power System Stability & Control	3	1
EL-423	Power System Protection	3	1
EL-499	Senior Design Project -II	0	6
	TOTAL	**09**	**09**

8.3.3.5 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, Engro, FFC and various other industries and organizations hire Electrical Engineers for design operational 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.

8.3.4 DEPARTMENT OF ELECTRONIC ENGINEERING

8.3.4.1 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 lead 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, Laser & Fiber Optics, 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

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

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)

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.

8.3.4.2 The Faculty

In-Charge Chairman of the Department:

Engr. Halar Haleem Memon
Phone: 0243-686074 Ext: 7701

Assistant Professors	
Dr. Muhammad Rafique Naich	Ph.D: China
Mr. Halar Haleem Memon	M.E. Pakistan.
Ms. Kaneez Fatima	M.E. Pakistan

Lecturers	
Mr. Maroof Panhwar	M.E. Pakistan
Ms. Bushra Shaikh	M.E.- Mehran UET Jamshoro, Pakistan
Ms. Darshna Tulsi Das	M.E. Pakistan.

8.3.4.3 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
2. Communication Systems Lab
3. Instrumentation and Control Lab
4. Electrical Machines Lab
5. Software Lab
6. Computer Lab
7. Basic Electrical Engineering Lab
8. Power Electronics Lab
9. Digital Electronics & Microprocessor Lab
10. Signal Processing and FPGA Lab
11. Industrial Automation and Robotics Lab
12. Advanced Electronics Lab

8.3.4.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
ENG-101	Functional English	3	0
MTH-102	Applied Calculus	3	0
CS-150	Introduction to Computing	2	1
EL-116	Applied Physics	3	1
SS-107	Professional Ethics	2	0
ES-102	Electronics Workshop	0	1
	Total	**13**	**03**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
MTH-112	Linear Algebra & Analytical Geometry	3	0
CS-113	Computer Programming	2	1
ES-112	Basic Electronics	3	1
EL-107	Electrical Circuits	3	1
PS-106	Pakistan Studies	2	0
SS-111/104	Islamic Studies/Ethics	2	0
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
ES-203	Electronic Circuit Design	3	1
ES-213	Digital Electronics	3	1
ES-223	Measurements & Instrumentation	2	1
MTH-201	Differential Equations & Fourier Series	3	0
INM-291	Engineering Management	2	0
CS-215	Computer Aided Engineering Design	0	1
	Total	**13**	**04**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
ES-233	Sequential Circuit Design	2	1
ES-243	Electromagnetic Fields	3	0
ES-253	Integrated Electronics	3	1
EL-202	Electrical Machines	2	1
MTH-211	Complex Variables & Transforms	3	0
ENG-201	Communication Skills	2	0
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
ES-304	Signals & Systems	3	1
ES-313	Microprocessors & Microcontrollers	3	1
ES-324	Probability & Random Signals	3	0
EL-319	Power Electronics	2	1
MTH-310	Numerical Methods	3	1
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
TL-351	Analog & Digital Communication	3	1
ES-353	Control Systems	3	1
ES-363	Digital Instrumentation Systems	2	1
ES-373	FPGA-Based System Design	3	1
ES-393	Laser & Fiber Optics	3	0
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
TL-411	Computer Communication & Networking	2	1
ES-413	Digital Control System	3	1
ES-423	Embedded Systems Design	3	1
ENG-401	Technical Report Writing & Presentation Skills	2	0
ES-499	Electronic Engineering Project-1	0	3
	Total	**10**	**06**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
TL-451	Advanced Communication Systems	3	0
ES-451	Mechatronics Applications	3	0
ES-433	Digital Signal Processing	3	1
CS-490	Artificial Intelligence	3	1
ES-499	Electronic Engineering Project-2	0	3
	Total	**12**	**05**

8.3.4.5 Career Opportunities

An Electronic Engineer can find lucrative jobs in well reputed private and public sector organizations such as: PTCL, KE, SUPARCO, Fertilizer Industry, Petrochemical sector, CAA, WAPDA, Pharmaceutical companies, Research & Development Organizations, Mobile Operators and Telecom Sectors, Electric Utility companies (MEPCO, HESCO, SEPCO etc), Petroleum companies (PPL, OMV), Manufacturing Industries (Engro, Lucky Cement, Nestle etc) and various other national and multinational organizations.

8.3.5 DEPARTMENT OF MECHANICAL ENGINEERING

8.3.5.1 About The Department

Mechanical Engineering emerged in the 19th century as a result of developments in the field of physics. The field has continually evolved to incorporate advancements in technology, and mechanical engineers today are pursuing developments in such fields as composites, mechatronics, and nanotechnology. Mechanical Engineering overlaps with aerospace engineering, metallurgical engineering, civil engineering, electrical engineering, petroleum engineering, manufacturing engineering, chemical engineering, and other engineering disciplines. Mechanical engineers may also work in the field of Biomedical engineering specifically with biomechanics, transport phenomena, bio-mechatronics, bio-nanotechnology, and modeling of biological systems, like soft tissue mechanics. To put it simply, Mechanical Engineering deals with anything that moves, including the human body, a very complex machine. Mechanical engineers learn about materials, solid and fluid mechanics, thermodynamics, heat transfer, control, instrumentation, design, and manufacturing to understand mechanical systems. Specialized Mechanical Engineering subjects include, cartilage-tissue engineering, energy conversion, and laser-assisted materials. The American Society of Mechanical Engineers (ASME) currently lists 36 technical divisions, from advanced energy systems and aerospace engineering to solid-waste engineering and textile engineering. Mechanical Engineering field requires an understanding of core concepts including mechanics, kinematics, thermodynamics, materials science, structural analysis, and electricity. Mechanical engineers use these core principles along with tools like computer-aided engineering, and product lifecycle management. These tool are used to design and analyze manufacturing plants, industrial equipment and machinery, heating and cooling systems, transport systems, aircraft, watercraft, robotics, and medical devices

8.3.5.2 The Faculty

Chairman of the Department:

Prof. Dr. Hassan Ali Khan Durrani

Professors	
Dr. Hassan Ali Khan Durrani	B.E Pakistan, On Study Leave
Associate Professor	
Dr. Sadiq Ali Shah	Ph.D. United Kingdom
Assistant Professor	
Dr. Muhammad Ali Abro	Ph.D. South Korea
Dr. Mujeeb Iqbal Soomro	Ph.D. South Korea
Engr. Ali Nawaz Sanjrani	M.E Pakistan
Engr. Majid Ali Wassan	M.E Malaysia
Engr. Aqeel Ahmed Bhutto	M.E Pakistan, Ph.D. Pakistan
Engr. Bilawal Ahmed Bhayo	M.Sc. Malaysia, On Study Leave
Engr. Jahanzeb Soomro	M.E Pakistan, On Study Leave
Lecturers	
Engr. Aurangzaib Wadho	M.E Pakistan
Engr. Abdul Ahad Noohani	M.E Pakistan
Engr. Talib Hussain Ghoto	M.E Pakistan
Engr. Muhammad Haris Khan	B.E Pakistan
Engr. Qadir Nawaz Shafiq	M.E Pakistan
Engr. Ali Anwar Brohi	B.E Pakistan, On Study Leave
Engr. Awais Junejo	M.E Pakistan, On Study Leave
Engr. Danish Ali Memon	M.E Pakistan, On Study Leave
Engr. Zaheer Ahmed Odho	B.E Pakistan, On Study Leave

8.3.5.3 Laboratory Facilities

Following labs are established in this department to cater the practical/ experimental requirements of the program offered.

1. Auto-Mobile Laboratory
2. Aerodynamics Laboratory
3. CAD/ CAM Laboratory
4. CNC Laboratory
5. Engineering Statics Laboratory
6. Fluid Mechanics Laboratory
7. Heat Transfer Laboratory
8. Heating Ventilation & Air Condoning Laboratory
9. Material Testing Laboratory
10. Mechanics of Machine Laboratory
11. Mechanical Vibrations Laboratory
12. Mechatronics Laboratory
13. Solar Energy Laboratory
14. Thermodynamics Laboratory
15. Fitting Shop
16. Machine Shop
17. Welding Shop
18. Wood Workshop

8.3.5.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
SS 111 / SS 104	Islamic Studies / Ethics	2	0
(PS 106)	Pakistan Studies	2	0
(MTH 108)	Applied Calculus	3	0
(ME 102)	Engineering Drawing & Computer Graphics	2	2
(ME 112)	Engineering Statics	2	1
(ME 122)	Engineering Materials	3	0
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
(EN 101)	Functional English	2	0
(MTH 103)	L.A,D.E&A.G	3	0
(ME 132)	Engineering Dynamics	2	0
(EL 102)	Electrical Technology	2	1
(ME 142)	Workshop Practice	0	2
(ES 281)	Basic Electronics	2	1
(ME 151)	Applied Physics	2	0
	Total	**13**	**04**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
(MTH 213)	Complex Variables & Transforms	3	0
(ME 202)	Strength of Materials-I	2	0
(CH 202)	Applied Chemistry	2	0
(ME 222)	Thermodynamics-I	3	0
(ME 252)	Fluid Mechanics-I	3	1
(CS 255)	Computer programming	2	1
	Total	**15**	**0**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
(MTH 336)	Numerical Analysis & Computer Applications (NACA)	3	1
(ME 232)	Strength of Materials-II	3	1
(ME 242)	Thermodynamics-II	3	1
(ME 226)	Fluid Mechanics-II	3	1
(ME 212)	Mechanics of Machines-I	2	0
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
(ME 302)	Heat & Mass Transfer	3	1
(ME 312)	Applied Aerodynamics	3	1
(EE 425)	Safety, Health & Environment	2	0
(ME 332)	Machine Design -I	3	0
(EN 306)	Communication Skills and Technical Writing	3	0
(ME 366)	Mechanics of Machine-II	2	1
	Total	**16**	**03**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
(ME 342)	Instrumentation & Measurement	2	1
(MTH 317)	Statistics & Probability	3	0
(ME 352)	Machine Design-II	3	0
(ME 372)	Refrigeration & Air Conditioning	3	1
(ME 382)	Mechanical Vibrations	3	1
(ME 356)	Computer Aided Machine Design (CAMD)	0	1
	Total	**14**	**04**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
(ME 402)	Entrepreneurship & Engineering Management	3	0
(ME 412)	Automobile Engineering	3	1
(ME 491)	Control Engineering	2	1
(ME 462)	Manufacturing Processes	3	1
(ME 442)	Thermal Power Plants	3	0
(ME 499)	Project/Thesis –I*	__	0
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
(ME 452)	Renewable and Emerging Energy Technologies (REET)	3	1
(ME 472)	Maintenance Engineering	2	0
(ME 482)	Project Management & Optimization	3	0
(ME 499)	Project/Thesis-II	__	6
	Total	**8**	**7**

8.3.5.5 Career Opportunities

The breadth of the Mechanical Engineering discipline allows graduates a variety of career options. Their education enables them with the creative thinking that allows them to design an exciting product or system, the analytical tools to achieve their design goals, the ability to overcome all constraints, and the teamwork needed to design, market, and produce a system.

Mechanical engineering graduates are sought by employers in almost all sectors of the engineering industry. These include:

- Aerospace industry – Research, Design, Manufacturing and Maintenance of Aerospace Equipment
- Automotive industry – Designs, Manufactures, and Maintenance of Automobiles
- Defense industry – Design Fabrication and Maintenance of Defense Equipment
- Electronics industry – Design and Manufactures of components from automotive to medicine and 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 – Design, Manufacturing and Maintenance of rail system components from trains and tracks to electrical power systems and train control system

8.3.6 DEPARTMENT OF PETROLEUM AND NATURAL GAS ENGINEERING

8.3.6.1 About The Department

In recent years, Petroleum and Natural Gas Engineering has gained considerable importance due to the vital role of 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 also plays an important role in country's energy development, consumption and economic growth, the **Department of Petroleum & Natural Gas Engineering** was established at the campus in the year 2010.

The aim of the Department is to offer undergraduate studies in Petroleum and Natural Gas Engineering program and the curriculum is designed in a way to equip students with the knowledge and skills to tackle engineering problems in oil and gas industry and can propose emerging solutions. The curriculum includes courses for evaluating oil and gas reserves and reservoirs, design engineering applications for well drilling, completion, work over, production and surface facilities, analyze reservoir performance and production optimization of hydrocarbon recovery, perform reservoir simulation and visualization, understand new techniques to enhance oil recovery and conduct of reservoir management principles. Furthermore interdisciplinary subjects such as geology, computer application & programming, mathematics, linear algebra and Laplace transform are also included in the course curriculum. The curriculum is updated and approved by the Higher Education Commission (HEC) and Pakistyan Engineering Council (PEC) and designed on the basis of fulfilling following Program Educational Objectives (PEOs):

1. To produce petroleum graduates capable of practicing knowledge to promote oil and gas industry.
2. To produce skilled engineers having potential of leading the petroleum industry.
3. To provide quality research for innovative solutions to enhance oil and gas production to support global fuel demand.

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. Up to now, first five undergraduate batches (K-10PG, K-11PG, K-12PG, K-13PG, K-14PG and K-15PG) have been successfully graduated in 2014, 2015, 2016, 2017 and 2018 respectively. Most of the graduates have been employed by oil and gas operating exploration companies, services companies, refineries and marketing companies in the country and abroad. Number of graduates of the Department have also acquired scholarships in foreign countries for their higher studies and post-graduation in various engineering disciplines such as petroleum, energy, chemical, earth science and interdisciplinary.

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 & Tech 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. Moreover, SPE chapter promotes and uphold the educational activities and creates healthy environment for young petroleum engineers to harness their strength and collaboration with the industry.

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 strong basis for research development activities. In the recent years, the Campus management has arranged the software of Integrated Production Modeling (IPM) sponsored by Petroleum Experts Limited. The Department has arranged OnePetro Subscription that is granted by OnePetro grant program sponsored by the Society of Petroleum Engineers. Due to this facility all the faculty members, students and research/thesis groups can freely access One Petro sponsored e-publications; OnePetro is worldwide one of the industry s largest online technical content library that allow to search

and download more than 90,000 technical documents and publications from multiple professional societies/linkages. The seminar library (air conditioned) also exists at the Department that contains more than 220 petroleum text books, thesis and monographs available for students to study with easy access.

8.3.6.2 The Faculty

Chairman of the Department:

Prof. Dr. Muhammad. Yakoob Soomro
Phone: 0243-715364-65 Ex.7601

Professors	
Dr. M. Yakoob Soomro	Ph.D.United Kingdom, On Contract

Assistant Professors	
Mr. Asadullah Memon	M.E. Pakistan, (On Study Leave)
Engr. Imran Ali Memon	M.E. Pakistan
Mr. Faisal Hussain Memon	M.E. Pakistan
Mr. Ghulam Abbas	M.Sc Malaysia
Mr. Bilal Shams Memon	Ph.D China

Lecturers	
Mr. Adnan Aftab Nizamani	M.Phil, Malaysia
Mr. Abdul Samad Shaikh	M.E. Pakistan
Mr. Sundar Sham Jeswani	M.E. Pakistan
Mr. Shoaib Ahmed Memon	M.E. Pakistan
Engr. Zaheer Hussain Zardari	B.E. Pakistan
Eng.Waseem Mumtaz Kalwar	B.E. Pakistan
Engr. Temoor Muther	M.E. Pakistan

8.3.6.3 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 & Sendra), Drilling Engineering (Drilling & work over simulator) and Production Engineering (IPM suits).
The following Laboratories are available at the department:

1. Oil Testing Laboratory
2. Drilling and Production Laboratory
3. Reservoir Engineering Laboratory
4. Gas Engineering Laboratory
5. Petroleum Software Lab
6. General Computer Lab
7. Core Analysis Laboratory (under tendering)

8.3.6.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
PG-101	Fundamentals of Petroleum Engineering	3	0
HU-101	Functional English	3	0
PS-106	Pakistan Studies	2	0
IS-111/ SS-104	Islamic Studies / Ethics	2	0
MTH-108	Applied Calculus	3	0
EL-112	Applied physics	3	1
	Total	**16**	**1**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
WS-105	Workshop Practice	0	2
ME-110	Engineering Drawing & Graphics	2	1
ENG-111	Communication Skills	2	0
PG-111	Applied Chemistry	2	1
MTH-112	Linear Algebra &Analytical Geometry	3	0
PG-121	Applied Geology	2	1
PG-131	Applied Thermodynamics	2	0
	Total	**13**	**5**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
ENG-215	Technical Report Writing & Presentation Skills	2	0
EL-215	Introduction to Electrical Engineering	2	1
PG-221	Petroleum Geology & Geo-Physical Prospecting	3	0
MTH-223	Differential Equation & Complex Variable	3	0
CS-231	Computer Programming & Software Applications	2	1
CE-261	Fluid Mechanics	2	1
	Total	**14**	**3**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
PG-201	Petrophysics	3	1
PG-211	Drilling Engineering-I	3	1
PG-222	Organizational Behavior	3	0
PG-231	Properties of Reservoir Fluids	3	1
CE-281	Mechanics of Materials	2	1
	Total	**14**	**4**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
PG-321	Reservoir Geo Mechanics	2	0
PG-341	Drilling Engineering-II	3	1
PG-361	Reservoir Engineering	3	1
PG-371	Petroleum Refinery Engineering	3	1
PG-381	Environment & Safety Management	3	0
	Total	**14**	**3**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
PG-301	Instrumentation & Process Control	2	1
PG-311	Natural Gas Engineering	2	1
MTH-321	Applied Numerical Methods	2	1
PG-331	Gas Reservoir Engineering	3	1
PG-351	Well Logging	2	1
	Total	**11**	**5**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
PG-401	Well Testing	3	1
PG-411	Petroleum Production Engineering-I	3	1
PG-421	Reservoir Simulation	3	1
PG-441	Project Planning & Management	2	0
PG-491	Final Year Project	3	0
	Total	**14**	**3**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
PG-451	Principles of Enhanced Oil Recovery	3	1
PG-461	Petroleum Production Engineering-II	3	1
PG-471	Unconventional Reservoirs	3	0
PG-481	Petroleum Economics	2	0
PG-491	Final Year Project	3	0
	Total	**14**	**2**

8.3.6.5 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 oil and gas sector during the exploration, drilling and production phases. After graduation, our graduates will be able to work with national and multinational E&P and service companies such as OGDCL, PPL, Eni, OMV, UEP, Schlumberger and Weatherford.

8.3.7 DEPARTMENT OF SOFTWARE ENGINEERING

8.3.7.1 About The Department

Software Engineering is the field of technology that is related to the application of theoretical approaches to the development, operation and maintenance of software. It is not only pertaining to the simple and rather stereotypical knowledge of only writing code for programs, but it is also the study of how these approaches actually work in the real world based on different factors and engineering them accordingly to reach the desired goals. Software engineering is the creating software that is of higher quality, more affordable, maintainable, and quicker to build.

Software engineering is normally sub divided into following sub disciplines:

1. Software Requirement
2. Software Design
3. Software Development

Thus, software engineering is an important aspect of technology and it will bring significant changes and at the same time be a major factor in future developmental periods of the world. The department offers undergraduate degree program i.e. B.E (Software Engineering) this program provides in-depth knowledge of the subject, wherein students will develop all skills regarding design and implications of modern Software Engineering through integrated courses. The courses are revised time to time keeping in view software needs of the emerging market at national & international level.

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.

8.3.7.2 The Faculty

Incharge Chairman of the Department:

Dr. Nouman Qadeer Soomro
Phone: 0243-715365 Ext: 7801

Assistant Professors	
Dr. Nouman Qadeer Soomro	PhD. China
Dr. Munwar Ali	PhD Malaysia
Dr. Noor Shaikh	PhD. Pakisan
Ms. Sajida Raz Bhutto	M.E. Pakistan

Lectures	
Mr. Irfanullah Memon	M.E. Pakistan
Ms. Munazza Zaib	M.E. Pakistan
Mr. Maroof Ali	B.E. Pakistan
Mr. Bushra Shaikh	B.E. Pakistan
Ms. Qamar-U-Nisa Kamal	M.E. Pakistan

8.3.7.3 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. Computational linguistic and interactive e-learning lab
2. Visual informatics and image processing laboratory
3. Software quality assurance and testing laboratory
4. Software research and development laboratory
5. Data warehousing and management laboratory
6. Parallel programming and cluster computing laboratory
7. Grid research and storage management laboratory
8. 3-d modeling and visualization laboratory

8.3.7.4 Courses

Course Code	Subject Name	Credit Hours	
1st Semester		*Theory*	*Practical*
MTH108	Applied Calculus	3	0
EL101	Basic Electrical Engineering	3	1
SW111	Computer Programming	3	1
ENG111	Functional English	3	0
ES121	Electronic Engineering	3	1
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
2nd Semester		*Theory*	*Practical*
SW121	Object Oriented Programming	3	1
SW122	Digital Computer & Logic Design	3	1
MTH112	Linear Algebra & Analytical Geometry	3	0
PS106	Pakistan Studies	2	0
SS111	Islamic Studies / Ethics	2	0
SS125	Professional Ethics	2	0
	Total	**15**	**02**

Course Code	Subject Name	Credit Hours	
3rd Semester		*Theory*	*Practical*
SW215	Software Economics & Management	2	0
SW224	Data structures & Algorithms	3	1
SW221	Computer Architecture & Organization	3	0
SW214	Introduction to Software Engineering	3	0
MTH212	Differential Equation & Fourier series	3	0
	Total	**14**	**01**

Course Code	Subject Name	Credit Hours	
4th Semester		*Theory*	*Practical*
SW211	Operating Systems Concepts	3	1
SW222	Database Management & Administration	3	1
SW223	Operations Research	3	0
SW212	Microprocessor Technologies	3	1
MTH217	Laplace Transforms & Discrete Mathematics	3	0
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
5th Semester		*Theory*	*Practical*
SW311	Theory of Automata & Formal Languages	3	0
SW312	Digital Communication	3	1
SW313	Human Computer Interaction	3	1
SW314	Software Requirement Engineering	3	0
SW315	Mobile Programming	3	1
	Total	**15**	**03**

Course Code	Subject Name	Credit Hours	
6th Semester		*Theory*	*Practical*
SW321	Computer Networks & Management	3	1
SW322	Software Project Management	3	1
MTH317	Statistics & Probability	3	0
SW323	Artificial Intelligence Concepts & Techniques	3	1
ENG319	Technical Report Writing & Presentation Skills	2	0
	Total	**14**	**03**

Course Code	Subject Name	Credit Hours	
7th Semester		*Theory*	*Practical*
SW411	Interactive Multimedia Systems & Graphics	3	1
SW412	Web Technologies	3	1
SW413	Software Design & Architecture	3	1
SW422	Computer Vision	3	1
SW424	Thesis/Project	0	0
	Total	**12**	**04**

Course Code	Subject Name	Credit Hours	
8th Semester		*Theory*	*Practical*
SW421	Data Warehousing & Mining Techniques	3	1
SW414	Distributed Computing	3	1
SW423	Software Testing & Quality Assurance	3	1
SW424	Thesis/Project	0	6
	Total	**09**	**09**

8.3.7.5 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 computer software engineers cover startup companies to established industry leaders and thus include a large number of clientele.

As the use of the Internet, e-mail, and other communications systems increases, firms from electronics to engineering which were traditionally associated as unrelated disciplines will expand, hiring more and more such engineers. Engineering firms specializing in building bridges and power plants, for example, also hire computer software engineers for designing and developing advanced geographic data systems and automated drafting systems. Communications industries also require computer software engineers, with whose help the personal communications market could be tapped into. The major communications companies have many job opportunities for both computer software applications and computer systems engineers. A growing number of computer 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 the client companies' Web sites and intranets.

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 on this course will be sought after in many organizations.

8.4 ICPC (Information and Communication Processing Centre)

ICPC is responsible for providing data and voice services at Campus, for which all Departments/Sections and Residential Complex are connected through Fiber Optic cable.

Internet service is provided through Wired and Wireless (Wi-Fi) at Campus. The ICPC is equipped with the latest Computer Server machines and Network switches. Internet Access is provided through Microsoft Authentication Server, for which faculty/staff and students may contact with ICPC for providing internet access credentials. The Campus is connected through Fiber link with HEC PERN network , and campus has of 64Mpbs internet bandwidth. For Voice (Intercom) Service a latest EPABX is also installed at ICPC. Official Email accounts, and Microsoft Dream Spark accounts are also provided to Faculty/Staff and students of Campus.

8.5 Transport Facilities

The campus provides transport service to the students, faculty and staff along the five routes, viz. Sukkur-Khairpur Mir's, Ranipur-Khairpur Mir's, Pir Jo Goth-Khairpur Mir's, PanoAqil-Khairpur Mir's, ThariMirwah-Khairpur Mir's and within Khairpur Mir's City.

8.6 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.

8.7 Surveillance

The campus has a state of the art surveillance system with a central control room to monitor & review the Campus premises for security concerns.

8.8 Library

The Campus Library contains more than 28000 books related to Engineering Science and Technology and its allied subjects. There are more than 7000 (approximately) in form of text books.

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.

8.9 Residential accommodation for students & staff has been planned which is comprising of;

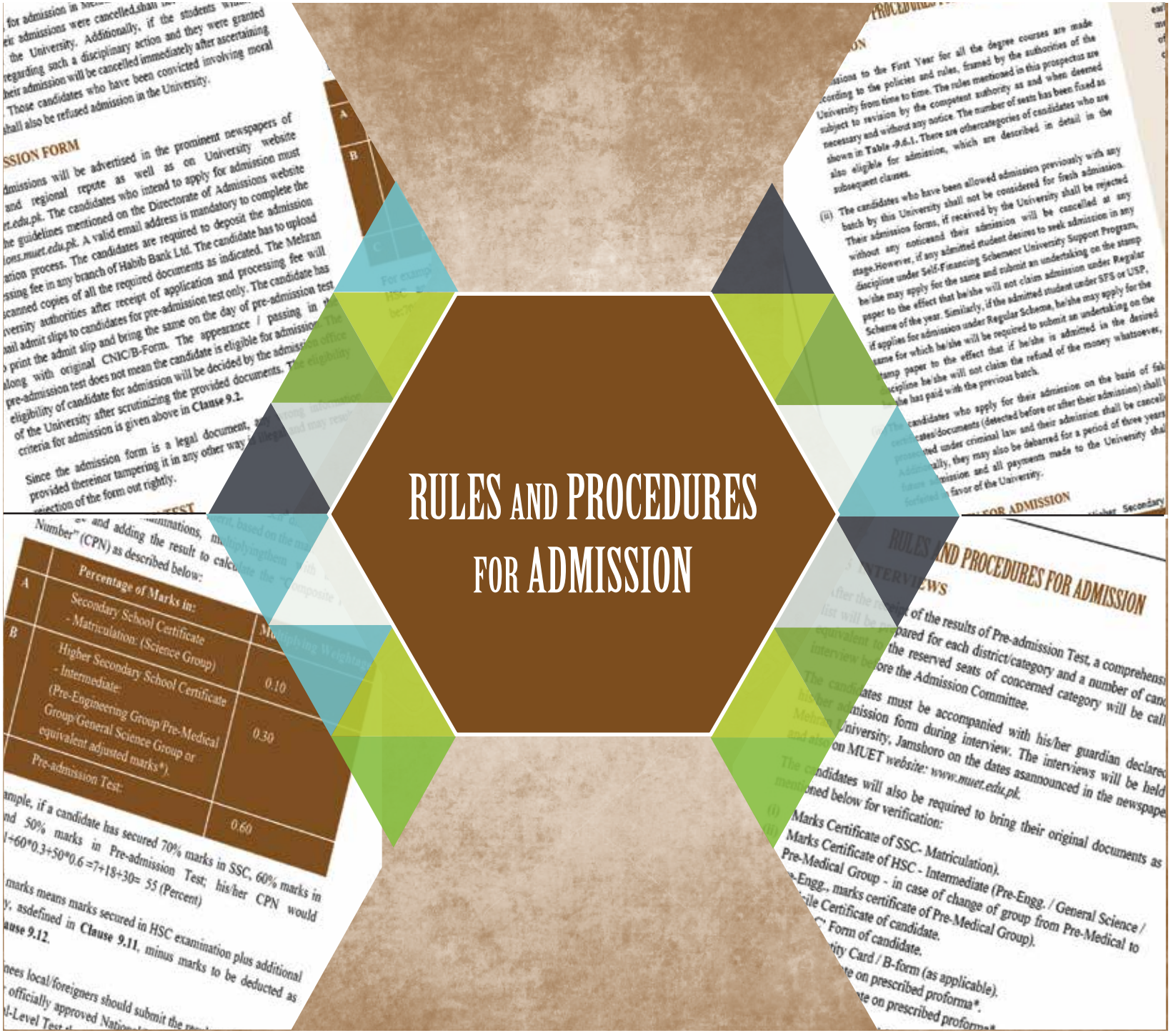
The residence facility for student & staff is being provided at Residential Complex (New Land). The two (02) boys' hostels will start function in next session; however, the construction of following has been started and will be completed soon.

1. Boys Hostel -01 No.
2. Girls Hostels -02 No.
3. Teachers /Staff Houses -40 No.
4. Shopping Centre -01 No.
5. Health Centre -01 No.
6. Mosque -01 No.
7. Sports Complex including Gymnasium. -01 No.
8. 10 Cafeteria

The Campus cafeteria was inaugurated in December-2015 with sitting capacity of approximately 100 people. The cafeteria is providing mess facility to the staff and teachers along with students.

8.11 Auditorium

Construction work of Auditorium started since December 2015 and expected to be completed by May-2020 with the capacity for approximately 500 people.


RULES AND PROCEDURES
FOR ADMISSION

RULES AND PROCEDURES FOR ADMISSION

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 authority 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 othercategories of candidates who are also eligible for admission, which are described in detail in the subsequent clauses.

(ii) 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 noticeand their admission will be cancelled at any stage.However, if any admitted student desires to seek admission in any discipline under Self-Financing Schemeor University Support Program, he/she may apply for the same and submit an undertaking on the stamp paper to the effect that he/she will not claim admission under Regular Scheme of the year. Similarly, if the admitted student under SFS or USP, if 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.

(iii) The candidates who apply for their 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) The candidates who have passed the Higher Secondary School Certificate (HSC) Pre-Engineering Examination or equivalent with Physics, Chemistry and Mathematics in Annual Examinations of 2019or earlier up to Annual Examinations of 2016 and have secured at least 60% marks (Grace marks shall not be considered)from any recognized Board of Intermediate and Secondary Education in Pakistan or from foreign countries, are eligible to apply for admission. In addition, the candidates who have passed Intermediate (General Science Group) in Annual Examination 2019 or earlier up to Annual Examination of 2016 and have secured at least 60% marks (Grace marks shall not be considered)are also eligible for their admission only in Computer Systems Engineering, Software Engineering, Electronic Engineering and Telecommunication Engineering and they will not claim their admission in any other discipline. The candidates who have passed Intermediate (Pre-Medical Group) in Annual Examination 2019 or earlierup to Annual Examination 2016 and have secured at least 60% marks (Grace marks shall not be considered) are eligible for their admission only in Bio-Medical Engineering and they will not claim their admission in any other discipline. The candidates who have passed the above examinations or equivalent examinations before Annual Examination 2016 shall not be eligible for admission.

(ii) Candidates who have passed three years diploma from any recognized Board of Technical Education in Pakistan in any approved discipline (Civil, Electrical, Mechanical, Electronics, Chemical, Glass & Ceramics, Petroleum and Architecture Technology) before last date of submission of admission form or earlier up to Annual Examination 2016, the result of Diploma must be declared at least 10 days before pre-admission test and have secured at least 60% marks (Grace marks shall not be considered)are also eligible to apply for admission under Category-B in the same discipline only under the Regular Scheme. The candidates who have passed three years Diploma before Annual Examination 2016 shall not be eligible for admission.

(iii) Those students, who were admitted to any other institutes/universities

before applying for admission in Mehran University 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.

9.3 ADMISSION FORM

Call for admissions will be advertised in the prominent newspapers of national and regional repute as well as on University website *www.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 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 candidate has to upload the scanned copies of all the required documents as indicated. The Mehran University authorities after receipt of application and processing fee will email admit slips to candidates for pre-admission test only. The candidate has to print the admit slip and bring the same on the day of pre-admission test along with original CNIC/B-Form. The appearance / passing in the pre-admission test does not mean the candidate is eligible for admission. The eligibility of candidate for admission will be decided by the admission office of the University after scrutinizing the provided documents. The eligibility criteria for admission is given above in **Clause 9.2.**

Since the admission form is a legal document, any wrong information provided thereinor 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% Scorein the Pre-admission Test shall not be eligible for the admission in this University.

The final merit list of the candidates for each district/category will be prepared by calculating the overall merit, based on the marks obtained in each of the following examinations, multiplyingthem with the respective weightage and adding the result to calculate the "Composite Percentage Number" (CPN) as described below:

	Percentage of Marks in:	Multiplying Weightage
A	Secondary School Certificate - Matriculation: (Science Group)	0.10
B	Higher Secondary School Certificate - Intermediate: (Pre-Engineering Group/Pre-Medical Group/General Science Group or equivalent adjusted marks*).	0.30
C	Pre-admission Test:	0.60

For example, if a candidate has secured 70% marks in SSC, 60% marks in HSC and 50% marks in Pre-admission Test; his/her CPN would be:70*0.1+60*0.3+50*0.6 =7+18+30= 55 (Percent)

* Adjusted marks means marks secured in HSC examination plus additional marks if any, asdefined in **Clause 9.11**, minus marks to be deducted as defined in **Clause 9.12**.

Note: All nominees local/foreigners should submit the result of HEC, SAT, UETs, NUST or officially approved National/International Organization or other International-Level Test 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

After the receipt of the results of Pre-admission Test, a comprehensive merit list will be prepared for each district/category and a number of candidates' equivalent to the reserved seats of concerned category will be called for interview before the Admission Committee.

The candidates must be accompanied with his/her guardian declared in his/her admission form during interview. The interviews will be held at Mehran University, Jamshoro on the dates asannounced in the newspapers and also on MUET *website: www.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 - Intermediate (Pre-Engg. / General Science / Pre-Medical Group - in case of change of group from Pre-Medical to Pre-Engg., marks certificate of Pre-Medical Group).
(iii) Domicile Certificate of candidate.
(iv) PRC on 'C' Form of candidate.
(v) National Identity Card / B-form (as applicable).
(vi) Medical Certificate on prescribed proforma*.
(vii) Undertaking Certificate on prescribed proforma*.

* Proformas can be downloaded from *www.admissions.muet.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 only be disallowed to appear in the interview but also be disqualified from the process of admission.

The admission in discipline shall be allowed on the day of interview; and if admitted, all the above original documents would be retained by the University for at least one entire year. The candidates are advised to keep a photocopy of all the documents with them. The candidate has to deposit the fees as mentioned in **Clause 9.19** at the time of interview.

9.6 DISTRIBUTION OF SEATS

The distribution of seats for admissions will be 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. 21 seats have also been reserved for the candidates of Karachi Division. The admission in various districts/categories at Mehran University of Engineering & Technology, Jamshoro and Mehran University of Engineering & Technology, SZAB Campus, Khairpur Mirs' will be 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 will be given to the rural areas of the same districts and vice-versa. 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** and **Category-C**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**. Besides that, 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: Distribution of Seats discipline-wise for various Districts, Disciplines and Categories at Mehran University of Engineering and Technology, Jamshoro.

Category	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	2	2	1	1	2	29
	Ghotki	1	1	1	2	2	3	2	2	1	1	1	2	3	3	2	1	1	2	31
	Khairpur	2	2	2	3	3	4	4	3	2	2	2	3	4	4	3	1	1	1	46
	S. Benazirabad	1	1	1	3	2	3	3	2	1	1	1	2	4	3	2	1	1	1	33
	N.Feroze	1	2	1	3	2	3	3	2	1	2	2	2	1	2	3	1	1	1	33
A.2	Larkana	1	1	1	2	2	2	3	2	1	2	2	2	3	2	2	1	1	1	31
	Kamber/ Shahdadkot	1	1	1	2	2	2	2	2	1	1	2	2	2	2	2	1	1	1	28
	Shikarpur	1	1	1	2	2	3	2	1	1	1	2	1	2	2	2	1	1	1	27
	Jacobabad	1	1	1	2	2	2	2	2	2	1	1	2	2	2	2	1	1	1	28
	Kashmore	-	1	1	1	1	1	2	1	1	1	1	1	1	1	1	-	1	1	17
A.3	Hyderabad	7	7	8	6	8	7	7	2	4	3	2	3	5	6	5	3	2	4	89
	Matiari	2	3	2	2	2	2	2	1	2	2	1	1	2	1	2	1	2	1	31
	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	2	1	1	2	1	29
	Dadu	5	6	7	4	5	5	6	3	3	2	2	2	3	4	4	2	2	3	68
	Jamshoro	3	3	3	3	3	3	2	1	1	1	1	2	2	2	2	1	2	2	37
	Thatta	3	3	4	2	3	2	3	2	1	1	1	1	3	2	2	1	1	1	36
	Sujawal	3	3	2	2	2	3	2	1	1	1	1	2	2	2	2	1	1	1	32
	Badin	6	6	7	4	5	5	5	3	3	2	2	3	4	4	4	2	2	3	70
A.4	Mirpurkhas	5	6	6	3	4	4	4	2	2	2	2	2	2	3	3	2	2	3	57
	Umarkot	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	1	2	2	42
	Tharparkar	5	5	5	4	4	4	4	2	2	3	3	2	2	3	3	2	2	2	57
	Sanghar	7	8	8	6	6	7	7	3	3	3	2	4	6	5	5	3	2	4	89
A.5	Karachi	-	-	-	2	2	2	2	2	0	2	2	-	1	3	2	-	1	-	21
B	Diploma Holders	2	2	2	4	-	-	-	4	-	-	-	4	1	-	-	-	-	-	19
C	MUETE	12	8	6	4	6	2	2	-	-	-	-	2	-	-	-	-	2	-	44
	Total	**78**	**80**	**80**	**74**	**77**	**79**	**79**	**49**	**38**	**40**	**40**	**52**	**60**	**63**	**60**	**30**	**37**	**40**	**1056**

CE Civil Engineering
EL Electrical Engineering
ME Mechanical Engineering
ES Electronic Engineering
CS Computer Systems Engineering
EE Environmental Engineering
TL Telecommunication Engg.
SW Software Engineering
CH Chemical Engineering
IN Industrial Engg. & Management
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

Table-9.6.2: Distribution of Seats for various Districts (Urban/Rural basis) in Sindh Province at Mehran University of Engineering and Technology, Jamshoro.

Category	Districts	Number of Seats		
		Urban Areas	Rural Areas	Total Seats
A.1	Sukkur	10	19	29
	Ghotki	03	28	31
	Khairpur Mirs	05	41	46
	Shaheed Benazirabad	05	28	33
	Naushehro Feroze	02	31	33
	TOTAL	25	147	172
A.2	Larkana	09	22	31
	Kamber/Shahdadkot	03	25	28
	Shikarpur	04	23	27
	Jacobabad	04	24	28
	Kashmore	02	15	17
	TOTAL	22	109	131
A.3	Hyderabad	74	15	89
	Matiari	02	29	31
	Tando Muhammad Khan	04	28	32
	Tando Allahyar	05	24	29
	Dadu	10	58	68
	Jamshoro	03	34	37
	Thatta	02	34	36
	Sujawal	00	32	32
	Badin	06	64	70
	TOTAL	106	318	424
A.4	Mirpurkhas	11	46	57
	Umerkot	00	42	42
	Tharparkar	00	57	57
	Sanghar	14	75	89
	TOTAL	25	220	245
A.5	All Districts of Karachi	00	00	21
	GRAND TOTAL	199	794	993

Table-9.6.3: Description of Remaining Categories of Candidates Seeking Admission.

CATEGORY	DESCRIPTION	SEATS
(B)	Candidates who have passed Diploma Examination in Civil, Mechanical, Electrical from Government Technical College/Polytechnic Institute/Govt. Habib College of Technology and are domiciled in the districts of Categories-A.3and A.4. The domicile for admission of diploma holders in Electronics, Petroleum, Chemical/Glass & Ceramics and Architecture Technology will be of Categories A.1, A.2, A.3 and A.4, diploma holders shall be considered for admission under this category only.	**19**
(C)	Real sons/daughters/brothers/sisters of Mehran University employees (servingor 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: i. First preference will be 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. ii. Second preference will be given to real sons/daughters of employees who are not confirmed in the University service but have at least three years continuous university service at their credit. iii. Third preference will be 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. iv. Fourth preference will be given to real brothers/sisters of employees who are not confirmed in the University service and have at least three years continuous university service at their credit. v. Fifth preference will be 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. vi. Sixth preference will be 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. vii. Seventh preference will be 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. viii. Eighth preference will be 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-C will be determined as per policy of the University. A copy of the appointment order, confirmation order and Affidavit regarding relationship with candidate of the employeebe attached with the admission form.	**44**

Table-9.6.4: Distribution of Seats for various Districts and Disciplines at Mehran University of Engineering and Technology, SZAB Campus, Khairpur Mirs'.

Category	Description	Number of Seats Discipline						
		CE	EL	ME	PG	SW	ES	Total
A-1	Sukkur	04	05	04	04	03	04	24
	Ghotki	05	05	04	04	04	03	25
	Khairpur	07	07	07	06	05	06	38
	S.Benazirabad	05	05	03	03	03	02	21
	NaushahroFeroze	05	05	03	03	03	02	21
A-2	Larkana	03	03	03	02	02	02	15
	Kambar/Shahdadkot	02	03	03	02	02	02	14
	Shikarpur	02	03	02	02	02	02	13
	Jacobabad	02	03	03	02	02	02	14
	Kashmore	02	02	01	01	01	02	09
A-3	Hyderabad	02	02	02	01	02	01	10
	Matiari	00	00	01	01	01	00	03
	T.M. Khan	00	01	00	01	01	00	03
	T. Allahyar	01	01	00	00	00	01	03
	Dadu	01	01	01	02	01	02	08
	Jamshoro	01	01	00	01	01	01	05
	Thatta	00	01	01	01	00	01	04
	Sujawal	01	00	00	01	00	01	03
	Badin	01	01	01	02	01	01	07
A-4	Mirpurkhas	01	01	01	01	01	01	06
	Umerkot	01	00	01	01	01	01	05
	Tharparkar	01	01	01	01	01	01	06
	Sanghar	02	02	02	01	02	01	10
A-5	All districts of Karachi	01	01	00	01	01	00	04
C	Employees of MUET, SZAB Campus, Khairpur Mirs'	03	02	01	02	00	01	09
	Total:	**53**	**56**	**45**	**46**	**40**	**40**	**280**

Explanation of Abbreviations

CE Civil Engineering
ME Mechanical Engineering
EL Electrical Engineering
PG Petroleum & Natural Gas Engg.
SW Software Engineering
ES Electronics Engineering

Table-9.6.5: Distribution of Seats for Urban and Rural areas of the Districts in Sindh Province, Mehran University of Engineering & Technology SZAB Campus Khairpur Mirs' (Category-A) and (Category-C).

Category	Districts	Number of Seats		
		Urban Areas	Rural Areas	Total Seats
A.1	Sukkur	07	17	24
	Ghotki	02	23	25
	Khairpur	07	31	38
	S. Benazirabad	04	17	21
	Naushehro Feroze	01	20	21
	TOTAL	**21**	**108**	**129**
A.2	Larkana	05	10	15
	Kamber/Shahdadkot	01	13	14
	Shikarpur	01	12	13
	Jacobabad	03	11	14
	Kashmore	02	07	09
	TOTAL	**12**	**53**	**65**
A.3	Hyderabad	08	02	10
	Matiari	00	03	03
	Tando Muhammad Khan	00	03	03
	Tando Allahyar	00	03	03
	Dadu	02	06	08
	Jamshoro	00	05	05
	Thatta	00	04	04
	Sujawal	00	03	03
	Badin	00	07	07
	TOTAL	**10**	**36**	**46**
A.4	Mirpurkhas	02	04	06
	Umerkot	00	05	05
	Tharparkar	00	06	06
	Sanghar	01	09	10
	TOTAL	**03**	**24**	**27**
A.5	Karachi Division	00	00	04
C	Real Sons/Daughters/Brothers/Sisters of Employees of MUET, Khairpurmirs Campus.	00	00	09
	GRAND TOTAL			**280**

Table-9.6.6: Discipline-wise Extra Seats Reserved for Nominees.

Category	Description	CE	EL	ME	ES	CS	TL	SW	CH	IN	MN	MT	PG	AR	CRP	TE	EE	BM	MTE	TOTAL
D.1	Balochistan	-	-	-	2	2	-	-	2	-	-	2	-	2	-	-	-	-	-	10
D.2	Foreigners	5	3	3	2	2	-	-	-	1	2	1	-	-	-	-	-	-	-	19
D.3	A. Kashmir	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2
D.4	FATA	-	1	-	-	-	-	-	-	-	1	1	-	-	-	1	-	-	-	4
D.5	UET-Lahore	1	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	3
D.6	UET-Taxila	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
D.7	UET-Peshawar	1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3
D.8	Govt. of Khyber Pakhtunkhwa	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
D.9	Govt. of Punjab	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
D.10	Northern Areas	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
D.11	GHQ, Rawalpindi	3	2	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	8
D.12	Federal Cap. Area	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-		-	1
D-13	Indian Occupied Kashmir	2	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5
	Total	15	07	07	04	07	00	00	04	02	03	04	00	06	00	01	00	00	00	**60**

CE Civil Engineering
EL Electrical Engineering
ME Mechanical Engineering
ES Electronic Engineering
CS Computer Systems Engineering
EE Environmental Engineering
TL Telecommunication Engg.
SW Software Engineering
CH Chemical Engineering
IN Industrial Engg. & Management
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

Table-9.6.7: Description of Discipline-wise Extra Seats Reserved for Nominees.

CATEGORY	DESCRIPTION	SEATS
D.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).	05
	ii. Candidates domiciled in Balochistan Province, nominated by theHigher Education Commission, Islamabad. (02 in Computer Systems Engineering, 01 Chemical Engineering, 01 Metallurgy& Materials Engineering and 01 Architecture).	05
D.2	Foreign students (under Pakistan Technical Assistance Program) nominated by the Ministry of Finance and Economic Affairs (Economic Affairs Division), Government of Pakistan, Islamabad.	19
D.3	Candidates belonging to Azad Kashmir, nominated by the Azad Govt. of the Azad State of Jammu &Kashsmir, Muzafarabad.	02
D.4	Candidates belonging to Federally Administered Tribal Area, nominated by the State and Frontier Region Division, Government of Pakistan, Islamabad.	04
D.5	Candidates domiciled in Punjab Province, nominated by the UET Lahore through Education Department, Government of Punjab (on reciprocal basis).	03
D.6	Candidate domiciled in Punjab Province, nominated by the UETTaxila through Education Department, Government of Punjab (on reciprocal basis).	01
D.7	Candidates domiciled in Khyber Pakhtunkhwa Province, nominated by UET Peshawar through the Education Department, Government of Khyber Pakhtunkhwa (on reciprocal basis).	03
D.8	Candidate domiciled in Khyber Pakhtunkhwa Province, nominated by the Education Department, Government of Khyber Pakhtunkhwa.	01
D.9	Candidate domiciled in Punjab Province, nominated by the Education Department, Government of Punjab.	01
D.10	Candidates belonging to Northern Areas, nominated by the Directorate of Education, Government of Gilgit Baltistan.	02
D.11	Candidates nominated by the General Head Quarters, Rawalpindi.	08
D.12	Candidate belonging to Federal Capital Area, nominated by Ministry of Education, Government of Pakistan, Islamabad.	01
D.13	Candidates belonging to Indian Occupied Kashmir, nominated by the Ministry of Economic Affairs & Statistics (Economic Affairs Division), Government of Pakistan, Islamabad.	05
	Total Discipline-wise Seats Reserved for Government Agencies	60

9.7 DESIGNATION OF URBAN AREAS OF SINDH PROVINCE

The Urban areas designated in each district are given below.

1 Sukkur District	
	a) Sukkur Municipality
	b) Rohri Municipality
2 Ghotki District	
	a) Ghotki Municipality
	b) Mirpurmathelo Municipality
3 Khairpur District	
	a) Khairpur Municipality
	b) Gambat Municipality
	c) Pirjogoth Municipality
4 Shaheed Benazir Abad District	
	a) Nawabshah Municipality
5 NaushehroFeroze District	
	a) Moro Municipality
6 Larkana District	
	a) Larkana Municipality
	b) Ratodero Municipality
	c) Naudero Municipality
7 Kamber / Shahdadkot District	
	a) Shahdadkot Municipality
	b) Kambar Municipality
8 Jacobabad District	
	a) Jacobabad Municipality
9 Kashmore District	
	a) Kandhkot Municipality
10 Shikarpur District	
	a) Shikarpur Municipality
11 Hyderabad District	
	a) Hyderabad Municipality
	b) Tandojam Municipality
12 TandoAllahyar District	
	a) TandoAllahyar Municipality
13 Tando Muhammad Khan District	
	a) Tando M. Khan Municipality
14 Matiari District	
	a) Hala Municipality
15 Dadu District	
	a) Dadu Municipality
	b) Mehar Municipality
	c) K.N. Shah Municipality
16 Jamshoro District	
	a) Kotri Municipality
17 Thatta District	
	a) Thatta Municipality
18. Sujawal District	
	No Urban Area
19 Badin District	
	a) Badin Municipality
	b) Matli Municipality
20 Mirpur Khas District	
	a) Mirpurkhas Municipality
21 Tharparkar District	
	No urban areas
22 Umerkot District	
	No urban areas
23 Sanghar District	
	a) Sanghar Municipality
	b) Shahdadpur Municipality
	c) Tando Adam Municipality
	d) Sinjhoro Municipality

9.8. Award of Discipline

The award of discipline/technology are 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 (Regular, Self-Finance, etc.) he/she has to select/decide on any one of them on the day of interview. On the contrary, if he/sheis 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.

The choices may be provided to all the candidates after the display of their call list.

9.9 Rectification of Mistakes

The Admission Merit Lists / Call Listsannounced by the University will be provisional and if any mistake is detected shall be rectified.

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 produce certificates of Hafiz-e-Quran on printed form from registered Madressahs and cleared the test of Hifz taken by the University, are also considered to have additional 20 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/Diploma Examinations, the merit will be determined as described below:

One percent of the aggregate marks will be deducted for each gap of one academic year after Matriculation examination from the total marks of HSC/Diploma examination or equivalent for the purpose of determination of merit in each District/Category. This deduction is applicable whether the HSC/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-C will be 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 will be given priority on merit basis in that category.

9.14 Closing of Admissions Process

The admissions process for the session will be made up to the end of FOURTH week from the date of start of the classes. After this period, no new admissions will be made. However, any change of discipline on merit will be made up to 07 days after the closing date of admissions. The seats fallen vacant will not be filled-up.

9.15 Transfer on Reciprocal Basis

There is a provision for transfer of students admitted in Mehran University 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 will be nominated for admission to the University of Engineering & Technology, Lahore, on reciprocal basis. The candidates desiring to be considered for this nomination will be required to give their intent in writing at the time of interview. The Mehran University authorities will make the final selection for this purposeas per merit.

One candidate in Civil Engineering having the domicile of Categories-A.1 to A.4 will be nominated for admission to the University of Engineering & Technology, Taxila on reciprocal basis.

Similarly, the UET, Lahore is authorized to nominate three candidates and UETTaxila is authorized to nominate one candidate for admission in Mehran University in the same branches as mentioned above.

Three candidates, one in Civil Engineering, one in Mechanical Engineering and one in Architecture having the domicile of Categories-A.1 to A.4 will be nominated for admission in Khyber Pakhtunkhwa University of Engineering & Technology, Peshawar on reciprocal basis. They will be required to pay Rs. 38,000/- as educational expenses in addition to admission and other normal user charges at the time of admission to Khyber Pakhtunkhwa University of Engineering & Technology, Peshawar. Similarly the nominees of Khyber Pakhtunkhwa University of Engineering & Technology, Peshawar on reciprocal basis will be required to pay Rs. 38,000/- as educational expenses in addition to admission and other normal user changes at the time of admission to Mehran University of Engineering and Technology, Jamshoro. The candidates desiring to be considered for this nomination will be required to give their intent in writing at the time of interview. The final selection for this purpose will be made by the Mehran University authorities as per merit.

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 will be 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 shall be 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 Identity Card

The students, after getting admission at the University, will be 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

Those students who are eligible for any semester of any year and remained absent from their classes and examinations for any reason, will be 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 will be considered from the date of issuance of re-admission letter. Such admissions may be made within four weeks from the date of start of classes of particular session.

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. In case of failure, he/she will not be allowed to appear in the examination of the First Semester of the First Year.

9.21 Fees

(1) Fees payable at the time of admission:

a) Admission fee (Per Year)	12,000.00
b) Subject Society / PERN fee (Once)	1,200.00
c) Enrolment fee (Once)	1,000.00
d) HSC Marks Certificate Verification fee (Once)	1,500.00
e) Smart Identity Card fee (Once)	1,000.00
Total:	**Rs. 16,700.00**

University Caution Money Deposit – Refundable (Once) 2,500.00

(2)	**Fees and Charges payable at the start of each semester:**	
	a) Tuition fee (Per Semester)	12,000.00
	b) Games fee (Per Semester)	500.00
	c) Development charges (Per Semester)	1,000.00
	d) Examinations fee - for Regular Examinations (Per Semester)	1,500.00
	e) Transport charges (Per Semester)	4,000.00
	Total:	**Rs. 19,000.00**
(3)	**Fees payable at the time of hostel allotment:**	
	a) Admission fee (Once)	4,000.00
	c) Allotment Processing fee (Once)	200.00
	Total:	**Rs. 4,200.00**
	Room Deposit – Refundable (Once)	1,500.00
(4)	**Fees to be charged at the start of each semester(For Boarders):**	
	a) Hostel Identity Card fee (Per Semester)	200.00
	b) Room charges (Per Semester)	6,000.00
	c) Medical charges (Per Semester)	200.00
	d) Sports charges (Per Semester)	200.00
	e) Utility charges (Per Semester)	2,000.00
	Total:	**Rs. 8,600.00**

Note: The foreign students will be charged USD. 1,000.00 per year (USD. 500.00 per semester)as room charges. The other fees will be the same as given above.

9.22 Admission of Candidates Domiciled in Sindh Province under Self-Financing Scheme at Mehran University of Engineering &Technology, Jamshoro and Mehran University of Engineering& Technology, SZAB Campus, Khairpur Mirs'.

Under the Self-Financing Scheme the admission will be made on the basis of district quota as per **Table-9.22(a)** and **(b)** at Mehran University of Engineering & Technology, Jamshoro and Mehran University of Engineering & Technology, SZAB Campus, KhairpurMirs' respectively. The saving seats will be 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 prior notice.

9.22.1 Eligibility

The eligible candidates should have:

i. Secured at least 60% marks in the HSC/Intermediate (Pre-Engineering Group for all disciplines) or (General Science Group for only four disciplines viz. Computer Systems Engineering, Software Engineering, Electronics Engineering and Telecommunication Engineering) or Intermediate (Pre-Medical Group for only one discipline, i.e., Bio-Medical Engineering) or equivalent as recognized by the University and further explained in **Clause 9.2** under Regular Scheme.
ii. Appeared in Pre-admission Test and secured at least 40%score.
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** and **Category-III** as mentioned below:

The number of seats for each discipline is reserved on district basis and given in **Table-9.22(a)** and T**able-9.22(b)**.

Category-I

1. Civil Engineering
2. Electrical Engineering
3. Mechanical Engineering

4. Electronics Engineering
5. Computer Systems Engineering
6. Software Engineering
7. Mechatronics Engineering
8. Civil Engineering (at Khairpur Mirs')
9. Electrical Engineering (at Khairpur Mirs')
10. Mechanical Engineering (at Khairpur Mirs')

Category-II

1. Petroleum & Natural Gas Engineering
2. Environmental Engineering
3. Chemical Engineering
4. Petroleum & Natural Gas Engineering (at Khairpur Mirs')

Category-III

1. Industrial Engineering & Management
2. Textile Engineering
3. Architecture
4. Bio-Medical Engineering
5. Telecommunication Engineering
6. City & Regional Planning

In Bio-Medical Engineering, seven seats are reserved on all Pakistan basis who are otherwise eligible for admission. In case of saving of seat, the same will be filled up on overall open merit basis of the Province of Sindh.

9.22.5 Admission fee under Self-Financing Scheme

Following fees are payable to the University by the candidates applying for admission under Self-Financing Scheme:

Category-I

Admission fee of Rs. 900,000/- (Rupees Nine Hundred Thousand Only) + 5% Tax* (Total Rs. 945,000/-) in the form of Demand Draft prepared by any branch of Bank, in favor of 'Director Finance, Mehran University of Engineering & Technology, Jamshoro'. The draft in original be submitted in the office of Director Admissions, MUET, Jamshoro.

Category-II

Admission fee of Rs. 600,000/- (Rupees Six Hundred Thousand Only) + 5% Tax* (Total Rs. 630,000/-)in the form of Demand Draft prepared by any branch of Bank, in favor of 'Director Finance, Mehran University of Engineering & Technology, Jamshoro'. The draft in original be submitted in the office of Director Admissions, MUET, Jamshoro.

Category-III

Admission fee of Rs. 400,000/- (Rupees Four Hundred Thousand Only) + 5% Tax* (Total Rs. 420,000/-)in the form of Demand Draft prepared by any branch of Bank, in favor of 'Director Finance, Mehran University of Engineering & Technology, Jamshoro'. The draft in original be submitted in the office of Director Admissions, MUET, Jamshoro.

Other fees as payable under all categories of the regular scheme shall also be payable after the admission has been granted to the candidate.

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* Advance Tax on payment of fee to Educational Institutions (Section 2361)

As per newly inserted Section 2361 every educational institution is required to collect advance income tax at the rate of 5% on the amount of fee paid to an educational institution. The person responsible for preparing monthly, bimonthly or quarterly fee voucher or challan shall also charge withholding tax in case the fee exceeds Two Hundred Thousand Rupees annually.

Table-9.22(a) Distribution of Seats under Self-Financing Scheme at Mehran University of Engineering and Technology, Jamshoro.

Category	Districts	CE	EL	ME	ES	CS	TL	SW	CH	IN	PG	AR	CRP	TE	EE	BM	MTE	TOTAL
A-1	Sukkur	1	1	1	2	1	1	1	1	0	1	1	1	1	0	0	2	13
	Ghotki	1	1	1	1	0	0	1	1	0	1	1	1	1	0	0		10
	Khairpur	2	1	1	2	1	1	1	1	0	1	1	1	1	1	0		15
	S.B. Abad	2	1	1	1	1	1	1	1	0	1	1	1	0	0	0		12
	N. Feroze	2	1	1	2	1	1	1	1	0	1	1	1	1	0	0		14
	Total	**8**	**5**	**5**	**8**	**4**	**4**	**5**	**5**	**0**	**5**	**5**	**5**	**4**	**1**	**0**	**2**	**66**
A-2	Larkana	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	12
	Kambar/Shahdadkot	2	1	1	1	1	0	1	1	0	1	1	1	1	0	0		12
	Jacobabad	1	1	1	1	1	0	1	1	0	1	1	1	1	0	0		11
	Kashmore	1	1	0	1	0	0	1	1	0	1	1	1	0	0	0		8
	Shikarpur	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0		12
	Total	**6**	**5**	**4**	**5**	**4**	**2**	**5**	**5**	**0**	**5**	**5**	**5**	**4**	**0**	**0**	**1**	**56**
A-3	Hyderabad	4	2	3	5	1	1	3	2	1	2	1	1	1	1	1	4	29
	Jamshoro	2	1	1	2	1	1	1	1	0	1	1	1	1	1	0		15
	Matiari	2	1	1	1	1	1	1	1	0	1	1	1	1	1	0		14
	T.M. Khan	2	1	1	2	1	1	1	1	0	1	1	1	1	0	0		14
	T.Allahyar	2	1	1	1	1	1	1	1	0	1	1	1	1	0	0		13
	Thatta	2	1	1	2	1	1	1	1	0	1	0	1	1	1	0		14
	Sujawal	2	1	1	1	1	1	1	1	0	1	1	1	0	0	0		12
	Badin	4	2	2	3	1	1	1	2	0	2	1	1	1	1	0		22
	Dadu	4	2	2	3	1	1	1	2	0	2	1	1	1	1	1		23
	Total	**24**	**12**	**13**	**20**	**9**	**9**	**11**	**12**	**1**	**12**	**8**	**9**	**8**	**6**	**2**	**4**	**160**
A-4	Umerkot	2	2	1	3	1	1	1	1	0	1	1	1	1	0	0	3	16
	Mirpurkhas	3	1	2	2	1	1	2	2	1	1	1	1	1	1	0		20
	Tharparkar	2	2	1	3	1	1	2	2	0	1	1	1	1	0	1		19
	Sanghar	4	2	2	4	1	1	3	3	0	2	1	1	1	1	0		26
A-4	**Total**	**11**	**7**	**6**	**12**	**4**	**4**	**8**	**8**	**1**	**5**	**4**	**4**	**4**	**2**	**1**	**3**	**84**
	Karachi	1	0	1	1	1	1	1	1	0	1	1	1	0	0	0	0	10
	Grand Total	**50**	**29**	**29**	**46**	**22**	**20**	**30**	**31**	**2**	**28**	**23**	**24**	**20**	**9**	**3**	**10**	**376**

* Seats reserved for respective divisions.

Table-9.22(b) Distribution of Seats for various Districts under Self-Financing Scheme at Mehran University of Engineering & Technology SZAB Campus Khairpur Mirs'.

Category	Districts	Number of Seats in each Discipline			
		CE	EL	ME	Total Seats
A-1	Sukkur	01	03	01	05
	Ghotki	01	02	01	04
	Khairpur	02	04	01	07
	S.Benazirabad	01	02	00	03
	NaushahroFeroze	01	02	00	03
A-2	Larkana	01	02	01	04
	Kambar/Shahdadkot	01	03	00	04
	Shikarpur	01	02	00	03
	Jacobabad	01	02	00	03
	Kashmore	01	02	01	04
A-3	Hyderabad	01	03	00	04
	Matiari	00	01	00	01
	T.M. Khan	00	01	00	01
	T. Allahyar	00	01	00	01
	Dadu	01	03	00	04
	Jamshoro	00	01	00	01
	Thatta	00	01	00	01
	Sujawal	00	01	00	01
	Badin	00	02	00	02
A-4	Mirpurkhas	00	02	00	02
	Umerkot	01	01	00	02
	Tharparkar	00	01	00	01
	Sanghar	01	01	00	02
A-5	Karachi	00	01	00	01
	Total	**15**	**44**	**05**	**64**

9.23 Admissions under University Support Program (USP) / Campus Support Program (CSP)

9.23.1 University Support Program(USP)

For this scheme 62 seats in Civil, 10 seats each in Electrical, Mechanical and SoftwareEngineering disciplines have been reservedfor the candidates having the domicile of Sindh Provinceas shown in **Table-9.23.** The basic requirement for admission will be the same as approved for admission under Regular Scheme. For Civil Engineering the candidates will be required to pay Rs. 1,600,000/- (Rupees One Million Six Hundred Thousand Only - once) + 5% Tax (Total Rs. 1,680,000/-), whereas for Electrical, Mechanical and Software Engineering, the candidates will be required to pay Rs. 1,400,000/- (Rupees One Million Four Hundred Thousand Only - once) + 5% Tax (Total Rs. 1,470,000/-) in the form of Demand Draft prepared by any branch bank, in favor of "Director Finance, Mehran University of Engineering & Technology, Jamshoro" for admission under this scheme in addition to other normal fees etc., payable by the students under Regular Scheme. The draft in original be submitted in the office of Director Admissions, MUET, Jamshoro.

Table-9.23 Distribution of Seats for various Districts under University Support Program (USP) at Mehran University of Engineering & Technology, Jamshoro.

Category	Districts	Number of Seats in each Discipline			
		CE	EL	ME	SW
A-1	Sukkur	03	02*	02*	02*
	Ghotki	02			
	Khairpur	03			
	S.Benazirabad	02			
	NaushahroFeroze	03			
A-2	Larkana	03	01*	01*	01*
	Kambar/Shahdadkot	02			
	Shikarpur	02			
	Jacobabad	02			
	Kashmore	03			
A-3	Hyderabad	03	04*	04*	04*
	Matiari	03			
	T.M. Khan	02			
	T. Allahyar	02			
	Dadu	03			
	Jamshoro	03			
	Thatta	02			
	Sujawal	02			
	Badin	03			
A-4	Mirpurkhas	03	03*	03*	03*
	Umerkot	03			
	Tharparkar	03			
	Sanghar	03			
A-5	Karachi	02	00*	00*	00*
	Total	**62**	**10**	**10**	**10**

* Seats reserved for respective divisions.

9.23.2 Campus Support Program (CSP) at SZAB Campus, Khairpur Mirs'

For this scheme 32 seats in CivilEngineering discipline have been reservedfor the candidates having the domicile of Sindh Province on open merit basis. The basic requirement for admission will be the same as approved for admission under Regular Scheme. The candidates will be required to pay Rs. 1,400,000/- (Rupees One Million Four Hundred Thousand Only - once) + 5% Tax (Total Rs. 1,470,000/-)in the form of Demand Draft prepared by any branch bank, in favor of "Director Finance, Mehran University of Engineering & Technology, Jamshoro" for admission under this scheme in addition to other normal fees etc., payable by the students under Regular Scheme. The draft in original be submitted in the office of Director Admissions, MUET, Jamshoro.

The Refund of Self-Financing Scheme,all University Support Programs and Campus Support Program admission fee will only be allowed for the unsuccessful / withdrawing* candidate through special cross cheque mentioning the name of refundee with bank account, the name of bank and branch of the respective bank. Therefore, in case of refund of the fee candidates are required to write an application and provide the name of the parent / guardian or self along with his / her bank account number with branch name to whom the amount to be refunded.

* Conditions apply as mentioned in **Clause 9.27**.

9.24 Admissions of Foreign Candidates under Self-Financing Scheme at Mehran University of Engineering & Technology, Jamshoro.

Seats in all disciplines at main campus under this scheme as described in **Clause 9.22.4** (maximum 5 seats in each discipline) are reserved for foreign candidates who are otherwise eligible for admission. The foreign candidates must apply for admission through their Embassies, via Higher Education Commission, Islamabad. The foreign candidates will be required to pay admission fee in US$ 13,000/- (Dollars Thirteen Thousand Only) along with the admission form. They will also be charged the usual fees as payable by other students.

The saving seats, if any, may be allocated to the candidates of Sindh Province under University Support Program (USP) on open merit.

9.25 Admission for the Candidates of Overseas Pakistani under Self-Financing Scheme at Mehran University of Engineering & Technology, Jamshoro.

Five seats in each discipline are reserved for the candidates of Overseas Pakistani under this scheme who are otherwise eligible for admission. They are required to pay admission fee in US$ 13,000/- (Dollars Thirteen Thousand Only) as charged from foreign candidates on Self-Financing Scheme. They will also be charged the usual fees as payable by other students.

The saving seats, 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 University of Engineering & Technology, Jamshoro.

Ten seats in the following disciplines are reserved for the candidates domiciled in Azad Jammu and Kashmir under this scheme:

Name of Technology	Number of Seat Allocated
Civil Engineering	2 seats
Electrical Engineering	1 seat
Mechanical Engineering	1 seat
Computer System Engineering	1 seat
Telecommunication Engineering	1 seat
Software Engineering	1 seat
Architecture	1 seat
City & Regional Planning	1 seat
Environmental Engineering	1 seat
Total:	**10 seats**

9.27 Other Information

- Admission fee is payable only once in the beginning.
- Candidates once admitted under these schemes shall not be allowed to change the discipline except the seats in the desired disciplines are available.
- The University follows the National Level Fee Refund Policy at Higher Institutions of Pakistan which is as under:

% of Tuition Fee	Timeline for Semester
Full 100% fee refund	Up to 7thday of convene of classes
Half 50% fee refund	Up to 15thday of convene of classes
No Refund 0%	From 16th day of convene of classes

- The candidates applying under these schemes will also be 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:

% of Self-Finance Fee	Timeline for Refund
20% Penalty	Up to 7th day of convene of classes
40% Penalty	From 8th to 15th day of convene of classes
100% Penalty – No Refund	From 16th day of convene of classes.

9.28. Migration/Transfer

- Migration is only allowed to and from any Public Sector University accredited by PEC and Foreign University recognized by Higher Education Commissions (HEC).

- Migration/Transfer is not allowed to the students in the first and final years with less that 50% Credit Hours required for the degree.

- 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.

- The migration/transfer of the local students would be allowed on the payment ofRs. 800,000/- (Rupees Eight Hundred Thousand Only) + 5% Tax (Total Rs. 840,000/-) to theMehran University; while foreign students would be required to pay Rs. 1,200,000/-(Rupees One Million Two Hundred Thousand Only) + 5% Tax (Total Rs. 1,260,000/-) as migration fee. The nominees will be required to submit NO OBJECTION CERTIFICATE (NOC) of the nominating agency.

- Admission on migration basis will be made up to fourth week of the start of the classes of particular session.

REGULATIONS
FOR
SEMESTER SYSTEM

MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Regulations (Revised) regarding **the General Scheme of Studies for the Bachelor's Degree Programs** 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 2019, repealing such regulations framed by the University authorities (if any).

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 **19-Batch.**

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 senior most teachers of the Department / Institute including Chairman/ Chairperson/ Director as convener.

vii. "Credit Hours (C.H.)" has 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.

5. **Undergraduate Structure of Bachelor's Degree Course in Engineering, City & Regional Planning, Architecture, Business Administration, Mathematics, Computer Science and English is given below Table 5.1**

Total No. of Credit Hours (Minimum)	**124**
Total No. of Credit Hours (Maximum)	**140**
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
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 – 9 credit Hours)
Minimum of 160 and Maximum 180- Credit hours for 5 year degree program	

REGULATIONS FOR SEMESTER SYSTEM

6. CREDIT HOURS FOR UNDERGRADUATE DEGREES

A credit hour means teaching/earning 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.

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.

Credit Hours	Distribution in Theory and Practical Hours
01	(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 All undergraduate degree programs are composed of 124-140 Credit Hours in which 124 represents the minimum and 140 represents the maximum credit hours required to be completed.

7.2 5 year undergraduate degree program (Bachelor of Architecture) is composed of 160-180 Credit Hours in which 160 represents the minimum and 180 represents the maximum credit hours required to be completed, subject to meeting the requirements of the respective Accreditation Councils.

7.3 For Engineering Programs

The courses for the Engineering programs will consist of 65 – 70 % of curriculum towards the discipline specific areas of concentration as required by Accreditation council. Non-Engineering courses will be of 30 – 35 %.

For Social and Basic Sciences

The courses for Social and Basic Sciences disciplines will consist of 60-65% of curriculum towards the discipline specific areas and 35-40% minor/elective

7.4 Project: Every student should write a thesis project report /Business Plan in the final year, of 06 credit hours individually on an approved research. [to be adopted from F-16 Batch, max. 03 students in a group, further review will be made to reduce the no. of student]

7.5 Internship: Students should be encouraged to do internship in industry/research/business organization.

8.1 There will be two regular semesters (Fall, Spring) in an academic year. Followingis the breakup:

i.	Teaching duration of Fall semester	16 Weeks
ii.	Conduct of Mid Semester Exam	01 Week
iii.	Preparation of final Fall Semester Exam	01 Week
iv.	Conduct of final Fall Semester Exam	02 Weeks
v.	Semester Break	01 Week
vi.	Teaching duration of Spring Semester	16 Weeks
vii.	Conduct of Mid Semester Exam	01 Weeks
viii.	Preparation of final Spring Semester Exam	01 Week
ix.	Conduct of final Spring Semester Exam	02 Weeks
x.	Semester Break	01 Week
xi.	Summer Break / Summer Semester	08 Weeks
xii.	Winter Break	02 Weeks
	TOTAL	**52 WEEKS**

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 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 (for the batch with which it is going to be adopted).

9.6 The course in summer semester will be offered with the minimum course registration of 05 students (where intact 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]

a. Date of start of classes
b. Conduct of mid semester
c. Date of suspension of classes
d. Schedule of examination
e. Display of sessional marks
f. Examination preparation up to
g. Conduct of final semester exam
h. Announcement of results
e. Mark sheet / Transcript issues dates.

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 must be arranged converting weekends or holidays or evening classes to working days or evening classes 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 withdraw. 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, she/he 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 she/he has obtained grade “C” & 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. (Condonation may be limited to 70%)

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) will have different weightage contributing towards the overall assessment in percent marks.

REGULATIONS FOR SEMESTER SYSTEM

THEORY

Sr. No.	Description	Theory of Maximum	
		100 Marks	50 Marks
i.	Quizzes / Test(s)	10	05
ii.	Assignments / Project /Presentation	10	05
iii.	Mid Semester Exam(with No Option):	20	10
iv.	Final Semester Exam:	60	30
	Total Marks	**100**	**50**

PRACTICAL

Sr. No.	Description	Theory of Maximum
i.	Lab Ruberic	30%
ii.	Mini Project / Open ended lab	10%
iii.	Semester Lab Exam	60%
	(a)Objective type test	(30%)
	(b) Conduct of Pr/Viva voce	(30%)
	Total Marks	**100**

PROJECT

Semester	Thesis CH	Thesis Credit marks	Maximum Sessional Marks (By Supervisor)	Maximum Marks for Thesis Viva Voce / Exam		
				Internal	External	Chairman
7th	3	100	25	25	25	25
8th	3	100	25	25	25	25

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, required and 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/herprovisional result within five days after the conduct of final exam of that subject and submit the same to the controller of examination for final announcement

14.4 External examination system will be only for Project/Thesis / Business Plan Examination

15 Grade Equivalent

GRADE	GRADE POINT	MARKS			
		THEORY		PRACTICAL	
		MAX: MARKS 100	MAX: MARKS 50	MAX: MARKS 100	MAX: MARKS 50
A+	4.0	85 & above	42 & above	85 & above	42 & above
A	3.75	75 to 84	37 to 41	75 to 84	37 to 41
B+	3.5	66 to 74	33 to 36	66 to 74	33 to 36
B	3.0	60 to 65	30 to 32	60 to 65	30 to 32
C+	2.5	55 to 59	27 to 29	55 to 59	27 to 29
C	2.0	50 to 54	25 to 26	50 to 54	25 to 26
F	0.0	0 to 49 (Fail)	0 to 24 (Fail)	0 to 49 (Fail)	0 to 24 (Fail)

- **Fraction is to be considered as a whole number.**
- **Subjects carrying more than 100 marks in Theory/ Practical will be awarded grades accordingly.**
- **The results will be prepared on the basis of Grade Point Average (G.P.A)**

16 COMPUTATION OF SEMESTER GRADE POINT AVERAGE (GPA) AND CUMULATIVE GRADE POINT AVERAGE (CGPA)

16.1 Quality Point (Q.P.)

For computation of the (G.P.A.) the quality point (Q.P) is first determine by the multiplying the value of the grade earned by the students with the Credit Hours of the that course, e.g. if a student obtain "A+" grade for a three credit hours course then this quality point will be calculated as follows:

(Q.P.) = 4 x 3 = 12

16.2 Grade Point Average (G.P.A).

Grade point Average is an expression for the average performance of a student in the course he/she has offered during a particular semester. This is calculated by adding the quality points of all the courses taken, divided by the total number of Credit hours offered:-

$$(G.P.A) = \frac{\text{Sum of Quality Points}}{\text{Sum of the Credit Hours}}$$

16.3 Cumulative Grade Point Average (C.G.P.A)

The Cumulative Grade Point Average (C.G.P.A) is the expression describing the performance of a student in all semester is determined by the following way:

$$(C.G.P.A) = \frac{\text{Sum of Quality Points for all the courses appeared}}{\text{Sum of the Credit Hours for all the courses appeared}}$$

17 CGPA REQUIRED FOR THE COMPLETION OF UNDERGRADUATE

17.1 For completion of the degree, the minimum qualifying CGPA for BE/BS Students is 2.00.

17.2 In case a student secures less than 2.00 CGPA (minimum qualifying CGPA) at the end of final Semester, she/he may be allowed to get re-admission in one or more courses, in which his/her Grade is below C, provided that she/he is not debarred under the CGPA Improvement (as defined in Section 12) and time duration specified for the program (as defined in table 5.1)

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 Credit hours may only be transferred between duly recognized HEIs and Internationally recognized Universities.

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 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, below Table be placed

CGPA	4.00	3.7 –3.99	3.3-3.69	3.0-3.29	2.7-2.99	2.3-2.69	2.0-2.29	1.7-1.99	1.3-1.69
Equivalent %age	100	90	85	80	75	68	60	55	50

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 Time Table 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), she/he will resume his/her studies from the same stage where she/he 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

23.1 Any candidate found guilty of following matters, his/her case will be submitted to Unfair Means Cases Committee constituted by the University. This committee will beconstituted of 02 senior faculty members, Director of student's affairs, headed by senior professorof the University.

i Removes a leaf from his/her answer book, the answer book shall be cancelled.
ii Submits forged or fake documents in connection with the examination.
iii Commits impersonation in the examination.
iv Copies from any paper book or notes.
v Mutilates the Answer Book.
vi Possesses any kind of material, which may be helpful to his/her in the examination.
vii Does anything that is immoral or illegal in connection with the examination and which may be helpful to him/her in the examination.
viii Refuses to obey the invigilation staff or refuses to follow the instructions issued by the University in connection with the examination.
ix misbehaves or creates any kind of disturbance in or around the examination centre
x Uses abusive or obscene language on the answer script.
xi Possesses any kind of weapon in or around examination centre.
xii 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 by the decision of the Unfair Means Cases Committee, she/he 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. The students acquiring less than 1.70/4.00 GPA in a semester but passing in all papers will be promoted with the condition to achieve more than 2.0 GPA in the next semester and she/he will be put on probation for the next semester.

ii. The students acquiring GPA 1.7 and above but failing in any paper(s) will be placed on probation and promoted to the next semester conditionally. They will have to be registered for summer semester to improve the grade.

iii. Students acquiring GPA less than 1.7 in two consecutive semesters and failing in any paper(s) even after attending summer semester for one academic year will have to seek re-admission. Re-admission will be allowed only twice during 4 years undergraduate degree program. Re-admission will be allowed after the payment of full admission fee.

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, she/he 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. She/he 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:

i Average marks shall be awarded to the student in that subject/course.

ii In case of Final Year Examination, if the candidate so desires, she/he 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. In case two or more students are acquiring same CGPA 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/Roll of Honor will be awarded in the case of improving CGPA.

v. The disciplines where number of students is less than 05, no position will be awarded in semester system.

The Regulations regarding the conduct and discipline of students of Mehran University of Engineering and Technology, under section 47(1) of the Act, 1977, as amended on 17.9.1986 and further amended on 06.07.2006 are given below: towards the discipline specific areas of concentration as required by Accreditation council. Non-Engineering courses will be of 30 – 35 %.

11.1 Short Title

These Regulations may be called the Mehran University of Engineering & Technology Students Conduct and Discipline Regulations, 1978 as amended upto 6.7.2006.

11.2 Commencement and Applications

These Regulations shall come into force with immediate effect, and shall apply to all the students of the University, Centre of Excellence and the Colleges/Institutes constituted/affiliated to the University.

11.3 Definitions

I. "University" means the Mehran University of Engineering and Technology at Jamshoro.

II. "Campus" means the Mehran University Engineering and Technology, Khairpur Mir's Campus, and all areas and 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 any other such areas, buildings or facilities created within the specified boundary of the University and likewise areas of affiliated/constituted colleges/Institutes/ Center of Excellence.

III. "Syndicate" means the Syndicate of the University.

IV. "Vice-Chancellor" means the Vice-Chancellor of the University.

V. "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.

STUDENTS CONDUCT AND DISCIPLINE REGULATIONS

VI. "Dean", "Director of an Institute/Chairman of the Department", "Teacher Incharge of the Class", "Workshop Superintendent", "Provost", "Deputy Provost", "Warden", "Director Sports", "Games Incharge", "Officer Incharge of Students Affairs", and "Principal"/"Director" of the Constituted/Affiliated College/Institute/Center of Excellence. respectively, means the Dean, Director of Teaching Institute/ Chairman of a Teaching Department, Teacher Incharge of the class, Workshop Superintendent, Provost, Deputy Provost, Warden, Director Sports, Games Incharge, Director Students' Affairs, Students Welfare Officer, Students. Advisor appointed as such by the competent authority and mutatis-mutandis officers/ teachers in the affiliated college/Institute/ Center of excellence.

11.4 Every student shall observe the following:

a) He/She must be faithful in his/her religious duties and respect the convictions of other 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 honour 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/College.
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 specially those in distress.
h) He/She must devote himself/herself faithfully to his/her studies and obey and follow the rules, instructions, and guide lines issued by the University authorities from time to time.
i) He/She must observe thrift and protect property.

11.5 No Student Shall:

a) Smoke in his/her class room, laboratory, workshop, library, examination hall or convocation hall and during any academic functions.
b) Consume alcholic liquor or other intoxicating drugs within the University /College 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/College, organize any club or society of students without permission of the University authorities.
d) Indulge into activities against the Islamic and Pakistan Ideology or national solidarity.
e) Indulge into activities promoting, prompting or involving violence or hatred or contempt.
f) 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/College.
g) Use pressure tactics or political or personal influence in seeking academic concessions or financial benefits or in other matters concerning academic and administrative functions of the University authorities.
h) 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.
i) Bring, keep or use any kind of weapon or fire arms within the University/College.
j) Use or occupy fully or partially any room or any building of the University/ College un-authorized.
k) Organize or take part in procession or meeting within the University/College, prejudicial to the peaceful atmosphere of the University.
l) Stage, incite, or participate in or abet any walk-out, strike, or any other form of agitation against the University/College or its teachers or officers.
m) 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.
n) Bring, keep, or use mobile phone with built-in camera and digital dictionary within the Academic and Examination buildings of the University/College.
o) Snatch mobile phones, use mobile phone during examination/ class/practical or in the Library.
p) Tease the girl/boy students; demonstrate indecent or immoral gestures/attitude towards girl/boy students on the University/College.
q) Abuse/violate IT policies framed or to be framed from time to time

11.6 The teachers and officers of the University/College or committees formed under them for the purpose and others concerned with the students in the University/College 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.

11.7 The Discipline Committee shall deal with serious cases of indiscipline requiring such actions as prescribed by Regulation 10.

11.8 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 case, he/she shall inform and recommend the case to the higher authorities/bodies for necessary action as prescribed.

11.9 Any one or more of the penalties mentioned in Regulation 10 may be impose on a student who is guilty of one or more of the following acts:

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/College property or the property of a fellow student or any teacher or any employee of the University/College; 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 committed within the University/ College or otherwise) which brings bad name to the University/College. 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 above acts/charges.
i) The penalty or penalties imposed shall be appropriate and proportional to the nature and gravity of the above act or acts.

11.10 The penalties which may be imposed and the authority or authorities competent to impose each kind of penalty are specified below:

PENALTY		AN OFFICER OR AUTHORITY COMPETENT TO IMPOSE THE PENLTY
(a)	(i) Exclusion from class room/ Laboratory/ Field work/ workshop up to four classes from his/ her own classes.	Class Teacher/Workshop Instructor
	(ii) Impose fine upto Rs. 500/-	-do-
(b)	Exclusion from the games or the field for the day	Games Incharge
(c)	Exclusion from Instructional or sports tour or survey camp	Teacher/Officer Incharge
(d)	(i) Exclusion from the department/Institute for a period not exceeding one week	Chairman of the Teaching Department/Director of the Teaching Institute.
	(ii) Impose fine upto Rs. 1000/-	-do-
(e)	Exclusion from the Department/Institute for a period not exceeding two weeks	Dean of the concerned Faculty /Principal of the College on the recommendations of the concerned Departmental Committee
(f)	Fine not exceeding Rs.500/-	Teacher Incharge, or Superintendent of Workshop
(g)	Fine not exceeding Rs.5000/-	Dean of the Faculty Concerned/Principal of the College on the recommendation of the Concerned Departmental Committee.
	(i) Fine not exceeding Rs.10,000/-	Vice-chancellor on the Recommendations of the Dean concerned and concerned Departmental Committee
	(ii) Exclusion from the department/Institute for a period not exceeding 3 weeks	-do-
	(iii) Fine upto Rs. 20,000/-	Vice-chancellor on the recommendations of the Discipline Committee.
(h)	With-holding of issue of character certificate	Chairman of the Teaching Department/Director of the Teaching Institute.
(i)	Cancellation of examination or part there-of, or debarring from appearing in any examination or part there-of.	Vice-Chancellor on the recommendations of the Discipline Committee
(j)	Cancellation of remission of fee or University Scholarship	Vice-Chancellor on the recommendations of the Dean of the Faculty concerned/Principal of the College.
(k)	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
(l)	Suspension of admission from the University for a period specified or unspecified pending the final decision.	Dean/Principal of the concerned Faculty on the recommendations of the Departmental Committee
(m)	Rustication/Expulsion from the University for a period not exceeding one year	Vice-Chancellor on the recommendations of the Discipline Committee
(n)	Rustication/expulsion from the University for a period exceeding one year	Syndicate on the recommendations of the Discipline Committee.
(o)	Cancellation of admission from the University	Syndicate on the recommendations of the Discipline Committee
(p)	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 inferior authorities as prescribed above.

11.11 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.

11.12 (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.

11.13 The Vice-Chancellor or any teacher or officer duly authorized by the Vice Chancellor/Principal/Director of the Constituted/ 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/College, 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 11.10 above.

PRE-ADMISSION TEST

ISO 9001 Certified

Mehran University of Engineering & Technology, Jamshoro, Sindh-Pakistan

PRE-ADMISSION TEST, SEPTEMBER 01, 2019.

Booklet No. _____

GENERAL INSTRUCTIONS

1. The candidate will be required to write his/her name, father's name, test booklet number on answer sheet, sign the sheet and mark appropriate group (Pre-Engineering / Pre-Medical/General Science)

2. All rough work must be done on the provided rough work sheet. ..

3. The test is divided into four parts i.e. Mathematics/Biology, Physics, Chemistry / Computer Science and English. Each part is composed of 25 questions. **Total time to solve all the questions of the four parts is 60 minutes (01 hour).**

4. The candidate has to **"START"** and **"STOP"** the test, when announced.

5. Mark the correct answer only.

6. The candidates should carefully think about the answer before marking it on the answer sheet. Once an answer is marked on the answer sheet, the candidate is **"NOT"** permitted to change any of his/her answer in any way. All such answers will be treated as wrong. Only one answer sheet will be issued.

7. In the interest of fairness, it is insisted that no one should continue writing on answer sheet even for a moment after the announcement has been made.

8. During the test, do not talk, whisper, or turn your eyes away from your own papers.

9. **Any evidence of cheating or non-compliance with instructions will disqualify the candidate(s) from the test and his/her name will be removed from the list of the candidates for admission.**

10. There will be no negative marking on wrong answer. Each correct answer carries one mark.

11. When the announcement is made to **"STOP"**, cover your test booklet with the answer sheet.

12. Tearing pages or writing anything anywhere on the test booklet will disqualify the candidate from the test.

13. The test booklet is the property of university. The candidate will have to return the test booklet at the end of the test. If any candidate takes the booklet away for any reason, he will be treated according to the law and his/her name will be removed from the list of the candidates for admission.

14. The candidates should not mark answers on the test booklet, all answers must be written only on the answer sheet with the BLACK ball point pen provided to them.

15. **Don't leave your seats until and unless announced by public address system.**

Mehran University of Engineering & Technology, Jamshoro, Sindh-Pakistan

PLEASE DO NOT WRITE ANYTHING ON THIS PAGE
ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET
INSTRUCTIONS
FOR
PART-I PHYSICS

In this part of the test you will have **25** questions like one's that given below.

EXAMPLES:

1. The product of mass and velocity is called:
   a. Acceleration
   b. Moment Arm
   c. Negative Accelerations
   d. Momentum

We know that the product of mass and velocity is called momentum. Hence the correct answer is MOMENTUM. Therefore, the Circle Containing letter "d" will be marked by filling it completely on the answer sheet.

2. The production of X-Rays can be regarded as an inverse of:
   a. Electromagnetic effect
   b. Photoelectric effect
   c. Compton's effect
   d. Photon effect

In the above example the correct answer is PHOTOELECTRIC EFFECT so the circle containing letter "b" on the answer sheet should be marked by filling it completely.

Mehran University of Engineering & Technology, Jamshoro, Sindh-Pakistan

PLEASE DO NOT WRITE ANYTHING ON THIS PAGE
ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET
INSTRUCTIONS
FOR
PART-II CHEMISTRY

In this part of the test you will have **25** questions like one's that given below:

EXAMPLES:

1. The Chemistry of Carbon is Called:
a. Organic Chemistry
b. Inorganic Chemistry
c. Physical Chemistry
d. Pharmaceutical Chemistry

2. How many moles of sulphur are there in 64 grams of the element?
a. 1
b. 2
c. 3
d. 4

Mehran University of Engineering & Technology, Jamshoro, Sindh-Pakistan

PLEASE DO NOT WRITE ANYTHING ON THIS PAGE
ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET
INSTRUCTIONS
FOR
PART-II COMPUTER SCIENCE

In this part of the test you will have **25** questions like one's that given below:

EXAMPLES:

1. Keyboard is a:
a. Input device
b. Output device
c. Important device
d. Plastic device

2. Personal Computer consist of:
a. Central Processing Unit
b. Input
c. Output
d. All of the above

Mehran University of Engineering & Technology, Jamshoro, Sindh-Pakistan

PLEASE DO NOT WRITE ANYTHING ON THIS PAGE
ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET
INSTRUCTIONS
FOR
PART-III MATHEMATICS

In this part of the test you will have **25** questions like one's that given below:

EXAMPLES:

1. If $\sqrt{\sqrt{cos}\emptyset\ \sqrt{cos}\emptyset\ \sqrt{cos}\emptyset}$ ..... $= 1, then\ \ \emptyset =$

   a) $n\pi/2$
   b) $2n\pi$
   c) $n\pi$
   d) $2n\pi/3$

2. If $y = f(x)$, then $\frac{dy}{dx}$ *is defined as*_____

   a) $\frac{dy}{dx} = \lim_{\delta x \to 0} \frac{f(x+\delta x) - f(x)}{\delta x}$

   b) $\frac{dy}{dx} = \lim_{\delta x \to 0} \frac{f(x-\delta x) - f(x)}{\delta x}$

   c) $\frac{dy}{dx} = \lim_{\delta x \to 0} \frac{f(x-\delta x) + f(x)}{\delta x}$

   d) $\frac{dy}{dx} = \lim_{\delta x \to 0} \frac{f(x+\delta x) + f(x)}{\delta x}$

Mehran University of Engineering & Technology, Jamshoro, Sindh-Pakistan

PLEASE DO NOT WRITE ANYTHING ON THIS PAGE
ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET
INSTRUCTIONS
FOR
PART-III BIOLOGY

In this part of the test you will have **25** questions like one's that given below:

EXAMPLES:

1. Presence of one of the followings made evolution of respiration possible

a) Carbon dioxide
b) Oxygen
c) Nitrogen
d) Inert gasses

2. If non-protein part is covalently bonded, it is known as

a) Co-enzyme
b) Activation
c) Prosthetic group
d) Product

Mehran University of Engineering & Technology, Jamshoro, Sindh-Pakistan

PLEASE DO NOT WRITE ANYTHING ON THIS PAGE
ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET
INSTRUCTIONS
FOR
PART-IV ENGLISH

In this part of the test you will have **25** questions like one's that given below:

EXAMPLES:

1. Why did Kashmir not join Pakistan?

a) Because major portion of population was the Hindus
b) Because major portion of population was the Muslims
c) Because major portion of population was the Sikhs
d) Because it was treacherously made over to india

2. Encircle the response which in your opinion is the most appropriate synonym of the given word:
Genocide

a) Killing an entire race
b) Self destruction
c) Murder of a father
d) Murder of a king

Answer Sheet for Pre-Admission Test of Session 2019 - 20

☐ Rightly mark the correct option

Answer Sheet No. _____

APPLICANT'S NAME

FATHER'S NAME

SEAT NO

0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

Group

- ○ PRE-ENGINEERING
- ○ GENERAL SCIENCE
- ○ PRE-MEDICAL

Test Booklet No.

Physics					Chemistry/Computer					Mathematics/Biology					English				
Part-I					Part-II					Part-III					Part-IV				
1	a	b	c	d	26	a	b	c	d	51	a	b	c	d	76	a	b	c	d
2	a	b	c	d	27	a	b	c	d	52	a	b	c	d	77	a	b	c	d
3	a	b	c	d	28	a	b	c	d	53	a	b	c	d	78	a	b	c	d
4	a	b	c	d	29	a	b	c	d	54	a	b	c	d	79	a	b	c	d
5	a	b	c	d	30	a	b	c	d	55	a	b	c	d	80	a	b	c	d
6	a	b	c	d	31	a	b	c	d	56	a	b	c	d	81	a	b	c	d
7	a	b	c	d	32	a	b	c	d	57	a	b	c	d	82	a	b	c	d
8	a	b	c	d	33	a	b	c	d	58	a	b	c	d	83	a	b	c	d
9	a	b	c	d	34	a	b	c	d	59	a	b	c	d	84	a	b	c	d
10	a	b	c	d	35	a	b	c	d	60	a	b	c	d	85	a	b	c	d
11	a	b	c	d	36	a	b	c	d	61	a	b	c	d	86	a	b	c	d
12	a	b	c	d	37	a	b	c	d	62	a	b	c	d	87	a	b	c	d
13	a	b	c	d	38	a	b	c	d	63	a	b	c	d	88	a	b	c	d
14	a	b	c	d	39	a	b	c	d	64	a	b	c	d	89	a	b	c	d
15	a	b	c	d	40	a	b	c	d	65	a	b	c	d	90	a	b	c	d
16	a	b	c	d	41	a	b	c	d	66	a	b	c	d	91	a	b	c	d
17	a	b	c	d	42	a	b	c	d	67	a	b	c	d	92	a	b	c	d
18	a	b	c	d	43	a	b	c	d	68	a	b	c	d	93	a	b	c	d
19	a	b	c	d	44	a	b	c	d	69	a	b	c	d	94	a	b	c	d
20	a	b	c	d	45	a	b	c	d	70	a	b	c	d	95	a	b	c	d
21	a	b	c	d	46	a	b	c	d	71	a	b	c	d	96	a	b	c	d
22	a	b	c	d	47	a	b	c	d	72	a	b	c	d	97	a	b	c	d
23	a	b	c	d	48	a	b	c	d	73	a	b	c	d	98	a	b	c	d
24	a	b	c	d	49	a	b	c	d	74	a	b	c	d	99	a	b	c	d
25	a	b	c	d	50	a	b	c	d	75	a	b	c	d	100	a	b	c	d

Candidate's Signature

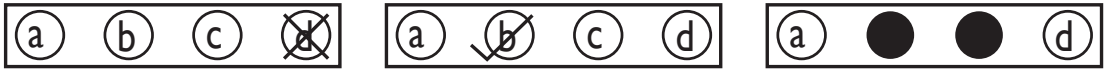
Invigilator's Signature

PRE-ADMISSION TEST SEPTEMBER 01, 2019
INSTRUCTIONS

Marking the Answer (on Answer Sheet)

1. For every question in the question paper, four choices of answer are given. Please mark your choices by filling in the appropriate circle completely, making it a dark circle as shown:

2. Some examples of improper marking are shown below



3. Do not mark more than one circle for an answer. Multiple answers for a question will be regarded as incorrect.

4. Do not bend or fold your answer sheet.

5. Use your time efficiently. Do not spend too much time on one question, otherwise you may run short of time for other questions.

6. The candidate is advised to mark the answer sheet in such a way that a good impression comes on the duplicate copy.

7. At the conclusion of the test the candidate should carefully deatch the duplicate copy so that the original copy may not be changed.

8. The candidate will return the original answer sheet and carbon paper to the invigilator, and keep duplicate copy of answer sheet with himself/herself as it is his/her property.

MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY, JAMSHORO

INSTRUCTIONS & ADMISSION SCHEDULE SESSION 2019-20

UNDERGRADUATE PROGRAM (19-BATCH)

All the candidates who have qualified the Pre-Admission Entry Test of this University, are 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 appearances for Submission of original documents, and for the Interview & Admission.

1. All candidates should do the following after qualifying Pre-Admission Entry Test:

    i. **Enter their HSC /IBCC equivalent marks on the Admission Portal immediately.**
    ii. Upload their **HSC /IBCC equivalent marks certificates/IBCC Equivalency Certificates** on Admission Portal soon after receiving them from their respective boards.
    iii: Enter their **HSC/equivalent marks and upload their HSC /equivalent marks certificates / IBCC Equivalency Certificates** within three days of the announcement of their results. **All those who fail to follow the above condition shall be excluded from Interview Call List / First Provisional Merit List.**

2. **Data Record** of applications will be displayed at the Admission Website (http://www.admissions.muet.edu.pk) once their HSC marks are unloaded. If any of the applicants wants to make correction(s) in his / her Data Record, may contact Admission Office soon after uploading the same.

3. Candidates claiming **additional marks for Hafiz-e-Quran as per Clause 9.11 of the Prospectus,** should personally report for the test of Hifz-e-Quran along with **Original Sanad on 20-09-2019 at 9:00 am** according to the order of Call list.

4. The Interview Call List / First Provisional Merit List for each category under Regular and Self-Finance Schemes will be notified by the University on **20th September, 2019.** The list will be displayed on the University website.

5. Each candidate according to the order of Interview Call List should **personally report** for interview along wth his / her

guardian/parent with following **ORIGINAL documents** (including previous and improved mark sheets, if applicable) along with photocopies of the documents as mentioned on the date and time according to the schedule. **No candidate in any circumstances will be entertained with short of any of the following documents:**

List of Documents:

a.	**Application for Admission/ Biodata** (complete in all respect - to be printed out from Admission Portal).	**Original (to be retained)**
b.	**SSC or Equivalent Mark Certificate**	Original and one attested photocopy.
c.	**HSC or Equivalent Mark Certificate**	**Original- (to be retained)** and one attested photocopy.
d.	**IBCC Equivalent Certificate** (For Foreign examinations)	**Original- (to be retained)** and one attested photocopy.
e.	**Domicile**	**Original - (to be retained)** and one attested photocopy.
f.	**Undertaking Certificate***	**Original - (to be retained).**
g.	**Passport-sized Photographs**	02 Numbers.
h.	**CNIC / Form B**	Original and one attested photocopy.
i.	**PRC (Form C)**	**Original- (to be retained)** and one attested photocopy.
j.	**Medical Certificate**	**Original- (to be retained).**
k.	**Hafiz-e-Quran Sanad** (if applicable)	**Original- (to be retained)** and one attested photocopy.

6. Candidates would then be required to appear before the Admission Committee for interview on specific date and time, as per schedule to choose the discipline from the available seats in their respective category. The selection of discipline / program is based on a **computerized interactive process. The choice of available seats would decrease as one goes down in the order of merit** and each candidate will have to make "**on-the-spot**" choice from the seats available. **To assist the candidate in making the decision he / she may bring his / her parents (or guardian) on 'the day of interview.** Candidate should come prepared to choose the discipline.

7. **If the Candidate is unable to attend the interview in case of 'exceptional circumstances' he/she may authorize any person, preferably a parent, to come on the interview day and take decision on behalf of candidate. The person so authorized (authority letter) shall have to complete all formalities required by the University, regarding admission**

process. Candidates who expect to face 'exceptional circumstances' should contact the Directorate of Admission at least two days prior to his/her interview date.

8. **If any candidate reports after his/her scheduled final reporting time i.e. max. two hours from his scheduled 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 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 name of candidates who do not appear for interview/ Hafiz-e-Quran test (If applicable) / Admission on the specified schedule dates for each category shall not be considered for admission and his name will be deleted from the Merit List.**

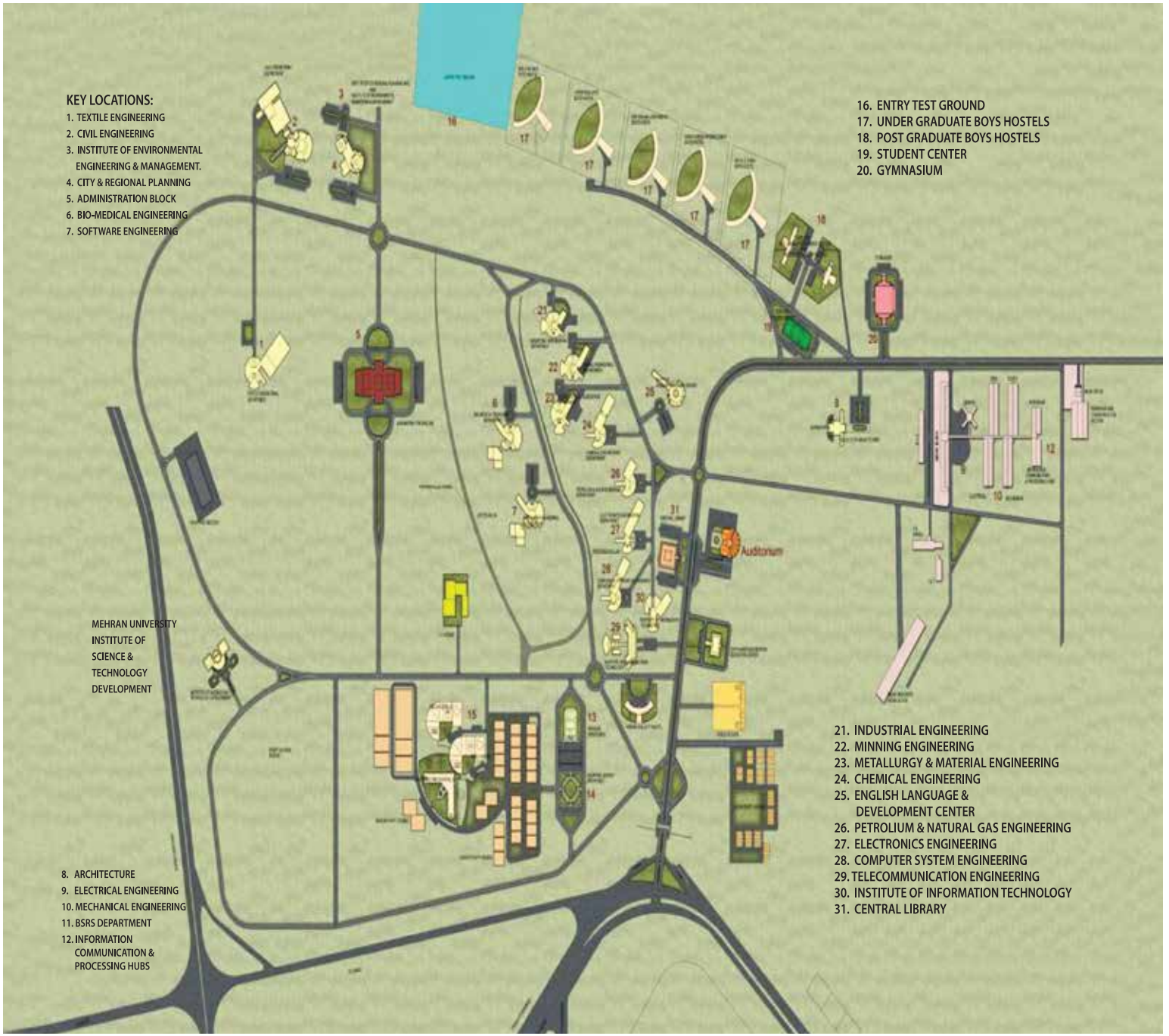
11. All candidates should bring Cash to deposit required fees through challan on the day of interview.

Disipline	Regular Scheme	Self-Finance Scheme
Fee	Rs. 35,700/-	Rs. 23,700/-

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 case any of such claims.

To be downloaded from http://www.admissions.muet.edu.pk/

NOTES FOR THE STUDENTS


KEY LOCATIONS:
1. TEXTILE ENGINEERING
2. CIVIL ENGINEERING
3. INSTITUTE OF ENVIRONMENTAL ENGINEERING & MANAGEMENT.
4. CITY & REGIONAL PLANNING
5. ADMINISTRATION BLOCK
6. BIO-MEDICAL ENGINEERING
7. SOFTWARE ENGINEERING
16. ENTRY TEST GROUND
17. UNDER GRADUATE BOYS HOSTELS
18. POST GRADUATE BOYS HOSTELS
19. STUDENT CENTER
20. GYMNASIUM
Auditorium
MEHRAN UNIVERSITY INSTITUTE OF SCIENCE & TECHNOLOGY DEVELOPMENT
21. INDUSTRIAL ENGINEERING
22. MINNING ENGINEERING
23. METALLURGY & MATERIAL ENGINEERING
24. CHEMICAL ENGINEERING
25. ENGLISH LANGUAGE & DEVELOPMENT CENTER
26. PETROLIUM & NATURAL GAS ENGINEERING
27. ELECTRONICS ENGINEERING
28. COMPUTER SYSTEM ENGINEERING
29. TELECOMMUNICATION ENGINEERING
30. INSTITUTE OF INFORMATION TECHNOLOGY
31. CENTRAL LIBRARY
8. ARCHITECTURE
9. ELECTRICAL ENGINEERING
10. MECHANICAL ENGINEERING
11. BSRS DEPARTMENT
12. INFORMATION COMMUNICATION & PROCESSING HUBS

ISO 9001 Certified

Scan this QR code with your smart phone to add us in your contacts.

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