# PROSPECTUS

## Bachelors Degree Program
## 2013-2014


Mehran University of Engineering & Technology
Jamshoro, Sindh-Pakistan
www.muet.edu.pk

# PROSPECTUS

FOR

BACHELORS DEGREE COURSES
IN
VARIOUS DISCIPLINES OF ENGINEERING,
ARCHITECTURE AND
CITY & REGIONAL PLANNING

**SESSION 2013-2014 (14-BATCH)**

Information about the University, Facilities, Disciplines,
Fields of Study, Teaching, Examination Systems,
Course contents, Rules and Regulations.

**MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY**
**JAMSHORO 76062, SINDH**
**PAKISTAN**
www.muet.edu.pk

AND

**MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY**
**SHAHEED ZULFIQAR ALI BHUTTO, KHAIRPURMIR'S CAMPUS**

AUGUST, 2013

## AUGUST, 2013

## EDITOR'S NOTE

This prospectus has been prepared to provide information to the candidates desirous of seeking admission in various courses offered by Mehran University of Engineering & Technology, Jamshoro and Mehran University College of Engineering & Technology, SZAB, KhairpurMir's Campus leading to a Bachelor's Degree. The details of the courses offered in various disciplines, the faculty and other facilities are given here to make it easier for the students and their parents to decide about the branch of Engineering, Architecture or City & Regional Planning course they may wish to select as a first or other choice. In addition, the information about the selection procedure, available seats, rules and procedures for seeking and granting admission are briefly stated here. Obviously, everything can not be covered in the booklet of this size: nevertheless every effort has been made to cover the most relevant and important aspects of the whole process of admission and conduct/completion of the course(s).

**It should also be noted that this Prospectus is accurate and up-to-date till the date of it's publication, However, the University authorities reserve the right to make changes in the rules, or in any other aspect of the admission process and conduct/completion of the courses as and when deemed necessary, with out prior notice.**

Enquiries concerning admissions should be addressed to:

**Prof. Dr. Rizwan Ali Memon**
Director Admissions
Mehran University of Engineering Technology,
Jamshoro 76062, Sindh, Pakistan
Tel: 022-2771704 Fax: 022-2772196

Publisher: Registrar
Mehran University of Engineering Technology, Jamshoro 76062, Sindh.

Printers : T&Q Printers, Hyderabad, Sindh Cell: 0345-3608402

# Mehran University of Engineering and Technology

JAMSHORO-76062 SINDH, PAKISTAN
www.muet.edu.pk

ISO-9001 Certified

## Mission

The Mehran University aims to promote technological change and sustainable development through higher education, research and outreach. Towards this end, it will provide a rewarding and challenging environment for faculty, staff and students.

## Quality Policy

In line with its mission, the management, faculty and staff have developed broad based quality Management System in the University with a strong commitment to the following.

1. **Customer Focus**

   The University considers the students as its direct customers and endeavors to provide them a congenial atmosphere to assimilate, synthesize and analyze the acquired knowledge for the ultimate benefit of industry, government and society.

2. **Quality Leadership**

   The University aims to be recognized for its leadership position in higher education through establishing courses and carrying out research programs and projects that are distinctive and relevant, and which meet national and international quality standards.

3. **Student Involvement**

   Participatory role of students in maintaining progressive learning environment would be ensured by meeting their professional needs and expectations.

4. **Compliance with Statutory Requirement**

   Every individual working for or studying in the University shall ensure compliance with the University Act, Statutes, Regulation and Rules.

5. **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.

6. **Integrity of the Learning Environment:**

   Integrity of the learning environment shall be maintained for ensuring optimal outcomes.

7. **Optimization of Resources:**

   All human and material resources shall be optimally utilized for accruing maximum benefit.

# Mehran University of Engineering & Technology

JAMSHORO, SINDH-PAKISTAN

ACADEMIC CALENDAR 2014

## ACADEMIC AND EXAMINATION SCHEDULE FOR 10 (Arch), 11,12,13 & 14 BATCHES

### TERM SYSTEM

| Duration of a Term | |
|---|---|
| Teaching: | 16 weeks |
| Examination Preparation: | 02 weeks |
| Examinations: | 04 weeks |
| **Total** | **22 weeks** |

| | |
|---|---|
| Two Term Duration: | 22 x 2 = 44 weeks |
| Summer Vacation: | 06 weeks |
| Winter Vacation: | 02 weeks |
| **Total** | **52 weeks** |

Minimum attendance requirement to be eligible to appear in the Term Examination is 75%

Minimum number of Lectures during the Term in a subject of 4 C.H shall be 52.

Each Lecture is of One hour duration.

### SEMESTER SYSTEM

| Duration of a Semester | |
|---|---|
| Teaching: | 16 weeks |
| Mid semester Exam.: | 01 week |
| Preparation and conduct of final semester Exams: | 05 weeks |
| **Total** | **22 weeks** |

| | |
|---|---|
| Two Semester Duration: | 22 x 2 = 44 weeks |
| Summer Vacation: | 06 weeks |
| Winter Vacation: | 02 weeks |
| **Total** | **52 weeks** |

Minimum attendance requirement to be eligible to appear in the Semester Examination is 75%

Minimum number of Lectures during the Semester in a subject of 3 CH shall be 42.

Minimum number of contact hours for a practical of I CH per Semester is 42.

| Batch & Term | 10-Batch (Arch) 9th Term | 11-Batch 7th Term | 12-Batch 5th Term |
|---|---|---|---|
| Date of Start of Classes | 06-01-2014 | 06-01-2014 | 06-01-2014 |
| Date of suspension of classes | 27-04-2014 | 27-04-2014 | 27-04-2014 |
| Schedule of Examination | 28-04-2014 | 28-04-2014 | 28-04-2014 |
| Display of Sessional Marks | 02-05-2014 | 02-05-2014 | 02-05-2014 |
| Examination Preparation up to | 09-05-2014 | 09-05-2014 | 09-05-2014 |
| Conduct of Examination | 12-05-2014 | 12-05-2014 | 12-05-2014 |
| Announcement of results (Expected) | 01-08-2014 | 01-08-2014 | 01-08-2014 |
| | | | |

| Batch & Semester | 13 Batch 3rd Semester | 14 Batch 1st Semester |
|---|---|---|
| Date of Start of Classes | 06-01-2014 | 06-01-2014 |
| Conduct of Mid Semester Exam | 03-03-2014 | 03-03-2014 |
| Date of suspension of classes | 27-04-2014 | 27-04-2014 |
| Schedule of Examination | 28-04-2014 | 28-04-2014 |
| Display of Sessional Marks | 02-05-2014 | 02-05-2014 |
| Examination Preparation up to | 09-05-2014 | 09-05-2014 |
| Conduct of Final Semester Exam | 12-05-2014 | 12-05-2014 |
| Announcement of results (Expected) | 01-08-2014 | 01-08-2014 |

**Summer Vacation: 07-06-2014 to 20-07-2014**

| Batch & Term | 10-Batch (Arch) 10th Term | 11-Batch 8th Term | 12-Batch 6th Term |
|---|---|---|---|
| Date of Start of Classes | 21-07-2014 | 21-07-2014 | 21-07-2014 |
| Date of suspension of classes | 09-11-2014 | 09-11-2014 | 09-11-2014 |
| Schedule of Examination | 10-11-2014 | 10-11-2014 | 10-1 1-2014 |
| Display of Sessional Marks | 14-11-2014 | 14-11-2014 | 14-1 1-2014 |
| Examination Preparation up to | 21-11-2014 | 21-11-2014 | 21-1 1-2014 |
| Conduct of Examination | 24-11-2014 | 24-11-2014 | 24-11-2014 |
| Announcement of results (Expected) | 16-02-2015 | 16-02-2015 | 16-02-2015 |
| | | | |

| Batch & Semester | 13 Batch 4th Semester | 14 Batch 2nd Semester |
|---|---|---|
| Date of Start of Classes | 21-07-2014 | 21-07-2014 |
| Conduct of Mid Semester Exam | 15-09-2014 | 15-09-2014 |
| Date of suspension of classes | 09-11-2014 | 09-11-2014 |
| Schedule of Examination | 10-11-2014 | 10-11-2014 |
| Display of Sessional Marks | 14-11-2014 | 14-11-2014 |
| Examination Preparation up to | 21-11-2014 | 21-11-2014 |
| Conduct of Final Semester Exam | 24-11-2014 | 24-11-2014 |
| Announcement of results (Expected) | 16-02-2015 | 16-02-2015 |

**Winter Vacation: 20-12-2014 to 04-01-2015**

**Pre Admission Test for 14-Batch on 27-10-2013**

CONTENTS

CONTENTS

CONTENTS

CONTENTS

# 1. INTRODUCTION

## 1.1 Brief History

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 (then spelt 'Sind') in Jamshoro about 15 km. from Hyderabad on the right bank of river Indus.

The Education Policy of 1972 provided for upgradation 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 headed by a Pro-Vice-Chancellor in July 1976 and later upgraded to the level of a fully fledged independent University on 1st March, 1977 through an ordinance issued by the Government of Sindh. The ordinance was later converted into an Act of the Provincial Assembly of Sindh Province. Initially, the Additional Campus as well the Mehran University was established in the City of Nawabshah. However, in 1979, the Act of the University was amended and the seat of the University was retained at Jamshoro, while a constituent college was maintained at Nawabshah which has also become an independent university in 1996.

In order to promote Engineering education to the people of interior Sindh at their door step, the Government of Sindh established a constituent college of Mehran University of Engineering & Technology named as “Mehran University College of Engineering & Technology, Khairpur Mir's”. The college has been upgraded as a Campus of Mehran University of Engineering & Technology, Jamshoro, and renamed as “Mehran University of Engineering & Technology, Shaheed Zulfiqar Ali Bhutto Khairpur Mir's Campus”

The number of students admitted to the First Year classes of all the disciplines under regular scheme at Jamshoro is 1053 out of which 1000 candidates are admitted from Sindh Province, including Karachi Division, according to a precisely calculated ratio of population and other considerations. 34 applicants are admitted from other parts of Pakistan while 19 seats are reserved for the foreigners. Whereas under Self Finance Scheme and Special Scheme 548 and 86 candidates are admitted from Sindh province respectively.

The number of students admitted to the First Year classes of all four disciplines at Khairpur Mir's Campus is 244 out of which 60 candidates are admitted under Self Finance Scheme. The detailed distribution of the seats is given in Prospectus.

Most of the laboratories and workshops of the teaching departments are properly equipped and practical as well as demonstrational training is imparted to the students wherever applicable. Continuous efforts are ongoing to upgrade these facilities for the practical training and new equipment is acquired for this purpose. Additionally, training to the concerned staff is also organized within the University as well as outside. In some cases, where the training facilities are not available within the University, the students are sent to suitable institutes in Karachi or elsewhere to undergo adequate training. Every department has been provided adequate number of personal computers and e-mail and Internet facilities for the training and use of the students as well teaching staff.

The postgraduate courses were started in the University in 1978 leading to Master's Degree, initially, in three branches. At present, courses are offered in the specialized fields of 'Structural Engineering, Civil Engineering, Geo-technical and Highway Engineering, Construction Management, City and Regional Planning, Irrigation and Drainage Engineering, Environmental Engineering & Management, Manufacturing Engineering, Energy Systems

Engineering , Chemical Engineering, Industrial Engineering & Management, Mining Engineering, Metallurgy and Materials Engineering, Telecommunication and Control Engineering, Telecommunication Engineering & Management, Communication Systems Network, Information Technology, Telemedicine & e-Health Systems, Software Engineering, Computer & Information Technology, Electrical Power Engineering and Electronic System Engineering. Some courses are offered full time during the day while others are conducted during the evenings. The degrees to be awarded may be Post-graduate Diploma (P.G.D.), Master of Engineering (M.E.), Master of Science (M.S), Master of Philosophy (M. Phil.) or Doctor of Philosophy (Ph.D.); depending upon the quality and quantity of the research/work completed.

Post-graduate studies and research are organized by various departments as well as the following specialized institutes.

- Institute of Water Resource Engineering & Management
- Institute of Environmental Engineering and Management
- Institute of Petroleum & Natural Gas Engineering
- Institute of Information & Communication Technologies
- Mehran University Institute of Science & Technology Development
- Directorate of Post-graduate Studies

More details about the Post-graduate courses, curricula, duration, fees, etc., are provided separately in the Prospectus of Post-graduate studies; which may be obtained from the office of the Director, of the Institute concerned.

Hostel facilities are also available for about 1000 students on the campus both male and female; which are located at walking distance from the teaching departments. These hostels are equipped with necessary facilities including bathrooms, reading rooms, game rooms, dining halls, etc.

More details of the facilities available for the students are described in Chapter 7; which include medical care, transport, games and recreation, Library and so on.

## 2. Fields of Study and Teaching System

### 2.1 Fields of Study

Mehran University offers courses leading to Bachelors' degrees in the following disciplines. All but two Degrees are in a field of Engineering and are titled Bachelor of Engineering…..(Name of a field); e.g. B.E. Civil. The remaining two are non-engineering degrees but in related fields; i.e. Bachelor of Architecture (B.Arch.) and Bachelor of City & Regional Planning (B.CRP). The names of all the undergraduate disciplines are also given below:

1. Architecture
2. Bio-Medical Engineering
3. Chemical Engineering
4. Civil Engineering
5. City & Regional Planning
6. Computer Systems Engineering
7. Electrical Engineering

8. Electronic Engineering
9. Environmental Engineering
10. Industrial Engineering & Management
11. Mechanical Engineering
12. Metallurgy & Materials Engineering
13. Mining Engineering
14. Petroleum & Natural Gas Engineering
15. Software Engineering
16. Textile Engineering
17. Telecommunication Engineering

Teaching is offered in three main faculties; the Faculty of Engineering, the Faculty of Electrical, Electronic & Computer Engineering and Faculty of Architecture and Civil Engineering. Out of Fifteen degree courses leading to an engineering degree Seven Engineering degrees are taught in the respective departments under the Faculty of Engineering whereas six engineering courses are taught in the respective departments under the Faculty of Electrical, Electronic & Computer Engineering. Two Engineering and Two other non-engineering courses are taught under the Faculty of Architecture and Civil Engineering. A 4th Faculty called Faculty of Science; Technology & Humanities also exists in the University; which comprises on the following departments, Institutes, Center and affiliated colleges:

1. Department of Basic Science and Related Studies.
2. English Language Development Center.
3. Mehran University Institute of Science, Technology and Development.
4. Government College of Technology, Hyderabad.
5. Hyderabad Institute of Arts, Science and Technology, Hyderabad.
6. Hyderabad College of Science & Technology, Hyderabad.

## 2.2 Teaching System

Courses for all the Engineering degrees and B.CRP are of four-year duration; while the remaining of B.Arch. is of five-year duration. Each year is divided into two six-monthly Semesters in which five or six subjects are taught and the examinations are held after completion of teaching. The duration of a Semester is further specified as under:

| | | |
|---|---|---|
| Teaching duration of Semester | | 16 weeks |
| Conduct of Mid Semester Examination | | 01 week |
| Preparation and conduct of final | | 05 weeks |
| Semester Examination | **Total:** | **22 weeks** |

This arrangement of teaching is named as Semester System. In addition to specific subjects related to a given field of study, some general subjects are also taught to the students in different semester. Some of these subjects are; English, Pakistan Studies, Islamic Studies/Ethics, etc. Many courses of Applied Mathematics and Statistics are also included in the syllabus, which form the basis for many branches of engineering and architecture. Workshop Practice is also taught to students of many disciplines of engineering; since it is considered to be a basic requirement for the engineering education. Similarly, engineering drawing in various forms is taught to the students of Mechanical, Electrical, Civil, Electronics and other branches as per their requirements. In the final year, the students are also required to complete a project of significant duration and work load; which may be original research, design/development of a product or a literature survey on a specific topic.

After satisfactory completion of the courses in all respects including sessional and laboratory work and passing of all the examinations held by the University from time to time, the bachelor's degree is awarded. The field of study is also specified in the certificate. Examinations are conducted after each Semester (every six months).

## 2.3. OFFICERS OF THE UNIVERSITY

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

| Sr.No. | Post | Name | Phone |
|---|---|---|---|
| 1. | Vice-Chancellor | Prof. Dr. Abdul Qadeer Khan Rajput | 022-2771197 |
| 2. | Pro Vice-chancellor | Prof. Dr. Muhammad Aslam Uqaili | 022-2771360 |
| 3. | Pro-Vice-Chancellor MUET, SZAB, Khairpur Mir's Campus | Engr. Ghulam Sarwar Kandhir | 0243-714005 |
| 4. | Dean, Faculty of Electrical, Electronic & Computer Engineering. | Prof. Dr. Bhawani Shankar Choudhary | 022-2771558 |
| 5. | Dean, Faculty of Architecture and Civil Engineering. | Prof. Dr. Ghous Bux Khaskheli | 022-2771638 |
| 6. | Dean, Faculty of Engineering | Prof. Dr. Hafeez-ur-Rehman Memon | 022-2771312 |
| 7. | Dean, Faculty of Science, Technology & Humanities. | Prof. Dr. Pir Roshan Shah Rashdi | 022-2771352 |
| 8. | Registrar | Prof. Dr. Tauha Hussain Ali | 022-2771371 |
| 9. | Director Finance | Mr. Muneer A. Shaikh | 022-2771442 |
| 10. | Controller of Examinations | Mr. Suhail Ahmed Khatian | 022-2771631 |
| 11. | Resident Auditor | Mr. Gangwani Lachmandas .P. Sootahar | 022-2772285 |
| 12. | Director Admissions | Prof. Dr. Rizwan Ali Memon | 022-2771704 |
| 13. | Director Planning & Development | Mr. Ashfaque Ahmed Issani | 022-2771254 |
| 14. | Incharge Librarian | Mr. Azam Ali Halepota, | 022-2771169 |

# 3. FACULTY OF ENGINEERING

The Faculty of Engineering comprises seven teaching departments offering Bachelor's as well as Postgraduate degrees in the respective branches of the Engineering. Relevant information about all these departments is briefly provided below.

## 3.1 DEPARTMENT OF CHEMICAL ENGINEERING

The Chemical Engineering Department was established in 1970 in the Institute of Chemistry University of Sindh Jamshoro. Prof. Dr. Syed Wadal Shah was the founder of the Department. The Scheme envisaged providing teaching and training facilities at the undergraduate level in the field of Chemical Engineering. After one year, the department was shifted to "Sindh University Engineering College" Jamshoro.

Chemical Engineering mainly concerns with design, manufacture, operation, management and maintenance of an industrial plant or a laboratory involving chemical and biochemical processes. It is a multi-disciplinary field having a significant level of mechanical, electrical, electronic and instrumentation components in addition to process equipment. Chemical engineering has also to deal with bio-chemical, environmental and materials problems. The Bachelor's degree course has been designed accordingly to train the students in all these fields including the basic subjects such as English, Chemistry and more specialized subjects of chemical engineering. Well-equipped and relevant laboratories have been established in the Department for practical training of the students. In addition, industrial tours to chemical and biochemical industries are organized for the students in order to expose them to real plants working conditions.

The first Batch of 31 students graduated in 1974, since then the Department of Chemical Engineering has been producing versatile Chemical Engineers of high caliber who are serving various national and multinational organizations in Pakistan & Overseas to the best of their talents and capabilities. At present nearly 400 students are registered in the degree program of chemical engineering with 90 student intake every year. Very good faculty including 06 Ph.d and 08 Masters is available to inculcate the basic knowledge of chemical and biochemical engineering to the students.

The Chemical Engineering Department also offers a postgraduate course leading either to a Diploma or Master of Engineering (M.E.) degree; the later also includes a dissertation based on research or some other kind of study of a problem or task of practical in nature. The department has also manpower and laboratory facilities to undertake research leading to M.Phil. and Ph.D. degrees. Currently 08 PhD and 47 ME students are enrolled in postgraduate program & carrying out the research in areas of chemical processing, waste water treatment, bioprocess engineering, industrial pollution, polymers, energy & combustion in collaboration with reputable national & international institutions. The Department has number of research groups working in important areas of chemical engineering with national and international collaboration. These includes Waste Treatment and Management (WTM); Heat Transfer & Combustion (HTC); Water Treatment (WT); Bio Engineering (BE), and Membrane Technology (MT).

The Department has also secured few international collaboration program to enhance the standard of higher education. Currently, through Pak-US joint Academic and Research Program (2009-2012) the Chemical Engineering of MUET has developed partnership with Institute of Chemical and Environmental Engineering, University of Arizona, USA to conduct research on treatment of ground water by using Iron ore for removal of arsenic.

A linkage is established with Brunel University U.K under BC-HEC linkage program (2007-2009). Under this program various activities were carried out that includes the faculty visit to Brunel University, conferences, seminars, workshops & training courses and research on "Waste Management". Through DeIPHE research project on Urban Water Demand Management (2008-2010), an international conference on Sustainable Water Management was organized at MUET Jamshoro in

September, 2010, which was participated by more than 300 delegates including 28 foreign delegated from USA, UK, Australia, Austria, Germany, The Netherlands, Nepal, India, Indonesia, Malaysia and Bangladesh. The department also organized the professional development training courses on Maintenance Management System (MMS) in 2006, introduction to HYSYS 3.2 for Process Engineers in 2011,2012,A comprehensive introduction to "Computational Fluid Dynamics(CFD)" in 2013.Training course of ANSYS FLUENT® 6.3.26 and GAMBIT® 2.2 Softwares 2013.

The department has also established Sustainable Development Research Cell (SDRC) in the department, which carry out national and international research program on water, energy and other natural resources. Recently a Water Quality Laboratory is established, in which sophisticated equipment is available like HLPC and Atomic Adsorption, Spectrophotometer and other facilities to conduct water quality analysis tests.

### 3.1.1. TEACHING STAFF OF CHEMICAL ENGINEERING DEPARTMENT

Following teaching staff is presently working in the department of Chemical Engineering.

| | | |
|---|---|---|
| 1. | Chairperson of the Department | Prof. Dr. Khadija Qureshi,<br>Ph:022-2771642, 022-2771262<br>Email: Chairperson_ch@admin.muet.edu.pk<br>Website: www.muet.edu.pk |
| 2. | Professor: | Dr. Khadija Qureshi<br>Dr. Syed Farman Ali Shah<br>Dr. Suhail Ahmed Soomro<br>Dr. Shaheen Aziz Shaikh<br>Dr. Inamullah Bhatti |
| 3. | Associate Professor: | Dr. Abdul Rehman Memon |
| 4. | Assistant Professor: | Mr. AshfaqueHussain Pirzada<br>Ms. Aziza Bano<br>Ms. Zeenat M. Ali<br>Mr. Manzoor-ul-Haq (on study leave)<br>Mr. Khan Muhammad Qureshi (on study leave)<br>Mr. Zulfiqar Ali Bhatti<br>Mr. Muhammad Shuaib Shaikh (on study leave)<br>Mr. Imran Nazir Unar (on study leave) |
| 5. | Lecturers: | Mr. Masroor Ahmed Abro<br>Mr. Zulfiqar Ali Solangi |

### 3.1.2 Courses of Studies for B.E Chemical Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Inorganic & Organic Chemistry | 3 | 1 | 100 | 50 |
| 2 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 3 | Islamic Studies/Ethics | 2 | 0 | 50 | 0 |
| 4 | Applied Calculus | 3 | 0 | 100 | 0 |
| 5 | Basic Chemical Engineering | 2 | 0 | 50 | 0 |
| 6 | Engineering Drawing & Graphics | 2 | 2 | 50 | 100 |
| 7 | Workshop Practice | 0 | 2 | 0 | 100 |
| **TOTAL** | | **14** | **5** | **400** | **250** |
| | | **19** | | **650** | |
| | **SECOND SEMESTER** | | | | |
| 08 | Linear Algebra & Analytical Geometry | 3 | 0 | 100 | 0 |
| 09 | Functional English | 3 | 0 | 100 | 0 |
| 10 | Engineering Mechanics | 3 | 0 | 100 | 0 |
| 11 | Basic Electrical Technology | 3 | 1 | 100 | 50 |
| 12 | Chemical Process Technology | 3 | 0 | 100 | 0 |
| 13 | Chemical Process Calculations-I | 2 | 0 | 50 | 0 |
| **TOTAL** | | **17** | **1** | **550** | **50** |
| | | **18** | | **600** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **THIRD SEMESTER** | | | | | |
| 14 | Physical & Analytical Chemistry | 3 | 0 | 100 | 0 |
| 15 | Engineering Economics | 2 | 0 | 50 | 0 |
| 16 | Engineering Materials | 2 | 0 | 50 | 0 |
| 17 | Chemical Process Calculations-II | 3 | 0 | 100 | 0 |
| 18 | Engineering Thermodynamics | 3 | 1 | 100 | 50 |
| 19 | Differential Equations and Fourier Series | 3 | 0 | 100 | 0 |
| **TOTAL** | | **16** | **1** | **500** | **50** |
| | | **17** | | **550** | |
| **FOURTH SEMESTER** | | | | | |
| 20 | Chemical Engineering Thermodynamics | 3 | 0 | 100 | 0 |
| 21 | Introduction to Computer & C++ Programming | 3 | 1 | 100 | 50 |
| 22 | Complex Variable and Laplace Transforms | 3 | 0 | 100 | 0 |
| 23 | Chemical Engineering Fluid Mechanics-I | 3 | 0 | 100 | 0 |
| 24 | Particulate Technology | 3 | 1 | 100 | 50 |
| **TOTAL** | | **15** | **2** | **500** | **100** |
| | | **17** | | **600** | |
| **FIFTH SEMESTER** | | | | | |
| 25 | Maintenance Engineering & Risk Management | 2 | 0 | 50 | 0 |
| 26 | Fuel & Energy | 3 | 1 | 100 | 50 |
| 27 | Heat Transfer Operations | 3 | 1 | 100 | 50 |
| 28 | Chemical Engineering Fluid Mechanics-II | 3 | 1 | 100 | 50 |
| 29 | Mass Transfer | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| **SIXTH SEMESTER** | | | | | |
| 30 | Chemical Engineering Plant Design | 3 | 0 | 100 | 0 |
| 31 | Simulation Heat & Mass Transfer | 3 | 1 | 100 | 50 |
| 32 | Numerical Analysis & Computer Applications | 3 | 1 | 100 | 50 |
| 33 | Chemical Engineering Kinetics | 3 | 0 | 100 | 0 |
| 34 | Quality Control | 2 | 1 | 50 | 50 |
| **TOTAL** | | **14** | **3** | **450** | **150** |
| | | **17** | | **600** | |
| **SEVENTH SEMESTER** | | | | | |
| 35 | Biochemical Engineering | 3 | 1 | 100 | 50 |
| 36 | Transport Phenomena | 3 | 0 | 100 | 0 |
| 37 | Instrumentation & Process Control | 3 | 1 | 100 | 50 |
| 38 | Petroleum Refinery Engineering | 3 | 0 | 100 | 0 |
| 39 | Pollution Control Engineering | 3 | 1 | 100 | 50 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| **EIGHTH SEMESTER** | | | | | |
| 40 | Industrial Management | 3 | 1 | 100 | 0 |
| 41 | Chemical Process Design & Simulation | 2 | 1 | 50 | 50 |
| 42 | Petrochemicals | 3 | 0 | 100 | 0 |
| 43 | Nuclear Engineering | 3 | 0 | 100 | 0 |
| 44 | Thesis/Project | 0 | 4 | 0 | 200 |
| **TOTAL** | | **11** | **6** | **350** | **250** |
| | | **17** | | **600** | |

## 3.2 Department of Industrial Engineering & Management

Industrial engineering is a rapidly developing and broad professional discipline. It deals with design, installation operation and management of integrated systems of people, material, and equipment, 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.

Industrial engineering figures out of how to do things better. They are more concern with increasing productivity through the management of people, methods of business organization and technology. They work to eliminate waste of time, money, materials, energy and other commodities. This is why many industrial engineers end up being promoted into management positions.

Another important feature of industrial engineering is its flexibility. Industrial engineering is not restricted only to manufacturing activities. It includes service sectors, like, Airlines, banking, education, waste-management, health-care, transportation, distribution, etc. Thus, the scope of industrial engineering is quiet big and certainly not restricted within the boundary of industry (factory).

Department of Industrial Engineering and Management offer the degree course, taking into consideration the technical and professional requirements of the discipline and prospective employer organizations. The department is equipped with adequate number of laboratories in the field of Quality Control, Time and Motion Study, Operations research, Computer Aided Engineering with sophisticated softwares. The department has also launched a postgraduate program since 2004.

### 3.2.1 Teaching Staff of Industrial Engineering & Management Department

Following teaching staff is presently working in the department of Industrial Engineering & Management.

| | | | |
|---|---|---|---|
| 1. | Chairman of the Department: | Prof. Dr. Hussain Bux Marri<br>Phone: +92 22 2771247<br>Email: hussain.marri@yahoo.co.uk | |
| 2. | Professors: | Dr. Riaz Ahmed Sohag<br>Dr. Hussain Bux Mari<br>Dr. Murlidhar Nebhwani<br>Dr. Abdul Salam Soomro | |
| 3. | Associate Professor: | Mr. Aitbar Ali Abbasi | |
| 4. | Assistant Professors: | Mr. Siraj Ahmed Abbasi<br>Mr. Ghulam Yasin Shaikh<br>Mr. Abdul Qayoom Lakhiar<br>Mr. Mukhtiar Ali Korai<br>Mr. Muhammad Saleh Jumani<br>Mr. Karim Bux Indhar | |
| 5. | Lecturers: | Mr. Shakeel Ahmed Shaikh<br>Mr. Muhammad Ali Khan<br>Ms. Sonia Irshad Mari<br>Mr. Muhammad Saad Memon<br>Mr. Ali Arsalan Siddiqui | <br><br>(on study leave)<br>(on study leave)<br> |

### 3.2.2 Courses of Studies for B.E Industrial Engineering & Management

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Applied Calculus | 3 | 0 | 100 | 0 |
| 2 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| 3 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 4 | Industrial Economical & Management | 3 | 0 | 100 | 0 |
| 5 | Engineering Drawing & Computer Graphics | 3 | 1 | 100 | 50 |
| 6 | Electrical Technology | 3 | 1 | 100 | 50 |
| | **TOTAL** | **16** | **2** | **500** | **100** |
| | | **18** | | **600** | |
| | **SECOND SEMESTER** | | | | |
| 7 | Linear Algebra Differential Equations and Analytical Geometry | 3 | 0 | 100 | 0 |
| 8 | Basic Business Management | 3 | 0 | 100 | 0 |
| 9 | Functional English | 3 | 0 | 100 | 0 |
| 10 | Mechanics of Materials | 3 | 1 | 100 | 50 |
| 11 | Manufacturing Processes | 3 | 2 | 100 | 100 |
| | **TOTAL** | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **THIRD SEMESTER** | | | | |
| 12 | Materials & Processes | 3 | 1 | 100 | 50 |
| 13 | Management Information Systems | 3 | 0 | 100 | 0 |
| 14 | Mechanics of Machines | 2 | 1 | 50 | 50 |
| 15 | Basics Thermodynamics | 3 | 1 | 100 | 50 |
| 16 | Introduction to Computer Programming & C++ Programming | 3 | 1 | 100 | 50 |
| | **TOTAL** | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| | **FOURTH SEMESTER** | | | | |
| 17 | Production Planning & Control | 3 | 0 | 100 | 00 |
| 18 | Industrial Probability and Estimation | 3 | 1 | 100 | 50 |
| 19 | Managerial Accounting | 3 | 0 | 100 | 00 |
| 20 | Basic Machine Design | 3 | 1 | 100 | 50 |
| 21 | Fluid Mechanics | 3 | 1 | 100 | 50 |
| | **TOTAL** | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **FIFTH SEMESTER** | | | | |
| 22 | Enterepreneurship | 3 | 0 | 100 | 0 |
| 23 | Numerical Analysis & Computer Application | 3 | 1 | 100 | 50 |
| 24 | Basic Operations Research | 3 | 1 | 100 | 50 |
| 25 | Manufacturing Strategy | 3 | 0 | 100 | 0 |
| 26 | Instrumentation & Control | 3 | 1 | 100 | 50 |
| | **TOTAL** | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **SIXTH SEMESTER** | | | | |
| 27 | Organizational Behavior | 3 | 0 | 100 | 0 |
| 28 | Work Studies & Methods Engineering | 3 | 1 | 100 | 50 |
| 29 | Production Systems Design | 3 | 0 | 100 | 00 |
| 30 | Project Management | 3 | 1 | 100 | 50 |
| 31 | Environmental Management | 2 | 0 | 50 | 0 |
| | **TOTAL** | **14** | **2** | **450** | **100** |
| | | **16** | | **550** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **SEVENTH SEMESTER** | | | | |
| 32 | Human Resources Management | 3 | 0 | 100 | 0 |
| 33 | Human Factors Engineering | 3 | 1 | 100 | 50 |
| 34 | Advanced Operations Research | 3 | 1 | 100 | 50 |
| 35 | Industrial management and Safety | 3 | 0 | 100 | 0 |
| 36 | Supply Chain and Logistic Management | 3 | 0 | 100 | 0 |
| | **TOTAL** | **15** | **2** | **500** | **100** |
| | | **17** | | **600** | |
| | **EIGHTH SEMESTER** | | | | |
| 37 | Quality & Reliability Control | 3 | 0 | 100 | 0 |
| 38 | Marketing Principles & Practices | 3 | 0 | 100 | 0 |
| 39 | Principles of Decision Making | 3 | 0 | 100 | 0 |
| 40 | Computer Integrated Manufacturing | 3 | 1 | 100 | 50 |
| 41 | Thesis Project | 0 | 4 | 0 | 200 |
| | **TOTAL** | **12** | **5** | **400** | **250** |
| | | **17** | | **650** | |

## 3.3 Department of Mechanical Engineering

Mechanical Engineering is a professional engineering discipline that involves the application of principles of maintenance of mechanical systems. It requires a solid understanding of key concepts including mechanics, kinematics, thermodynamics and energy. Practitioners of mechanical engineering, known as mechanical engineers, use these principles and others in the design and analysis of automobiles, aircraft, heating & cooling systems, buildings, bridges, industrial equipment, machinery and more.

Department of Mechanical Engineering offers the degree course titled “Bachelor of Engineering”. It offers several major subjects of study. This is to ensure a minimum level of competence among graduating engineers and to inspire confidence in the engineering profession as a whole. Fundamental subjects of mechanical engineering include:

* Engineering Mechanics, Strength of Materials
* Instrumentation & Control
* Thermodynamics, Heat Transfer, Energy Technology, Refrigeration & Air Conditioning.
* Fluid Machinery and Aerodynamics
* Design of Mechanical Systems
* Manufacturing Technology
* Engineering Design
* Mechatronics
* Computer Aided Design and Drafting
* Computer Aided Manufacturing
* Mechanical Vibrations

Mechanical engineers are required to comprehend the physical interpretation of basic and advanced applied mathematical concepts and apply these ideas to solve diverse real world engineering problems. Mechanical engineers are also expected to understand and be able to apply basic concepts of calculus, as well as advanced mathematical concepts which may include differential equations, partial differential equations, Laplace, Fourier transforms, linear algebra, modern algebra and differential geometry.

The Mechanical Engineering program also entails varying amounts of research and community projects to gain practical problem-solving experience. Mechanical engineering students usually avail one or more internships during their course of study. The theory classes of many subjects are being supported by the practical work for which different laboratories are established. Most of the practicals are associated with various design and simulation software such as CATIA, Pro-E, Ansys, Fluent, Solid Edge, MATLAB, ADAMS etc. The Mechanical Engineering Workshop also includes facilities for training in traditional machining, fitting, forging, foundry, welding, and wood working. The training is not restricted to the students of Mechanical Engineering only but the students of other disciplines also undergo training in the workshop. The Workshop has also been upgraded with the latest addition of CNC lathe and milling machines, in order to provide advanced training facilities to the students.

The department also offers evening program of Postgraduate Diploma (P.G.D) and Master of Engineering (M.E) in Manufacturing Engineering and Energy Systems Engineering.

### 3.3.1 Teaching Staff of the Department of Mechanical Engineering

Following teaching staff is presently working in the department of Mechanical Engineering.

| | | |
|---|---|---|
| 1. | Chairman of the Department | Prof. Dr. Hassan Ali Khan Durrani<br>Phone No. 022-2771275 |
| 2. | Professors: | Dr. Mujeeb-u-ddin Memon<br>Dr. Khanji Harijan<br>Dr. Hassan Ali Khan Durrani<br>Dr. Rizwan Ahmed Memon<br>Dr. Dur Muhammad Pathan |
| 3. | Associate Professors: | Mr. Ashfaque Ahmed Memon<br>Mr. Rafique Ahmed Nizamani<br>Mr. Jamil. H. Kahliqdina<br>Dr. Tanweer Hussain Phulpoto<br>Dr. Zeeshan Ali Memon |
| 4. | Assistant Professors: | Mr. Shoukat Ali Memon<br>Mr. Abdul Samad Memon<br>Mr. Muhammad Jurial Sangi<br>Mr. Muhammad Sharif Jamali<br>Mr. Ghulam Yasin Mughal<br>Dr. Abdul Fatah Abassi<br>Mr. Muhammad Atif Qaimkhani<br>Mr. Abdul Ghafoor Memon (on study leave)<br>Mr. Imtiaz Ali Memon<br>Mr. Abdul Razaque Sahito (on study leave)<br>Dr. Javed Daudpoto |
| 5. | Lecturers: | Mr. Javed Rehman Larik<br>Mr. Zainul-ul-Abdin Qureshi |

### 3.3.2 Teaching Staff of Mechanical Engineering Workshop

| | | |
|---|---|---|
| 1. | Workshop Superintendent: | Mr. Muhammad Sarwar Siddiqui<br>Phone No. 022-2771218 |
| 2. | Senior Workshop Instructors: | Mr. Ameer Ali Memon<br>Mr. Mujeeb Iqbal Soomro<br>Mr. Afaque Rafique Memon |
| 3. | Workshop Instructors: | Mr. Pir Jawed Ahmed Sarhandi<br>Mr. Abdul Qadir Jamali<br>Mr. Jamil Ahmed Mangi<br>Mr. Jamaluddin Vinjhar |

### 3.3.3 Courses of Studies for B.E Mechanical Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FIRST SEMESTER** | | | | | |
| 1 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| 2 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 3 | Applied Calculus | 3 | 0 | 100 | 0 |
| 4 | Engineering Drawing & Graphics | 2 | 2 | 50 | 100 |
| 5 | Engineering Statics | 3 | 1 | 100 | 50 |
| 6 | Engineering Materials | 3 | 0 | 100 | 0 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **600** | |
| **SECOND SEMESTER** | | | | | |
| 7 | Functional English | 3 | 0 | 100 | 0 |
| 8 | Linear Algebra Differential Equations and Analytical Geometry | 3 | 0 | 100 | 0 |
| 9 | Workshop Practice | 0 | 2 | 0 | 100 |
| 10 | Engineering Dynamics | 3 | 0 | 100 | 0 |
| 11 | Electrical Technology | 3 | 1 | 100 | 50 |
| **TOTAL** | | **12** | **3** | **400** | **150** |
| | | **15** | | **550** | |
| **THIRD SEMESTER** | | | | | |
| 12 | Complex Variable & Transform | 3 | 0 | 100 | 0 |
| 13 | Strength of Materials-I | 3 | 1 | 100 | 50 |
| 14 | Mechanics of Machines-I | 2 | 0 | 50 | 0 |
| 15 | Thermodynamics-I | 3 | 1 | 100 | 50 |
| 16 | Basic Electronics | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **3** | **450** | **150** |
| | | **17** | | **600** | |
| **FOURTH SEMESTER** | | | | | |
| 17 | Introduction to Computers & C++ Programming | 3 | 1 | 100 | 50 |
| 18 | Strength of Materials-II | 3 | 0 | 100 | 00 |
| 19 | Thermodynamics-II | 3 | 1 | 100 | 50 |
| 20 | Fluid Mechanics-I | 3 | 1 | 100 | 50 |
| 21 | Mechanics of Machines-II | 2 | 1 | 50 | 50 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **20** | | **650** | |
| **FIFTH SEMESTER** | | | | | |
| 22 | Numerical Analysis & Computer Applications | 3 | 1 | 100 | 50 |
| 23 | Heat & Mass Transfer | 3 | 1 | 100 | 50 |
| 24 | Applied Aerodynamics | 2 | 1 | 50 | 50 |
| 25 | Machine Design & Computer Aided Design-I | 3 | 0 | 100 | 0 |
| 26 | Fluid Mechanics-II | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| **SIXTH SEMESTER** | | | | | |
| 27 | Instrumentation & Control | 2 | 1 | 50 | 50 |
| 28 | Statistics & Probability | 3 | 0 | 100 | 0 |
| 29 | Heating, Ventilation and Air Conditioning | 3 | 1 | 100 | 50 |
| 30 | Machine Design & Computer Aided Design-II | 3 | 1 | 100 | 50 |
| 31 | Mechanical Vibrations | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **SEVENTH SEMESTER** | | | | |
| 32 | Automobile Engineering | 2 | 1 | 50 | 50 |
| 33 | Industrial Economics & Management | 2 | 0 | 50 | 0 |
| 34 | Mechatronics | 3 | 1 | 100 | 50 |
| 35 | Manufacturing Processes-I | 2 | 1 | 50 | 50 |
| 36 | Health, Safety & Environment | 2 | 0 | 50 | 0 |
| 37 | Thermal Power Plants | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **4** | **400** | **200** |
| | | **18** | | **600** | |
| | **EIGHTH SEMESTER** | | | | |
| 38 | Renewable and Emerging Energy Technologies | 3 | 1 | 100 | 50 |
| 39 | Manufacturing Processes-II | 3 | 1 | 100 | 50 |
| 40 | Maintenance Engineering | 2 | 0 | 50 | 0 |
| 41 | Project Management | 2 | 0 | 50 | 0 |
| 42 | Project / Thessis | 0 | 4 | 0 | 200 |
| **TOTAL** | | **10** | **6** | **300** | **300** |
| | | **16** | | **600** | |

### 3.4 Department of Metallurgy & Materials Engineering

Our Mission is to maintain a world class teaching and research activity at department of Metallurgy and Materials Engineering, Mehran University of Engineering & Technology. Metallurgy & Materials Engineering is a field of engineering that circumscribes the spectrum of materials, types and how to use them in manufacturing. It is the technology of producing, processing and giving proper shape to metals and alloys and other Engineering Materials having desired properties through economically viable process. The field offers an enormous range of activities and field of influence, with a high degree of job satisfaction for both men and women.

The Department of Metallurgy and Materials Engineering offers a four-year degree course titled Bachelor of Engineering in Metallurgy & Mterials. The subjects Mineral dressing, Metallurgical Thermodynamics and Kinetics, Iron and Steel Making Technology, physical Metallurgy, Science of Engineering Materials, Inspection and Testing of Materials, Heat treatment, Manufacturing Technology and Engineering Fracture Mechanics form the basis for the degree course. However, other related subjects also include in the course to make it versatile and integratable with other fields of Engineering. The Department also offers Postgraduate Diploma (P.G.D) and Master of Engineering (M.E.) in Material Sciences and Technology which at present is a part time evening program.

A seminar hall-cum-library has also been established in the department to provide in house reference materials for the faculty members and students. A Computer laboratory is available for students that provide Internet, E-mail and various application software facilities. The students have also to complete a project and dissertation in the final year involving research/special studies to give them more comprehensive experience of practical work and report writing.

A student chapter "Mehranian Materials Advantage Chapter (MMAC)" has been established in the department to provide an effective and stimulating platform for the student to foster, develop and promote communication, education, networking, dissemination of knowledge, research and innovations in aspects of Metallurgy and Materials Engineering.

The Department has prepared PC-I approx. cost Rs. 40 million for strengthening the existing lab. Facilities and launching Ph.D research program in the field of Metallurgy and Materials Engineering.

### 3.4.1 Teaching Staff of Metallurgy & Materials Engineering Department

Following teaching staff is presently working in the department of Metallurgy & Materials Engineering.

| | | |
|---|---|---|
| 1. | Chairman of the Department: | Prof. Dr. Muhammad Moazam Baloch<br>Phone: 022-2771425 |
| 2. | Professors: | Dr. Muhammad Moazam Baloch<br>Dr. Muhammad Hayat Jokhio<br>Dr. Muhammad Ishaque Abro |
| 3. | Associate Professor: | - |
| 4. | Assistant Professors: | Mr. Sultan Ali Memon<br>Mr. Sikandar Ali Memon<br>Mr. Riaz Ahmed Memon<br>Mr. Ashfaque Ahmed Essani |
| 5. | Lecturers: | Syed Khalid Mehmood Shah<br>Mr. Nisar Ahmed Memon<br>Mr. Muhammad Waseem Akhtar<br>Mr. Umair Aftab<br>Mr. Shafique Ahmed |

### 3.4.2 Courses of Studies for B.E Metallurgy & Materials Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FIRST SEMESTER** | | | | | |
| 1 | Applied Calculus | 3 | 0 | 100 | 0 |
| 2 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| 3 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 4 | Introduction to Engineering Materials | 3 | 0 | 100 | 0 |
| 5 | Introduction to Computing | 2 | 1 | 50 | 50 |
| 6 | Applied Chemistry | 2 | 1 | 50 | 50 |
| **TOTAL** | | **14** | **2** | **400** | **100** |
| | | **16** | | **500** | |
| **SECOND SEMESTER** | | | | | |
| 7 | Functional English | 3 | 0 | 100 | 0 |
| 8 | Linear Algebra Differential Equations and Analytical Geometry | 3 | 0 | 100 | 0 |
| 9 | Engineering Drawing & Graphics | 2 | 1 | 50 | 50 |
| 10 | Applied Physics | 2 | 1 | 50 | 50 |
| 11 | Applied Electricity & Electronics | 3 | 1 | 100 | 50 |
| 12 | Workshop Practice | 0 | 2 | 0 | 100 |
| **TOTAL** | | **13** | **5** | **400** | **250** |
| | | **18** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **THIRD SEMESTER** | | | | | |
| 13 | Communication Skills | 2 | 0 | 50 | 0 |
| 14 | Fuel Furnaces and Energy Conservation | 3 | 0 | 100 | 0 |
| 15 | Minerals Dressing | 2 | 1 | 50 | 50 |
| 16 | Industrial Safety and Environmental Engineering | 2 | 1 | 50 | 50 |
| 17 | Materials Thermodynamics and Kinetics | 2 | 1 | 50 | 50 |
| 18 | Mechanical Behavior of Materials | 2 | 1 | 50 | 50 |
| **TOTAL** | | **13** | **4** | **350** | **200** |
| | | **17** | | **550** | |
| **FORTH SEMESTER** | | | | | |
| 19 | Foundry Engineering-I | 2 | 1 | 50 | 50 |
| 20 | Iron Making Technology | 3 | 0 | 100 | 0 |
| 21 | Physical Metallurgy-I | 2 | 1 | 50 | 50 |
| 22 | Non Ferrous Extractive Metallurgy | 3 | 0 | 100 | 0 |
| 23 | Inspection and Testing of Materials | 3 | 1 | 100 | 50 |
| **TOTAL** | | **13** | **3** | **400** | **150** |
| | | **16** | | **550** | |
| **FIFTH SEMESTER** | | | | | |
| 24 | Numerical Methods & Computation | 3 | 1 | 100 | 50 |
| 25 | Instrumentation and Control | 3 | 1 | 100 | 50 |
| 26 | Vacuum Technology | 2 | 0 | 50 | 0 |
| 27 | Engineering Ceramics & Glasses | 2 | 1 | 50 | 50 |
| 28 | Corrosion & Protection | 3 | 1 | 100 | 50 |
| **TOTAL** | | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| **SIXTH SEMESTER** | | | | | |
| 29 | Business Communication and Report Writing | 2 | 0 | 50 | 0 |
| 30 | Statistics & Probability | 3 | 0 | 100 | 0 |
| 31 | Physical Metallurgy-II | 2 | 1 | 50 | 50 |
| 32 | Welding and other joining process | 3 | 1 | 100 | 50 |
| 33 | Industrial Economics and Management | 2 | 0 | 50 | 0 |
| 34 | Polymer and Composite Materials | 3 | 1 | 100 | 50 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **600** | |
| **SEVENTH SEMESTER** | | | | | |
| 33 | Nuclear Metallurgy & Materials | 2 | 0 | 50 | 0 |
| 34 | Steel Making Technology | 3 | 0 | 100 | 0 |
| 35 | Heat Treatment Processes | 3 | 1 | 100 | 50 |
| 36 | Manufacturing Technology | 3 | 1 | 100 | 50 |
| 37 | Powder Metallurgy | 2 | 1 | 100 | 50 |
| **TOTAL** | | **13** | **3** | **450** | **150** |
| | | **16** | | **600** | |
| **EIGHTH SEMESTER** | | | | | |
| 38 | Foundry Engineering -II | 2 | 1 | 50 | 50 |
| 39 | Computer Application in Materials Engineering | 2 | 1 | 50 | 50 |
| 40 | Advance Materials | 3 | 0 | 100 | 0 |
| 41 | Fracture Mechanics and Failure Analysis | 3 | 1 | 100 | 50 |
| 42 | Project/Thesis | 0 | 4 | 0 | 200 |
| **TOTAL** | | **10** | **7** | **300** | **350** |
| | | **17** | | **650** | |

## 3.5 Department of Mining Engineering

**Quote: "If it is not GROWN, it has to MINE"**

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 Engineering is an umbrella field that involves many of the other engineering disciplines that are closely related to mining engineering are; civil engineering, environmental engineering, geotechnical engineering, hydraulic engineering and electrical engineering.


Mining provides the mineral resources for society, including coal, metallic & non-metallic ores, as well as such basic products such as; gravel, limestone, and store that are essential to the nation's highways, bridges, power plants, and building foundations. Wherever productive minerals deposits are found in our country- the special skills of Mining and mineral processing engineers are required.

### COURSE

Four-year course leading to the degree of "Bachelor of Engineering in Mining" is offered. The curricula is updated time to time to meet the requirements of Mining Industry. The course work generally involves the following components: university-level math and science, basic engineering courses, mining engineering courses, management-related courses, geology courses, and humanities/social sciences courses. Many of the courses are taught with a combination of lectures and laboratory experience. The course work generally involves; Computer Application to Mining Industries, Mineralogy & Petrology, Rock Mechanics, Utilization of Industrial minerals, Planning & Design of Underground Mines, Drilling Technology, Mineral Processing, Mine Water & dewatering Design, Principles of Explosive Engineering, Coal Technology, Cement Technology, Mine Rescue & Safety, and Mine Management.

### PRACTICAL FACILITIES

Adequate number of Laboratories is established to support the lectures. These laboratories include machinery for rock mechanics and minerals processing, mine ventilation, coal preparation, and surveying. A computer laboratory is also available for the use of faculty and, as well as the students. Significant liaison with the Mining industry has also been established. The students are sent for field visits as well as for internship in order to expose them to the real situation.

### SCOPE

The graduates of the Mining engineering department are employed in the public sector including Directorate of Mineral Development, Government of Sindh, Directorate of Sindh, Coal Authority, Government of Sindh, Lakhra Coal Development company; Pakistan Atomic Energy Commission (PAEC); Pakistan Mineral Development Corporation (PMDC); Oil and Gas Development Corporation Ltd (OGDCL); Cement Industries; Quarries of Pakistan Steel mill, and various other private organizations like; coal mines, and other mining related projects.

## RESEARCH

The Department of Mining Engineering is actively involved in various research projects of national importance related to different areas of Mining Industry. Moreover, linkages have also been developed with the University of Nottingham, UK University of Leoben, Austria, and University of Leeds, U.K. to achieve the objectives such as: Faculty development to improve the quality of education and research, and to produce competent Mining graduates.

### 3.5.1 Teaching Staff of Mining Engineering Department

Following teaching staff is presently working in the department of Mining Engineering.

| | | |
|---|---|---|
| 1. | Chairman of the Department: | Prof. Dr. Syed Mohammad Ali Shah<br>Phone: 022-2771391, 022-2772260-73 Ext. 4600<br>Fax 022-2771327<br>e-mail: drshahma@hotmail.com |
| 2. | Professors: | Dr. Syed Mohammad Ali Shah |
| 3. | Associate Professor: | Mr. Pervez Ahmed Pathan |
| 4. | Assistant Professors: | Mr. Ahsan Ali Memon<br>Mr. Muhammad Hashim Rind<br>Mr. Muhammad Yakoob Behan<br>Mr. Saeed Ahmed Memon<br>Mr. Sikandar Ali Channa<br>Mr. Fahad Irfan Siddiqui |
| 5. | Lecturers: | Mr. Safiullah Memon<br>Mr. Munawar Ali Pinjaro<br>Mr. Shafi Muhammad Pathan |

### 3.5.2 Courses of Studies for B.E Mining Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FIRST SEMESTER** | | | | | |
| 1 | Applied Calculus | 3 | 0 | 100 | 0 |
| 2 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 3 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| 4 | Engineering Drawing | 3 | 1 | 100 | 50 |
| 5 | Workshop Practice | 0 | 2 | 0 | 100 |
| 6 | Mining Engineering Fundamentals | 3 | 1 | 100 | 50 |
| **TOTAL** | | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| **SECOND SEMESTER** | | | | | |
| 7 | Functional English | 3 | 0 | 100 | 0 |
| 8 | Linear Algebra & Analytical Geometry | 3 | 0 | 100 | 0 |
| 9 | Applied Chemistry | 3 | 1 | 100 | 50 |
| 10 | Electrical Technology | 3 | 1 | 100 | 50 |
| 11 | Engineering Mechanics | 3 | 1 | 100 | 50 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | | **18** | **650** | |
| **THIRD SEMESTER** | | | | | |
| 12 | Differential Equations & Fourier Series | 3 | 0 | 100 | 0 |
| 13 | Mine Surveying-I | 3 | 1 | 100 | 50 |
| 14 | General Geology | 3 | 1 | 100 | 50 |
| 15 | Applied Thermodynamics | 2 | 1 | 50 | 50 |
| 16 | Strength of Materials | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FORTH SEMESTER** | | | | | |
| 17 | Mine Surveying-II | 3 | 1 | 100 | 50 |
| 18 | Fluids Mechanics | 3 | 1 | 100 | 50 |
| 19 | Mineralogy & Petrology | 2 | 0 | 50 | 00 |
| 20 | Mineral Processing-I | 3 | 1 | 100 | 50 |
| 21 | Coal Technology | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **60** | |
| **FIFTH SEMESTER** | | | | | |
| 22 | Numerical Analysis & Computer Programming | 3 | 1 | 100 | 50 |
| 23 | Mineral Processing-II | 3 | 1 | 100 | 50 |
| 24 | Structural Geology | 3 | 0 | 100 | 00 |
| 25 | Rock Mechanics | 3 | 1 | 100 | 50 |
| 26 | Utilization of Industrial Minerals | 3 | 0 | 100 | 00 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| **SIXTH SEMESTER** | | | | | |
| 27 | Statistical Methods & Estimations | 3 | 0 | 100 | 0 |
| 28 | Principles of Explosive Engineering | 3 | 1 | 100 | 50 |
| 29 | Mining Laws | 3 | 0 | 100 | 0 |
| 30 | Mine Ventilation | 3 | 1 | 100 | 50 |
| 31 | Mine Management | 3 | 0 | 100 | 0 |
| **TOTAL** | | **15** | **2** | **500** | **100** |
| | | **17** | | **600** | |
| **SEVENTH SEMESTER** | | | | | |
| 32 | Strata Control | 3 | 0 | 100 | 00 |
| 33 | Mineral Exploration Technique and Mine Economics | 3 | 0 | 100 | 00 |
| 34 | Mine Water & Dewatering Design | 3 | 1 | 100 | 50 |
| 35 | Planning & Design of Underground Mines | 3 | 1 | 100 | 50 |
| 36 | Drilling Technology | 3 | 1 | 100 | 50 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| **EIGHTH SEMESTER** | | | | | |
| 37 | Computer Application to Mining Industry | 3 | 1 | 100 | 50 |
| 38 | Mine Rescue & Safety | 3 | 1 | 100 | 50 |
| 39 | Surface Mine Design & Practice | 3 | 1 | 100 | 50 |
| 40 | Cement Technology | 3 | 0 | 100 | 0 |
| 41 | Project / Thesis | 0 | 4 | 0 | 200 |
| **TOTAL** | | **12** | **7** | **400** | **350** |
| | | **19** | | **750** | |

## 3.6 Department of Textile Engineering

The department of Textile Engineering was established in 1993 with the aim to provide education at par with international standards, providing qualified graduates, who will contribute towards the development and modernization of Textile Industry in Pakistan. As a matter of fact, the department was the second textile institute built in Pakistan at that time after NCTE Faisalabad.

From the start the department was offering Four Years full time Bachelor of Engineering program. The course covers a combination of Theory and Practical subjects, related with various segments of Textile Engineering supplemented with management and allied engineering courses.

The department has started the M.E. course in Textile Engineering since 2008. It is a full time evening program and 25 students are currently enrolled in the program. It is anticipated that the course would attract more professionals working in different textile industries from the country.

It is worth to mention that our two faculty members are pursuing their PhD study abroad in Textile Engineering.

Textile Engineering Department is also a source center for technical human resources and consultants. This department has also been an approved training center of Rieter Switzerland of Pakistan. Industry personnel of various industries throughout Pakistan joined authorized Rieter training courses on Rieter spinning machines installed in the laboratories of the department.. In order to produce quality product of Pakistan, the laboratories are used to provide testing and consultancy services to the local industry. Currently two Ph.D scholars are registered in this department.

**Future plans:**

* Upgradation of existing practical laboratories.
* Development of knitting Laboratory and Garment Laboratory
* Accreditation of the department with internationally renowned organizations such as:
    - Textile Institute Manchester UK
    - Society of Dyers & Colorists Bradford UK and
    - Society of Textiles USA

To switch the department to school of excellence; which have various departments such as Yarn Manufacturing, Fabric Manufacturing, Wet-processing, Knitting and Garment. It would offer specialized degree and increased the research activities.

**Major Areas of Studies and their importance:**

**1. Fiber Manufacturing**

Pakistan is one of the largest cotton (Natural Fiber) growing country in the world and the synthetic fibers is a by-product of petroleum. It is very important of our country to produce engineers with adequate knowledge of manufacturing and processing of natural and synthetic fibers so that they can design processes and plan industries for quality production accordingly.

**2. Yarn Manufacturing**

As yarn is the raw material of fabric, therefore major factor for the quantity and quality of the fabric depends on the quality of yarns and its manufacturing processes. It indicates that we must have qualified personnel who can study the problems of yarn manufacturing and solve them through technical knowhow and available resources. For this we have modern machinery of Yarn Manufacturing available in our laboratory.

**3. Fabric Manufacturing**

The yarns produced from Yarn Manufacturing process, are converted into fabric and for fabric manufacturing we need highly qualified engineers who can produce world class fabric on cheapest rates as well as they can design fabric manufacturing machines by utilizing their theoretical, practical and engineering knowledge.

**4. Wet-processing**

It is known to everyone that the world market can be captured and more profit can be earned by introducing the value added textiles into market. To make the grey cloth useable and valuable it needs to be processed through various chemical and mechanical processes. We have to produce engineers with references to Pre-treatment, Dyeing, Printing, and Finishing of fabric to produce value added product.

### 5. Textile Testing and Quality Control

Quality of textile products may be maintained through its evaluation. For this reason, it is necessary to have knowledge of international quality standards and testing instruments used for textile testing. Our graduate Engineers must have appropriate knowledge of operating these textile testing instruments and are capable enough to solved the problems of industries.

### 3.6.1 Teaching Staff of Textile Engineering Department

Following teaching staff is presently working in the Department of Textile Engineering.

| | | | |
|---|---|---|---|
| 1. | Chairman of the Department: | Dr. Anwaruddin Tanwari<br>Phone: 022-2771565 | |
| 2. | Professor: | Dr. Anwaruddin Tanwari | |
| 3. | Associate Professor: | Dr. Mazhar Hussain Peerzada<br>Dr. Awais Khatri | |
| 4. | Assistant Professors: | Mr. Raj Kumar Khiani<br>Dr. Noorullah Soomro<br>Mr. Farooq Ahmed Arain<br>Mr. Raja Fahad Ashraf Qureshi<br>Dr. Uzma Syed<br>Mr. Shamshad Ali Shaikh<br>Mr. Samander Ali Malik<br>Ms. Sanam Irum Memon<br>Ms. Sidra Saleemi | (on study leave) |
| 5. | Lecturers: | Mr. Zeeshan Khatri<br>Mr. Shahid Hussain Jalbani<br>Ms. Sadaf Aftab Abbasi<br>Mr. Abdul Wahab Jatoi<br>Mr. Iftikhar Ali Sahito<br>Ms. Alvira Ayoub Arbab<br>Ms. Rabia Almas Arain<br>Mr. Naveed Mengal<br>Mr. Nadir Ali Rind<br>Ms. Umaima Saleem | (on study leave)<br>(on study leave)<br>(on study leave)<br>(on study leave)<br>(on study leave)<br>(on study leave) |

### 3.6.2 Courses of Studies for B.E Textile Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FIRST SEMESTER** | | | | | |
| 1 | Introduction to Textile Engineering | 3 | 0 | 100 | 0 |
| 2 | Applied Chemistry | 3 | 1 | 100 | 50 |
| 3 | Engineering Drawing | 0 | 2 | 0 | 100 |
| 4 | Electrical Engineering | 2 | 1 | 50 | 50 |
| 5 | Applied Calculus | 2 | 0 | 50 | 0 |
| 6 | Islamic Studies /Ethics | 2 | 0 | 50 | 50 |
| 7 | Pakistan Studies | 2 | 0 | 50 | 0 |
| **TOTAL** | | **14** | **4** | **400** | **200** |
| | | **18** | | **600** | |
| **SECOND SEMESTER** | | | | | |
| 8 | Textile Raw Material | 3 | 0 | 100 | 0 |
| 9 | Textile Mechanics-I | 3 | 1 | 100 | 50 |
| 10 | Electronics Engineering | 3 | 1 | 100 | 50 |
| 11 | Differential Equations and Laplace Transform | 2 | 0 | 50 | 00 |
| 12 | Functional English | 3 | 0 | 100 | 00 |
| 13 | Workshop Practice | 0 | 2 | 0 | 100 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **THIRD SEMESTER** | | | | | |
| 14 | Fiber Science | 3 | 1 | 100 | 50 |
| 15 | Yarn Manufacturing-I | 3 | 1 | 100 | 50 |
| 16 | Textile Mechanics-II | 2 | 1 | 50 | 50 |
| 17 | Applied Thermodynamics | 3 | 1 | 100 | 50 |
| 18 | Industrial Engineering and Management | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| **FORTH SEMESTER** | | | | | |
| 19 | Synthetic fiber Manufacturing | 2 | 0 | 50 | 0 |
| 20 | Yarn Manufacturing-II | 3 | 1 | 100 | 50 |
| 21 | Fabric Manufacturing-I | 3 | 1 | 100 | 50 |
| 22 | Textile Pretreatment | 3 | 1 | 100 | 50 |
| 23 | Textile Machine Design | 2 | 0 | 50 | 0 |
| 24 | Numerical Methods | 2 | 0 | 50 | 0 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **600** | |
| **FIFTH SEMESTER** | | | | | |
| 25 | Yarn Manufacturing-III | 3 | 1 | 100 | 50 |
| 26 | Fabric Manufacturing-II | 3 | 1 | 100 | 50 |
| 27 | Dyestuff Chemistry | 3 | 1 | 100 | 50 |
| 28 | Textile Dyeing | 3 | 1 | 100 | 50 |
| 29 | Communication Skills | 2 | 0 | 50 | 0 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| **SIXTH SEMESTER** | | | | | |
| 30 | Fabric Design and Structure | 3 | 1 | 100 | 50 |
| 31 | Textile Printing | 3 | 1 | 100 | 50 |
| 32 | Automation and Control Engineering | 3 | 1 | 100 | 50 |
| 33 | Introduction to Computers and C++ programming | 3 | 1 | 100 | 50 |
| 34 | Production Management | 2 | 0 | 50 | 0 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| **SEVENTH SEMESTER** | | | | | |
| 35 | Yarn Manufacturing-IV | 3 | 1 | 100 | 50 |
| 36 | Fabric Manufacturing-III | 3 | 1 | 100 | 50 |
| 37 | Colour Physics | 2 | 1 | 50 | 50 |
| 38 | Textile Marketing and Merchandising | 2 | 0 | 50 | 0 |
| 39 | Statistical Methods | 2 | 0 | 50 | 0 |
| 40 | Thesis/Project-I | 0 | 1 | 0 | 50 |
| **TOTAL** | | **12** | **4** | **350** | **200** |
| | | **16** | | **550** | |
| **EIGHTH SEMESTER** | | | | | |
| 41 | Textile Finishing | 3 | 1 | 100 | 50 |
| 42 | Textile Testing and Quality Control | 2 | 1 | 50 | 50 |
| 43 | Textile Engineering Utilities and Services | 2 | 1 | 50 | 50 |
| 44 | Textile Project Planning | 2 | 0 | 50 | 0 |
| 45 | Environmental Engineering | 2 | 1 | 50 | 50 |
| 46 | Thesis/Project-II | 0 | 3 | 0 | 150 |
| **TOTAL** | | **11** | **7** | **300** | **350** |
| | | **18** | | **650** | |

## 3.7 Institute of Petroleum& Natural Gas Engineering

### Background

Considering the fact that Pakistan, especially the province of Sindh, is very rich in oil and gas reserves; a separate Department of Fuel Engineering was established in 1983; later, on the recommendation of Accreditation Committee of the HEC the then UGC (University Grants Commission), the Department of Fuel Engineering was renamed as Department of Petroleum & Gas Engineering.

Petroleum Engineering has gained considerable importance due to its vital role in the economy of the country. In line with this progress, research and development activities have gathered momentum during last two decades. Therefore, the department was up-graded to the status of Institute of Petroleum & Natural Gas Engineering in 1996. The purpose was to promote advanced learning, encourage postgraduate studies and research in petroleum engineering to meet the need of qualified manpower nationally and internationally.

### Courses

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

### Internship

The Institute also arranges summer vacation internship to third/final year students with the coordination of oil and gas exploration and production companies operating in Pakistan. This internship enhances the knowledge of students on day-to-day field operation and working environment of the petroleum industry. 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.

### Linkage with National / Int'l 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 and sessions, 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 has signed an agreement with Pakistan Petroleum Ltd to establish a PPL Chair in the Institute. The purpose of establishing such a Chair was to promote scientific research activities and higher learning in the field of Petroleum Engineering including laboratory research work, participation in technical conferences, seminars, workshops, short courses and to maintain the quality of undergraduate and postgraduate programs of the Institute in the line of international standard.

### 3.7.1 TEACHING STAFF OF INSTITUTE OF PETROLEUM & NATURAL GAS ENGINEERING

Following teaching staff is presently working in the Institute:

| | | | |
|---|---|---|---|
| 1. | Director | Professor Dr Abdul Haque Tunio<br>Phone No 022-2771241, 2772250-73 (Ext. 4300)<br>Fax No 022-2772453<br>Email: haque.tunio@faculty.muet.edu.pk | |
| 2. | Professor | Dr Hafeez-ur-Rahman Memon<br>Dr Abdul Haque Tunio | |
| 3. | Associate Professor | Mrs. Zulekha Soomro | |
| 4. | Assistant Professor | Mr Muhammad Hanif Sahto<br>Mr Shahzad Ali Baladi<br>Mr Allah Dino Samoon<br>Mr Muhammad Khan Memon | <br>(On lien)<br><br>(On study leave) |
| 5. | Lecturer | Mr Naeem Ahmed Bhatti<br>Mr Abdul Qadir Shaikh<br>Mr Aftab Ahmed Mahesar<br>Mr Naveed Ahmed Ghirano<br>Mr Khalil Rehman Memon<br>Mr Mukhtiar Ali Talpur<br>Mr Ubedullah Ansari<br>Mr Habib U Zaman Memon | <br><br><br><br>(On study leave abroad) |

### 3.7.2 Courses of Studies for B.E Petroleum Engineering & Natural Gas.

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FIRST SEMESTER** | | | | | |
| 1 | Islamic Studies/Ethics | 2 | 0 | 50 | 0 |
| 2 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 3 | Functional English | 3 | 0 | 100 | 0 |
| 4 | Applied Chemistry | 3 | 0 | 100 | 0 |
| 5 | Applied Calculus | 3 | 0 | 100 | 0 |
| 6 | Fundamentals of Petroleum Engg. | 3 | 0 | 100 | 0 |
| **TOTAL** | | **16** | **0** | **500** | **0** |
| | | **16** | | **500** | |
| **SECOND SEMESTER** | | | | | |
| 7 | Communication Skills | 2 | 0 | 50 | 0 |
| 8 | Applied Geology | 3 | 1 | 100 | 50 |
| 9 | Engineering Drawing & Graphics | 2 | 1 | 50 | 50 |
| 10 | Applied Physics | 3 | 1 | 100 | 50 |
| 11 | Linear Algebra & Analytical Geometry | 3 | 0 | 100 | 0 |
| 12 | Workshop Practice | 0 | 2 | 0 | 100 |
| **TOTAL** | | **15** | **2** | **450** | **100** |
| | | **17** | | **550** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **THIRD SEMESTER** | | | | |
| 13 | Stratigraphy & Structural Geology | 2 | 0 | 50 | 50 |
| 14 | Computer Prog & Software Application | 2 | 1 | 50 | 50 |
| 15 | Introduction to Electrical Engg. | 2 | 1 | 50 | 50 |
| 16 | Differential Equations & Complex variables | 3 | 0 | 100 | 0 |
| 17 | Fluid Mechanics | 2 | 1 | 50 | 50 |
| 18 | Technical Writing & Presentation Skills | 2 | 0 | 50 | 0 |
| **TOTAL** | | **13** | **3** | **350** | **150** |
| | | **16** | | **600** | |
| | **FOURTH SEMESTER** | | | | |
| 19 | Drilling Engineering-I | 3 | 1 | 100 | 50 |
| 20 | Applied Thermodynamics | 2 | 0 | 50 | 0 |
| 21 | Applied Statistics | 3 | 0 | 100 | 0 |
| 22 | Petroleum Geology & Geophysical Exp. | 3 | 1 | 100 | 50 |
| 23 | Mechanics of Materials | 2 | 1 | 50 | 50 |
| **TOTAL** | | **13** | **3** | **400** | **150** |
| | | **16** | | **550** | |
| | **FIFTH SEMESTER** | | | | |
| 24 | Petrophysics | 2 | 1 | 50 | 50 |
| 25 | Properties of Reservoir Fluids | 3 | 1 | 100 | 50 |
| 26 | Drilling Engineering-II | 3 | 1 | 100 | 50 |
| 27 | Applied Numerical Methods | 3 | 1 | 100 | 50 |
| 28 | Organizational Behavior | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| | **SIXTH SEMESTER** | | | | |
| 29 | Well Logging | 2 | 1 | 50 | 50 |
| 30 | Reservoir Engineering | 3 | 1 | 100 | 50 |
| 31 | Petroleum Production Engineering | 3 | 1 | 100 | 50 |
| 32 | Applied Numerical Methods | 2 | 1 | 50 | 50 |
| 33 | Environment & Safety Management | 3 | 0 | 100 | 0 |
| **TOTAL** | | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| | **SEVENTH SEMESTER** | | | | |
| 34 | Well Testing | 3 | 1 | 100 | 50 |
| 35 | Petroleum Production Engineering-I | 3 | 1 | 100 | 50 |
| 36 | Reservoir Simulation | 3 | 1 | 100 | 50 |
| 37 | Project Planning & Management | 2 | 0 | 50 | 0 |
| 38 | Instrumentation & Process Control | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| | **EIGHTH SEMESTER** | | | | |
| 39 | Principles of Enhanced Oil Recovery | 3 | 1 | 100 | 50 |
| 40 | Gas Reservoir Engineering | 3 | 1 | 100 | 50 |
| 41 | Petroleum Economics | 3 | 0 | 100 | 0 |
| 42 | Petroleum Production Engineering-I | 3 | 1 | 100 | 50 |
| 43 | Project /Thesis | 0 | 4 | 0 | 200 |
| **TOTAL** | | **12** | **7** | **400** | **350** |
| | | **19** | | **750** | |

# 4. FACULTY OF ELECTRICAL, ELECTRONIC & COMPUTER ENGINEERING

Technological innovation in the field of engineering is accelerating at an enormous. The modern industry is now the centre of technologically sophisticated systems and this pace requires technologically articulate staff. Engineering professional have become intimately involved in many aspects of semiconductor industry, instrumentation, telecommunication, computer systems, automation, robotics, control systems, power and energy management, modeling of physiological systems and the faculty of Electrical, Electronics & Computer Engineering (FEECE) is serving as the polestar for researchers.

Six major departments namely, Electronic Engineering, Electrical Engineering, Telecommunication Engineering, Computer Systems Engineering, Software Engineering and Bio-medical Engineering exist under the umbrella of this faculty offering quality education to more than 2000 students. While being one of the most productive faculty, we have expanded our offerings considerably for post-graduation under the umbrella of Institute of Information & Communication Technologies (IICT). This faculty also runs the following eight major programs of Postgraduate Engineering:

- ME Communication Systems Network (CSN)
- ME Information Technology (IT)
- ME Electronic Systems Engineering (ESE)
- ME Telemedicine & e-Health Systems (TMED)
- ME Software Engineering (SE)
- ME Electrical Power Engineering (ELP)
- ME Computer & Information Technology (CIE)
- ME Telecommunication Engineering & Management (TLEM)

This institute has become an ICT hub with more than 500 graduate (Masters and PhD) students not only from Pakistan but also from different countries around the world.

The establishment of more than 50 state of the art laboratories in this faculty, including two Top Quality Centralized Instrumentation Laboratories and EDA Tools, FPGA Laboratory have helped both undergraduate and graduate students to carry out quality research and practical work. In addition to this, a number of research incubators have also been setup to further polish and accelerate the research activities, thereby guaranteeing outstanding research, FEECE students benefit from our broad-based education, internship opportunities, global experience and undergraduate research projects. Our Global student exchange programs under Erasmus Munds and Fulbright offer international experience to both undergraduate and graduate students. Vibrant student activities provide opportunities for leadership and team-building, which result in outstanding performance of our students in the industry.

This faculty is ushering to become one of the best places of research in the country, thereby training and educating future generations of engineers; and that is promotes growth and development on the basis of merit and excellence, collaboration and cooperation with other great research institutions, industry and the private sector.

The Relevant information about all the departments which comes under this faculty is provided below.

## 4.1 Department of Electrical Engineering

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

The Department of electrical engineering is one of the oldest and prestigious departments of the university supported and equipped with highly qualified faculty and modern laboratories named as:

* Power Systems Lab
* Power Electronics Lab
* Electrical Machines Lab
* High Voltage Engineering Lab
* Clean Energy Lab
* Control and Automation Lab
* Electrical Measurements & Circuit Lab
* Equipment and Training Lab
* Applied Electricity Lab
* Communication Lab
* Computer Lab
* Hi-Tech Lab

These laboratories serve not only undergraduates and postgraduate students but they also provide services to the public and private sectors like training, equipment testing, calibration and consultancy services. Besides normal academic activities, the department faculty and students are involved in research and development activities in collaboration with industries.

The department has 25 full-time faculty members. Several faculty members have won prestigious awards for their teaching and research work.

Our undergraduate and postgraduate students are drawn from across the country and abroad. Degrees are conferred to the undergraduate students on successful completion of a four year degree program. Postgraduate students receive M.E. degree after successful completion of 18-month Postgraduate Diploma program and minimum of six months research work. Currently, 500 undergraduate, 150 postgraduate and 05 Ph.D students are enrolled in the department.

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. Our graduate engineers are given top priority in the public and private sectors.

### 4.1.1 Teaching Staff of Electrical Engineering Department

Following teaching staff is presently working in the department of Electrical Engineering.

| | | |
|---|---|---|
| 1. | Chairman of the Department | Dr. Abdul Sattar Larik<br>Ph:022-2771351 |
| 2. | Professors: | Dr. Muhammad Aslam Uqaili<br>Dr. Abdul Sattar Larik<br>Dr. Ashfaque Ahmed Hashmani<br>Dr. Mukhtiar Ahmed Mahar<br>Dr. Zubair Ahmed Memon<br>Dr. Asif Ali Shah |
| 3. | Associate Professors: | Mr. Mushtaque Ahmed Mirani<br>Mr. Badar-ul-Haque Baloch,<br>Dr. Ali Asghar Memon |
| 4. | Assistant Professors: | Mr. Anwar Ahmed Memon<br>Mr. Noor Nabi Shaikh<br>Mr. Anwar Ali Sahito (on study leave)<br>Mr. Muhammad Rashid Memon<br>Mrs. Mokhi Maan Chang<br>Mr. Faheemullah Shaikh |
| 5. | Lecturers: | Mr. Aijaz Ahmed Rajper<br>Mr. Abdul Jabbar Memon<br>Mr. Amir Mahmood Soomro (on study leave)<br>Mr. Shah Murad Tunio<br>Mr. Mansoor Ahmed Soomro<br>Mr. Abdul Hakeem Memon<br>Mr. Abdul Latif Samoon<br>Mr. Pervez Hameed Shaikh(on study leave)<br>Mr. Mahesh Kumar Rathi |

### 4.1.2 Courses of Studies for B.E Electrical Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Electrical Workshop Practice | 0 | 1 | 0 | 50 |
| 2 | Applied Physics | 3 | 1 | 100 | 50 |
| 3 | Introduction to computing & Programming | 3 | 1 | 100 | 50 |
| 4 | Applied Calculus | 3 | 0 | 100 | 0 |
| 5 | Functional English | 3 | 0 | 100 | 0 |
| **TOTAL** | | **12** | **3** | **400** | **150** |
| | | **15** | | **550** | |
| | **SECOND SEMESTER** | | | | |
| 6 | Linear Circuit Analysis | 3 | 1 | 100 | 50 |
| 7 | Linear Algebra & Analytical Geometry | 3 | 0 | 100 | 0 |
| 8 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 9 | Islamic Studies | 2 | 0 | 50 | 0 |
| 10 | Communication Skills | 2 | 0 | 50 | 0 |
| 11 | Applied Mechanics | 3 | 1 | 100 | 50 |
| **TOTAL** | | **15** | **2** | **450** | **100** |
| | | **17** | | **550** | |
| | **THIRD SEMESTER** | | | | |
| 12 | Electronic Devices & Circuits | 3 | 1 | 100 | 50 |
| 13 | Digital Logic Design | 3 | 1 | 100 | 50 |
| 14 | Electrical Network Analysis | 3 | 1 | 100 | 50 |
| 15 | Applied Thermodynamics | 3 | 0 | 100 | 0 |
| 16 | Differential Equations and Fourier Series | 3 | 0 | 100 | 0 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **FOURTH SEMESTER** | | | | |
| 17 | Theory of Electromagnetic Field | 3 | 0 | 100 | 0 |
| 18 | Electrical Machines | 3 | 1 | 100 | 50 |
| 19 | Applied Electronics | 3 | 1 | 100 | 50 |
| 20 | Microprocessor Systems | 3 | 1 | 100 | 50 |
| 21 | Complex Variable & Transforms | 3 | 0 | 100 | 0 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **FIFTH SEMESTER** | | | | |
| 22 | Advanced Electrical Machines | 3 | 1 | 100 | 50 |
| 23 | Electrical Power Transmission | 3 | 1 | 100 | 50 |
| 24 | Instrumentations & Measurement | 3 | 1 | 100 | 50 |
| 25 | Numerical Analysis & Computer Application | 3 | 1 | 100 | 50 |
| 26 | Technical Writing | 2 | 0 | 50 | 0 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| | **SIXTH SEMESTER** | | | | |
| 27 | Power Generation | 3 | 1 | 100 | 50 |
| 28 | Linear Control Systems | 3 | 1 | 100 | 50 |
| 29 | Communication Systems | 3 | 1 | 100 | 50 |
| 30 | Power Economics & Management | 3 | 0 | 100 | 0 |
| 31 | Statistics & Probability | 3 | 0 | 100 | 0 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **SEVENTH SEMESTER** | | | | |
| 32 | Power System Analysis | 3 | 1 | 100 | 50 |
| 33 | Electrical Machines Design & Maintenance | 3 | 1 | 100 | 50 |
| 34 | High Voltage Engineering | 3 | 1 | 100 | 50 |
| 35 | Power Distribution & Utilization | 3 | 1 | 100 | 50 |
| 36 | Senior Design Project-I | 0 | 1 | 0 | 50 |
| **TOTAL** | | **12** | **5** | **400** | **250** |
| | | **17** | | **650** | |
| | **EIGHTH SEMESTER** | | | | |
| 37 | Power Electronics | 3 | 1 | 100 | 50 |
| 38 | Power System Stability/Operation and Control | 3 | 1 | 100 | 50 |
| 39 | Power System Protection | 3 | 1 | 100 | 50 |
| 40 | Senior Design Project-II | 0 | 3 | 0 | 150 |
| **TOTAL** | | **9** | **6** | **300** | **300** |
| | | **15** | | **600** | |

### 4.2 Institute of Information & Communication Technologies

In order to contribute its share in all the fields of Information Technology, attract the manpower from the country in general and all-over Sindh in particular, train on the state-of-the-art-technology and provide opportunity to serve the country, the Institute of Information Technology has been established at the University. The Institute consists of following Degree Programs of Under-graduate and Post-graduate studies:

**Undergraduate Programs (B.E.)**

1. Bio-Medical Engineering
2. Computer Systems Engineering
3. Electronic Engineering
4. Software Engineering
5. Telecommunication Engineering

**Postgraduate Programs (M.E.)**

1. Communication Systems & Networks
2. Information Technology
3. Telecom & Control Engineering
4. Electrical Power Engineering

### 4.2.1 Department of Biomedical Engineering

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. Technological innovation in the field of medicine and healthcare is accelerating at enormous pace. The modern hospital is now the centre of a technologically sophisticated healthcare system that requires technologically articulate staff. Engineering professionals have become intimately involved in many aspects of medicine including diagnosis, surgery, therapy and rehabilitation. Therefore, the discipline of “Biomedical engineering” has become firmly established as an integration of the two disciplines of Medical and Engineering Sciences.

Biomedical Engineering uses principles of engineering to understand, modify, and to control biomedical systems including therapeutic, surgical, imaging and other diagnostic equipment. It is a multidisciplinary field encompassing electronics, computer, materials and mechanical engineering. It also requires basic knowledge of physiology, anatomy and biological sciences.

In practice, Biomedical Engineering also involves everything from equipment for diagnosis and patient monitoring through implants such as pacemakers, artificial joints and limbs to the computer simulation of biological functions. All these modern aids to healthcare have to be conceived, designed, tested, manufactured, installed, operated, maintained and improved.

The world market for all biomedical devices, including diagnostic and therapeutic equipment rose to $284.6 billion/year in 2012. It is destined to grow even further, especially in areas that have aging populations. Biomedical Engineers will be of increasing importance to this growth.

The coursework of Biomedical Engineering comprises diversified subjects including Functional English, Basic Electrical Engineering, Basic Biology, Introduction to Computing, Applied Physics, Applied Calculus, Basic Electronics, Biophysics, Applied Chemistry, Strength of Materials, Linear Algebra and Analytical Geometry, Biomechanics, Bio-Chemistry, Electrical Circuits and Systems, Electromagnetism, Complex Variables and Transforms, Pakistan Studies, Anatomy for Engineers, Electronic Circuit Design, Digital Systems and Microprocessors, Differential Equations, Islamic Studies / Ethics, Signals and Systems, Biomaterials and Design, Biomedical Instrumentation I, Numerical Analysis and Computer Applications, Probability and Statistics, Bio-Signal Processing, Control Systems, Biomedical Instrumentation II, Modeling of Physiological Systems, Technical Report Writing and Presentation Skills, Medical Imaging, Social Sciences, Healthcare Information Systems, Economics and Healthcare Management, BM Engineering Project (Partial), Emerging Trends in Biomedical Engineering, Neural Networks, Clinical Linguistics, Medical Ethics, BM Engineering Project(Partial).

The courses taught are regularly updated to keep in line with this quickly evolving field. 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 listed below:

- Biomedical Instrumentation Laboratory
- Biochemistry Laboratory
- Anatomy & Physiology Laboratory
- Biomedical Computing Laboratory
- Biomechanics Laboratory
- Biomedical Electronics Laboratory
- Telemedicine & Research Laboratory
- Digital Electronics & Microprocessor Laboratory
- Biomedical Imaging Systems Laboratory
- Robotics Laboratory

These laboratories are well equipped with state of the art equipment ranging from basic electronic devices, simulators and trainers to more Advanced Biomedical Trainers, such as Mobile X-Ray, Defibrillator Machine, Ventilator, Microscope, Electrotherapy, Incubator, Flame Photometer, Water Distiller, Water Bath, Disaster Management Systems, Biochemistry Analyzer, Anesthesia Machine, Hematology Analyzer, NI Telemedicine Design and Test Platform, NI Vision Embedded System, Ultrasound System for Teaching, Mammographic Calibration Toolkit, Mini Robot, Reynolds Demonstration module, Bernoulli's Theorem Demonstration module, Energy losses in Bends module, AP11, AP12 and AP15 Biomechanics Kits a complete Lab-tested system for teaching and learning the musculoskeletal system (American Hi-Tech instruments), EDIBON International S.A, Basic Hydraulic feed system, Digital Electronics Module MCM8/EV, Interactive multimedia System with control unit for PC Mod SIS-U/EV and Digital Signal Processing Development System. Excellent coursework and practical exposure win sufficient job opportunities to our graduates in both public and private sector organizations national & multinational companies. Also, there is huge job market of Biomedical Engineers in Middle East, Europe, USA and Canada. Recently, Biomedical Engineering Department under the Institute of Information & Communication Technologies has launched Master of Engineering in Telemedicine and e-Health Systems.

**Objectives:**

- To produce quality graduates in Biomedical Engineering.
- To produce high quality biomedical professionals and skilled manpower for R&D organizations and research institution in various specialized and emerging areas.
- To offer consultancy services in relatively sophisticated new technologies of Biomedical Engineering.
- To develop strategy for increasing Tele-treatment in the country.
- To offer various programs of higher studies for up-gradation of faculty members.
- To offer Master of Engineering in Telemedicine & e-Health.
- To offer research facilities in the field of Bioinformatics & Telemedicine.

Collaboration between Mehran University of Engineering and Technology and Liaquat Medical University of Medical & Health Sciences has been established to achieve this goal.

**Career Prospects:**

As a Graduate in Biomedical Engineering, you will find an increasing range of job opportunities in the hospital service. You will also be able to secure a progressive career in a variety of sectors including:

- Modern Hospitals
- Medical support manufacture
- Medical systems development
- Research within academia/hospitals/product suppliers
- Government health service
- Clinical engineering
- Rehabilitation engineering
- Non-medical industrial specialists in device design & manufacture
- Development of new diagnostic instrumentation
- Analysis of medical device hazards & safety
- Design of telemetry systems for patient monitoring
- Healthcare Information System

### 4.2.1.1 Teaching Staff of Biomedical Engineering Department

| | | | |
|---|---|---|---|
| 1. | Chairman of the Department: | Dr. Ahsan Ahmed Ursani<br>Phone: 022-2772279 | |
| 2. | Professor: | Dr. Ahsan Ahmed Ursani | |
| 3. | Associate Professor: | - | |
| 4. | Assistant Professors: | Engr. Narinder P. Chowdhry<br>Dr. Muhammad Arif | |
| 5. | Lecturers: | Dr. Najma Baloch<br>Engr. Syed Amjad Ali Shah<br>Engr. Noman Khan<br>Engr. Syed Faisal Ali<br>Engr.Rabia Chandio<br>Engr.Salman Afridi<br>Engr. Muhammad Aamir Panhwar | <br>(on study leave)<br>(on study leave) |

### 4.2.1.2. Courses of Studies for B.E Bio Medical Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Functional Engineering | 3 | 0 | 100 | 0 |
| 2 | Basic Electrical Engineering | 2 | 1 | 50 | 50 |
| 3 | Basic Biology | 3 | 0 | 100 | 0 |
| 4 | Introduction to Computing | 3 | 1 | 100 | 50 |
| 5 | Applied Physics | 3 | 1 | 100 | 50 |
| 6 | Applied Calculus | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **3** | **550** | **150** |
| | | **17** | | **700** | |
| | **SECOND SEMESTER** | | | | |
| 7 | Basic Electronics | 3 | 1 | 100 | 50 |
| 8 | Electrical Circuits and Systems | 3 | 1 | 100 | 50 |
| 9 | Biophysics | 3 | 0 | 100 | 0 |
| 10 | Applied Chemistry | 2 | 1 | 50 | 50 |
| 11 | Linear Algebra & Analytical Geometry | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **3** | **450** | **150** |
| | | **17** | | **600** | |
| | **THIRD SEMESTER** | | | | |
| 12 | Electronic Circuit Design | 3 | 1 | 100 | 50 |
| 13 | Engineering Statistics | 2 | 1 | 50 | 50 |
| 14 | Bio- Chemistry | 2 | 1 | 50 | 50 |
| 15 | Electromagnetism | 2 | 0 | 50 | 0 |
| 16 | Differential Equations | 3 | 0 | 100 | 0 |
| 17 | Pakistan Studies | 2 | 0 | 50 | 0 |
| **TOTAL** | | **14** | **3** | **400** | **150** |
| | | **17** | | **550** | |
| | **FOURTH SEMESTER** | | | | |
| 18 | Anatomy for Engineering | 3 | 0 | 100 | 0 |
| 19 | Strength of Materials | 2 | 1 | 50 | 50 |
| 21 | Engineering Dynamics | 2 | 0 | 50 | 0 |
| 22 | Digital System & Microprocessor | 3 | 1 | 100 | 50 |
| 23 | Complex Variable and Transforms | 3 | 0 | 100 | 0 |
| 24 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| **TOTAL** | | **15** | **2** | **450** | **100** |
| | | **17** | | **550** | |
| | **FIFTH SEMESTER** | | | | |
| 25 | Signals and Systems | 3 | 1 | 100 | 50 |
| 26 | Bio Materials & Design | 3 | 1 | 100 | 50 |
| 27 | Bio Medical Instrumentation-I | 3 | 1 | 100 | 50 |
| 28 | Numerical Analysis & Computer Applications | 2 | 1 | 50 | 50 |
| 29 | Probability and Statistics | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| | **SIXTH SEMESTER** | | | | |
| 30 | Digital Signals & Image Processing | 3 | 1 | 100 | 50 |
| 31 | Control Systems | 3 | 1 | 100 | 50 |
| 32 | Bio Medical Instrumentation-II | 3 | 1 | 100 | 50 |
| 33 | Modeling of Physiological Systems | 3 | 1 | 100 | 50 |
| 34 | Technical Report Writing and Presentation Skills | 2 | 0 | 50 | 0 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **SEVENTH SEMESTER** | | | | |
| 35 | Bio-photonic | 2 | 0 | 50 | 0 |
| 36 | Medical and Health Ethics | 2 | 0 | 50 | 0 |
| 37 | Neutral Networks | 2 | 1 | 50 | 50 |
| 38 | Bio-Mechanics | 2 | 1 | 50 | 50 |
| 39 | Clinical Linguistics | 3 | 0 | 100 | 0 |
| 40 | BM Engineering Project(Partial) | 0 | 1 | 0 | 50 |
| **TOTAL** | | **11** | **3** | **300** | **150** |
| | | **14** | | **450** | |
| | **EIGHTH SEMESTER** | | | | |
| 41 | Engineering Trend in Bio Medical Engineering | 3 | 1 | 100 | 50 |
| 42 | Economic & Health Care Management | 3 | 0 | 100 | 0 |
| 43 | Medical Imaging | 3 | 1 | 100 | 50 |
| 44 | Medical Device Regulation | 2 | 0 | 50 | 0 |
| 45 | BM Engineering Project (Partial) | 0 | 3 | 0 | 150 |
| **TOTAL** | | **10** | **5** | **350** | **250** |
| | | **15** | | **600** | |

### 4.2.2 Department of Computer Systems Engineering

Computer Systems Engineering is a discipline that integrates fields of Electrical Engineering and Computer Science required to develop 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.

**Courses of Studies for B.E. (Computer Systems Engineering)**

As with most of engineering disciplines, having a sound knowledge of mathematics and sciences is necessary for computer engineering. In the CSE (Computer Systems Engineering) department, students are trained to perform in-depth study in their junior and senior years, because the full breadth of knowledge used in the design and application of computers is required to compete in the international market.

Our course covers topics in the engineering of computer software and hardware

systems; techniques for controlling complexity; strong modularity using client-server design, virtual memory, and threads; networks; atomicity and coordination of parallel activities; recovery and reliability; privacy, security, and encryption; and socio-economic impact of computer systems. It also looks at case studies of working web-based information architectures, distributed or parallel programming, and data warehousing whereas, readings from the accessible and the latest published literature helps students doing comparisons and contrasts. Also, one design project or thesis is a partial requirement of the Degree of Bachelor of Engineering in Computer Systems.

### 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.

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 Compute Systems Engineer may seek a senior post such as filling the post of System Administrator, Lead System or Project manager.

#### 4.2.2.1 Teaching Staff of Computer Systems Engineering Department

Following teaching staff is presently working in the department of Computer Systems Engineering.

| | | | |
|---|---|---|---|
| 1. | Chairman of the Department | Mr. Muhammad Zahid Shaikh<br>Ph: 92-22-2771206, 2772250-73 (Ext. 4201) | |
| 2. | Professor | Dr. Mukhtiar Ali Unar | |
| 3. | Associate Professors | Mr. Muhammad Zahid Shaikh<br>Dr. Tariq Jamil Saifullah Khanzada<br>Dr. Sheraz Memon<br>Dr. Sana Hoor Jokhio<br>Dr. Javed Ali Baloch | |
| 4. | Assistant Professors | Mr. Liaquat Ali Thebo<br>Mr. Naveed Ahmed Jaffari<br>Mr. Arbab Ali Samejo<br>Mr. Nasarullah Memon<br>Ms. Zartasha Baloch<br>Mr. Shahnawaz Talpur<br>Mr. Rizwan Badar Baloch<br>Dr. Adnan Ashraf<br>Mr. M Moazzam Jawaid<br>Ms.Hamna Rajput | (on lien)<br><br><br>(On study leave) |
| 5. | Lecturers: | Mr. Salman Ahmed Shaikh<br>Ms. Bushra Naz<br>Mr. Muhammad Shaban Jokhio<br>Mr. Noor-u-Zaman<br>Ms. Sammer Zai<br>Ms. Sanam Narejo<br>Mr. Muhammad Ahsan Ansari<br>Mr. Irfan Ali Bhacho<br>Mr. Salahuddin Jokhio<br>Mr. Ali Asghar Manjotho | (On study leave)<br>(On study leave)<br>(On study leave)<br>(On study leave)<br><br><br><br>(On study leave) |

### 4.2.2.2 Courses of Studies for B.E Computer Systems Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Computer Fundamentals | 3 | 1 | 100 | 50 |
| 2 | Applied Calculus | 3 | 0 | 100 | 0 |
| 3 | Functional English | 3 | 0 | 100 | 0 |
| 4 | Electronic Engineering | 3 | 1 | 100 | 50 |
| 5 | Basic Electrical Engineering | 3 | 1 | 100 | 50 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **SECOND SEMESTER** | | | | |
| 6 | Computer Programming | 3 | 1 | 100 | 50 |
| 7 | Digital Logic and Design | 3 | 1 | 100 | 50 |
| 8 | Linear Algebra and Analytical Geometry | 3 | 0 | 100 | 0 |
| 9 | Communication Skills | 2 | 0 | 50 | 0 |
| 10 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| 11 | Pakistan Studies | 2 | 0 | 50 | 0 |
| **TOTAL** | | **15** | **2** | **450** | **100** |
| | | **17** | | **550** | |
| | **THIRD SEMESTER** | | | | |
| 12 | Computer Architecture & Design | 3 | 0 | 100 | 0 |
| 13 | Object Oriented Programming | 3 | 1 | 100 | 50 |
| 14 | Technical Report Writing | 2 | 0 | 50 | 0 |
| 15 | Differential Equations | 3 | 0 | 100 | 0 |
| 16 | Electrical Circuit | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **2** | **450** | **100** |
| | | **16** | | **550** | |
| | **FOURTH SEMESTER** | | | | |
| 17 | Data Structure and Algorithm Analysis | 3 | 1 | 100 | 50 |
| 18 | Microprocessor and interfacing Techniques | 3 | 1 | 100 | 50 |
| 19 | Modeling & Simulation | 2 | 1 | 50 | 50 |
| 20 | Engineering Economics & Management | 3 | 0 | 100 | 0 |
| 21 | Complex Variable and Transforms | 2 | 0 | 50 | 0 |
| 22 | Discrete Structures | 2 | 0 | 50 | 0 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **550** | |
| | **FIFTH SEMESTER** | | | | |
| 23 | Analogue & Digital Signal Processing | 3 | 1 | 100 | 50 |
| 24 | Operation Systems Design Concepts | 3 | 1 | 100 | 50 |
| 25 | Database Management Systems | 3 | 1 | 100 | 50 |
| 26 | Computer Graphics | 2 | 1 | 50 | 50 |
| 27 | Statistical Methods and Estimation | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| | **SIXTH SEMESTER** | | | | |
| 28 | Communication Systems | 3 | 1 | 100 | 50 |
| 29 | Control Systems and Robotics | 3 | 1 | 100 | 50 |
| 30 | Software Engineering | 3 | 1 | 100 | 50 |
| 31 | Embedded Systems | 3 | 1 | 100 | 50 |
| **TOTAL** | | **12** | **4** | **400** | **200** |
| | | **16** | | **600** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **SEVENTH SEMESTER** | | | | |
| 32 | Digital Image Processing | 3 | 1 | 100 | 50 |
| 33 | Web Engineering | 3 | 1 | 100 | 50 |
| 34 | Computer Communication and Networking | 3 | 1 | 100 | 50 |
| 35 | Professional ethics and Moral Values | 3 | 0 | 100 | 0 |
| **TOTAL** | | **12** | **3** | **400** | **150** |
| | | **15** | | **550** | |
| | **EIGHTH SEMESTER** | | | | |
| 36 | Wireless Communication and Networks | 3 | 1 | 100 | 50 |
| 37 | Artificial Intelligence | 3 | 1 | 100 | 50 |
| 38 | Entrepreneurship and Leadership | 3 | 0 | 100 | 0 |
| 39 | Thesis / Project | 0 | 4 | 0 | 200 |
| **TOTAL** | | **9** | **6** | **300** | **300** |
| | | **15** | | **600** | |

### 4.2.3 Department of Electronic Engineering

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 examplary 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 & postgradaute 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, Wired & Wireless Communications, Signal Processing, Industrial Electronics, Integrated Electronics, Artificial Neural Networks, Instrumentation & Control, Embedded System, Telecommunication Systems & Applications, Sequential Circuit Design, Laser & Fiber Optics, Microwave Engineering, Electromagnetic Waves & Radiating System, Computer Communication & Networking, etc.

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

- Basic Electronics Laboratory
- Instrumentation & Control Laboratory
- Advanced Electronics Laboratory
- Digital Signal Processing Laboratory
- Digital Electronics & Microprocessor Laboratory
- Advanced Computer Applications Laboratory
- Communication System Laboratory
- Interactive Electronic Design Automation Laboratory
- Top Quality Centralized Instrumentation Laboratory-I
- Top Quality Centralized Instrumentation Laboratory-II
- Project Laboratory
- EDA Tools Laboratory
- PC Repair Shop

These laboratories are well equipped with latest equipment ranging from basic electronic devices, simulators and trainers to more advanced telecommunications trainers, such as Microwave & Antenna 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.


On behalf of our quality work and intention towards developing industrial interaction a **"Top Quality Centralized Instrumentation Center (TQCIC)"** has been established in our department. The aims & objectives of TQCIC are as follows:

- To develop interaction between industries and the university.
- To design & develop instruments with cost effectiveness.
- To provide the cost effective Hi-Tech solutions & modernize the existing Instrumentation in our industry & educational institutions.
- To provide consultancy in the areas of Industrial Automation & Control, Communication & Electronics.
- To provide the trainings in the areas of Instrumentation, PLCs, PID Controllers, PCB Designing & Fabrication & Advanced Simulation Softwares.
- To provide the services & solutions in Industrial Electronic equipments.

This department has recently established Mentor Graphics Electronic Design Automation (EDA) Laboratory and it has become the only EDA Mentor Graphics Authorized Training Partner (ATP) in Sindh Province.

- This department's two senior faculty members got training in EDA Tools Specialization from Mentor Graphics Singapore.
- This department has good number of faculty professionals to handle these tools.

- The Electronic Department has recently introduced the new course like "FPGA Based System Design", "Embedded System Design and VLSI Design" courses at Bachelor as well as Master level.
- This department has arranged a two days workshop on EDA Tools in collaboration with authorized dealers (RASTEK Technologies). Thus becoming leading institute in the province to conduct such workshop first time.
- Department frequently arranges the industry oriented seminars/trainings based on job market requirements.
- Department aims at Problem & Project Based Learning (PBL). In order to encourage PBL, many project competitions and exhibitions are organized on regular basis.

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, MATLAB competition final year project competition held annually on and around campus. The department has centrally air-conditioned seminar library named after the late Professor M.D. Makhdoom.

#### 4.2.3.1 Teaching Staff of Electronic Engineering Department

Following teaching staff is presently working in the Department of Electronic Engineering.

| | | | |
|---|---|---|---|
| 1. | Chairperson of the Department: | Dr. Wajiha Shah<br>Phone: +92-22-2771334,<br>+92-22-2772250-70 (Ext. 4100) | |
| 3. | Professors: | Dr. Bhawani Shankar Chowdhry,<br>Dr. Wajiha Shah | |
| 4. | Associate Professor: | Dr. Faheem Aziz Umrani | |
| 5. | Assistant Professors: | Dr. Khalil-ur-Rehman Dayo<br>Mr. Abdul Sattar Ansari<br>Ms. Farzana Rauf Abro<br>Mr. Tufail Ahmed Waseer<br>Ms. Farida Memon<br>Mr. Mehboob Khuwaja<br>Ms. Attiya Baqai<br>Mr. Irfan Ahmed Halepoto<br>Ms. Kehkashan Asma<br>Mr. Kamran Kazi<br>Ms. Saba Baloch<br>Ms. Shakila Memon<br>Dr. Imtiaz Hussain Kalwar<br>Dr. Tayab Din Memon<br>Dr. Winod Kumar<br>Ms. Yasmeen Naz Panhwar | <br><br>(On Study Leave)<br><br>(On Study Leave)<br>(On Study Leave)<br>(On Study Leave)<br>(On Study Leave) |
| 6. | Lecturers: | Mr. Qurban Ali Memon<br>Ms. Arbab Nighat<br>Mr. Khuhed Memon<br>Mr. M. Zaigham Abass Shah<br>Mr. Aamir Ali Patoli | <br>(On Study Leave)<br><br>(On Study Leave) |

### 4.2.3.2 Courses of Studies for B.E Electronic Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Functional English | 3 | 0 | 100 | 0 |
| 2 | Applied Calculus | 3 | 0 | 100 | 0 |
| 3 | Introduction to Computing | 2 | 1 | 50 | 50 |
| 4 | Applied Physics | 3 | 1 | 100 | 50 |
| 5 | Professional Ethics | 2 | 0 | 50 | 0 |
| 6 | Electronic Workshop | 0 | 1 | 0 | 50 |
| **TOTAL** | | **13** | **3** | **400** | **150** |
| | | **16** | | **550** | |
| | **SECOND SEMESTER** | | | | |
| 7 | Linear Algebra & Analytical Geometry | 3 | 0 | 100 | 0 |
| 8 | Computer Programming | 2 | 1 | 50 | 50 |
| 9 | Basic Electronics | 3 | 1 | 100 | 50 |
| 10 | Electrical Circuits | 3 | 1 | 100 | 50 |
| 11 | Communication Skills | 2 | 0 | 50 | 0 |
| 12 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **600** | |
| | **THIRD SEMESTER** | | | | |
| 13 | Differential Equations & Fourier Series | 3 | 0 | 100 | 0 |
| 14 | Digital Electronics | 3 | 1 | 100 | 50 |
| 15 | Engineering Management | 2 | 0 | 50 | 0 |
| 16 | Combinational Circuit Design | 3 | 1 | 100 | 50 |
| 17 | Measurements & Instrumentation | 2 | 1 | 50 | 50 |
| 18 | Computer Aided Engineering Design | 0 | 1 | 0 | 50 |
| **TOTAL** | | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| | **FOURTH SEMESTER** | | | | |
| 19 | Complex Variable & Transforms | 3 | 0 | 100 | 0 |
| 20 | Electrical Machines | 2 | 1 | 50 | 50 |
| 21 | Sequential Circuit Design | 2 | 1 | 50 | 50 |
| 22 | Electromagnetic Fields & Radiating System | 3 | 0 | 100 | 0 |
| 23 | Integrated Electronics | 3 | 1 | 100 | 50 |
| 24 | Pakistan Studies | 2 | 0 | 50 | 0 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **650** | |
| | **FIFTH SEMESTER** | | | | |
| 25 | Signals & Systems | 3 | 1 | 100 | 50 |
| 26 | Microprocessor & Interfacing Techniques | 3 | 1 | 100 | 50 |
| 27 | Numerical Methods | 3 | 1 | 100 | 50 |
| 28 | Feedback Control System | 3 | 1 | 100 | 50 |
| 29 | Power Electronics | 2 | 1 | 50 | 50 |
| **TOTAL** | | **14** | **5** | **450** | **250** |
| | | **19** | | **700** | |
| | **SIXTH SEMESTER** | | | | |
| 30 | Analog & Digital Communication | 3 | 1 | 100 | 50 |
| 31 | Analysis & Design of Control Systems | 3 | 1 | 100 | 50 |
| 32 | Digital Instrumentation Systems | 2 | 1 | 50 | 50 |
| 33 | Probability & Random Signals | 3 | 0 | 100 | 0 |
| 34 | Embedded Systems Design | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **SEVENTH SEMESTER** | | | | |
| 35 | Computer Communication & Networking | 3 | 1 | 100 | 50 |
| 36 | Digital Signal Processing | 3 | 1 | 100 | 50 |
| 37 | FPGA-Based System Design | 3 | 1 | 100 | 50 |
| 38 | Optical and Microwave Communication | 3 | 1 | 100 | 50 |
| 39 | Technical Report Writing & Presentation Skills | 2 | 0 | 50 | 0 |
| 40 | Project / Thesis-I | 0 | 1 | 0 | 50 |
| **TOTAL** | | **14** | **5** | **450** | **250** |
| | | **19** | | **700** | |
| | **EIGHTH SEMESTER** | | | | |
| 41 | Advanced Communication Systems | 3 | 1 | 100 | 50 |
| 42 | Automation & Robotics | 3 | 1 | 100 | 50 |
| 43 | Artificial Intelligence | 2 | 1 | 50 | 50 |
| 44 | Project / Thesis-II | 0 | 3 | 0 | 150 |
| **TOTAL** | | **8** | **6** | **250** | **300** |
| | | **14** | | **550** | |

### 4.2.4 Department of Software Engineering

The Department offers undergraduate/Post graduate program leading to bachelors and Master degrees.

**Software Engineering**

This program provides students with an in depth understanding of software engineering with IT dependent enterprises, student develop capabilities in analysis, design and implementation of Software Engineering principles this discipline addresses the key aspects of modern software engineering through integrated courses.

The Course layout is revised to combat the needs of emerging markets of professional software engineers at national and international levels. The courses are designed according to the current and future needs of software industry. Department is also supported by an updated section in Central library where latest edition of books, magazines and research journals are available.

To meet the latest trends in Software and hardware technology 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 Laboratory
2. Visual Informatics, Image processing, 3-D Modeling, Visualization Laboratory
3. Data Warehousing and Management Laboratory
4. Software Quality Assurance and Testing Laboratory
5. Software Research and Development Laboratory
6. Parallel Programming, Cluster Computing, Gird research and Storage Management Laboratory

Laboratories maintain high standards through latest hardware and software support. Recently the Labs are updated with latest software such as, IBM Requisite pro, IBM functional & performance Testers, Lab View & latest version of Matlab @ Simulink software.

Many renowned companies related to the I.T field offer many internship to the students of this department many of our student are remained engaged in the internships to shine their skills and understand the market standards.

### 4.2.4.1 Teaching Staff of Software Engineering Department

Following teaching staff is presently working in the department of Software Engineering.

| | | | |
|---|---|---|---|
| 1. | Chairman of the Department: | Mr. Tahseen Hafiz<br>(0300 9371015) | |
| 2. | Professor: | Dr. Muhammad Akram Shaikh | (on lien) |
| 3. | Associate Professor: | Mr. Tahseen Hafiz<br>Dr. Imran Ali Jokhio<br>Dr. Sania Bhatti | |
| 4. | Assistant Professors: | Mr. Qasim Ali Arain<br>Ms. Isma Farah Siddiqui<br>Mr. Din Muhammad Sangrasi<br>Mr. Salahuddin Sadar<br>Dr. Shahzad Ahmed Nizamani<br>Ms. Amirita<br>Ms. Areej Fatemah<br>Dr. Naeem Ahmed | (on study leave) |
| 5. | Lecturers: | Mr. Asif Sangrasi<br>Ms. Anza Qureshi<br>Mr. Mohsin Ali (on study leave)<br>Ms. Samita Bai (on study leave)<br>Mr. Zubair Ahmed Sangi<br>Mr. Zahid Hussain Khaskheli<br>Mr. Syed Muhammad Shehram Shah<br>Ms. Anoud Majid<br>Ms. Moomal Memon<br>Ms. Hira Nouman | (on study leave)<br><br><br><br><br><br>(on study leave) |

### 4.2.4.2 Courses of Studies for B.E Software Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Applied Calculus | 3 | 0 | 100 | 0 |
| 02 | Basic Electrical Engineering | 3 | 1 | 100 | 50 |
| 03 | Computer Programming | 3 | 1 | 100 | 50 |
| 04 | Functional English | 3 | 0 | 100 | 0 |
| 05 | Electronic Engineering | 3 | 1 | 100 | 50 |
| | **TOTAL** | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **SECOND SEMESTER** | | | | |
| 6 | Data Structure & Algorithms | 3 | 1 | 100 | 50 |
| 7 | Digital Computer & Logic Design | 3 | 1 | 100 | 50 |
| 8 | Linear Algebra & Analytical Geometry | 3 | 1 | 100 | 0 |
| 9 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 10 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| 11 | Professional Ethics | 2 | 0 | 50 | 0 |
| | **TOTAL** | **15** | **3** | **450** | **100** |
| | | **18** | | **550** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **THIRD SEMESTER** | | | | |
| 12 | Software Economics & Management | 2 | 0 | 50 | 0 |
| 13 | Operating System Concepts | 3 | 1 | 100 | 50 |
| 14 | Computer Architecture & Organization | 3 | 0 | 100 | 0 |
| 15 | Information Systems | 3 | 0 | 100 | 0 |
| 16 | Differential Equation & Fourier Series | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **1** | **500** | **50** |
| | | **15** | | **600** | |
| | **FOURTH SEMESTER** | | | | |
| 17 | Object Oriented Programming | 3 | 1 | 100 | 50 |
| 18 | Database Management & Administration | 3 | 1 | 100 | 50 |
| 19 | Operations Research | 3 | 0 | 100 | 0 |
| 20 | Microprocessor Technologies | 3 | 1 | 100 | 50 |
| 21 | Laplace Transforms & Discrete Mathematics | 3 | 0 | 100 | 0 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **FIFTH SEMESTER** | | | | |
| 22 | Theory of Automata & Formal Language | 3 | 0 | 100 | 0 |
| 23 | Digital Communication | 3 | 1 | 100 | 50 |
| 24 | Human Computer Interaction | 2 | 0 | 50 | 0 |
| 25 | Software Requirement Engineering | 3 | 1 | 100 | 50 |
| 26 | Mobile Programming | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **3** | **450** | **150** |
| | | **17** | | **600** | |
| | **SIXTH SEMESTER** | | | | |
| 27 | Computer Networks & Management | 3 | 1 | 100 | 50 |
| 28 | Software Project Management | 3 | 1 | 100 | 50 |
| 29 | Statistical Methods & Estimations | 3 | 0 | 100 | 0 |
| 30 | Artificial Intelligence Concepts & Techniques | 3 | 1 | 100 | 50 |
| 31 | Technical Report Writing & Presentation Skill | 2 | 0 | 50 | 0 |
| **TOTAL** | | **14** | **3** | **450** | **150** |
| | | **17** | | **600** | |
| | **SEVENTH SEMESTER** | | | | |
| 32 | Computer Vision | 3 | 1 | 100 | 50 |
| 33 | Web Technologies | 3 | 1 | 100 | 50 |
| 34 | Software Design & Architecture | 3 | 1 | 100 | 50 |
| 35 | Data Warehousing & Data Mining Techniques | 3 | 1 | 100 | 50 |
| 36 | Thesis/Project | 0 | 1 | 0 | 50 |
| **TOTAL** | | **12** | **5** | **400** | **250** |
| | | **17** | | **650** | |
| | **EIGHTH SEMESTER** | | | | |
| 36 | Distributed Computing | 3 | 1 | 100 | 50 |
| 37 | Integrated Multimedia Systems & Graphics | 3 | 1 | 100 | 50 |
| 38 | Software Testing & Quality Assurance | 3 | 1 | 100 | 50 |
| 39 | Thesis/Project | 0 | 3 | 0 | 150 |
| **TOTAL** | | **9** | **6** | **300** | **300** |
| | | **15** | | **600** | |

### 4.2.5 Department of Telecommunication Engineering

Mehran University of Engineering and Technology has 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. Keeping in view the growth of telecom sector, there is great scope and demand for telecom engineers, experts and solution providers. Therefore, MUET has launched the following degree programs to produce graduates exclusively in Telecommunication Engineering:

- B.E. (Telecommunication)
- M.E. (Communication Systems and Networks) and M.E (Telecommunication Engg: & Management.
- Ph.D

The objectives of offering these programs are:

1. To train students for exciting and successful careers as system designers and developers, engineering managers, analysts, educators and researchers.
2. To ensure effectiveness in producing graduates of high quality and value to telecommunication industry.
3. To produce graduates having in-depth disciplinary knowledge, necessary skills, innovation and creativity to formulate and solve problems through scientific and intuitive methods.
4. To produce professionals who adopt an approach of engineering analysis, design and management systematically, while working effectively in a multidisciplinary and multicultural environment.
5. To produce graduates with an understanding of responsibilities as professional engineers with full commitment to the professional ethics.
6. To groom individuals with research and analytical abilities.

#### 4.2.5.1 Teaching Staff of Telecommunication Engineering Department

Following teaching staff is presently working in the Department of Telecommunication Engineering.

| | | |
|---|---|---|
| 1. | Chairman of the Department: | Dr. Aftab Ahmed Memon<br>Phone: 022-2772277, 2772252-72 Ext. 6000 |
| 2. | Professors: | Dr. Aftab Ahmed Memon<br>Dr. Abdul Waheed Umrani |

| | | |
|---|---|---|
| 3. | Associate Professors: | Dr. Faisal Karim Shaikh |
| 4. | Assistant Professors: | Ms. Nafisa Zaki<br>Mr. Imran Ali Qureshi<br>Mr. Zulfiqar Ali Arain<br>Mr. Mohsin Ali Shah<br>Mr. Nasrullah Pirzada (on study leave)<br>Mr. Sajjad Ali Memon<br>Ms. Shanzah Shaikh<br>Mr. Muhammad Zafi Sherhan |
| 5. | Lecturers: | Mr. Ayaz Ahmed Shaikh (on study leave)<br>Mr. Naveed Ahmed Umrani<br>Mr. Hyder Bux Mangrio<br>Ms. Saima Hafeez<br>Mr. Riaz Ahmed Soomro<br>Mr. Mehran Mamonai<br>Mr. Faisal Ahmed Memon<br>Mr. Saadullah Kalwar<br>Mr. Umair Mujtaba Qureshi<br>Mr. Shakeel Ahmed Laghari<br>Ms. Zunera Memon (Visiting Faculty) |

### 4.2.5.2 Courses of Studies for B.E Telecommunication Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Functional English | 3 | 0 | 100 | 0 |
| 02 | Introduction to Computing | 3 | 1 | 100 | 50 |
| 03 | Applied Calculus | 3 | 0 | 100 | 0 |
| 04 | Applied Physics | 3 | 1 | 100 | 50 |
| 05 | Professional Ethics | 3 | 0 | 100 | 0 |
| **TOTAL** | | **15** | **2** | **500** | **100** |
| | | **17** | | **650** | |
| | **SECOND SEMESTER** | | | | |
| 6 | Basic Electronics | 3 | 1 | 100 | 50 |
| 7 | Data Structure & Algorithms | 3 | 1 | 100 | 50 |
| 8 | Communication Skills-I | 2 | 0 | 50 | 0 |
| 9 | Introduction to Simulation Tools | 0 | 1 | 0 | 50 |
| 10 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| 11 | Linear Algebra & Analytical Geometry | 3 | 0 | 100 | 0 |
| 12 | Pakistan Studies | 2 | 0 | 50 | 0 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **550** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **THIRD SEMESTER** | | | | |
| 12 | Amplifier & Oscillators | 3 | 1 | 100 | 50 |
| 13 | Differential Equation & Fourier Series | 3 | 0 | 100 | 0 |
| 14 | Digital Electronics | 3 | 1 | 100 | 50 |
| 15 | Electrical Circuits | 3 | 1 | 100 | 50 |
| 16 | Engineering Management | 3 | 0 | 100 | 0 |
| | **TOTAL** | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **FOURTH SEMESTER** | | | | |
| 17 | Complex Variable & Transforms | 3 | 0 | 100 | 0 |
| 18 | Electromagnetic | 3 | 0 | 100 | 0 |
| 19 | Linear Integrated Circuits & Filters | 3 | 1 | 100 | 50 |
| 20 | Microcontroller Interfacing | 3 | 1 | 100 | 50 |
| 21 | Sequential Circuit Design | 3 | 1 | 100 | 50 |
| | **TOTAL** | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **FIFTH SEMESTER** | | | | |
| 22 | Analog & Digital Communication | 3 | 1 | 100 | 50 |
| 23 | Numerical Analysis & Computer Application | 3 | 1 | 100 | 50 |
| 24 | Signal & Systems | 3 | 1 | 100 | 50 |
| 25 | Technical Report Writing & Presentation Skills | 2 | 0 | 50 | 0 |
| 26 | Wave Propagation & Antennas | 2 | 0 | 50 | 0 |
| | **TOTAL** | **13** | **3** | **400** | **150** |
| | | **16** | | **550** | |
| | **SIXTH SEMESTER** | | | | |
| 27 | Computer Communication & Networks | 3 | 1 | 100 | 50 |
| 28 | Digital Signal Processing | 3 | 1 | 100 | 50 |
| 29 | Microwave Engineering | 3 | 0 | 100 | 0 |
| 30 | Opto-Electronics | 3 | 1 | 100 | 50 |
| 31 | Probability & Stochastic Processes | 3 | 0 | 100 | 0 |
| | **TOTAL** | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **SEVENTH SEMESTER** | | | | |
| 32 | Fiber Optics Communication | 3 | 1 | 100 | 50 |
| 33 | Satellite Communication | 3 | 0 | 100 | 0 |
| 34 | Transmission & Switching | 3 | 1 | 100 | 50 |
| 35 | Wireless Communication | 3 | 1 | 100 | 50 |
| 36 | Thesis / Project | 0 | 1 | 0 | 50 |
| | **TOTAL** | **12** | **4** | **400** | **200** |
| | | **16** | | **600** | |
| | **EIGHTH SEMESTER** | | | | |
| 37 | Broadband Digital Networks | 3 | 1 | 100 | 50 |
| 38 | Mobile Network Planning | 3 | 0 | 100 | 0 |
| 39 | Multimedia Communication | 3 | 1 | 100 | 50 |
| 40 | Thesis / Project | 0 | 3 | 0 | 150 |
| | **TOTAL** | **9** | **5** | **300** | **250** |
| | | **14** | | **550** | |

# 5. FACULTY OF ARCHITECTURE AND CIVIL ENGINEERING

The Faculty of Architecture & Planning was started in Mehran University of Engineering and Technology in 1986. This Faculty was renamed as Faculty of Architecture, Planning, Arts & Design in 2004. The Department of Architecture was established earlier in 1980 to discriminate knowledge about architectural aspects of building, built environment and landscaping. The Department of City & Regional Planning was established in 1992 to take-care of various planning aspects of land, environment and new developments such as colonies, townships and cities. The Faculty has been further renamed as Faculty of Architecture and Civil Engineering on 6.8.2009. The Faculty presently comprises of four teaching departments and one Centre of Excellence.

This faculty offers undergraduate, postgraduate studies and research leading to the following degrees:

| | |
|---|---|
| Bachelor of Architecture | (B.Arch.) |
| Bachelor of City & Regional Planning | (B.CRP) |
| Bachelor of Civil Engineering | (B.Civil) |
| Bachelor of Environmental Engineering | (B.EE) |
| Master in Civil Engineering | (MCE) |
| Master in Construction Management Engineering | (MCM) |
| Master in Structural Engineering | (MSE) |
| Master in Geotechnical and Highway Engineering | (MGHE) |
| Master in Hydraulic and Irrigation Engineering | (MHIE) |
| Master in Environmental Engineering | (MEE) |
| Master in City and Regional Planning | (MCRP) |
| Doctor of Philosophy | (Ph.D) |

## 5.1 Department of Architecture

The complexity of modern buildings calls for the effective combination of skill and talent in the best interests 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 settings. 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 specifications 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. Thus, the number of laboratories have been established in the department, which include; Model Making, Computer Graphics, Photographics, Surveying and Environment and Materials Lab. A seminar hall and 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 designs, drawings and a project report. The degree of B.Arch. is awarded to the students after they have fulfilled all the requirements for the degree including passing of all examinations and tests for the practical work.

### 5.1.1 Teaching Staff of Architecture Department

Following teaching staff is presently working in the Department of Architecture.

1. Chairman of the Department: Mr. Muhammad Hashim Jokhio
   Phone: 022-2772293
2. Professor: Dr. Bhai Khan Shar (on lien)
3. Associate Professor: Mr. Naeem Irfan (on lien)
4. Assistant Professors: Mr. Abdul Rehman Halepoto
   Mr. Muhammad Hashim Jokhio
   Mr. Moazam Ali Pathan
   Mr. Muhammad Afzal Brohi
   Mr. Irfan Ahmed Memon
   Ms. Raheela Leghari (on study leave)
   Mr. Sabeen Qureshi (on study leave)
   Ms. Shahnila Ansari
5. Lecturers: Ms. Khalida Baloch
   Ms. Farida Mugheri
   Mr. Abdul Waheed Memon
   Ms. Naheed Rohail
   Mr. Mir Abdul Salam Talpur.
   Ms. Firdous Parveen Soomro

### 5.1.2 Courses of Studies for Bachelor of Architecture

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FIRST SEMESTER** | | | | | |
| 1 | Islamic Studies Ethics | 2 | 0 | 50 | 0 |
| 2 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 3 | Visual Communication | 2 | 2 | 50 | 100 |
| 4 | Basic Design-I | 2 | 2 | 50 | 100 |
| 5 | Physical Environment | 3 | 0 | 100 | 0 |
| 6 | Statistics | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **4** | **400** | **200** |
| | | **18** | | **600** | |
| **SECOND SEMESTER** | | | | | |
| 7 | Functional English | 3 | 0 | 100 | 0 |
| 8 | Basic Design-II | 0 | 2 | 0 | 100 |
| 9 | History of Art & Arch-I | 3 | 0 | 100 | 0 |
| 10 | Building Materials | 3 | 0 | 100 | 0 |
| 11 | Model Making | 0 | 2 | 0 | 100 |
| 12 | Surveying | 3 | 1 | 100 | 50 |
| **TOTAL** | | **12** | **5** | **400** | **250** |
| | | **17** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **THIRD SEMESTER** | | | | | |
| 13 | Architectural Design | 2 | 2 | 50 | 100 |
| 14 | Physical Environmental Studies | 3 | 0 | 100 | 0 |
| 15 | History of Art & Architecture-II | 3 | 0 | 100 | 0 |
| 16 | Sociology | 2 | 0 | 50 | 0 |
| 17 | Computer Aided Design-I | 2 | 1 | 50 | 50 |
| 18 | Basics of Strength of Materials | 2 | 0 | 50 | 0 |
| **TOTAL** | | **14** | **3** | **400** | **150** |
| | | **17** | | **550** | |
| **FOURTH SEMESTER** | | | | | |
| 19 | Architectural Design-II | 2 | 2 | 50 | 100 |
| 20 | Physical Environmental Studies | 3 | 0 | 100 | 0 |
| 21 | History of Art & Architecture-III | 3 | 0 | 100 | 0 |
| 22 | Building Construction | 3 | 0 | 100 | 0 |
| 23 | Computer Aided Design-II | 0 | 2 | 0 | 100 |
| 24 | Basics of Theory of Structures | 2 | 0 | 50 | 0 |
| **TOTAL** | | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| **FIFTH SEMESTER** | | | | | |
| 25 | Architectural Design-III | 2 | 2 | 50 | 100 |
| 26 | Building Construction | 3 | 0 | 100 | 0 |
| 27 | Basics of Structural Analysis | 2 | 0 | 50 | 0 |
| 28 | Building Services-I | 3 | 0 | 100 | 0 |
| 29 | Computer Aided Design-III | 0 | 2 | 0 | 100 |
| 30 | Muslim Architecture | 3 | 0 | 100 | 0 |
| **TOTAL** | | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| **SIXTH SEMESTER** | | | | | |
| 31 | Architectural Design-IV | 2 | 2 | 50 | 100 |
| 32 | Building Services-II | 3 | 0 | 100 | 0 |
| 33 | Working Drawing & Details-I | 0 | 2 | 0 | 100 |
| 34 | RCC Design | 3 | 0 | 100 | 0 |
| 35 | Building Economics | 2 | 0 | 50 | 0 |
| 36 | Thesis & Criticism in Architecture | 3 | 0 | 100 | 0 |
| **TOTAL** | | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| **SEVENTH SEMESTER** | | | | | |
| 37 | Architectural Design-V | 2 | 2 | 50 | 100 |
| 38 | Landscape Design | 2 | 1 | 50 | 50 |
| 39 | Working Drawing Details-II | 0 | 2 | 0 | 100 |
| 40 | Urban Planning & Design-I | 3 | 0 | 100 | 0 |
| 41 | Structure in Architecture-I | 3 | 0 | 100 | 0 |
| 42 | Architectural Conservation | 3 | 0 | 100 | 0 |
| **TOTAL** | | **13** | **5** | **400** | **250** |
| | | **18** | | **650** | |
| **EIGHTH SEMESTER** | | | | | |
| 43 | Architectural Design-VI | 2 | 2 | 50 | 100 |
| 44 | Interior Design | 2 | 1 | 50 | 50 |
| 45 | Working Drawing & Details-III | 0 | 2 | 0 | 100 |
| 46 | Urban Planning & Design-II | 2 | 1 | 50 | 50 |
| 47 | Structure in Architecture-II | 3 | 0 | 100 | 0 |
| 48 | Energy Efficient Architecture | 3 | 0 | 100 | 0 |
| **TOTAL** | | **12** | **6** | **350** | **300** |
| | | **18** | | **650** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **NINTH SEMESTER** | | | | |
| 49 | Architectural Design=VII | 2 | 2 | 50 | 100 |
| 50 | Quantity Surveying & Accounting | 3 | 0 | 100 | 0 |
| 51 | Sustainable Architecture | 3 | 0 | 100 | 0 |
| 52 | Research & Development Project | 0 | 5 | 0 | 250 |
| **TOTAL** | | **8** | **7** | **250** | **350** |
| | | **15** | | **600** | |
| | **TENTH SEMESTER** | | | | |
| 53 | Professional Practice & Management | 3 | 0 | 100 | 0 |
| 54 | Disaster Management | 2 | 0 | 50 | 0 |
| 55 | Research & Development Project-II | 0 | 10 | 0 | 500 |
| **TOTAL** | | **5** | **10** | **150** | **500** |
| | | **15** | | **650** | |

## 5.2 Department of City & Regional Planning

This is the second department established in the country in 1992, after the department of City and Regional Planning, University of Engineering and Technology, Lahore.

The department is devoted wholly for teaching theoretical courses and extends practical knowledge of City and Regional Planning in undergraduates for professional career in increasingly diversified fields of Planning.

In order to meet the ever increasing demand for qualified 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 country a full-time four-year course is offered in the field of City and Regional Planning.

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 09-Batch and onward batches 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/up-gradation of old urban areas and development of new settlements at City and Regional levels.

After qualifying, the graduates will serve the nation as professional planners in the public and private sectors concerned with different fields of planning, such as, the Town Planning Department, Local Government Department, Development Authorities, Sindh Katchi Abadies Authority, etc.

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.).

The department offers the degree of M.CRP. The Three batches are admitted in year 2011, 2012 & 2013 respectively. The First Batch has completed Postgraduate Diploma.

The department also offers the degrees of Master of Philosophy and Doctor of Philosophy in the field of City and Regional Planning. These programmes are organized under the Directorate of Postgraduate Studies.

### 5.2.1 Teaching Staff of City & Regional Planning Department

Following teaching staff is presently working in the Department of City & Regional Planning.

| | | | |
|---|---|---|---|
| 1. | Chairman of the Department: | Dr. Dost Ali Khowaja<br>Phone: 022-2772294 | |
| 2. | Professor: | Dr. Dost Ali Khowaja<br>03003098468 | |
| 3. | Associate Professor: | Mr. Manzoor Ali Dahri | |
| 4. | Assistant Professor: | Mr. Muhammad Masood<br>Ms. Saima Kalwar<br>Mr. Imtiaz Ahmed Chandio | (on study leave) |
| 5. | Lecturers: | Mr. Aftab Hussain Talpur<br>Mr. Naveed Agro<br>Mr. Taufique Ahmed Qureshi<br>Mr. Fahad Ahmed Shaikh<br>Mr. Irfan Ahmed Memon<br>Mr. Noman Sahito | (on study leave)<br>(on study leave) |

### 5.2.2 Courses of Studies for Bachelor of City & Regional Planning.

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FIRST SEMESTER** | | | | | |
| 1 | Introduction to Planning | 3 | 1 | 100 | 50 |
| 2 | Technical Drawing | 2 | 2 | 50 | 100 |
| 3 | Calculus & Statistical Methods | 3 | 0 | 100 | 00 |
| 4 | Islamic Studies/Ethics | 2 | 0 | 50 | 00 |
| 5 | Pakistan Studies | 2 | 0 | 50 | 00 |
| 6 | Model Making | 0 | 2 | 00 | 100 |
| **TOTAL** | | **12** | **5** | **350** | **250** |
| | | **17** | | **600** | |
| **SECOND SEMESTER** | | | | | |
| 7 | Socio-economic Aspects of Planning | 3 | 0 | 100 | 00 |
| 8 | Architectural Design for Planners | 2 | 2 | 50 | 100 |
| 9 | Surveying-I | 3 | 1 | 100 | 50 |
| 10 | Planning Data Analysis | 3 | 0 | 100 | 00 |
| 11 | Functional English | 3 | 0 | 100 | 00 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **600** | |
| **THIRD SEMESTER** | | | | | |
| 12 | History of Urban Planning | 3 | 0 | 100 | 00 |
| 13 | Transportation Engineering | 3 | 1 | 100 | 50 |
| 14 | Construction Technology | 3 | 1 | 100 | 50 |
| 15 | Surveying-II | 3 | 1 | 100 | 50 |
| 16 | Communication Skills & Report Writing | 2 | 0 | 50 | 00 |
| **TOTAL** | | **14** | **3** | **450** | **150** |
| | | **17** | | **600** | |
| **FOURTH SEMESTER** | | | | | |
| 17 | Planning Law | 3 | 0 | 100 | 00 |
| 18 | Housing | 3 | 0 | 100 | 00 |
| 19 | Transportation Planning | 3 | 1 | 100 | 50 |
| 20 | Mapping & Remote Sensing | 3 | 1 | 100 | 50 |
| 21 | Computer Aided Design | 2 | 1 | 50 | 50 |
| **TOTAL** | | **14** | **3** | **450** | **150** |
| | | **17** | | **600** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIFTH SEMESTER** | | | | |
| 22 | Site Planning and Urban Design | 3 | 1 | 100 | 50 |
| 23 | Planning Techniques | 3 | 0 | 100 | 00 |
| 24 | Urban Renewal | 2 | 1 | 50 | 50 |
| 25 | Environmental Engineering | 3 | 1 | 100 | 50 |
| 26 | Information and Database Management | 2 | 1 | 50 | 50 |
| | **TOTAL** | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| | **SIXTH SEMESTER** | | | | |
| 27 | Research Methods | 3 | 0 | 100 | 00 |
| 28 | Planning of New Towns | 3 | 1 | 100 | 50 |
| 29 | Rural Planning | 2 | 1 | 50 | 50 |
| 30 | Environmental Planning & Management | 3 | 1 | 100 | 50 |
| 31 | Introduction to Geographical Information System | 2 | 1 | 50 | 50 |
| | **TOTAL** | **13** | **4** | **400** | **200** |
| | | **17** | | **600** | |
| | **SEVENTH SEMESTER** | | | | |
| 32 | Project Planning & Management | 3 | 1 | 100 | 50 |
| 33 | District & Regional Planning | 3 | 1 | 100 | 50 |
| 34 | Community Development | 2 | 1 | 50 | 50 |
| 35 | Land use & Building Control | 2 | 1 | 50 | 50 |
| 36 | Master Planning-I | 2 | 1 | 50 | 50 |
| | **TOTAL** | **12** | **5** | **350** | **250** |
| | | **17** | | **600** | |
| | **EIGHTH SEMESTER** | | | | |
| 37 | Master Planning-II | 3 | 2 | 100 | 100 |
| 38 | Estate Management | 3 | 0 | 100 | 00 |
| 39 | Finance Planning & Management | 3 | 0 | 100 | 00 |
| 40 | Planning Practice | 2 | 0 | 50 | 00 |
| 41 | Project/Thesis | 0 | 4 | 00 | 200 |
| | **TOTAL** | **11** | **6** | **350** | **300** |
| | | **17** | | **650** | |

## 5.3 Department of Civil Engineering

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, factories, 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 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, Construction Management etc.

The department teaches many courses relevant to the various fields of Civil Engineering that is Structural Engineering, Geotechnical Engineering, Irrigation & Drainage Engineering, Transportation Engineering, Environmental Engineering, Construction Engineering & Management etc. 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 for internship. This is to expose them to practical engineering practices being actually implemented.

The Department also offers postgraduate courses leading to degrees such as Post-Graduate Diploma (P.G.D.), Master of Civil Engineering (MCE.), Master of Philosophy (M.Phil.) and Doctor of Philosophy (Ph.D.) in the following fields.

- Civil Engineering
- Structural Engineering
- Geotechnical and Highways Engineering
- Construction Management

The department has also set up a Software Laboratory which provides computing facility using applications of Software in Civil Engineering.

### 5.3.1 Teaching Staff of Civil Engineering Department

Following teaching staff is presently working in the Department of Civil Engineering.

| | | |
|---|---|---|
| 1. | Chairman of the Department: | Dr. Ghous Bux Khaskheli<br>Phone: 022-2772254-72 Ext. 7100 |
| 1. | Co-Chairman of the Department: | Dr. Aneel Kumar<br>Phone: 022-2772254-72 Ext. 7132 |
| 3. | Professors: | Dr. Ghous Bux Khaskheli<br>Mr. Gul Hassan Memon<br>Mr. Muhammad Yousif Kumbher<br>Dr. M. Mehboob Gugarman<br>Dr. Abdul Sami Qureshi<br>Dr. Tauha Hussain. Ali<br>Dr. Aneel Kumar<br>Dr. Rizwan Ali Memon<br>Dr. Khalifa Qasim Laghari<br>Dr. Nafees Ahmed Memon<br>Dr. Zubair Ahmed Memon |
| 4. | Associate Professors: | Mr. Allah Bux Memon<br>Mr. Atta Muhammad Phul<br>Mr. Abdul Rashid Memon<br>Dr. Kamran Ansari<br>Dr. Naeem Aziz Memon |

| | | |
|---|---|---|
| 5. | Assistant Professors: | Mr. Pervez Shaikh |
| | | Mr. Ghulam Hussain Mahesar |
| | | Mr. Jawaid Kamal Ansari |
| | | Dr. Ashfaque Ahmed Memon |
| | | Mr. Hizbullah Memon |
| | | Mr. Ashfaque Ahmed Pathan (on study leave) |
| | | Mr. Arshad Ali Memon |
| | | Dr. Zaheer Ahmed Almani |
| | | Mr. Fareed Ahmed Memon (on study leave) |
| | | Mr. Samar Hussain Rizvi |
| | | Dr. Agha Faisal Habib |
| | | Mr. Azizullah Jamali |
| | | Mr. Amjad Ali Pathan |
| 6. | Lecturers: | Mr. Shabir Hussain Khahro |
| | | Mr. Masroor Ali Jatoi |
| | | Mr. Farhan Qureshi |

### 5.3.2 Courses of Studies for B.E Civil Engineering

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIRST SEMESTER** | | | | |
| 1 | Engineering Drawing | 3 | 1 | 100 | 50 |
| 02 | Civil Engineering Materials | 3 | 1 | 100 | 50 |
| 03 | Surveying-I | 3 | 1 | 100 | 50 |
| 04 | Functional English | 3 | 0 | 100 | 0 |
| **TOTAL** | | **12** | **3** | **400** | **150** |
| | | **15** | | **550** | |
| | **SECOND SEMESTER** | | | | |
| 5 | Engineering Mechanics | 3 | 1 | 100 | 50 |
| 6 | Applied Calculus | 3 | 0 | 100 | 0 |
| 7 | Introduction to Computer & C++ Programming | 2 | 1 | 50 | 50 |
| 8 | Pakistan Studies | 2 | 0 | 50 | 0 |
| 9 | Islamic Studies / Ethics | 2 | 0 | 50 | 0 |
| 10 | Civil Engineering Drawing | 2 | 1 | 50 | 50 |
| **TOTAL** | | **15** | **2** | **450** | **100** |
| | | **17** | | **550** | |
| | **THIRD SEMESTER** | | | | |
| 11 | Surveying-II | 3 | 1 | 100 | 50 |
| 12 | Transportation Engineering | 3 | 0 | 100 | 0 |
| 13 | Strength Materials-I | 3 | 0 | 100 | 0 |
| 14 | Engineering Geology | 2 | 1 | 50 | 50 |
| 15 | Differential Equations, Fourier Series and Laplace Transforms | 3 | 0 | 100 | 0 |
| **TOTAL** | | **14** | **2** | **450** | **100** |
| | | **16** | | **550** | |
| | **FOURTH SEMESTER** | | | | |
| 16 | Theory of Structures | 3 | 0 | 100 | 0 |
| 17 | Fluids Mechanics and Hydraulics-I | 3 | 1 | 100 | 50 |
| 18 | Construction Engineering | 2 | 0 | 50 | 0 |
| 19 | Plain and Reinforced Concrete | 3 | 1 | 100 | 50 |
| 20 | Complex Analysis, Statistical Methods and Probability | 3 | 0 | 100 | 0 |
| 21 | Architectural and Town Planning | 2 | 0 | 50 | 0 |
| **TOTAL** | | **16** | **2** | **500** | **100** |
| | | **18** | | **600** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| | **FIFTH SEMESTER** | | | | |
| 22 | Strength of Materials II | 3 | 0 | 100 | 0 |
| 23 | Structural Analysis | 3 | 0 | 100 | 0 |
| 24 | Fluid Mechanics and Hydraulics-II | 3 | 1 | 100 | 50 |
| 25 | Steel Structures | 3 | 0 | 100 | 0 |
| 26 | Linear Algebra and Numerical Methods | 3 | 0 | 100 | 0 |
| **`TOTAL** | | **15** | **1** | **500** | **50** |
| | | **16** | | **550** | |
| | **SIXTH SEMESTER** | | | | |
| 27 | Applied Hydraulics | 3 | 1 | 100 | 50 |
| 28 | Soil Mechanics | 3 | 1 | 100 | 50 |
| 29 | Modern Methods of Structural Analysis | 3 | 0 | 100 | 0 |
| 30 | Reinforced and Pre-Stressed Concrete | 3 | 1 | 100 | 50 |
| 31 | Quantity Surveying and Estimation | 3 | 0 | 100 | 0 |
| **`TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| | **SEVENTH SEMESTER** | | | | |
| 32 | Highway and traffic Engineering | 3 | 1 | 100 | 50 |
| 33 | Structural Design and Drawing | 3 | 0 | 100 | 0 |
| 34 | Geotechnical Engineering | 3 | 1 | 100 | 50 |
| 35 | Irrigation Engineering | 3 | 1 | 100 | 50 |
| 36 | Environmental Engineering –I | 2 | 1 | 50 | 50 |
| **`TOTAL** | | **14** | **4** | **450** | **200** |
| | | **18** | | **650** | |
| | **EIGHTH SEMESTER** | | | | |
| 37 | Foundation Engineering | 3 | 0 | 100 | 0 |
| 38 | Environmental Engineering-II | 3 | 0 | 100 | 0 |
| 39 | Construction Management & Planning | 3 | 0 | 100 | 0 |
| 40 | Hydrology & Drainage Engineering | 3 | 0 | 100 | 0 |
| 41 | Project / Thesis | 0 | 6 | 0 | 200 |
| **`TOTAL** | | **18** | **0** | **400** | **200** |
| | | **18** | | **600** | |

### 5.4. Institute of Environmental Engineering & Management

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 and Management (IEEM) has been established with the aim of creating new knowledge and finding innovative solutions to local and global environmental issues through application of such knowledge. There is lot of hue and cry for control of the pollution in the urban and rural areas, oceans, rivers and

agriculture lands. Today, Pakistan stands on the threshold of implementing environmental standards. Environmental Protection Agencies (EPAs) of the four provinces and federal government have been assigned the task to implement environmental standards and therefore there will be great need for large number of qualified expert in field of environmental engineering. The scope of an Environmental Engineer goes beyond the community and regional levels to global level.

The Bachelor of Engineering (BE) program is based on sound theoretical knowledge and through the practical training supported by field practical and industrial training.

The syllabus includes subjects like Basic Sciences, Computer Sciences, Fluid Mechanics, Hydraulics, Survey, Water and Waste Water Engineering, Renewable Energy, Waste Management Environmental Health & Safety, Hazardous Waste Risk Assessment, Cleaner Production, Modeling of Environmental System and numerical analysis. The BE degree will make the students eligible for admission to post graduate degree (ME and Ph.D. in Environmental Engineering).We have highly qualified faculty having Ph.D. and ME from abroad, prepare the IEEM graduates to achieve excellence in their career.

### 5.4.1 Teaching Staff of Institute of Environmental Engineering & Management

Following teaching staff is presently working in the Institute of Environmental Engineering & Management.

| | | | |
|---|---|---|---|
| 1. | Co-Director/Chairman,<br>Environmental Engg. Department | Prof. Dr. Rasool Bux Mahar<br>Phone 022-2771182 | |
| 2. | Professors: | Dr. Khan Muhammad Brohi<br>Dr. Rasool Bux Mahar | |
| 3. | Associate Professor: | - | |
| 4. | Assistant Professors: | Mr. Muhammad Ali Memon<br>Mr. Sheeraz Ahmad Memon | (on study leave) |
| 5. | Lecturers: | Mr. Mohammad Safar Korai<br>Mr. Imdad Ali Kandhir | |
| 6. | Visiting Faculty: | Dr. Muhammad Yar Khahawer<br>Prof. Abdul Sattar Soomro | |

### 5.4.2 Courses of Studies for B.E Environmental Engineering & Management

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **FIRST SEMESTER** | | | | | |
| 1 | Pakistan Studies | 2 | 0 | 50 | 00 |
| 2 | Islamic Studies/Ethics | 2 | 0 | 50 | 00 |
| 3 | Introduction to Environmental Engineering | 3 | 0 | 100 | 00 |
| 4 | Computer Aided Learning | 2 | 1 | 50 | 50 |
| 5 | Surveying | 3 | 1 | 100 | 50 |
| 6 | Introduction to Environmental Physics | 2 | 0 | 50 | 00 |
| **TOTAL** | | **14** | **2** | **400** | **100** |
| | | **16** | | **500** | |
| **SECOND SEMESTER** | | | | | |
| 7 | Functional English | 3 | 0 | 100 | 0 |
| 8 | Applied Calculus | 3 | 0 | 100 | 0 |
| 9 | Environmental Chemistry | 2 | 1 | 50 | 50 |
| 10 | Engineering Mechanics | 3 | 1 | 100 | 50 |
| 11 | Introduction to Computer Programming | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **3** | **450** | **150** |
| | | **17** | | **600** | |

| Sr. No. | Subject | Credit Hours | | Marks | |
|---|---|---|---|---|---|
| | | Theory | Practical | Theory | Practical |
| **THIRD SEMESTER** | | | | | |
| 12 | Ecological Management | 3 | 0 | 100 | 0 |
| 13 | Environment & Human Interaction | 2 | 0 | 50 | 0 |
| 14 | Linear Algebra & Analytical Geometry | 3 | 0 | 100 | 0 |
| 15 | Fluid Mechanics | 2 | 1 | 50 | 50 |
| 16 | Thermodynamics | 3 | 1 | 100 | 50 |
| 17 | Environmental Microbiology | 2 | 1 | 50 | 50 |
| **TOTAL** | | **15** | **3** | **450** | **150** |
| | | **18** | | **600** | |
| **FOURTH SEMESTER** | | | | | |
| 18 | Environmental Economics | 2 | 0 | 50 | 0 |
| 19 | Engineering Materials and Environment | 2 | 0 | 50 | 0 |
| 20 | Differential Equations & Fourier Series | 3 | 0 | 100 | 0 |
| 21 | Computer Aided Design & Drafting | 2 | 1 | 50 | 50 |
| 22 | Electrical Technology | 2 | 1 | 50 | 50 |
| 23 | GIS & Remote Sensing | 3 | 1 | 100 | 50 |
| **TOTAL** | | **14** | **3** | **400** | **150** |
| | | **17** | | **550** | |
| **FIFTH SEMESTER** | | | | | |
| 24 | Water Supply & Wastewater Engineering | 3 | 1 | 100 | 50 |
| 25 | Numerical Analysis | 3 | 1 | 100 | 50 |
| 26 | Soil Mechanics for Environmental Engineering | 3 | 0 | 100 | 0 |
| 27 | Engineering Hydrology | 3 | 0 | 100 | 0 |
| 28 | Solid Waste Management | 3 | 1 | 100 | 50 |
| **TOTAL** | | **15** | **3** | **500** | **150** |
| | | **18** | | **650** | |
| **SIXTH SEMESTER** | | | | | |
| 29 | Energy Resources Management | 3 | 0 | 100 | 0 |
| 30 | Principles of Water & Wastewater Treatment | 3 | 0 | 100 | 0 |
| 31 | English Communication Skills | 2 | 0 | 50 | 0 |
| 32 | Statistical Methods & Estimation | 3 | 0 | 100 | 0 |
| 33 | Air & Noise Pollution Control | 3 | 1 | 100 | 50 |
| 34 | Power Plant Engineering | 3 | 0 | 100 | 0 |
| **TOTAL** | | **17** | **1** | **550** | **50** |
| | | **18** | | **600** | |
| **SEVENTH SEMESTER** | | | | | |
| 35 | Water Resources & Irrigation Engineering | 3 | 0 | 100 | 0 |
| 36 | Natural Resources Management | 3 | 0 | 100 | 0 |
| 37 | Environmental Health & Safety | 3 | 0 | 100 | 0 |
| 38 | Modeling of Environmental Systems | 3 | 1 | 100 | 50 |
| 39 | Design Project-I | 0 | 2 | 00 | 100 |
| **TOTAL** | | **12** | **3** | **400** | **150** |
| | | **15** | | **550** | |
| **EIGHTH SEMESTER** | | | | | |
| 40 | Hazardous Waste Risk Assessment | 3 | 0 | 100 | 0 |
| 41 | Cleaner Production Techniques | 3 | 0 | 100 | 0 |
| 42 | Environmental Impact Assessment & Management | 3 | 0 | 100 | 0 |
| 43 | Project Planning & Management | 2 | 1 | 50 | 50 |
| 44 | Design Project-II | 0 | 4 | 0 | 200 |
| **TOTAL** | | **11** | **5** | **350** | **250** |
| | | **16** | | **600** | |

### 5.5 Center of Excellence in Arts & Design.

The Centre of Excellence in Art & Design offers degree programs at undergraduate levels in the following disciplines:

**a) FACULTY OF FINE ARTS**

Bachelor of Fine Art (4 years) with following specializations;

- Painting
- Printmaking
- Sculpture and
- Miniature Painting

**b) FACULTY OF DESIGN**

Bachelor of Design (4 years) with following specializations;

- Textile Design
- Communication Design and Ceramic Designc)

**c) Faculty Of Architecture & Planning**

Bachelor of Architecture and planning (5 years)

The Centre reserves 109 seats for the regular scheme, the allocation of seats is as follows:

| Category | Description | Seats on Quota | Number of Seats Faculty | | | |
|---|---|---|---|---|---|---|
| | | | AR | DS | FA | Total |
| 1 | Sindh | 50 | 17 | 17 | 16 | 50 |
| 2 | Punjab | 15 | 5 | 5 | 5 | 15 |
| 3 | Balochistan | 15 | 5 | 5 | 5 | 15 |
| 4 | Khyber Pakhtoon Khowah | 9 | 3 | 3 | 3 | 9 |
| 5 | Azad Kashmir | 3 | 1 | 1 | 1 | 3 |
| 6 | Gilgit. Baltistan | 2 | 1 | 1 | | 2 |
| 7 | FATA | 2 | 1 | - | 1 | 2 |
| 8 | Federal. C Area | 2 | - | 1 | 1 | 2 |
| 9 | CEAD Kinship | 2 | - | 1 | 1 | 2 |
| **Total (Local)** | | | 33 | 34 | 33 | 100 |
| 10 | Students from Foreign | 9 | 3 | 3 | 3 | 9 |
| **Grand Total** | | | **36** | **37** | **36** | **109** |

All International Students should forward, their application forms to their respective Embassies. The Embassies route their applications to the Centre of Excellence in Art and Design, through the Mehran University of Engineering & Technology, Jamshoro.

If the seats fallen vacant from any of the above allocated areas, except Category (10) will be offered on the basis of open merit to the successful candidates on waiting list.

Whereas, if seats of "students from foreign" fallen vacant, will be offered on self finance (special scheme) with the full tuition fee of Rs. 500,000.00, and overseas Pakistanis will also be entertained in this scheme on 2nd Priority.

**Admission on self finance basis**

The Centre reserves 25 seats for self finance scheme, the schedule of fees will be given in the advertisement.

Applications for Admission shall be invited separately by the Centre through advertisement in the Prominent regional and National Newspaper with full schedules for the submission of applications and the details of the Admission and Examination procedures.

For further information contact:

**Dr. Bhai Khan Shar**,
Director,
Center of Excellence in Arts & Design,
East Toll Plaza, Super Highway,
Jamshoro, Sindh, Pakistan
Phone No. 022-2908319
www.cead.edu.pk

# 6. FACULTY OF SCIENCE, TECHNOLOGY & HUMANITIES

The Faculty of Science, Technology & Humanities comprises on the following Department, Institutes, Center and affiliated Colleges:

## 6.1 Department of Basic Sciences & Related Studies (BSRS)

This department teaches the courses of Mathematics including Statistics, Computer Science, Pakistan Studies and Islamic Studies/Ethics. The courses of Mathematics and Computer Sciences are also taught to the postgraduate students of the University. The department also participates in offering short courses on various aspects of computer oriented courses. The extensive research work is also carried out by the teachers of this department. Two Ph.D students have been produced in the field of Finite Element Simulation (2004) and also "Finite Element Modeling of Blood Flow" (2012) and a Post-graduate research student is registered for leading to Ph.D degree. This department is awarded Research productivity by Pakistan Council for Science & Technology in the year 2003-2004 on the basis of research conducted during the year 2002. The department is intending to start 2-year M.Phil Program in the year 2013. This will help the students of Mathematics, Statistics, Physics and Engineering to further improve their knowledge and qualifications in Applied Mathematics.

### 6.1.1 Teaching Staff of Basic Sciences & Related Studies Department

Following teaching staff is presently working in the department of Basic Sciences & Related Studies.

| | | |
|---|---|---|
| 1. | Chairman of the Department | Dr. Abdul Razak Ghanghro<br>Ph: 022-2771409, 2772250-73 ext (2200) |
| 2. | Professors: | Dr. Abdul Razzak Ghanghro |
| 3. | Associate Professor: | Dr. Muhammad Anwar Solangi<br>Dr. Feroz Shah |
| 4. | Assistant Professors: | Mr. Khan Muhammad Chajro<br>Ms. Yasmeen Zafar<br>Mr. Saifullah Abro<br>Mr. Ghulam Yasin Bhutto<br>Mr. Asif Ali Shaikh<br>Mr. Ghulam Abbas Mahar<br>Mr. Abdul Saleem Memon |
| 5. | Lecturers: | Ms. Naseem Khalid Memon<br>Mr. Rahim Bux Khokhar (on study leave)<br>Ms. Saima Bhatti<br>Mr. Imran Qasim Memon<br>Mr. Hafiz Abdul Aziz Memon (on study leave)<br>Ms. Sania Qureshi<br>Mr. Muhammad Urs Jhatial<br>Mr. Ayaz Ali Siyal<br>Ms. Zaibunisa<br>Mr. Shafkat Chandio<br>Mr. M. Mujtaba Shaikh<br>Mr. Ali Asghar Sangah<br>Ms. Fozia Shaikh<br>Mr. Hameer Akhtar Abro<br>Mr. Mukhtiar Ahmed Metlo |

## 6.2 English Language Development Centre

In 1988 a Directorate named English Language Development Centre was established in collaboration with British Council and the University Grants Commission (Presently the Higher Education Commission of Pakistan) at Mehran University Jamshoro. This Directorate was initially run by a British Director Mr. 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 Teacher' 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 awarded funds to establish the state of the art self access centre at the ELDC MUET. This will be the first SAC in province Sindh and hub of teachers' training in the province. The SAC will focus on Computer Assisted Language Learning (CALL) and Internet based language learning (IMIL).

**Directorate offers following courses:**

- Functional English
- Communication skills for Engineers
- Technical Report writing
- Presentation Skills
- Teachers' training-ELT teachers' education
- Computer Assisted Language Learning (CALL) and Internet Mediated language learning
- Accent and Pronunciation (Lang Lab)
- IELTS
- TOEFL
- GRE
- GMAT
- SAT

### 6.2.1 Teaching Staff

Following teaching staff is presently working in the English Language Development Centre.

| | | |
|---|---|---|
| 1. | Director Incharge ELDC: | Dr. Habibullah Pathan<br>Ph: 022-2771286 |
| 2. | Professor: | - |
| 3. | Associate Professor: | - |
| 4. | Assistant Professor: | Ms. Rosy Ilyas<br>Dr. Habibullah Pathan |
| 5. | Lecturers: | Mr. Mohib Ali Korejo<br>Ms. Quratul Ain Mirza<br>Mr. Jam Khan Muhammad<br>Ms. Sahib Khatoon<br>Mr. Shoukat Ali Lohar |

## 6.3 Mehran University Institute of Science, Technology & Development (MUISTD)

Mehran University Institute of Science, Technology & Development (MUISTD) is established at Jamshoro to produce much required highly qualified manpower at various levels of policy, management and administration for promotion and development of Science and Technology Enterprise and Innovation Management in private and public sectors.

The development of Science and Technology (S & T) is closely linked with an important national goal of rapid and sustainable socio-economic development. MUISTD is, hence established with a wide mandate to produce highly qualified manpower at M.S., M.Phil and Ph.D degree level. As well as, formally train the existing personnel already in charge in this field and conduct research on all aspects of an effective and viable S&T policy framework to achieve this objective.

It is envisaged to be a center of excellence for teaching, training and research required to respond to the modern day challenges and to cater to the needs of socio-economic development of the country. Its Research and Development (R&D) activities are aimed at focusing on all important issues relating to contents, development, management, and exploitation of human and natural resources and other means and methods for rapid socio-economic uplift of the country. The clients of research results and training of this institute would be the Universities, R&D organizations, Government, Industry, Business individuals in public and private sector, national and international organizations, other developed and developing countries etc. It is intended to serve as a nerve centre and conduct practical review of the situation currently and futuristically, and render suitable advice for the required scientific and technological development to Academics, Research, Industry, Business, Government, etc.

MUISTD, therefore, is aimed at developing knowledge and devising sustainable S&T policies in consonance with the national priorities and goals taking different perspectives of socio-economic development into account.

**Contact:**

**Prof. Dr. Pir Roshanuddin S. Rashdi**
Co-Director
Tel 022-2772430-31
Fax 022-2772432
E-mail **pirrashdi@yahoo,com**
**codirector.muistd@muet.edu.pk**

**Dr. Qazi Muhammad Moinuddin**
Secretary
Tel 022-2772433
Fax 022-2772432
E-mail qaziabro@gmail.com

### 6.3.1 Management and Faculty

| | | |
|---|---|---|
| | Dr. S.M.Qureshi | |
| | Professor Emeritus & Director | (Honorary) |
| | Prof. Dr. Pir Roshanuddin Shah Rashdi | |
| | Prof. Dr. Muhammad Aslam Uqaili | (Associated Faculty) |
| | Prof. Dr. Bhawani S. Chowdhry | (Associated Faculty) |
| | Prof. Dr. Hafeez-ur-Rehman Memon | (Associated Faculty) |
| | Prof. Dr. Mujeeb-uddin Sehrai | (Associated Faculty) |
| Associate Professor | Dr. Qazi Muhammad Moinuddin | |
| | Dr. Arbella Bhutto | |
| Assistant Professors: | Mr. Zahid Ali Memon | (on study leave) |
| | Ms. Iffat Batool Naqvi | |
| | Mr. Irfanullah Shah Rashdi | |
| Lecturers: | Mr. Wahid Bux Mangrio | |

### 6.4 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:

   Lt. Col. M. Khalid Khan Retd. (TI (M),
   Executive Director,
   Hyderabad Institute of Arts, Science & Technology,
   Auto Bhan Road, Hyderabad
   Phone: 022-3812537-8

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

# 7. SUPPORT FACILITIES FOR STUDENTS AND OTHER COMPONENTS

Many facilities have been developed and established in the University to provide assistance to the students in their studies as well as other related activities and leisure. These facilities and establishment are briefly described below:

## 7.1 Residential Accommodation

Eight hostels including two for female students, are available for the undergraduate students accommodation. The hostels can accommodate a total of 1150 students. Since the available seats for the upcoming batch is very limited, the University is not able to accommodate the students of first year. The students are advised to arrange the private accommodation. Overall, the preference is given to the most needy students who belong to farther areas of the province.

All the students who are interested in hostel accommodation can apply through a prescribed form which is available in the Provost office. All the residents have to follow strictly the hostel rules and regulations. The hostels are managed by the Provost Hostels, Additional Provost Hostels, Deputy Provost Hostels and Wardens.

For any further information, please contact: **Dr. Dur Muhammad Pathan**
Provost (Hostels),
Telephone No. 022-2772299

## 7.2 Library Facilities

The Mehran University of Engineering & Technology Library & Online Information Center contains more than 125000 books related to Engineering Science and Technology. Access to 29 E-databases for electronic 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 in full text.

There are more than 19000 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.

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

* In MUET Library & Online Information Center students and faculty members are also provided internet facility to use computer for their project work for which PCs are installed in the Online Information Center of the library with a network printer and photocopier.
* The Catalog of books is computerized and accessible through library of congress gateway http://www.loc.gov/z3050 serving one point access interface for books catalog, full-text electronic journals and e-books on web.

* There are also a blogs http:/www.muet/facultycoordination.blogspot.com to give the access of books recommended in teaching plan, another blog http://www.mueteresources.blogspot.com to give the access of e-books, Journals, video lectures, dictionaries and encyclopedias etc., and http:// muetdigitallibrary.blogspot.com E-books, Journals, Tutorials and Thesis's guidance.

* The MUET Library & Online Information Center 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 Sunday during examination period. Professional staff available at service points to meet needs of the readers. Besides the MUET Library & Online Information Center individual departments have established their own seminar libraries, which cater to the specific needs of the departments. A union catalogue of books available on Campus is also functional. Library is connected to all departments through fiber optic network/internet giving access to CD and DVD Rom databases available in the Library also.

## 7.3 Information and Communication Processing Centre

Information provisioning is recognized as the most integral service in Education domain that underpins all departmental and interdepartmental activities, Information Communication and Processing Center (ICPC) is instituted for the purpose. The centre utilizes high speed Optical Fiber connectivity to ensure access to information at lightning speed. Equipped with latest devices and servers; the Centre is dedicatedly working to provide 24hr data and voice services to Admin block, departments and Hostels.

To encourage Research and development related activities between universities and uplift MUET at National level, the centre connects MUET with fifty two (52) other universities through PERN (Pakistan Educational Research Network). Besides the students are ensured unhampered services through VPN accounts, which is provided on request, to work from their homes for 24 hrs.

Following are some of the facilities student would be able to avail:

- High Speed Internet connection with backbone of 100MB.
- High speed network laid entirely on Fibber Optics.
- 24x7x365 hrs Voice Exchange/Intercom services.
- Digital Library Services through PERN.
- HEC online journals access through PERN.
- VPN service for students working from their Homes.
- Online Courseware / Material and presentations.
- Hardware and Software resources sharing.

- Video Conferencing System (Lectures and Presentations sharing) between all Universities of Pakistan through PERN.
- Provide Email accounts on MUET domain.
- Free Access to Genuine Microsoft Software (Operating System and Application Software).

**Prof. Dr. Aftab Ahmed Memon**
Director,
**Information Communication and Processing Centre (ICPC)**
Phone: (022) 2772277 Ext: 6000

**Engr. Saleem Ahmed Memon**
Additional Director
**Information Communication and Processing Centre (ICPC)**
Phone: (022) 2772250-73 Ext: 2090

## 7.4 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 quantity 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.

## 7.5 Transport Facilities

The University deploys buses for the use of students on various routes between the Campus and Hyderabad/ Qasimabad/Latifabad/Kotri. Students have to pay nominal transport charges on yearly basis for the use of this facility.

## 7.6 Sports Facilities

The Directorate of Sports is responsible to entertain the students of this University by arranging Indoor and Outdoor sports events i.e. Inter Hostel for hostler students and Inter Department for department competitions.

The University also organizes and participate Interuniversity Sports Events in a large number. Previously lot of the University students has remained Gold, Silver and Bronze Medalist. The University sports teams not only participate in Sindh Universities Sports Gala event but this University has also organized the same event at a high level.

The newly joining students can participate in Inter Department, Inter Hostel and Inter University events particularly in Basketball, Shooting ball, Squash, Table Tennis, Badminton, Athletics, Cricket, Football, Hockey, Tug of War, Handball, Malh, Chess, Tennis etc. In addition coaching camps for the training of students/players are arranged game wise, the selection of the university sports teams is purely consist on merit and performance of the layers. The sports Material for playing games on behalf of this university will be provided by the directorate of sports.

This University also provides sports material to all the hostels through the Provost Hostels for daily practice. This university organizes Inter University Sports Events between 03-04 universities under its own objectives.

These sports are organized and managed by the Directorate of Sports, which is headed by:

**Engr. Najeeb-ur-Rehman Channa**
Director Sports,
Phone: 0221-771530, Mobile: 0300-9373574

### 7.7. Financial Aid:

Student Financial Aid Office (SFAO): **(Established in August, 2006)**

Many of students are admitted in this University from various rural community areas and they belong to poor or middle class families, while it is noted that today's expenditures on education have become very high, consequently it is difficult for them to pursue their education due to financial constraints.

Mehran University of Engineering and Technology, Jamshoro by realizing the continuous rise in educational exposes, has taken initiative for providing financial relief to meritorious and deprived students with the financial assistances/need based scholarship programs. In this regards, Mehran University of Engineering & Technology established the "Student Financial Aid Office" (SFAO) in August 2006, to elevate the socio-economic position of the needy & deserving students by providing access to quality education through Need-based and Merit Scholarships.

Now all Scholarships/financial Aid Cases are routed through Student Financial Aid Office (SFAO). A centralized record of all students getting any Financial Aid is kept in the Student Financial Aid Office (SFAO).

Persons to be contacted: **Prof. Dr. Tauha Hussain Ali**
Focal Person SFAO

**Mr. Kashif Usman Dars**
Assistant Director, (SFAO)
Phone # + 92 22 2772701
Fax # + 92 22 2771274
Email: Kashif.dars@admin.muet.edu.pk

### 7.8 Directorate of Industrial Liaison

A Directorate of Industrial Liaison has been established in the University to facilitate the organization of industrial/ field training for the students of the University. In addition to arranging the practical training for the undergraduate students, the Directorate of Industrial Liaison also performs the following functions.

- To collaborate with the industries for identifying their problems and attempting to solve them through efforts of experienced and qualified professors of the University.
- To arrange exchange of technical staff between the University and industry for the mutual; benefit of the both.
- To guide and supply information to the final year students regarding their possible employment in the industrial/commercial sector.
- To arrange internships during summer and winter vacations for the students.

Further information may be obtained from: **Dr. Muhammad Moazam Baloch**
Director,
Industrial Liaison,
Ph: 022-2771425

### 7.9 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.

**Prof. Dr. Khan Muhammad Brohi**
Director, Institute of Environmental Engg. & Management,
**Advisor Students' Affairs**
Phone 0222772753

**Prof. Tahseen Hafiz**
Chairman, Department of Software Engg.
Deputy Advisor Students' Affairs,

**Prof. Ghulam Abbas Mahar**
Assistant Professor,
Department of Basic Sciences & Related Studies,
Deputy Advisor Student' Affairs

**Prof. Hafiz Arshad Ali Memon**
Assistant Professor,
Department of Civil Engineering
**Deputy Advisor Students' Affairs**

### 7.10 Other Directorates and Institutes

There are a number of other Directorates and Institutes, which are not directly involved in teaching or other aspects of the undergraduate program. Nevertheless, they perform important functions and the faculty members are usually shared between these institutes/directorates and the undergraduate programs. Therefore, they are an important linkage for the various programs of the University and are briefly described below.

#### 7.10.1 Directorate of Postgraduate Studies

This Directorate was first established in the University in 1978, to design and organize postgraduate studies in the University. At present, postgraduate programs leading to Masters and PhD degrees in Architecture, Civil Engineering, City & Regional Planning, Chemical Engineering, Construction Management, Energy Systems Engineering, Geotechnical and Highway Engineering, Industrial Engineering & Management, Metallurgy and Materials Engineering, Manufacturing Engineering, Mechanical Engineering, Mining Engineering, Structural Engineering and Textile Engineering are offered by this directorate. A separate prospectus is published for the postgraduate studies and can be obtained from:

**Prof. Dr. Khanji Harijan**
Director, Postgraduate Studies
Phone: 022-2771214
E-mail: director.pgs@admin.muet.edu.pk

#### 7.10.2 Institute of Water Resources Engineering and Management

Since irrigation plays a crucial role in the agriculture sector through out Pakistan, and particularly in Sindh province. The above named Institute was established in 1987 to cater for specialized needs of the water resources engineering and management. The Institute offers full-time (morning and evening) programs for degrees of M.E., M.Phil. and Ph.D. Further information in this regard may be obtained from:

**Prof. Dr. Bakhshal Khan Lashari**
Director,
Institute of Water Resources Engineering & Management,
Phone: 022-2771226
E-mail: bakhshall@yahoo.com
bakhshal.lashari@faculty.muet.edu.pk

### 7.10.3 Institute of Environmental Engineering and Management

#### INTRODUCTION

Environment is now a global issue and it is deteriorating day by day. If protective measures are not addressed, the global economy would be adversely affected. World wide Ozone depletion and disposal of Waste are big issued which need to be solved by producing qualified Environmental Engineers. Pakistan is a developing country and relies on Agro-based industry that now faces competition under the umbrella of world trade Order (WTO). As per WTO, it certifies to those products, which must be ISO 9000 and ISO 14000.

Pakistan requires trained personnel needed to be dealt with Environmental Management System in which they be made skillful in Water Engineering, Wastewater Engineering, Solid waste Management and Air pollution and Control Equipment. Altogether 12 courses are designed which make student capable to make himself an environmental engineer. IEEM has very good faculty in the University and offers PGD/ME in Environmental Engineering meanwhile; M.Phil by research can be obtained as per rule and regulations.

#### VISION

To produce Environmentalists who share their skill in the establishment of Environmental Management system in all Industries, Agricultural Land, Irrigation and Drainage infrastructures, Communication network systems and Rural-Urban Utilities to enter in the development of 21st Century goal of making national Economy as per World Trade Organization (WTO) requirements.

#### OBJECTIVES

To produce undergraduate/post Graduate/Masters level students skillful by achieving the following goals to become useful for re-construction of National Environmental Economy.

1. For making Water potable, learning methodologies of Water Treatment Plant, water-softening techniques Osmosis techniques shall be procured.

2. For making safe Disposal of wastewater from various developments, learning methodologies of Wastewater treatment technologies; like Wastewater treatment Plant, evaporation Ponds, Oxidation Ponds and in addition the design of Pipe network systems shall be procured.

3. For removing the solid Waste Problem in cities, industries, town and rural areas, a very comprehensive learning methodologies can be extended; like understanding the Generation, Collection, transferring and disposal techniques of Municipal Solid Waste, Industrial Waste and Hospital Waste.

4. To make efforts to clean the Atmosphere, the learning methodologies; like understanding air pollutants and the design of Air pollution Control equipment shall be procured.

5. To make student capable to design the project in which he shall learn implementation of Environmental Management System under the Umbrella of ISO-14000, Environmental Impact assessment and Strategic Environmental assessment.

More details about the course and other activities of the Institute may be obtained from:

**Prof. Dr. Khan Muhammad Brohi**
Director,
Institute of Environmental Engineering & Management
Phone: Off. 022-2772250 Ext. 7300

**Prof. Dr. Rasool Bux Mahar**
Co-Director.
Phone Off. 022-2772250 Ext: 7303

### 7.10.4 Publication Section

This Section publishes a quarterly journal titled "Mehran University Research Journal of Engineering & Technology". This journal is being published since 1982 without any interruption and is registered with ISSN. It is recognized internationally and is being abstracted by many national and international agencies. Further information may be obtained from:

**Prof. Dr. Abdul Qadeer Khan Rajput**
Chief Editor,
Publication Section
Phone: 022-2772274-76

### 7.10.5 Directorate of Continuing Education

**Core Objectives**

Arrange short courses to keep Engineers updated with latest developments in their respective Engineering Fields, Management science and Information Technology.

Organize lectures/seminars/ workshops by speakers within the University and out of the University for Engineers to enhance their skills with the objective to improve their further employment opportunities.

Offer structures programs in various disciplines for engineers who are unable to obtain formal admission in Masters Degree program but can acquire necessary credit hours by attending such evening/morning programs while in service.

Develop linkage with different academic & industrial organizations within and outside the country where new developments are taking place.

Further information may be obtained from:

**Prof. Dr. Hafeez-ur-Rahman Memon**
Director,
Directorate of Continuing Engineering Education
Telephone No. 022-2772280
Fax: 022-2771653
E-mail: hafeez.memon@faculty.muet.edu.pk

### 7.10.6 Membership of the University with:

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

**7.10.7 The University has signed Memorandum of Understanding with the following Foreign Universities/ Institutes during the years 2004-2012.**

| S.No. | Name of the Institute | Date of Agreement | Period |
|---|---|---|---|
| 1. | University of Nottingham, U.K (Original) | 28.4.2005 | 5 Years |
| | University of Nottingham, U.K (this revised agreement applies to the University of Nottingham's campuses in the United Kingdom, china & Malaysia) | 30.9.2011 | 5 Years |
| 2. | Montan Universitaet, Leoben, Republic of Austria | 07.06.2005 | 5 Years |
| 3. | University of Leeds, U.K. | 28.6.2005 | No time limit |
| 4. | Colorado State University, Fort Collins, Colorado, USA | 15.08.2005 | 5 Years |
| 5. | Kyushu Institute of Technology, Japan | 27.10.2005 | 5 Years |
| 6. | University of Central Florida, USA | 23.08.2006 | 2 Years |
| 7. | Middle East Technical University Ankara, Turkey | 13.09.2006 | No time limit |
| 8. | Pakistan Space & Atmosphere Research Commission (SUPARCO), Karachi, Pakistan | 27.02.2007 | No time limit |
| 9. | University of Illinois, at Urbana, Champaign, USA | 28.03.2007 | 3 Years |
| 10. | University of Exeter, U.K | 31.03.2007 | 2 Years |
| 11. | Aalborg University Esbgerg, Denmark | 09.06.2007 | No time limit |
| 12. | Benazir Bhutto Shaheed Youth Development Program, Works & Services Department, Government of Sindh, Pakistan | 28.07.2008 | 31.12.2008 |
| 13. | University of Southampton, U.K | 06.08.2008 | 5 Years |
| 14. | Asian Institute of Technology (AIT), Bangkok, Thailand | 15.08.2008 | 5 Years |
| 15. | University of Bedfordshire, UK | 20.11.2008 | No time limit |
| 16. | Benazir Bhutto Shaheed Youth Development Program, Irrigation & Power Department, Government of Sindh, Pakistan. | 12.01.2009 | No time limit |
| 17. | University of Pittsburgh, Pennsylvania, USA | 16.07.2009 | 2 Years |
| 18. | Global University, Beirut, Lebanon | 26.10.2009 | 3 Years |
| 19. | Faculty of Engineering, University of Southern Denmark, Denmark | 27.10.2009 | 5 Years |
| 20. | City University, London, UK (Original) | 07.12.2009 | One Year |
| | City University, London, UK (Original) | 05.10.2011 | One Year |
| 21. | The United States Educational Foundation in Pakistan, Islamabad | 11.12.2009 | No time limit |
| 22. | Charles Sturt University, Australia | 18.06.2010 | No time limit |
| 23. | Isra University, Hyderabad, Sindh, Pakistan | 16.08.2010 | No time limit |
| 24. | Alborg University, Center for Teleinfrastruktur (CTIF), Denmark | 05.11.2010 | 5 Years |
| 25. | Pakistan Council of Scientific & Industrial Research, Islamabad | 28.01.2011 | 3 Years |
| 26. | Brunel University, West London, UK. | 31.03.2011 | 3 Years |
| 27. | Technische Universitat Darmstadt, Germany | 20.08.2011 | 5 years |
| 28. | University of Malaya, Malaysia | 20.09.2011 | No time limit |

# 8. MEHRAN UNIVERSITY ENGINEERING & TECHNOLOGY, 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 gape, the Government of Sindh vide its notification No. SO(C-IV) SGA&CD/4-29/09 dated 2nd April, 2009, established a constituent College of Mehran University of Engineering and technology, Jamshoro named as Mehran University College of Engineering & Technology, Khairpur Mir,s. The college has been further upgraded as Campus of MUET, Jamshoro vide Notification No.Estt(Teach:)/-30 of 2013 dated 19-02-2013.The MUET, Khairpur Mir's Campus is offering Bachelor of Engineering Degree in four disciplines viz: Civil Engineering, Electrical Engineering, Mechanical Engineering and Petroleum & Natural Gas Engineering.

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 four undergraduate disciplines is 240 out of which 80 candidates are admitted under the self finance scheme. Mehran University of Engineering & Technology Khairpur Mir's campus offers undergraduate programme in four disciplines, viz. Civil Engineering, Mechanical Engineering, Electrical Engineering and Petroleum & Natural Gas Engineering. Being a constituent 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 are practiced by the university.

The campus headed by the Pro-Vice Chancellor is working under the administrative and academic control of Mehran University of Engineering & Technology Jamshoro.

## 8.2. Officers of the Campus

| | | |
|---|---|---|
| 1. | Pro-Vice Chancellor<br>MUET, Khairpur Campus | **Engr. Ghulam Sarwar Kandhir** |
| 2. | Associate Professor/Chairman<br>Civil Engineering Department | **Dr. Kanya Lal** |
| 3. | Assistant Professor/In-charge Chairman<br>Mechanical Engineering Department | **Dr. Sadiq Ali Shah** |
| 4. | Assistant Professor/In-charge Chairman<br>Electrical Engineering Department | **Mr. Nayyar Hussain Mirjat** |
| 5. | Lecturer/In-charge Chairman<br>P & NG Engineering Department | **Mr. Imran Ali Memon** |
| 6. | Lecturer/In-charge Chairman<br>Basic Sciences & Related Studies | **Mr. Kaleemullah Bhatti** |
| 7. | Assistant Controller Examination | **Mr. Waseem Ahmed Bhatti** |
| 8. | Assistant Director Finance | **Mr. Waqas Ali Channa** |
| 9. | Sr. workshop instructor/In-charge Transport | **Mr. Muhammad Memon** |
| 10. | Assistant Librarian | **Mr. Allah Bachayo Memon** |
| 11. | In-charge Establishment | **Mr. Imtiaz Ali Solangi** |
| 12. | Assistant Director QEC/In-charge MIS | **Mr. Faiq Gul Memon** |
| 13. | Instructor Sports | **Mr. Asif Hussain Shah Jillani** |
| 14. | Estate cum Security Officer | **Mr. Nadeem Ahmed Sarhandi** |

### 8.3. Fields of study and teaching faculty.

Mehran University of Engineering and Technology, Khairpur Mir's campus offers courses leading to Bachelors' degrees in the following disciplines. All the four Degrees are in Engineering and are titled Bachelor of Engineering…(Name of field); e.g B.E Civil. The names of all the undergraduate disciplines are also given below: The Electronic Engineering shall likely to be introduced and its 1st batch shall be admitted from 2014.

1. Civil Engineering
2. Electrical Engineering
3. Mechanical Engineering
4. Petroleum & Natural Gas Engineering

Presently the following faculty is involved in the teaching of the above disciplines:

#### Civil Engineering Department

| | | | |
|---|---|---|---|
| 1. | Associate Professor/Chairman | Dr. Kanya Lal | |
| 2. | Assistant Professor | Mr. Syed Naveed Raza Shah | (on study leave abroad) |
| 3. | Lecturer | Mr. Ghulam Shabir Solangi | |
| | | Mr. Shahbaz Ali Shah | |
| | | Mr. Abdul Razzaque | |
| | | Mr. Aurangzeb Memon | |
| | | Mr. Raja Oadh | |
| | | Ms. Rabia Soomro | |
| | | Mr. Abdul Qayoom Memon | |
| | | Mr. Sanjay Kumar | |

#### Electrical Engineering Department

| | | | |
|---|---|---|---|
| 1. | Assistant Professor/In-charge Chairman | Mr. Nayyar Hussain Mirjat | |
| 2. | Lecturer | Mr. Muhammad Rafique Naich | (on study leave abroad) |
| | | Mr. Arsalan Ansari | (on study leave abroad) |
| | | Mr.Ahsanullah Memon | |
| | | Mr. Sajid Hussain Qazi | |
| | | Mr. Taoqeer Ahmed Jumani | |
| | | Mr. Shakir Ali Soomro | |
| | | Mr. Fida Hussain Memon | |
| | | Mr. Khurram Bughio | |
| 3. | Professor (Retd) (on contract basis) | Agha Zafarullah Pathan | |
| 4.. | Lecturer (on contract basis) | Ms. Kalsoom Baghat | |

### Mechanical Engineering Department

| | | |
|---|---|---|
| 1. | Assistant Professor/In-charge Chairman | Dr. Sadiq Ali Shah |
| 2. | Assistant Professor | Mr. Muhammad Ali Abro |
| 3. | Lecturer | Mr. Aqeel Ahmed Bhutto<br>Mr. Jahanzaib Soomro<br>Mr. Bilawal Ahmed Bhayo<br>Mr. Osama Qasimi<br>Mr. Aurang Zeb Wadho<br>Mr. Ali Anwar Brohi (on study leave abroad)<br>Mr. Abdul Ahad Noohani<br>Mr. Talib Hussain Ghoto |

### Petroleum & Natural Gas Engineering Department

| | | |
|---|---|---|
| 1. | Lecturer/In-charge Chairman | Mr. Imran Ali Memon |
| 2. | Lecturer | Mr. Arshad Ahmed Lashari (on study leave abroad)<br>Mr. Asadullah Memon<br>Mr. Faisal Memon<br>Mr. Bilal Shams Memon<br>Mr. Sunder Sham Jeswani<br>Mr. Adnan Aftab Nizamani<br>Mr. Abdul Samad Shaikh<br>Mr. Pervez Anwar Tanwari |

### Basic Sciences & Related Studies Department

| | | |
|---|---|---|
| 1. | Lecturer, Mathematics/In-charge Chairman | Mr. Kaleemullah Bhatti |
| 2. | Lecturer, Mathematics | Mr. Nek Muhammad Katbar<br>Mr. Sanaullah Memon |
| 3. | Lecturer, English | Mr. Ashfaque Hussain Soomro |
| 4. | Lecturer, Islamic Studies | Mr. Hadi Bux Chijjan |
| 6. | Lecturer, Pakistan Studies | Mr. Jalil Ahmed Chandio |
| 7. | Lecturer, Mathematics (on contract basis) | Mr. Abdul Majid Indher<br>Mr. Mansoor Ali Bhagat |
| 9. | Lecturer, English (on contract basis) | Ms. Quratulain Talpur |

### Lab Facilities

Following state of the art labs have been established at the campus in each of academic department to cater the practical/ experiential requirements of each program offered.

#### 1. Civil Engineering Department

- Surveying Lab
- Concrete Laboratory
- Hydraulic and Fluid Mechanics Lab
- Computer Lab

#### 2. Electrical Engineering Department

- Basic Electrical Engineering
- Electrical Machines Lab
- Computer Lab.
- Power Electronics Lab.
- Instrumentation and Control
- Basic/ Applied Electronic Lab

**3. Mechanical Engineering Department**

- Engineering Statics Laboratory
- Workshop
- Fluid Mechanics
- Material Testing Lab
- Mechanics of Machine Lab
- Thermodynamics Laboratory

**4. Petroleum & Natural Gas Engineering Department**

- Reservoir Lab / PVT Lab
- Drilling & Production Lab
- Gas Laboratory
- Oil Testing Lab

### 8.4. ICPC (Information and Communication Processing Centre)

All the sections of the campus are linked through ICPC Service which provides high-speed communications, e-mail, intercom and internet service.

### 8.5. Transport Facilities.

The campus provides transport service to the students, faculty and staff along the three routes, viz. Sukkur-Khairpur Mir's, Ranipur-Khairpur Mir's, Pir Jo Goth-Khairpur Mir's, Pano Aqil-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.

### 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 has a total 6000 of books for all the disciplines which adequately meet the requirement of the offered programs. A new building of the Central Library is also under construction which shall be completed by end of year 2013.

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

| | | | |
|---|---|---|---|
| 1. | Boys Hostels | - | 06 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. | | |
| 8. | Internal Road Network and other allied facilities. | | |

The construction work of main gate, compound wall and road network has been started. The work for boys hotels shall be started during this year and shall be completed by December 2014.

# 9. 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 notice. The number of seats is fixed as per table 9.6.1. There are other categories of candidates who are also eligible for admission, which are described in detail in the subsequent sections.

(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 notice. However, if any admitted student desires to seek admission in any discipline under Self Financing Scheme, Bio-Medical Engineering Scheme and Special Scheme, 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 Self Financing Scheme, Bio-medical Engineering Scheme and Special Scheme, if apply 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 admissions and all payments made to the University shall be forfeited in favour of the University.

## 9.2 Eligibility for Admission

(i) The candidates who have passed the Higher Secondary School Certificate (HSC/HSSC) Pre-Engineering Examination or equivalent with Physics, Chemistry and Mathematics in Annual Examination **2013** or earlier upto Annual Examination of **2011** and have secured at **least 60% marks or B-Grade** 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 **2013** or earlier upto Annual Examination of **2011** and have secured at **least 60% marks or B-Grade** 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 the above examinations or equivalent examinations before Annual Examination **2011** shall not be eligible for admission.

(ii) Candidates who have passed three years diploma from a recognized Board of Technical Education in Pakistan in an approved discipline (Civil, Electrical, Mechanical, Electronics, Chemical, Glass & Ceramics, Petroleum and Architecture Technology) in Annual Examination **2013** or earlier upto Annual Examination **2011** and have secured at **least 60% marks** 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 **2011** 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 would 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 Application Form for Admission

Call for admissions, is advertised in the prominent regional, national newspapers as well as on website www.muet.edu.pk the candidates are required to obtain application forms from designated Banks in various cities and towns on payment of prescribed fees and are asked to deposit them with the same banks within the announced due date. These application forms are then sent to the Mehran University where they are scrutinized and the in-eligible applications are rejected. After this scrutiny, all the eligible candidates are sent admission slips for entry to the Pre-admission Test. **(The candidates are required to fill up the prescribed application form in their own hand writing carefully; specially, while writing the prioritized choices of the disciplines. Choices mentioned in the admission form can only be changed at the time of Interview before the Admission Committee. If all priorities are not mentioned by the candidates in the Admission form he/she will not be considered for admission**

**against left over seats).** If any student after seeking admission in lower choice of discipline is satisfied with the same, he/she may submit an application within three days from the date of issuance of such list that he/she is satisfied with the discipline awarded to him/her, and his/her discipline may not be changed further. If such application is not received the Admission Committee may change them as per their choice and vacancies and this change shall be binding on them.

The discipline would be awarded strictly on merit and on the basis of available seats in urban /rural area of each district of Domicile/PRC against which they have applied keeping in view the prioritized choices of the candidate. Since the application form is a legal document any wrong information provided there-in, over-writing or tampering in any other way is illegal and may result in rejection of the form outright.

The candidates are advised to submit the attested photo-stat copies of all the required certificates and **recent taken photographs** as indicated in the application form.

### 9.4 Pre-admission Test

In accordance with the policies adopted by the Federal as well as Provincial Government of Sindh all the eligible candidates applying under any category are now required to appear in the Pre-admission Test organized by the University.

Candidates having secured less than **40% marks (with no negative marking)** in 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, multiplying them 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 (Science group) (Matriculation): | 0.10 |
| **B** | Higher Secondary School Certificate Pre-Engg./ General Science group) or equivalent adjusted marks*: | 0.40 |
| **C** | Pre-admission Test | 0.50 |

For example, if a candidate has secured 70% marks in SSC, 65% marks in HSSC and 50% marks in pre-admission test; his/her CPN would be given by:

CPN = 70*0.1+65*0.4+50*0.5 = 7+26+25 = 58 (Percent)

*Adjusted marks means marks secured in HSSC examination plus additional marks if any, as defined in clause 9.10, minus marks to be deducted as defined in clause 9.11.

**Note:** All nominees local/foreigners should submit the result of SAT, UET's, 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 will 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 is prepared for each district/ category and a number of candidates are called for interview before the Admission Committee. The interviews are held at Mehran University, Jamshoro on the dates as announced in the newspapers and also on Website www.muet.edu.pk. This number of candidates called for interview is usually much higher than the seats available in a given district or category.

The candidates are also required to bring their original certificates for verification particularly the following five certificates.

(i) Marks Sheet of SSC (Matriculation)

(ii) Marks Sheet of HSSC Intermediate (Pre-Engg. /General Science Group) (in case change of group from Pre-Medical to Pre-Engg. Marks sheet of Pre-medical Group).

(iii) Domicile Certificate of candidate/guardian

(iv) PRC on 'C' Form of candidate

(v) National Identity Card/B-form (as applicable)

Those candidates appearing for interview before the Admission Committee are short of few original documents, they must submit their original documents within three days after their interview, failing which their names will be struck off from the merit list of the concerned district/ category. A notice for short of original documents shall be given to candidate at he time of interview for submission of documents upto three days.

The names of those candidates, who failed to appear for the interview before the Admission Committee on the scheduled date and time shall be deleted from the merit list of the concerned district/category and they shall not be considered for the admission. Thus their absence from the interview shall amount to forfeiture of their right of admission. However, in case if any intimation ***in* writing** is received ***by the Director Admissions,*** their names shall be kept in pending till the preparation of first list.

## 9.6 Distribution of Seats

The distribution of seats for admissions are made strictly 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. 24 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, Khairpur Mir's Campus** will be given on quota basis for the urban and rural areas. However, the award of discipline shall be given on the basis of joint merit in the districts. The number of seats allocated to each district in various disciplines and for other categories is given in Table 9.6.1 and 9.6.4 below, while the number of seats for each district/division in Sindh province (urban/rural areas) are shown in Table 9.6.2 and 9.6.5. In Table 9.6.3, description is provided concerning various categories candidates seeking admission.

### 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 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A.1 | Sukkur | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 23 |
| | Ghotki | 0 | 0 | 0 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 3 | 1 | 2 | 1 | 2 | 1 | 1 | 25 |
| | Khairpur | 1 | 1 | 1 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 1 | 1 | 41 |
| | S. Benazirabad | 0 | 0 | 0 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 28 |
| | N.Feroze | 0 | 1 | 0 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | 28 |
| A.2 | Larkana | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 30 |
| | Kamber/Shahdadkot | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 27 |
| | Shikarpur | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 26 |
| | Jacobabad | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 27 |
| | Kashmore | - | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | 1 | 16 |
| A.3 | Hyderabad | 7 | 8 | 9 | 6 | 8 | 7 | 7 | 2 | 4 | 4 | 3 | 4 | 4 | 5 | 5 | 3 | 1 | 87 |
| | Matiari | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 30 |
| | T. M. Khan | 3 | 4 | 3 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 31 |
| | T.Allahyar | 2 | 2 | 4 | 1 | 2 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 28 |
| | Dadu | 5 | 6 | 7 | 4 | 5 | 5 | 6 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 4 | 2 | 1 | 64 |
| | Jamshoro | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 35 |
| | Thatta | 7 | 6 | 7 | 4 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 2 | 1 | 68 |
| | Badin | 7 | 7 | 8 | 4 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 2 | 1 | 69 |
| A.4 | Mirpurkhas | 5 | 7 | 6 | 3 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 1 | 55 |
| | Umarkot | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 40 |
| | Tharparkar | 5 | 6 | 6 | 4 | 4 | 4 | 4 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 1 | 56 |
| | Sanghar | 8 | 8 | 8 | 6 | 6 | 7 | 7 | 3 | 4 | 4 | 3 | 5 | 4 | 4 | 5 | 3 | 1 | 86 |
| A.5 | Karachi | - | - | - | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | - | 1 | - | 2 | - | 1 | 21 |
| B | Dip. Holders | 2 | 2 | 2 | 4 | - | - | - | 4 | - | - | - | 4 | 1 | - | - | - | - | 19 |
| C | MUETE | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 40* |
| 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 | - | - | - | - | 02 |
| D.4 | FATA | - | 1 | - | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - | 02 |
| D.5 | UET-Lahore | 1 | - | - | - | - | - | - | 2 | - | - | - | - | - | - | - | - | - | 03 |
| D.6 | UET-Taxila | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 01 |
| D.7 | NWFP-UET,Peshawar | 1 | - | 1 | - | - | - | - | - | - | - | - | - | 1 | - | - | - | - | 03 |
| D.8 | Govt. of KPK | - | - | - | - | - | - | - | - | - | - | - | - | 1 | - | - | - | - | 01 |
| D.9 | Govt. of Punjab | - | - | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - | - | 01 |
| D.10 | N.Area | 1 | - | - | - | 1 | - | - | - | - | - | - | - | - | - | - | - | - | 02 |
| D.11 | GHQ | 3 | 2 | 2 | - | 1 | - | - | - | - | - | - | - | - | - | - | - | - | 08 |
| D.12 | Federal C.Area | - | - | - | - | - | - | - | - | - | - | - | - | 1 | - | - | - | - | 01 |
| | **Total** | **79** | **78** | **80** | **74** | **77** | **77** | **77** | **53** | **50** | **50** | **51** | **50** | **54** | **50** | **60** | **30** | **23** | **1053** |

*Maximum 12 admissions in any discipline except Biomedical Engg. shall be allowed but total admissions shall not exceed 40 seats.

**Explanation of Abbreviations**

| | | | |
|---|---|---|---|
| **CE** | Civil Engineering | **TL** | Telecommunication Engg. |
| **MT** | Metallurgy & Materials Engg. | **EL** | Electrical Engineering |
| **SW** | Software Engineering | **PG** | Petroleum & Nat. Gas Engg. |
| **ME** | Mechanical Engineering | **CH** | Chemical Engineering |
| **AR** | Architecture | **ES** | Electronic Engineering |
| **IN** | Industrial Engg. & Management | **CRP** | City & Regional Planning |
| **CS** | Computer Systems Engineering | **MN** | Mining Engineering. |
| **TE** | Textile Engineering. | **EE** | Environmental Engineering |
| **BM** | Biomedical 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 | 09 | 14 | 23 |
| | Ghotki | 03 | 22 | 25 |
| | Khairpur | 04 | 37 | 41 |
| | Shaheed Benazirabad | 04 | 24 | 28 |
| | Naushehro Feroze | 02 | 26 | 28 |
| **TOTAL** | | **22** | **123** | **145** |
| A.2 | Larkana | 09 | 21 | 30 |
| | Shahdadkot | 03 | 24 | 27 |
| | Shikarpur | 04 | 22 | 26 |
| | Jacobabad | 04 | 23 | 27 |
| | Kashmore | 02 | 14 | 16 |
| **TOTAL** | | **22** | **104** | **126** |
| A.3 | Hyderabad | 73 | 14 | 87 |
| | Matiari | 02 | 28 | 30 |
| | Tando Muhammad Khan | 04 | 27 | 31 |
| | Tando Allahyar | 05 | 23 | 28 |
| | Dadu | 09 | 55 | 64 |
| | Jamshoro | 03 | 32 | 35 |
| | Thatta | 02 | 66 | 68 |
| | Badin | 06 | 63 | 69 |
| **TOTAL** | | **104** | **308** | **412** |
| A.4 | Mirpurkhas | 11 | 44 | 55 |
| | Umerkot | 00 | 40 | 40 |
| | Tharparkar | 00 | 56 | 56 |
| | Sanghar | 13 | 73 | 86 |
| **TOTAL** | | **24** | **213** | **237** |
| A.5 | Karachi Division | —— | —— | **21** |
| **GRAND TOTAL** | | | | **941** |

**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.3 and A.4. The domicile for admission of diploma holders in Electronics, Petroleum and 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 (serving or retired, deceased, on lien or working on deputation with other Institutions) shall be considered for admission to first year class against the reserved seats on the following criteria:<br><br>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.<br><br>ii. Second preference will be given to real sons/daughters of employees who are confirmed in the University service and have less than three years University service at their credit.<br><br>iii. Third 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.<br><br>iv. Fourth 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.<br><br>v. Fifth preference will be given to real brothers/sisters of employees who are confirmed in the University service and have less than three years University service at their credit.<br><br>vi. Sixth preference will be given to real brothers/sisters of employees who are not confirmed in the University service but have at least three years continuous University service at their credit.<br><br>vii. Seventh preference will be given to real sons/daughters of employees who are not confirmed in the University service and have less than three years University service at their credit.<br><br>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 University service at their credit.<br><br>**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 employee must be attached with the admission form. | **40** |

| 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 the Higher 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 Ministry of Education, Government of Pakistan, Islamabad. | 02 |
| D.4 | Candidates belonging to Federally Administered Tribal Area, nominated by the State and Frontier Region Division, Government of Pakistan, Islamabad. | 02 |
| D.5 | Candidates domiciled in Punjab Province, nominated by the UET Lahore through Education Department, Government of Punjab. | 03 |
| D.6 | Candidate domiciled in Punjab Province, nominated by the UET Taxila through Education Department, Government of Punjab. | 01 |
| D.7 | Candidates domiciled in Khyber Pakhtoon Khowah Province, nominated by NWFP UET Peshawar through the Education Department, Government of Khyber Pakhtoon Khowah . | 03 |
| D.8 | Candidate domiciled in Khyber Pakhtoon Khowah Province, nominated by the Education Department, Government of Khyber Pakhtoon Khowah. | 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 Ministry of Education, Government of Pakistan, Islamabad. | 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 |
| **Total Seats Including Districts Quota** | | **1053** |

**Table 9.6.4: Distribution of Seats for various Districts and Disciplines at Mehran University Engineering and Technology, SZAB, Khairpurmir's Campus.**

| Category | Description | Number of Seats | | | | |
|---|---|---|---|---|---|---|
| | | Discipline | | | | |
| | | CE | EL | ME | PG | Total |
| A-1 | Sukkur | 03 | 04 | 04 | 03 | 14 |
| | Ghotki | 04 | 04 | 04 | 03 | 15 |
| | Khairpur | 06 | 05 | 05 | 05 | 21 |
| | S.Benazirabad | 04 | 04 | 04 | 04 | 16 |
| | Naushahro Feroze | 04 | 04 | 04 | 04 | 16 |
| A-2 | Larkana | 03 | 03 | 03 | 02 | 11 |
| | Kambar/Shahdadkot | 02 | 03 | 03 | 02 | 10 |
| | Shikarpur | 02 | 02 | 02 | 03 | 09 |
| | Jacobabad | 02 | 03 | 03 | 02 | 10 |
| | Kashmore | 02 | 02 | 01 | 01 | 06 |
| A-3 | Hyderabad | 02 | 02 | 02 | 01 | 07 |
| | Matiari | 00 | 00 | 01 | 01 | 02 |
| | T.M. Khan | 00 | 01 | 00 | 01 | 02 |
| | T. Allahyar | 01 | 01 | 00 | 00 | 02 |
| | Dadu | 01 | 01 | 01 | 02 | 05 |
| | Jamshoro | 01 | 01 | 00 | 01 | 03 |
| | Thatta | 01 | 01 | 01 | 02 | 05 |
| | Badin | 01 | 01 | 01 | 02 | 05 |
| A-4 | Mirpurkhas | 01 | 01 | 01 | 01 | 04 |
| | Umerkot | 01 | 00 | 01 | 01 | 03 |
| | Tharparkar | 01 | 01 | 01 | 01 | 04 |
| | Sanghar | 02 | 01 | 02 | 02 | 07 |
| A-5 | Karachi | 01 | 00 | 01 | 01 | 03 |
| C | MUET Khairpur Mir's Campus | 01 | 01 | 01 | 01 | 04 |
| **TOTAL** | | **46** | **46** | **46** | **46** | **184** |

Explanation of Abbreviations

**CE** Civil Engineering
**EL** Electrical Engineering
**ME** Mechanical Engineering
**PG** Petroleum & Natural Gas Engg.

**Table 9.6.5: Distribution of Seats for urban and rural areas of the districts in Sindh Province, Mehran University of Engineering & Technology, SZAB, Khairpurmir's Campus (Category-A) and (Category-C).**

| Category | Districts | Number of Seats | | |
|---|---|---|---|---|
| | | **Urban Areas** | **Rural Areas** | **Total Seats** |
| A.1 | Sukkur | 05 | 09 | 14 |
| | Ghotki | 01 | 14 | 15 |
| | Khairpur | 03 | 18 | 21 |
| | Shaheed Benazirabad | 03 | 13 | 16 |
| | Naushehro Feroze | 01 | 15 | 16 |
| **TOTAL** | | **13** | **69** | **82** |
| A.2 | Larkana | 04 | 07 | 11 |
| | Shahdadkot | 01 | 09 | 10 |
| | Shikarpur | 01 | 08 | 09 |
| | Jacobabad | 02 | 08 | 10 |
| | Kashmore | 01 | 05 | 06 |
| **TOTAL** | | **09** | **37** | **46** |
| A.3 | Hyderabad | 06 | 01 | 07 |
| | Matiari | 00 | 02 | 02 |
| | Tando Muhammad Khan | 00 | 02 | 02 |
| | Tando Allahyar | 00 | 02 | 02 |
| | Dadu | 01 | 04 | 05 |
| | Jamshoro | 00 | 03 | 05 |
| | Thatta | 00 | 05 | 05 |
| | Badin | 06 | 63 | 69 |
| **TOTAL** | | **07** | **24** | **31** |
| A.4 | Mirpurkhas | 01 | 03 | 04 |
| | Umerkot | 00 | 03 | 03 |
| | Tharparkar | 00 | 04 | 04 |
| | Sanghar | 01 | 06 | 07 |
| **TOTAL** | | **02** | **16** | **18** |
| A.5 | Karachi Division | —— | —— | **03** |
| C | Real Sons/Daughters/Brothers/Sisters of Employees of MUET, Khairpurmirs Campus. | —— | —— | **04** |
| **GRAND TOTAL** | | | | **184** |

## 9.7 Designation of Urban Areas of Sindh Province

The Urban areas designated in each district are given below.

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

### 9.8 Rectification of mistakes

The admission lists announced by the University are provisional and if any mistake is detected shall be rectified.

### 9.9 Admission of candidates who fail to deposit the admission fees within due date.

If any candidate fails to deposit admission fees within due date and his/her seat is allotted to another candidate in merit and at later stage if he/she reports for admission he/she may be considered for admission against the left over seats of his/her District/category as per his/her options before the closing date of admission.

### 9.10 Additional Marks

The candidates, who have a certificate of Hafiz-e-Quran on printed form from a registered Maderasah and clear the test of Hifz taken in the University, are also considered to have additional 20 marks to be added to the marks of HSSC.

### 9.11 Deduction of Marks due to gap in Education

In case of a gap or repetition of HSSC/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 the HSSC/Diploma examination or equivalent, for the purpose of determination of merit in each District/Category. This deduction is applicable whether the HSSC/Diploma examination had been repeated or the gap had occurred owing to any other reason.

### 9.12 Procedure for filling up Seats

Following shall be the procedure for admission based on the merit list prepared as stated in Clause 9.4

(a) In each district the rural and urban area seats are filled according to their quota given in Table 9.6.2 and Table 9.6.4..

(b) Any saving from the urban area seats of any district will be given to the rural area of the same district and vice-versa.

### 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 is not getting 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 Cancellation of Admission

The admission of a student admitted before the start of the classes, who remains absent continuously for three weeks from the date of start of classes of First Semester of First Year, without obtaining permission from Dean Faculty concerned through the Chairman/Director of concerned Department/Institute shall stand cancelled automatically without issuing any notice thereof.

### 9.15 Closing of Admissions

The admissions for the session will be made up to the end of FOURTH week from the date of start of 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 admission. The seats fallen vacant will not be filled-up.

### 9.16 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 and Technology, Lahore, on reciprocal basis. The candidates desiring to be considered for this nomination should give their intent in writing in the Admission Form as well as in the option form. The Mehran University authorities will make the final selection for this purpose.

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 UET Taxila is authorized to nominate one candidate for admission in Mehran University in the same discipline 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 NWFP University of Engineering & Technology, Peshawar on reciprocal basis. They will be required to pay Rs. 38000/- as educational expenses in addition to admission and other normal user charges at the time of admission to NWFP University of Engineering and Technology, Peshawar. Similarly the nominees of NWFP University of Engineering and Technology, Peshawar on reciprocal basis will be required to pay Rs. 38000/- as educational expenses in addition to admission and other normal user charges at the time to admission to Mehran University of Engineering and Technology, Jamshoro. The candidates desiring to be considered for this nomination should give their intent in writing in the admission form as well as in option form. The final selection for this purpose will be made by the Mehran University authorities.

### 9.17 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.

### 9.18 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.

### 9.19 Identity Card

The students, after getting admission at the university, will be issued university identity cards by the Chairman/ Director of the concerned department/Institute. 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.

### 9.20 Change of Discipline/Technology

No student shall be allowed to change his/her discipline/technology after the specified period as mentioned in clause 9.15.

### 9.21 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 their absence is not of 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 issue of re-admission letter. Such admissions may be made within four weeks from the date of start of classes of particular session. The application for re-admission shall be submitted through the chairman/chairperson/director of the concerned department/institutes to the Dean of the faculty concerned giving the cogent reasons.

## 9.22 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 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.

## 9.23 Fees

| | | | | |
|---|---|---|---|---|
| (i) | Fees payable at the time of admission | | | |
| | a) | Admission fee | (per year) | 5000.00 |
| | b) | Tuition fee | (per year) | 12000.00 |
| | c) | University caution money deposit | (refundable) | 2000.00 |
| | d) | Subject society/PERNfee | (once) | 500.00 |
| | e) | Games fee | (per year) | 500.00 |
| | f) | Developmental charges | (per year) | 1000.00 |
| | g) | Enrolment fee | (Once) | 500.00 |
| | h) | Marks verification fee | (once) | 500.00 |
| | i) | Transport charges | (per year) | 3000.00 |
| | | **Total:** | | **Rs. 25000.00** |
| (ii) | Biomedical Engineering | | | |
| | a) | Tuition fee | (per year) | 24000.00 |
| | b) | Enrolment fee | (once) | 500.00 |
| | c) | Marks verification fee | (once) | 500.00 |
| | d) | Transport charges | (per year) | 3000.00 |
| | | **Total:** | | **Rs. 28000.00** |
| **iii)** | **Semester Examination fees** | | | **Rs. 1000.00** |
| **iv)** | **Hostel fees** | | | |
| | a) | Admission fee | (once) | 1000.00 |
| | b) | Room deposit | (refundable) | 1000.00 |
| | c) | Identity card fee | (per year) | 100.00 |
| | d) | Room charges | (per year) | 3000.00 |
| | e) | Medical charges | (per year) | 100.00 |
| | f) | Sports charges | (per year) | 200.00 |
| | g) | Form fee | | 100.00 |
| | h) | Utility charges | (per year) | 500.00 |
| | i) | Transport charges | (per year) | 2000.00 |
| | | **Total:** | | **Rs. 8000.00** |

**Note:** The foreign students will be charged Rs.25,000.00 per year as room charges. The other fees will be the same as given above.

## 9.24 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, Khairpur Mir's Campus.

In the self financing scheme the admissions will be made on the basis of district quota as per **Table-9.24 (a) and (b)** at Mehran university of Engineering & Technology, Jamshoro and Mehran University of Engineering & Technology SZAB Khairpurmir's Campus, respectively. After the announcement of third list 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.

### 9.24.1 Eligibility

The eligible candidates should have:

i. Secured at least 60% marks or B-Grade in the HSSC (Pre-Engineering) examination for all disciplines and Intermediate (General Science Group for only four disciplines viz. Computer Systems Engineering, Software Engineering, Electronics Engineering and Telecommunication Engineering) or equivalent as recognized by the University and further explained in Section 9.2 under regular scheme.

ii. Appeared in Pre-admission Test and obtained at least **40% marks (with no negative marking)**.

iii. Produced domicile and PRC (Form-C) of Sindh Province.

### 9.24.2 Pre-admission Test

As prescribed in Section 9.4 under Regular Scheme.

### 9.24.3 Interviews

As prescribed in Section 9.5 under Regular Scheme.

### 9.24.4 Available Seats

Under this scheme the disciplines have been distributed in two categories i-e-category-I, Category-II and Category-III as below. The number of seats for each discipline is reserved on district basis and given in table 9.24(a) and 9.24(b).

**Category-I**

1. Civil Engineering
2. Electrical Engineering
3. Mechanical Engineering
4. Electronics Engineering
5. Civil Engineering (at KhairpurMir's)
6. Electrical Engineering (at KhairpurMir's)
7. Mechanical Engineering (at KhairpurMir's)

**Category-II**

1. Telecommunication Engineering
2. Petroleum & Natural Gas Engineering
3. Environmental Engineering
4. Chemical Engineering
5. Computer Systems Engineering
6. Software Engineering
7. Petroleum & Natural Gas Engineering (at KhairpurMir's)

**Category-III**

1. Industrial Engineering & Management
2. Textile Engineering
3. Architecture

### 9.24.5 University fees

Following fees are payable to the university by the candidates applying for admission under self-financing scheme:

**Category-I**

- Admission fee of Rs.700,000- (Rupees Seven hundred thousand only) in the form of Demand Draft prepared by any branch of Bank, in favour of 'Director Finance, Mehran University of Engineering & Technology, Jamshoro'. The draft in original be submitted along with the application form.

**Category-II**

- Admission fee of Rs.6,00,000- (Rupees Six hundred thousand only) in the form of Demand Draft prepared by any branch of Bank, in favour of 'Director Finance, Mehran University of Engineering & Technology, Jamshoro'. The draft in original be submitted along with the application form.

**Category-III**

- Admission fee of Rs.5,00,000- (Rupees five hundred thousand only) in the form of Demand Draft prepared by any branch of Bank, in favour of 'Director Finance, Mehran University of Engineering & Technology, Jamshoro'. The draft in original be submitted along with the application form.
- Other fees as payable under all categories of the regular scheme shall also be payable after the admission has been granted to the candidate.

**Table 9.24 (a) Distribution of Seats under Self Financing Scheme at Mehran University of Engineering and Technology, Jamshoro.**

| District | No. of seats allocated to each district under Self Financing Scheme | CE | EL | ME | ES | TL | PG | EE | CS | SW | CH | TE | IN | AR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hyderabad | 48 | 4 | 4 | 4 | 5 | 5 | 4 | 1 | 4 | 4 | 4 | 4 | 4 | 1 |
| Jamshoro | 20 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| Matiari | 17 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| T.M. Khan | 18 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| T.Allahyar | 16 | 2 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 1 | 1 | 2 | 1 | 1 |
| Thatta | 37 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 2 | 2 | 4 | 3 | 2 | 1 |
| Badin | 38 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 2 | 2 | 3 | 3 | 2 | 1 |
| Dadu | 37 | 4 | 4 | 4 | 3 | 3 | 4 | 1 | 2 | 2 | 4 | 2 | 3 | 1 |
| Umerkot | 23 | 2 | 3 | 2 | 3 | 2 | 3 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| Mirpurkhas | 31 | 3 | 2 | 3 | 2 | 2 | 3 | 1 | 3 | 3 | 3 | 2 | 3 | 1 |
| Tharparkar | 31 | 2 | 3 | 2 | 3 | 3 | 2 | 1 | 3 | 3 | 3 | 2 | 3 | 1 |
| Sanghar | 48 | 4 | 4 | 4 | 4 | 5 | 4 | 1 | 4 | 4 | 5 | 4 | 4 | 1 |
| Sukkur | 16 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 2 | 2 | 1 | 1 | 2 | 1 |
| Larkana | 18 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| S.B. Abad | 19 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| N. Feroze | 19 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Kambar/Shahdadkot | 16 | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 2 | 1 | 1 | 2 | 1 | 1 |
| Ghotki | 17 | 1 | 1 | 2 | 1 | 1 | 2 | 0 | 1 | 2 | 2 | 1 | 2 | 1 |
| Khairpur | 26 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 |
| Jacobabad | 16 | 1 | 1 | 2 | 1 | 1 | 2 | 0 | 2 | 1 | 1 | 2 | 1 | 1 |
| Kashmore | 10 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| Shikarpur | 15 | 1 | 1 | 1 | 2 | 2 | 1 | 0 | 2 | 1 | 1 | 1 | 1 | 1 |
| Karachi | 12 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 1 |
| **Total** | **548** | **50** | **50** | **50** | **50** | **50** | **50** | **15** | **40** | **40** | **50** | **40** | **40** | **23** |

**Table 9.24 (b) Distribution of Seats for various Districts under Self Financing Scheme at Mehran University of Engineering & Technology, SZAB, KhairpurMir's Campus.**

| Category | Description | Number of Seats | | | | |
|---|---|---|---|---|---|---|
| | | Discipline | | | | |
| | | CE | EL | ME | PG | Total |
| A-1 | Sukkur | 02 | 01 | 01 | 01 | 05 |
| | Ghotki | 02 | 01 | 01 | 01 | 05 |
| | Khairpur | 02 | 02 | 02 | 03 | 09 |
| | S.Benazirabad | 01 | 01 | 02 | 02 | 06 |
| | Naushahro Feroze | 01 | 01 | 02 | 02 | 06 |
| A-2 | Larkana | 02 | 01 | 01 | 01 | 05 |
| | Kambar/Shahdadkot | 01 | 02 | 01 | 01 | 05 |
| | Shikarpur | 01 | 01 | 02 | 01 | 05 |
| | Jacobabad | 01 | 01 | 01 | 02 | 05 |
| | Kashmore | 01 | 01 | 01 | 00 | 03 |
| A-4 | Dadu | 01 | 01 | 00 | 01 | 03 |
| | Sanghar | **00** | **01** | **01** | **00** | **02** |
| A-5 | Karachi | 00 | 01 | 00 | 00 | 01 |
| **Total** | | **15** | **15** | **15** | **15** | **60** |

Explanation of Abbreviations

| | | | |
|---|---|---|---|
| **CE** | Civil Engineering | **ME** | Mechanical Engineering |
| **EL** | Electrical Engineering | **PG** | Petroleum & Natural Gas Engg. |

## 9.25 Admission of Foreign candidates under Self Financing Scheme at Mehran University of Engineering & Technology, Jamshoro

Seats in 12 disciplines as described in Section 9.24.4 (maximum 5 seats in each discipline) are reserved for foreign candidates under this scheme who are otherwise eligible for admission. The foreign candidates must apply for admission through their Embassies via Higher Education Commission, Islamabad.

The foreigner students will be required to pay admission fee of US $ 12000 (once only) along with the application form. They will also be charged the usual fees as payable by other students.

## 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 discipline are reserved for the candidates domiciled in Azad Jammu and Kashmir under this scheme. They may apply directly to the university in response to the advertisement. All the other conditions concerning eligibility and fees will be same as described in sections 9.2 and 9.24.5 also apply:-

| | |
|---|---|
| Civil Engineering | 2 seats |
| Electrical Engineering | 1 seat |
| Mechanical Engineering | 1 seat |
| Telecommunication Engineering | 1 seat |
| Computer System Engineering | 1 seat |
| Software Engineering | 1 seat |
| Environmental Engineering | 1 seat |
| Architecture | 1 seat |
| City & Regional Planning | 1 seat |
| **Total:** | **10 seats** |

### 9.27 Other Information

- Admission fee is payable only once in the beginning.
- Candidates once admitted under this scheme shall not be allowed to change the discipline except the seats in the desired disciplines are available.
- The Candidates shall not be refunded the admission fee once he/she has paid tuition and other fees and obtained receipt and roll number.
- The candidates applying under this scheme will also be considered for admission under regular scheme against their districts/categories quota and in case they are selected for admission under both the schemes, they will be given option for admission under any one scheme. If a candidate opts for admission under self Financing scheme shall be considered up to Eighth choice in the regular scheme. The admission fee paid under self financing scheme will be refunded to him/her.

## 10. SPECIAL SCHEME

For this scheme one seat in each discipline as mentioned below has been reserved for each district for the candidates having the domicile of Sindh Province. In Biomedical Engineering Seven seats are reserved for foreign candidates and seven seats are reserved on all Pakistan basis. In case of saving of seats the same will be filled up on overall open merit basis of the province of Sindh. (Foreign candidates may also be considered for admission against this scheme). Under this Scheme seats are reserved for the following four disciplines.

1. Biomedical Engineering

2. Metallurgy & Materials Engineering

3. Mining Engineering

4. City & Regional Planning

The basic requirement for admission will be the same as approved for admission under regular scheme. All candidates applying under this scheme must have obtained at least **40% marks (with no negative marking)** in the pre-admission test conducted by the university. Further local candidates will be required to pay

Rs. 250,000/- (once). Foreign candidates will be required to pay US $ 5000 for admission at the time of seeking admission under the scheme in addition to other normal fees etc., payable by the students under regular scheme.

Refund of Self Financing Scheme, Bio-medical Engineering Scheme and Special Scheme Admission fee will only be allowed through special cross cheque mentioning the name of refund with bank account, the name of bank and bank branch. 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 their bank account number with branch name to whom amount to be refunded.

## 11. UNIVERSITY SUPORT PROGRAM

For this scheme 46 seats in Civil Engineering discipline has been reserved 2 seats for each district for the candidates having the domicile of Sindh Province. The basic requirement for admission will be the same as approved for admission under regular scheme. All candidates applying under this scheme must have obtained at least **40% marks (with no negative marking)** in the pre-admission test conducted by the university. For this scheme the candidates will be required to pay Rs. 10,000,00/= (Once) for admission under this scheme. In addition to other normal fees etc payable by the student under regular scheme.

## 12. MIGRATION/TRANSFER

- Migration to and from any other University and transfer from constituent Campus shall not be allowed in the first and final years.
- 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 Terms/Semesters shall not be eligible for admission on migration/ transfer basis.
- The migration/transfer of the local students would be allowed on the payment of Rs.600,000/= (Rupees six hundred thousand only) to the Mehran University; while foreigner students would be required to pay Rs. 10,00,000/= (Rupees ten hundred thousand only) as migration fee. The nominees will be required to submit the 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.

## 13. REGULATIONS FOR SEMESTER SYSTEM

Regulations regarding the Courses of Studies for the Bachelors 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 2012 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 from Jan. 1st, 2013 (applicable to 13 Batch & onwards).

4. **Definitions:-** In these Regulations unless otherwise expressly stated.

   i. "University" means the Mehran University of Engineering and Technology, Jamshoro.

   ii. "Academic Year" means the Academic Year of the University.

   iii. "Semester" means a Period of 22 weeks out of an academic year for teaching and evaluation and / or guidance of the students of the University.

   iv. "Vice-Chancellor", "Pro Vice-Chancellor", "Dean", "Director", "Chairman", "Teacher" and "Controller of Examinations" means respectively the vice-Chancellor, the Pro Vice Chancellor, the Dean of Faculty, the Director of Institute, the Chairman of Teaching Department, the Teacher and the Controller of Examinations of the University.

   v. "Internal Examiner" means the teacher/person appointed by the competent authority, who has been teaching the subject to the regular class/section during the academic year for which the examination is being conducted.

5. **The Courses of study:**

The courses of studies for the degree of Bachelor of Engineering (B.E), Bachelor of City & Regional Planning (B.CRP) and Bachelor of Architecture (B.Arch) shall be as given in the Regulations, which follow, provided that these Regulations shall be subject to change as approved by the Academic Council of the University from time to time.

6. **Duration of Semesters & Years:**

   (a) First year, Second Year, Third Year and Fourth Year for the degree of the Bachelor of Engineering (B.E) and Bachelor of City and Regional Planning (B.CRP) will each be of one year duration (Total 4 years) each comprising of two semesters. Total Credit hours for all 4 years shall be 130-136.

   (b) First Year, Second Year, Third Year, Fourth Year and Fifth Year for the degree of Bachelor of Architecture (B.Arch) will each be of one year duration (Total 5 years) & each comprising of two Semesters. Total Credit Hours for all 5 years shall be 160-170.

   (c) There shall be two semesters in an academic year. The duration of teaching time in each semester shall be 16 weeks. The semester starting with the commencement of the academic year will be called the 'First Semester' and the following semester will be called the 'Second Semester'.

## 7. Marks:-

Each degree program shall carry a number of approved courses and each course shall be assigned a number of Credit Hours. The Credit Hours per semester for each discipline shall be 15-18. The details of the course, marks / grades assigned and the condition for passing examinations shall be as prescribed by the Mehran University of Engineering and Technology Bachelors Degree Regulations.

## 8. 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 seek approval through the Dean and the Pro Vice Chancellor from the Vice Chancellor for rechecking the Scripts by a Subject expert (other than the Subject teacher). The final recommendations of the Departmental Committee concerning the results will be submitted through the concerned Dean and Pro Vice Chancellor to the Vice Chancellor for consideration and approval.

## 9. Yearly academic program:

| | | |
|---|---|---|
| i. | Teaching duration of 1st semester | 16 Weeks |
| ii. | Conduct of Mid Semester Exam | 01 Week |
| iii. | Preparation and Conduct of final 1st Semester Exam | 05 Weeks |
| iv. | Summer Break | 06 Weeks |
| v. | Teaching duration of 2nd Semester | 16 Weeks |
| vi. | Conduct of Mid Semester Exam | 01 Week |
| vii. | Preparation & Conduct of Final 2nd Semester Exam | 05 Weeks |
| viii. | Winter Break | 02 Weeks |
| | **TOTAL** | **52WEEKS** |

**Note:-**

(i) Minimum number of contact hours for a theory subject of 3 CHs per semester is 42.
(ii) Minimum number of contact hours for a practical of 1 CH per semester is 42.

## 10. The minimum requirement for each semester course:-

(a) Assignments.
(b) Tests (minimum two).
(c) Mid Semester Examination
(d) Final Semester Examination.

The Schedule of Tests, Mid Semester & Final Semester Examination shall be as under:

| S# | Activity | Period |
|---|---|---|
| 1. | Mid Semester Examination | After 8-weeks |
| 2. | Final Semester Examination | After 16-weeks |

## 11. Distribution of Marks:

The distribution or marks or each theory and practical course in a Semester will be as follows:-

| Distribution of Marks | | PRACTICAL | |
|---|---|---|---|
| | | Maximum **100 Marks** | Maximum **50 Marks** |
| i. | Attendance | 10 | 05 |
| ii. | Test(s) | 05 | 03 |
| iii. | Assignments | 05 | 02 |
| iv. | Mid Semester Exam: | 20 | 10 |
| v. | Final Semester Exam: | 60 | 30 |
| | **Total** | **100** | **50** |

| Distribution of Marks | | PRACTICAL | |
|---|---|---|---|
| | | Maximum **150 Marks** | Maximum **100 Marks** |
| (i) | Attendance | 05 | 10 |
| (ii) | Lab Evaluation Work | 15 | 30 |
| (iii) | Semester Lab Exam:<br>(a) Objective type test (15) (a) Objective type test (30)<br>(b) Conduct of Pr/Viva Voce (15) (b) Conduct of Prac/Viva Voce (30) | 30 | 60 |
| | **Total** | **50** | **100** |

**Note:** For the courses carrying other than 100 & 50 marks the distribution of marks will be accordingly.

**In case of the Project / Thesis / Design the distribution of marks shall be as follows:**

(i) Sessional work. 25% marks

(ii) Evaluation of Project report 25% marks

(iii) Viva-Voce Examination. 50% marks

## 12. Grade Equivalent:-

| GRADE | GRADEPOINT | MARKS | | | |
|---|---|---|---|---|---|
| | | THEORY | | PRACTICAL | |
| | | MAX: 100 | MAX: 50 | MAX: 100 | MAX: 0 |
| A+ | 4.0 | 85 & above | 42 & above | 85 & above | 42 & above |
| A | 3.75 | 80 to 84 | 40 to 41 | 80 to 84 | 40 to 41 |
| B+ | 3.5 | 75 to 79 | 37 to 39 | 75 to 79 | 37 to 39 |
| B | 3.0 | 70 to 74 | 35 to 36 | 70 to 74 | 35 to 36 |
| C+ | 2.5 | 65 to 69 | 32 to 34 | 65 to 69 | 32 to 34 |
| C | 2.0 | 60 to 64 | 30 to 31 | 60 to 64 | 30 to 31 |
| D+ | 1.5 | 55 to 59 | 27 to 29 | 55 to 59 | 27 to 29 |
| D | 1.0 | 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.).

**13. Attendance Requirement:-**

(i) A student should have at least 75% attendance to appear in the Final Semester Examination.

(ii) In genuine cases, maximum 10% condonation in attendance shall be the discretionary powers of the Pro Vice Chancellor on the basis of an application to be scrutinized by Director/ Chairman concerned and routed through respective Dean concerned.

(iii) The eligibility attendance of Theory/ Practical for late admitted students to First Semester of First Year only shall be calculated from the date of admission.

**14. Distribution of Attendance Marks:**

Distributions of attendance marks will be as given in the following tables:

| S# | No. of Lecture Hours Attended | Marks to be Awarded |
|---|---|---|
| **A.** | **For Theory Head of 3CHs i.e. 100 Marks** | |
| 1. | 41 to 42 | 10 |
| 2. | 37 to 40 | 09 |
| 3. | 33 to 36 | 08 |
| 4. | 31 to 32 | 07 |
| 5. | Below 31 | 00 |
| **B.** | **For Theory Head of 2CHs i.e. 50 Marks** | |
| 1. | 20 to 21 | 05 |
| 2. | 18 to 19 | 04 |
| 3. | 16 to 17 | 03 |
| 4. | Below 16 | 00 |
| **C.** | **For Practical Head of 2CHs i.e. 100 Marks** | |
| 1. | 95% to 100% | 10 |
| 2. | 86% to 94% | 09 |
| 3. | 81% to 85% | 08 |
| 4. | 75% to 80% | 07 |
| 5. | Below 75% | 00 |
| **D.** | **For Practical Head of 1CH i.e. 50 Marks** | |
| 1. | 90% to 100% | 05 |
| 2. | 80% to 89% | 04 |
| 3. | 75% to 79% | 03 |
| 4. | Below 75% | 00 |

- The Lab's carrying marks other than 50 or 100 the distribution of attendance marks will be accordingly.

**15. Conduct of Sessional Work/Mid-Semester and Final Semester Examinations:-**

(i) 10/5 marks of assignment for subjects carrying 100/50 marks shall be awarded by the teacher concerned after conducting 3/2 class tests (MCQs type) and 2/1 best of 3/2 class tests shall be counted toward award of 10/5 marks. The entire record of evaluated class tests shall be submitted by the concerned subject teacher to Examinations Department at the time of submission of final results.

(ii) At the end of each term, the marks of attendance, sessional work, and lab work secured by the student in Theory and Practical of the concerned subject shall be announced by the concerned subject teacher by displaying on the Notice Board.

(iii) Mid Semester Examination will be conducted by the Examination Department in collaboration with the concerned Department/ Institute.

(iv) The mid-semester examination will be conducted only for theoretical subjects.

(v) The time duration for mid semester examination will be 1 hour for 3 CHs course and each question paper will contain 3 questions with a choice to attempt any two, whereas the time duration for 2 CHs course examination will be 45 minutes and the question paper will contain 3 questions with a choice to attempt any two.

(vi) The marks of the mid semester examination question paper of 3 CHs will be 20, and for the 2 CHs course will be 10.

(vii) No MCQ's, fill-in the blanks or objective type questions will be given in mid semester examination. The questions shall be descriptive.

(viii) The scripts of all assignments will be returned and those of the tests and mid-semester examination will be shown to the students after evaluation. Each blank page / gaps in the scripts will be stamped/ lines drawn, by the teacher concerned.

(ix) The marks of each test and mid-semester examination will be displayed and solutions will be discussed in the class room immediately after evaluation. If any student is not satisfied with the evaluation, he/she may convey this to the Chairman of the concerned department within 7 days of the result displayed and the matter will then be looked into by the Departmental Committee, whose decision will be final. Any such objections after the expiry of 7 days will not be accepted. A copy of the Marks of the tests and mid-semester will be deposited by the teacher in the department office immediately after the announcement of the results.

(x) Final Semester Examination will be of 3-hours duration for 3 CHs course and each question paper will contain 5 questions without any choice. Similarly, Final Semester Examination will be of 2-hours duration for 2 CHs course and each question paper will contain 3 questions without any choice. Final semester examination will be conducted from the whole course.

(xi) The teachers will prepare 3 copies of the result of each course separately at the end of each semester (attendance, test, mid semester examination. Assignments and final semester examination) on the prescribed proforma and shall forward two copies to the Controller of Examinations.

(xii) The cumulative result (including all the marks of attendance, assignments, tests, mid-semester examination and final semester examination) of each semester of a year will be announced by the Controller of Examinations.

## 16. Setting of Question Paper/Assessment of Scripts and Conduct of Practical Examination

### (a) Setting of Question Paper:-

**Theory:**

(i) Question Papers for Semester Examination shall be drawn by the teachers of concerned subjects as Internal Examiners, for all departments. In case of more than one subject teacher of a particular subject in the same department with assigned sections, the respective teacher will draw his own paper.

(ii) There will be no external moderation of the Question Paper by the External examiner.

(iii) Final Semester Examination will be of 3-hours duration for 3 CHs course and each question paper will contain 5 questions without any choice. Similarly, Final Semester Examination will be of 2-hours duration for 2 CHs course and each question paper will contain 3 questions without any choice. Final semester examination will be conducted from the whole course.

**Practical:**

(i) The objective type Question Paper of Practical Examination shall be set by the Internal Examiner.

(ii) The following applicable guidelines parameters shall be included by the Examiners for setting of objective type Question Papers.

Fill in the Blanks, True or False, Multiple Choice Questions (MCQs), Definition of Technical Terms, Drawing Skill Oriented Questions and Interpretation of Diagrams.

(iii) External examination system will be only for Practical Viva-voce and Project/Thesis/Design Examination.

### (b) Assessment of Scripts:-

The scripts of the Theory Examination will be assessed by the respective Internal Examiner. The Internal Examiner will send the award lists (in triplicate) to the Controller of Examinations.

### (c) Conduct of Practical Examination:-

(i) The Practical and Viva-Voce Examination shall be conducted jointly by the Internal & External Examiners approved by the Vice-Chancellor. The signature sheets of examinees for conduct of Objective Type Test and Viva-Voce/Jury shall be maintained separately and the same shall be submitted to the Examinations Department for office record by the Examiners. The award lists signed by the both examiners shall be submitted in triplicate under sealed cover to the Controller of Examinations.

(ii) The Internal Examiner as well as External Examiner shall both submit separate report under sealed confidential cover to the Controller of Examinations of the University regarding the standard of the examination taken by them.

(iii) In case External Examiner No.1 is not available on the scheduled date(s) of the examination the Examiner No.2 shall be contacted and called for examination.

(iv) The Chairman/ Director of the Department/Institute or his/her nominee having expertise with related subject shall act as an alternate if External Examiner No. 1 and 2 are not available on the scheduled date(s), however the same alternate assignments be made in case the concerned subject Teacher /Internal Examiner is not available in exceptional case due to some serious problem.

**17. Scanning of Results:-**

(i) A committee comprising of the Dean of the concerned Faculty, the Chairman/Director, Co-Director of the concerned Department/Institute and the concerned teacher of the subject, who if necessary, for reasons of checking the quality and consistency of assessment of scripts, would at random re-assess atleast 15% of the scripts and in case gross discrepancy is detected, the Committee shall be empowered to take appropriate action with approval of the Vice-Chancellor.

(ii) Prior to sending ledgers of the results of Regular/Supplementary Examination of B.E/B.CRP/B.Arch. to the Vice-Chancellor for his signature, the overall tabulated and checked ledgers shall be pursued and scanned by the Dean of concerned Faculty and the Chairman/Director, Co-Director of concerned Department/Institute .

**18. Appearance in the Semester Examination:**

The semester examination will be open to the students who full-fills the following conditions:

(i) During the semester immediately preceding the examination, he/she has been on the roll list of the concerned Department/Institute of the concerned Faculty.

(ii) He/she has submitted his/her Examination Form duly filled-in completely along with the prescribed fee to the Controller of Examinations within the due date announced by the University.

(iii) He/she has produced the following certificates duly signed by the Director, Co-Director/Chairman of the Institute/Department concerned.

(a) Good character certificate

(b) Photo state copy of Enrolment Card

(c) Attendance Certificate to the effect that the student has achieved minimum prescribed 75% attendance

(d) He/she is not debarred from taking the examination

**19. Passing Examination:-**

(i) A candidate having passed all the Heads of 1st and 2nd semesters of First to Final Year B.E/B.CRP/B.Arch. with minimum 50% in Theory and 50% in practical shall be declared “PASS” or otherwise. The pass percentage for Project/Thesis and Research & Development Project in the Final Year shall be 50% (A Theory or Practical would be treated as separate heads)

(ii) A candidate having passed all the Heads of Both semesters from 1st to Final Year B.E/B.CRP/B.Arch. with minimum 50% aggregate marks shall be declared “PASS”. If any student is not able to get 50% aggregate marks even after having passed all the heads, he/she shall be promoted but must improve the Heads of his/her choice to secure atleast 50% aggregate marks.

(iii) A student who has secured minimum CGPA 2.00 in all the Semesters of 4 years in case of Engineering/ City & Regional Planning and 5 years in case of Architecture and has passed in all the subjects will be eligible for the award of degree of Bachelor of the Engineering / City & Regional Planning/ Architecture.

(iv) A student failing in any or all Heads of a semester examination shall be declared to have failed in the examination. He/she shall be allowed to re-appear in the failing Head(s) in the next examination, if otherwise eligible as per rules.

**20. Promotion Rules:-**

(i) A student will be promoted to the 2nd Semester of the first year provided he/she has completed minimum attendance requirement and filled up examination form and appeared in at **least one of the Heads** of the Final Semester examination

**(A Theory or Practical would be treated as separate Heads).**

(ii) A student will be promoted to the 1st Semester of the 2nd year (3rd Semester) provided he / she has obtained C-Grade or higher in at least 50% Heads (including minimum of 02 theory papers) of 1st Semester of First year in Regular Examination and has completed minimum attendance requirement of the 2nd Semester of the 1st year and has filled up the examination form and appeared in **at least one of the Heads of the Examinations (Second Semester).**

(iii) A student will be promoted to the 2nd Semester or the 2nd year (4th Semester) provided he/she has completed minimum attendance requirement or the 3rd Semester, filled up the examination form and appeared in **at least one head** of the final Semester examination **(Third Semester).**

(iv) A student will be promoted to the 1st Semester of the 3rd year (5th Semester) provided he/she has **obtained C-Grade or higher in at least 50% Heads (including minimum of 05 theory papers) of 1st year prior to start of classes of 5th Semester** and has completed minimum attendance requirement of the 4th Semester, and has filled up the examination form and appeared in at least one of the Heads of the Examinations **(Fourth Semester).**

Benefits of the fraction will be given to the student.

(v) A student will be promoted to the 2nd Semester of the 3rd year (6th Semester) provided he/she has completed minimum attendance requirement, filled up the examination form and appeared in at least one of the Heads of the final Semester examination **(Fifth Semester)**

(vi) A student will be promoted to the 1st semester of the 4th year (7th Semester) provided he/she has **cleared all Heads of First Year** secured minimum C.G.P.A of 2.00, obtained **C-Grade or higher in at least 50% Heads of Second Year (including 05 theory papers) prior to start of classes of 7th Semester**, and has completed minimum attendance requirement of the 6th Semester and has filled up the examination form and appeared in **at least one of the Heads of the Examinations (Sixth Semester).**

(vii) A student will be promoted to the 2nd Semester of the 4th year (8th Semester) provided he/she has completed minimum attendance requirement, filled up the examination form and appeared in **at least one of the Heads of the final Semester examination (Seventh Semester).**

(viii) In case of Bachelor of Architecture a student will be promoted to the 1st Semester of the 5th year (9th Semester) provided **he/she has cleared all Heads of First Year and Second Year secured** minimum C.G.P.A of 2.00, **obtained C-Grade or higher in at least 50% of Third Year (including 05 theory Papers) prior to start of classes of 9th Semester**, and has completed minimum attendance requirement **of the 8th Semester and has** filled up the examination form and appeared in **at least one of the Heads of the Examinations (Eighth Semester).**

(ix) Benefits of the fraction will be given to the student.

### 21. Award of Degree

A student shall be awarded degree of Bachelor of Engineering (B.E) or Bachelor of City & Regional Planning (B.CRP) or Bachelor of Architecture (B.Arch.), only after he/she has passed the examination and cleared all the Heads of all the Semesters within the maximum period of 07 (seven) Calendar years for B.E and B.CRP and (08) eight Calendar years for B.Arch.

### 22. Comprehensive Viva-Voce/Jury Examination

The comprehensive Viva-Voce examination of the project/thesis work will be held at the completion or the last semester of the degree program. Success in the Viva-Voce will be compulsory for the degree. The (Chairman or the Department, the concerned teacher or the project together with at least one external examiner will constitute the viva-voce Committee. Student who has failed in the Viva-Voce will be given the benefit of appearing again in the subsequent Viva-Voce.

### 23. Time for Checking Scripts

The time limit for checking the answer scripts shall be 20 scripts per day plus one week, unless specified.

### 24. Final Award:-

The final award once received by the office of the Controller of Examinations shall not be liable to a subsequent change, except with the permission of the Vice-Chancellor.

### 25. Re totaling of Marks

Re totaling of the marks shall be done on payment of prescribed fee per paper for a candidate who submits an application to the Controller of Examinations, through the Chairman, or Director/Co-Director of the concerned Department/Institute within two weeks from the date of announcement of result.

### 26. Medium of Instructions

Instructions in all courses and laboratories are carried out in English Language.

### 27. Modification of Regulations

These Regulations are subject to modification by the competent University authorities as may be felt appropriate in future.

### 28. Method of Working out G.P

#### 1. Credit Hours (C.H)

One Credit hour for a particular course is generally to be considered as one hour of teaching theory per week and for practical 1 C.H be considered as 3 contact hours.

#### 2. 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

### 3. 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 Hourse offered:-

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

### 4. 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:

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

## 13. STUDENTS CONDUCT AND DISCIPLINE REGULATIONS, 1978, AS AMENDED ON 06.07.2006.

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:

### 13.1 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..

### 13.2 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.

### 13.3 Definitions

In these Regulations, unless otherwise expressly stated:

(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.

(iv) "Syndicate" means the Syndicate of the University.

(v) "Vice-Chancellor" means the Vice-Chancellor of the University.

(vi) "Discipline Committee" means the Discipline Committee of the University constituted under the First Statutes appended to Mehran University Act, 1977, and/or constituted separately for the constituent or affiliated colleges/Institutes/Center of Excellence by the Governing Body or management of that college/ Institute/Center of Excellence with the approval of the Vice-Chancellor, Mehran University of Engineering & Technology.

(vii) "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.

### 13.4 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 any thing 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, guide lines issued by the University authorities from time to time.

(i) He/She must observe thrift and protect property.

**13.5 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-authorizedly.

(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.

**13.6** 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.

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

**13.8** 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.

**13.9** (i) Any one or more of the penalties mentioned in Regulation 10 may be imposed on a student who is guilty of one or more of the following acts:

(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.

(i) Any one or more of the penalties mentioned in Regulation 10 may be imposed on a student who is guilty of one or more of the above acts/charges.

(ii) The penalty or penalties imposed shall be appropriate and proportional to the nature and gravity of the above act or acts.

**13.10** 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 PENALTY |
|---|---|---|
| (a) | (i) Exclusion from class room/Laboratory/Field work/workshop upto 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. |

| PENALTY | | AN OFFICER OR AUTHORITY COMPETENT TO IMPOSE THE PENALTY |
|---|---|---|
| (h) | (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. |
| (i) | With-holding of issue of character certificate | Chairman of the Teaching Department/Director of the Teaching Institute. |
| (j) | 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 |
| (k) | Cancellation of remission of fee or University Scholarship. | Vice-Chancellor on the recommendations of the Dean of the Faculty concerned/Principal of the College. |
| (l) | 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. |
| (m) | 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. |
| (n) | Rustication/Expulsion from the University for a period not exceeding one year. | Vice-Chancellor on the recommendations of the Discipline Committee |
| (o) | Rustication/expulsion from the University for a period exceeding one year. | Syndicate on the recommendations of the Discipline Committee. |
| (p) | Cancellation of admission from the University. | Syndicate on the recommendations of the Discipline Committee. |
| (q) | 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.

**13.11** 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.

**13.12** (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.

**13.13** 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 13.10 above.

# Mehran University of Engineering & Technology

JAMSHORO, SINDH-PAKISTAN

Booklet No. _____

## Mehran University of Engineering & Technology
## PRE-ADMISSION TEST
## OCTOBER 27, 2013
## GENERAL INSTRUCTIONS

1. In order to ensure a fair chance to every candidate and to conduct the test efficiently and transparently, the candidate must carefully follow the instructions given in the booklet and by the Instructor.

2. The candidate will be required to write his/her name, father's name, seat number and test booklet number on the answer sheet.

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

4. The test is divided into four parts i.e. Mathematics, Physics, Chemistry / Computer Science and English. Each part has 25 questions. You will be given separate announcement for each part.

5. The instructor will inform the candidate on public address system when to start work on any part of the test and when to stop. It is of utmost importance that the work be performed only on that part on which the test is in progress.

6. Relevant letter for correct answer be marked by filling in the appropriate circle completely.

7. In the interest of fairness, it is insisted that no one should continue work even for a second after the instructor has asked that the work be stopped.

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 from the test and his/her name will be removed from the list of the candidates for admission.

10. The candidate should carefully think about his/her answer before writing it on the answer sheet. Once an answer is written on the answer sheet, the candidate is NOT permitted to change any of his/her answer is any way. You CANNOT erase or overwrite your previous answer. All such answers will be treated as wrong.

11. unattempted questions all four option i.e. a,b,c and d be left blank ABCD.

12. **Each correct answer carries ONE mark. Each wrong answer will be awarded ZERO mark.**

13. When the instructor says “STOP”, cover your test booklet with the answer sheet.

14. Tearing pages or writing anything anywhere on the test booklet will disqualify the candidate from the list.

15. Please see the instructions at the bottom of each page which will guide you whether you are to remain on the same page or can go on to the next page.

16. This test booklet is the property of university testing authority. The candidate will have to return test booklet at the end of the test. If any candidate takes the test 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.

17. 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.

# 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. You will have 15 minutes to answer all the 25 questions.

**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.

**STOP: DO NOT TURN THIS PAGE**

# 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. You will have 15 minutes to answer all the 25 questions.

**EXAMPLES:**

1. The Chemistry of Carbon is Called
   a. Oraganic Chemistry
   b. Inoraganic 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

**STOP: DO NOT TURN THIS PAGE**

# 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. You will have 15 minutes to answer all the 25 questions.

**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

**STOP: DO NOT TURN THIS PAGE**

# 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. You will have **15 minutes to answer all the** 25 questions.

EXAMPLES:

1. Given set A and B, (AUB)'=

   a. A' U B'

   b. A' I B'

   c. A U B

   d. A I B

2. The equation of a line with shop-2 and passing through point (3,2) is:

   a. x - y = 0

   b. x + 4y = 16

   c. 2y + 4x - 16 = O

   d. x + 2y + 16 = O

**STOP: DO NOT TURN THIS PAGE**

# 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. You will have 15 minutes to answer all the 25 questions.

In this part, there are different types of sample questions as given below:

**Type-I:**

Here under are sets of answers for each question filling the One which is correct in the answer sheet

1. How many lifeboats were left intact?
   a. Only one
   b. Only two
   c. Only three
   d. Only four

**Type-II:**

Fill in the appropriate circle of the word which is required to fill in the blanks.

2. Countess of Morcerf was formerly called _____
   a. Daughter of Morcerf
   b. Mercedes
   c. Madam De Mauban
   d. Mrs. Bertuccio

**Type-III:**

Identify the correct indirect sentence and fill in the corresponding circle of the letter in answer sheet.

3. He said to me "When are you leaving?"
   a. He asked me when I was leaving.
   b. He said to me when I was leaving.
   c. He asked me that when I was leaving.
   d. He asked me about when I was leaving.

**Type-IV:**

Identify the grammatically correct sentence and fill in the circle corresponding alphabet in the answer sheet.

   a. Her hairs have turned gray
   b. Her hair have turned gray
   c. Her heirs have turned gray
   d. Her airs have turned gray

**Type-V:**

Out of the given alternatives, choose the one which can be substituted for the given sentence and mark on answer sheet

1. One who believes in one God.
   a. Agnostic
   b. Monotheist
   c. Devotee
   d. Secularist

**Type-VI:**

Indentify the correct sentence out of four sentences given below and mark the corresponding letter in the answer sheet.

   a. You should help a poor
   b. You should help the poor
   c. You should help and poor
   d. You should helped the poor

**STOP: DO NOT TURN THIS PAGE**

# Mehran University of Engineering & Technology

JAMSHORO, SINDH-PAKISTAN

## Answer Sheet for Pre-Admission Test 27 Oct, 2013

☐ 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 |

| PHYSICS |
|---|
| ◯ PRE-ENGINEERING |
| ◯ GENERAL SCIENCE |

| |
|---|
| Test Booklet No. |

| Physics | | | | | Chemistry/Computer | | | | | Mathematics | | | | | English | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Part-I | | | | | Part-II | | | | | Part-III | | | | | Part-IV | | | | |
| 1 | ⓐ | ⓑ | ⓒ | ⓓ | 26 | ⓐ | ⓑ | ⓒ | ⓓ | 51 | ⓐ | ⓑ | ⓒ | ⓓ | 76 | ⓐ | ⓑ | ⓒ | ⓓ |
| 2 | ⓐ | ⓑ | ⓒ | ⓓ | 27 | ⓐ | ⓑ | ⓒ | ⓓ | 52 | ⓐ | ⓑ | ⓒ | ⓓ | 77 | ⓐ | ⓑ | ⓒ | ⓓ |
| 3 | ⓐ | ⓑ | ⓒ | ⓓ | 28 | ⓐ | ⓑ | ⓒ | ⓓ | 53 | ⓐ | ⓑ | ⓒ | ⓓ | 78 | ⓐ | ⓑ | ⓒ | ⓓ |
| 4 | ⓐ | ⓑ | ⓒ | ⓓ | 29 | ⓐ | ⓑ | ⓒ | ⓓ | 54 | ⓐ | ⓑ | ⓒ | ⓓ | 79 | ⓐ | ⓑ | ⓒ | ⓓ |
| 5 | ⓐ | ⓑ | ⓒ | ⓓ | 30 | ⓐ | ⓑ | ⓒ | ⓓ | 55 | ⓐ | ⓑ | ⓒ | ⓓ | 80 | ⓐ | ⓑ | ⓒ | ⓓ |
| 6 | ⓐ | ⓑ | ⓒ | ⓓ | 31 | ⓐ | ⓑ | ⓒ | ⓓ | 56 | ⓐ | ⓑ | ⓒ | ⓓ | 81 | ⓐ | ⓑ | ⓒ | ⓓ |
| 7 | ⓐ | ⓑ | ⓒ | ⓓ | 32 | ⓐ | ⓑ | ⓒ | ⓓ | 57 | ⓐ | ⓑ | ⓒ | ⓓ | 82 | ⓐ | ⓑ | ⓒ | ⓓ |
| 8 | ⓐ | ⓑ | ⓒ | ⓓ | 33 | ⓐ | ⓑ | ⓒ | ⓓ | 58 | ⓐ | ⓑ | ⓒ | ⓓ | 83 | ⓐ | ⓑ | ⓒ | ⓓ |
| 9 | ⓐ | ⓑ | ⓒ | ⓓ | 34 | ⓐ | ⓑ | ⓒ | ⓓ | 59 | ⓐ | ⓑ | ⓒ | ⓓ | 84 | ⓐ | ⓑ | ⓒ | ⓓ |
| 10 | ⓐ | ⓑ | ⓒ | ⓓ | 35 | ⓐ | ⓑ | ⓒ | ⓓ | 60 | ⓐ | ⓑ | ⓒ | ⓓ | 85 | ⓐ | ⓑ | ⓒ | ⓓ |
| 11 | ⓐ | ⓑ | ⓒ | ⓓ | 36 | ⓐ | ⓑ | ⓒ | ⓓ | 61 | ⓐ | ⓑ | ⓒ | ⓓ | 86 | ⓐ | ⓑ | ⓒ | ⓓ |
| 12 | ⓐ | ⓑ | ⓒ | ⓓ | 37 | ⓐ | ⓑ | ⓒ | ⓓ | 62 | ⓐ | ⓑ | ⓒ | ⓓ | 87 | ⓐ | ⓑ | ⓒ | ⓓ |
| 13 | ⓐ | ⓑ | ⓒ | ⓓ | 38 | ⓐ | ⓑ | ⓒ | ⓓ | 63 | ⓐ | ⓑ | ⓒ | ⓓ | 88 | ⓐ | ⓑ | ⓒ | ⓓ |
| 14 | ⓐ | ⓑ | ⓒ | ⓓ | 39 | ⓐ | ⓑ | ⓒ | ⓓ | 64 | ⓐ | ⓑ | ⓒ | ⓓ | 89 | ⓐ | ⓑ | ⓒ | ⓓ |
| 15 | ⓐ | ⓑ | ⓒ | ⓓ | 40 | ⓐ | ⓑ | ⓒ | ⓓ | 65 | ⓐ | ⓑ | ⓒ | ⓓ | 90 | ⓐ | ⓑ | ⓒ | ⓓ |
| 16 | ⓐ | ⓑ | ⓒ | ⓓ | 41 | ⓐ | ⓑ | ⓒ | ⓓ | 66 | ⓐ | ⓑ | ⓒ | ⓓ | 91 | ⓐ | ⓑ | ⓒ | ⓓ |
| 17 | ⓐ | ⓑ | ⓒ | ⓓ | 42 | ⓐ | ⓑ | ⓒ | ⓓ | 67 | ⓐ | ⓑ | ⓒ | ⓓ | 92 | ⓐ | ⓑ | ⓒ | ⓓ |
| 18 | ⓐ | ⓑ | ⓒ | ⓓ | 43 | ⓐ | ⓑ | ⓒ | ⓓ | 68 | ⓐ | ⓑ | ⓒ | ⓓ | 93 | ⓐ | ⓑ | ⓒ | ⓓ |
| 19 | ⓐ | ⓑ | ⓒ | ⓓ | 44 | ⓐ | ⓑ | ⓒ | ⓓ | 69 | ⓐ | ⓑ | ⓒ | ⓓ | 94 | ⓐ | ⓑ | ⓒ | ⓓ |
| 20 | ⓐ | ⓑ | ⓒ | ⓓ | 45 | ⓐ | ⓑ | ⓒ | ⓓ | 70 | ⓐ | ⓑ | ⓒ | ⓓ | 95 | ⓐ | ⓑ | ⓒ | ⓓ |
| 21 | ⓐ | ⓑ | ⓒ | ⓓ | 46 | ⓐ | ⓑ | ⓒ | ⓓ | 71 | ⓐ | ⓑ | ⓒ | ⓓ | 96 | ⓐ | ⓑ | ⓒ | ⓓ |
| 22 | ⓐ | ⓑ | ⓒ | ⓓ | 47 | ⓐ | ⓑ | ⓒ | ⓓ | 72 | ⓐ | ⓑ | ⓒ | ⓓ | 97 | ⓐ | ⓑ | ⓒ | ⓓ |
| 23 | ⓐ | ⓑ | ⓒ | ⓓ | 48 | ⓐ | ⓑ | ⓒ | ⓓ | 73 | ⓐ | ⓑ | ⓒ | ⓓ | 98 | ⓐ | ⓑ | ⓒ | ⓓ |
| 24 | ⓐ | ⓑ | ⓒ | ⓓ | 49 | ⓐ | ⓑ | ⓒ | ⓓ | 74 | ⓐ | ⓑ | ⓒ | ⓓ | 99 | ⓐ | ⓑ | ⓒ | ⓓ |
| 25 | ⓐ | ⓑ | ⓒ | ⓓ | 50 | ⓐ | ⓑ | ⓒ | ⓓ | 75 | ⓐ | ⓑ | ⓒ | ⓓ | 100 | ⓐ | ⓑ | ⓒ | ⓓ |

| Candidate's Signature | Invigilator's Signature |
|---|---|
| | |

# Mehran University of Engineering & Technology

JAMSHORO, SINDH-PAKISTAN

## PRE-ADMISSION TEST OCTOBER 27, 2013

## 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.

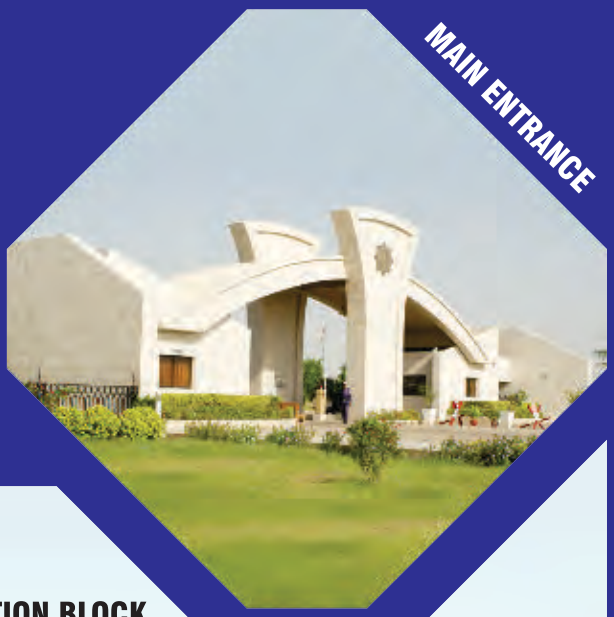
5. Use your time efficiently. Do not spend too much time on one question, otherwise you may run short of time for other questions.

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 detach the duplicate copy so that the original copy may not be damaged.

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.

LIBRARY AND ONLINE INFORMATION CENTRE



MAIN ENTRANCE

ADMINISTRATION BLOCK

MAIN ENTRANCE
MUET, SZAB KHAIRPUR
MIRS CAMPUS

INSTITUTE OF SCIENCE, TECHNOLOGY AND DEVELOPMENT