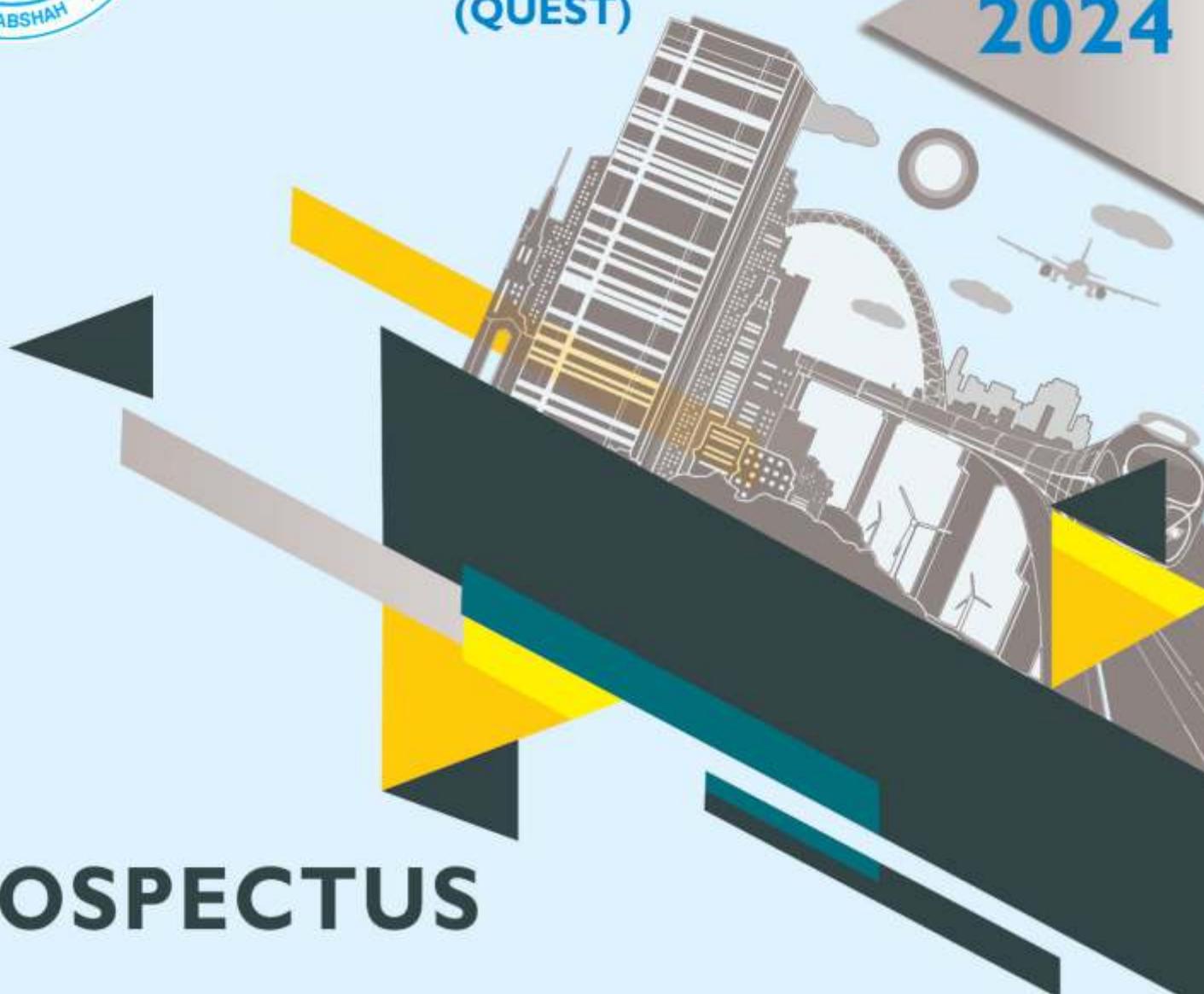




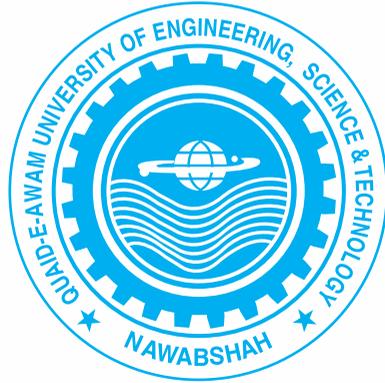
# QUAID-E-AWAM

UNIVERSITY OF ENGINEERING  
SCIENCE & TECHNOLOGY  
(QUEST)

2024



**PROSPECTUS**



# **PROSPECTUS**

## **Batch-2024**

For Undergraduate Degree Programs in Engineering,  
Science & Technology

## **Note:**

This prospectus has been approved by the Academic Council of the University in its 43<sup>rd</sup> meeting held on 18.03.2024. The information given in this prospectus is correct and up to date. However, the university reserves the right to make any required changes to it without any notice. All Rules and Regulations of the university mentioned in this prospectus apply to the undergraduate programs. The modified rules and regulation given in this prospectus supersede the old ones.

## **Enquiries concerning admissions should be addressed to:**

The Registrar or Chairman Admission Committee  
Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah,  
District Shaheed Benazirabad, Sindh-Pakistan.  
Telephone No. (0244) 9370381-4 (Ext. 2102 & 2111)  
Fax: (0244) 9370357, 9370367  
E-mail: [registrar@quest.edu.pk](mailto:registrar@quest.edu.pk) / [admission@quest.edu.pk](mailto:admission@quest.edu.pk)  
Website: [www.quest.edu.pk](http://www.quest.edu.pk)

## **Publisher**

The Registrar  
Quaid-e-Awam University of Engineering, Science & Technology, Nawabshah,  
District Shaheed Benazirabad, Sindh-Pakistan.

# QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY (QUEST)

## About QUEST:

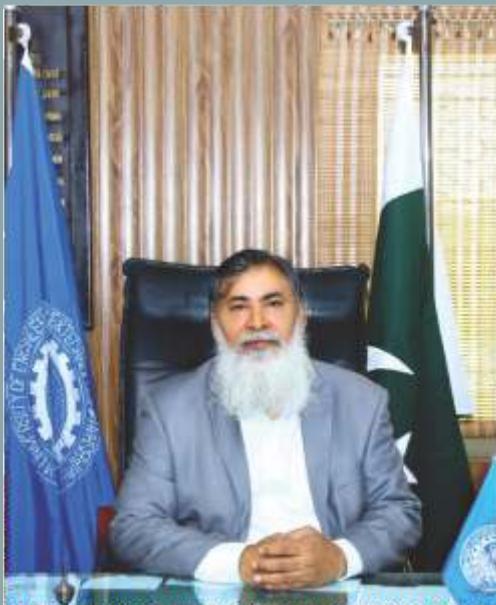
- ▲ Ranked amongst top ten universities in Pakistan.
- ▲ Accredited by Pakistan Engineering Council (PEC), Islamabad.
- ▲ Recognized by Higher Education Commission (HEC), Islamabad.
- ▲ Foreign qualified, dedicated & experienced full-time faculty.
- ▲ State-of-the-art laboratories.

## MISSION

To provide quality and state-of-art education to the students in the prescribed areas of Engineering, Science & Technology, in order to make them outstanding professional and better human being; so that they become capable of contributing effectively and amicably towards sustainable development.

## VISION

To produce the professional graduates to cater the socio-economic requirements of the national and international market for sustainable development



## Prof. Dr. Saleem Raza Samo

### Vice Chancellor

With the grace of Almighty Allah (SWT) I have assumed the privileged position of Vice-Chancellor QUEST Nawabshah, an institution from where I graduated and then started my career. This institutions is my Alma-mator. I am highly indebted to Allah Almighty for His continued blessings on me. I believe in team work and I am always grateful to all my colleagues for supporting me in this role.

The QUEST is a recognized institution across the globe, and its graduates contribute significantly and positively to both national and international academic, social, and economic development. Very recently one of our Alumni Mr. Mahboob Shar (04IT) has been selected as Top SEO expert in the world's SEO expert list by Google.

The QUEST is one of the leading public sector universities in Pakistan which is committed to solving many of the diverse challenges that we face today. Our university provides a platform for promising minds to join their hands and serve the world around us. For achieving this, we provide the right balance of faculty, services, technology, and cultures to encourage both learners and teachers to develop, explore and discover new ideas. Our dream is to make our university the country's best educational institution. Since 2018 we have established 18 (Eighteen) new programs including Artificial Intelligence, Cyber Security, Data Science, Software Engineering, Environmental Engineering, etc.

The QUEST is expanding its global reach to look for more opportunities and collaborate with various educational and professional institutions. In this regard, several MOUs have been signed with many renowned universities in different countries such as the USA, Turkey, Malaysia, Thailand, China, Indonesia, and Germany. Our university is equipped with state-of-the-art equipment, a modern library and other facilities to achieve academic excellence and meet international academic standards.

In QUEST, all stakeholders, i.e., educators, administrators, students, and employees are working as a team with an ownership attitude in the ongoing process of raising the university's academic standards. I truly appreciate and accept my team members' tremendous cooperation. We are trying to make QUEST as students centric University.

We strive for all this to take place in a free, peaceful, and balanced environment. We believe that cultivating good ideals of morality, integrity, fairness, and respect for each other is indispensable for the studies. We also believe that young people should have a role in defining their destinies. We help them to explore their abilities, plan and make a positive impact in this world. Pakistan's high youth population and energy provide us with a wonderful opportunity to play a role in inspiring the country's youth to be passionate and encouraging them to provide vital services to society.

I urge all the stakeholders to play their role in the progress of the university with utmost dedication. Together, we will make it one of the top universities in the world.

# Prof. Dr. Zahid Hussain Abro

## Pro-Vice Chancellor



Prof. Dr. Zahid Hussain Abro has completed his B.Sc. (Hons.) and M.Sc. (Hons.) in Computer Science from the University of Sindh, Jamshoro and his Ph.D in Computer Science from Technical University Graz, Austria in July 2010. His research interest includes Agile Software Development Methods, User Experience Design, Agile User Experience Design, Mobile HCI, Mobile-Learning (M-Learning), Software Engineering and Web Engineering. Presently, he is working as a full Professor and Pro-Vice Chancellor, Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah and Larkano (Both Campuses).

He has been awarded the “Certificate of Inventor” by Technical University Graz, Austria. More than 25 MS students and 6 PhD students have completed their studies under his supervision. He has organized four national conferences. Besides, he has published more than 50 research papers in national as well as international journals and conferences. He has presented his research papers at various reputed international conferences held in the USA, UK, Canada, Austria, Italy and Malaysia. Most importantly, he is also the reviewer of many international/national journals and conferences.

He is a member of many statutory bodies of the QUEST and other Universities. He has remained a member of the National Curriculum Review Committee, Islamabad for Computer Science, IT and Software Engineering. He has also remained the member of the Federation of Pakistan, Chambers of Commerce & Industry's Standing Committee on Research & Development (Policy) for the years 2017 and 2018 at the national level.



## **Prof. Dr. Noor Ahmed Memon**

### **Dean, Faculty of Civil & Mechanical Engineering**

Dr. Memon earned Bachelor of Civil Engineering from NED University of Engineering and Technology, Karachi. He got his M.Phil in Structural Engineering from Mehran University of Engineering and Technology Jamshoro and Ph.D in Structural Engineering from UTM, Malaysia. At present, Dr. Memon is Professor and Dean, Faculty of Civil & Mechanical Engineering, Quaid-e-Awam University of Engineering, Science, & Technology, Nawabshah.

Dr. Memon is an active researcher. His field of interest is Plain and Reinforced Concrete, Fiber Reinforced Concrete, Lightweight Concrete, Sandwich Structural Panels, Advanced Structural Materials, Ferrocement, Low-cost Housing and Foundation Engineering. He has about 50 research papers got published in journals of international repute. Moreover, he has presented his research work at international & national conferences. Dr. Memon received "The Best University Teachers' Award, in 2008" awarded by HEC, Pakistan.

# Prof. Dr. Abdul Fattah Chandio

Dean, Faculty  
of  
EL, ES, TC, & CS Engineering



Professor Dr. Abdul Fattah Chandio was born in Khairpur (Mir's). He did Bachelors in Electronic Engineering from Mehran University of Engineering and Technology, Jamshoro in 1994. He got his Masters from National University of Science and Technology (Military College of Signals Campus) in Telecom Engineering in 2003. Dr. Chandio completed his PhD from Beijing Institute of Technology, Beijing, PR China in the field of Computer Technology, Information Sciences. Currently Dr. Chandio is working as Professor and Dean Faculty of Electrical, Electronic & Computer Systems Engineering in Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah. Dr. Chandio was the founder Principal of QUEST Engineering College Larkano.

Dr. Chandio is author of 37 publications, published in national and international journals and conferences. He is also supervising various research projects in the field of Electronics, Telecommunication and Computer Sciences. Dr. Chandio's research interests are in the field of Spatial Data mining (Hazard mitigation, Environmental protection, Resource Distribution), Use of optical signal processing in computer hardware (Holography, Optical Interfacing) and Solutions of computer communications and Internets.

Dr. Chandio is the prominent member of expert list of Pakistan Engineering Council for evaluation of Engineering Programs throughout the country. Dr. Chandio is the member of editorial board, QUEST Research Journal since October 2007 to date. Dr. Chandio is active member of various National Curriculum Revision Committees of HEC.



## **Prof. Dr. Kishan Chand Mukwana**

### **Dean, Faculty of Environmental Engineering**

Prof. Dr. Kishan Chand Mukwana graduated in the year 1992 from Mehran University of Engineering & Technology (MUET), Jamshoro. He did his master's in Environmental Engineering in 1996 from the Institute of Environmental Engineering & Management (IEEM) of Mehran University of Engineering & Technology, Jamshoro. Initially, he started his career as Lecturer in the year 1997 in IEEM, MUET Jamshoro but after passing the Sindh Public Service Commission Examination he joined as Assistant Director (Technical) in Environmental Protection Agency (EPA), Government of Sindh. He served in that capacity from year 1998 to the year 2002. Afterwards, he was promoted to

work as Administrative Incharge of EPA's Regional Office Hyderabad and later on as Deputy Director (EIA), Head Office Karachi from year 2003 to 2006.

In year 2006, he left the Government of Sindh job and joined as Assistant Professor in Energy & Environment Department, Quaid e Awam University of Engineering, Science & Technology (QUEST), Nawabshah. He served as in-charge Chairman of Energy & Environment Engineering Department from year 2011 to 2013. Later on, Dr. Kishan completed his Ph.D in year 2016 in the field of Energy & Environment Engineering from QUEST, Nawabshah and the research work was on Ambient Air Quality in cities of Sindh Province which was later extended under the Split PhD Program through HEC funded Scholarship in Middle East Technical University (METU), Ankara, Turkey. Dr. Kishan served as Assistant Professor from year 2006 to year 2018. In year 2018 he was appointed as Professor in Energy & Environment Engineering Department and currently holds the charge as Dean, Faculty of Environmental Engineering.

Dr. Kishan engaged in key assignments and executed responsibilities for implementation of the Pakistan Environmental Protection Act 1997, planning and formulation of environmental protection projects, monitoring of environment-related development projects, monitoring of oil & gas exploration activities in the region, review of IEE/ EIA's, monitoring of liquid and gaseous emissions from industrial sources etc. The additional responsibilities included; acting as Drawing & Disbursing Officer (DDO) of ROH's overall Budget and administrative matters of the EPA's regional office. He contributed as a key technical member for five years in the NDP program funded by the Asian Development Bank & the World Bank. He worked on SOFWMP Project funded by the World Bank as M & E Specialist for three years as an additional responsibility. He worked as a Project Coordinator in a mega project related to the monitoring of drinking water quality in the vast area of districts of Hyderabad and Mirpurkhas divisions.

# Prof. Dr. Muhammad Ibrahim Channa

## Dean, Faculty of Science

Prof. Dr. Muhammad Ibrahim Channa completed M.Sc. in Computer Science from University of Sindh, Jamshoro, M.S in Information Technology from National University of Science and Technology, Islamabad and Ph.D in Information and Communication Technologies (ICT) from Asian Institute of Technology (AIT) Bangkok, Thailand. He has been working in QUEST Nawabshah since March 2000. He assumed several academic and administrative positions including Director ORIC, Editor QUEST Research Journal, Chairman IT and Dean Faculty of Science. He published more than 40 research publications in National and International Journals of repute. His research interests include Computer Networks, Routing and Network Security. He produced several postgraduate students at National and International Universities. He is member of various statutory bodies of the QUEST and other National Universities. He is also reviewer of several National and International Research Journals.





## **Prof. Dr. Abdul Sattar Jamali** **Dean, Faculty of Technology**

Prof. Dr Jamali describes himself as a Mechanical Engineer and Management Expert with experience in various fields such as Manufacturing Engineering, Industrial Engineering, Management, Supervision, Policy and Planning and Implementation of programs as well as strategies.

He graduated in Mechanical Engineering from Mehran University, Jamshoro in December 1995.

Later on, master's in industrial engineering from the Asian Institute of Technology (AIT), Bangkok, Thailand in December 2001 sponsored by the Royal Thai Government (RTG). He opted for Management Science and Engineering for his higher education and was awarded PhD from the Beijing Institute of Technology (B.I.T), Beijing, China in July 2007. He was honoured with Best Student Award and his dissertation was nominated as the Best Dissertation at the Beijing Institute of Technology.

Furthermore, Professional Career Dr Jamali was appointed as a Lecturer in August 1996 and presently he is working as a Professor in the Department of Mechanical Engineering at Quaid –e- Awam University of Engineering, Science and Technology, Nawabshah. Besides this, he has served more than fifteen years on administrative charges, as Chairman Department of Mechanical Engineering (Two tenure), Dean and Director Quality Enhancement Cell (QEC), Provost (Hostels) and focal person for anti-plagiarism checking of Master and PhD thesis. Dr Jamali is actively engaged in the management of the University and currently serving as Dean, Faculty of Technology.



# Engr. Rizwan Aziz Siddiqui

## Registrar

### MESSAGE

Dear students I welcome you all at QUEST which is one of the largest University established in the heart of Sindh to provide state-of-the-art education in the diversified field of Engineering, Science and Technology. The name of the University of QUEST has become synonymous with excellence, innovation and educational eminence.

I deem it a great privilege to serve as the Registrar of my Alma Mater which is one of the best University embedded with humanitarian mission and care to inspire the youth to achieve brilliance in their chosen fields. Students are supported, mentored and provided with abundant opportunities to exhibit their talents in various fields including sports, theatre, cultural activities, and above all in their academic work.

May ALLAH bless you all!!!.

### BACK GROUND

Engr. Rizwan Aziz Siddiqui graduated in electrical engineering in 1992 from MUCET Nawabshah, did his masters from Military College of Signals, NUST in Telecommunication Engineering in 2000, he earned his Post Graduate Diploma in 2007 from Istanbul Technical University (ITU) Turkey. He appeared in the Federal Examination for the recruitment in National Accountability Bureau NAB and stood 2<sup>nd</sup> in the merit for appointment as Additional Director (BPS-19). Served under various capacities in NAB from 2013-2018, got trainings from Federal Bureau of Investigations (FBI-USA), UNODC, NBP etc. He joined back the University and now serving his institution as Registrar. He is currently also registered as PhD scholar with field research as Image Processing and Biomedical Images.

# Prof. Dr. Ahsan Ali Buriro

## Controller of Examinations

Prof. Dr. Ahsan Ali Buriro is a graduate of Civil Engineering from Mehran University of Engineering & Technology, Jamshoro.

Dr. Buriro possesses more than 19 years of professional experience. He worked with various organizations and consultant firms before joining Quaid-e-Awam University of Engineering, Science & Technology as an Assistant Professor in 2010. Dr. Buriro fulfilled the assumed responsibility of In-Charge Chairman for development of newly established department of Civil Engineering at Larkano Campus.

After receiving HEC's overseas scholarship award, left for Germany to pursue higher studies. He completed his Ph.D. from TU-Bergakademie Freiberg with specialization in Lightweight and Fiber-Reinforced Concrete. Dr. Ahsan has more than 23 publications under his name. His research areas of interest include Fiber-Reinforced Concrete, Slab-Column Joints, Lightweight Concrete, Repair and Strengthening of Concrete.

At present, Dr. Buriro has the responsibility of Controller of Examinations in addition to professorship.



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# Section-I

**Introduction**



**Academic Calendar**

**2023-24**

**About QUEST**

**Outcome  
Based Education  
(OBE) System**

# ACADEMIC CALENDAR

## SEMESTER SYSTEM (OBE SYSTEM)

Batch & Semester	1 <sup>st</sup> Semester First Year (24-Batch)	2 <sup>nd</sup> Semester First Year (24-Batch)	Winter Vacation	Summer Vacation with Make-up Semester
Date of Start of Classes	23.09.2024	03.03.2025	21.12.2024 to 29.12.2024	08 weeks (1 <sup>st</sup> June to 31 <sup>st</sup> July)
Conduct of Mid Semester Exams	18.11.2024	12.05.2025		
Date of Suspension of classes	24.01.2025	15.08.2025		
Schedule of Examination	27.01.2025	18.08.2025		
Display of Sessional Marks	27.01.2025	18.08.2025		
Examination preparation upto	09.02.2025	24.08.2025		
Conduct of Final Semester Exam	10.02.2025	25.08.2025		
Announcement of result (Expected)	28.02.2025	15.09.2025		

Pre-Admission Test (25-Batch) on 27.05.2025

Start of a new session (25-Batch) on 01.09.2025

### SEMESTER SYSTEM

Duration of a Semester		Duration of a Year		Requirements
Teaching	16 weeks	Two Semester Duration (21x2)	42 weeks	<ul style="list-style-type: none"> <li>✓ Minimum attendance requirement to appear in the exam is 75%.</li> <li>✓ Minimum number of lectures during a semester in a subject of 3 CH shall be 45.</li> <li>✓ Minimum number of lectures during a semester in a subject of 2 CH shall be 30.</li> </ul>
Conduct of Mid Exam	01 week	Summer Vacation Including Make-up semester	08 weeks	
Final Exam Preparation	01 week			
Conduct of Final Examination	02 weeks	Winter Vacation	02 weeks	
Semester Break	01 week			
<b>Total</b>	<b>21 weeks</b>	<b>Total</b>	<b>52 weeks</b>	

### History and Departments of the University

The Sindh University Engineering College Jamshoro was established in 1963 as a constituent college of the University of Sindh to provide an adequate opportunity for engineering education to the people belonging to the interior of Sindh Province. According to the education policy of 1972, the government decided to upgrade the college to the level of the University of Engineering & Technology after shifting it to Nawabshah. Consequently, the first-year classes were started at Nawabshah in February 1974.

In July 1976, this institution was declared as an additional campus of the University of Sindh through an amendment in the Sindh University Act, 1972 and was headed by a Pro-Vice-Chancellor. The additional campus was eventually upgraded to the level of the university on 15th March 1977 through an ordinance. Later on, the Provincial Assembly of Sindh also passed an Act in this regard and named the institution "Mehran University of Engineering and Technology, Nawabshah".

In 1980, the Government decided to shift "Mehran University of Engineering and Technology" to Jamshoro and the campus at Nawabshah was declared as a constituent college of Mehran University; renamed Mehran University College of Engineering and Technology (MUCET), Nawabshah". On the 7<sup>th</sup> August 1996, MUCET was upgraded to the level of a university through an ordinance and later through an act of Sindh Assembly and was renamed as "Quaid-e-Awam University of Engineering, Science and Technology (QUEST), Nawabshah". At present, QUEST is accredited by the Higher Education Commission (HEC), Pakistan Engineering Council (PEC) and is a member of the Association of Commonwealth Universities.

QUEST is situated just outside the city of Nawabshah near the airport and is spread over an area of 457 acres on both sides of the Main Sakrand Road. Presently, it consists of three academic sectors. Sector-A houses the departments of Electrical Engineering, Computer Systems Engineering, Information Technology and Computer Science. Sector B houses the departments of Civil Engineering, Mechanical Engineering, Basic Sciences & Related Studies, and Mathematics & Statistics. All the laboratories of Civil Engineering, Mechanical Engineering and Workshops are located in Sector-C. Whereas, the department of English is located on the first floor of the old library building, adjacent to the newly constructed and fully equipped Data Center and Examination Branch located on the ground floor near Sector-B.

The Central Library is located in between the multipurpose hall and the hostels. This beautiful, capacious building is fully equipped with all the basic facilities for students and is open 7 days a week. The departments of Electronic Engineering, Energy & Environment Engineering are located near Sectors A and C, whereas the Telecommunication Engineering and Chemical Engineering departments are located near Mechanical Engineering workshops. The Administration Block is situated near Sector-C. All the stakeholders of the university, i.e., teachers, officers, employees, and students have the facility of an express electricity feeder to work with full peace of mind with zero load shedding in order to facilitate the students and teachers intra university transport is scheduled keeping the time of classes in mind. There is a well-planned residential colony consisting of a substantial number of bungalows for the teachers and officers and quarters for employees. A constituent college, named Engineering College Larkano, was established at Larkano city in 2010. The Honorable Chief Minister, Sindh upgraded the college and declared it as QUEST Campus Larkano, vide Notification No.SO(U)/UB/QUEST/7-1/2018/211, dated 23-11-2018. Further details of the university are given in various sections of the prospectus.

## Fields of Study, Teaching System and Award of Degree

### Degree courses in the following disciplines are offered at QUEST.

- ❖ Civil Engineering
- ❖ Electrical Engineering
- ❖ Electrical Engineering (Automation & Control)
- ❖ Mechanical Engineering
- ❖ Computer Systems Engineering
- ❖ Energy Systems Engineering
- ❖ Electronic Engineering
- ❖ Chemical Engineering
- ❖ Telecommunication Engineering
- ❖ Software Engineering
- ❖ Environmental Engineering
- ❖ Building & Architectural Engineering
- ❖ Industrial & Manufacturing Engineering
- ❖ Bio Medical Engineering
- ❖ Information Technology
- ❖ Computer Science
- ❖ Mathematics
- ❖ English (Language & Literature)
- ❖ Artificial Intelligence
- ❖ Physics
- ❖ Data Science
- ❖ Cyber Security
- ❖ Chemistry
- ❖ Civil Engineering Technology
- ❖ Food Engineering Technology

From the academic session 2016-17 (Batch-17), the system of education switched from term system to semester system under the Outcome Based Education (OBE) as per the requirements of PEC & HEC for the award of a four-year bachelor's degree. An academic year is divided into two semesters and the university offers eight semesters of course work to obtain bachelor's degrees in the mentioned Engineering, Sciences & Technologies Programs.

Students of all disciplines are also required to study some basic subjects in social studies, and mathematics, as well as those about other branches of Engineering, which are generally taught by the concerned departments.

At the end of the fourth year, after satisfactory completion of the courses in all respects and having passed all the examinations held by the University, the degree of Bachelor is awarded: The postgraduate programs are also offered in the fields of Civil Engineering, Electrical Engineering, Energy System Engineering, Environmental Engineering, Mechanical Engineering, Computer Systems Engineering, Electronic Engineering, Information Technology and Mathematics leading to the award of ME/MS/M. Phil and PhD degrees: ME/MS are four semesters (02 years) evening programs. Whereas, M.Phil and PhD are full-time programs.

#### **Outcome-Based Education (OBE) System**

As per the PEC guidelines, all the engineering programs at QUEST Nawabshah and QUCEST Larkano follow the OBE system, which emphasizes measured outcomes. Several stakeholders such as faculty, students, employers, industrial advisory board, alumni, and parents are involved in the assessment of program effectiveness. During four years of the program, Washington Accord Graduate Attributes / Program Learning Outcomes (WAs/PLOs) and Program Educational Objectives (PEOs) are imparted to the students and then attainment is assessed and analyzed through both direct and indirect assessments.

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

PLOs describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills and attitude that the students acquire while progressing through the program. All the engineering programs of the university follow the below given PLOs that all engineering graduates are expected to have by the time of graduation.

#### **Engineering Knowledge:**

An ability to apply knowledge of Mathematics, Science, Engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

#### **Problem Analysis:**

An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of Mathematics, Natural Sciences and Engineering sciences.

#### **Design/Development of Solutions:**

An ability to devise solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

#### **Investigation:**

An ability to investigate complex engineering problems in a methodical way including literature feedback, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of the information to derive valid conclusions.

#### **Modern Tool Usage:**

An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

#### **The Engineer and Society:**

An ability to apply reason informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems.

#### **Environment and Sustainability:**

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

#### **Ethics:**

Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

#### **Individual and Teamwork:**

An ability to work effectively as an individual or a team in multifaceted or multidisciplinary settings.

#### **Communication:**

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

#### **Project Management:**

An ability to demonstrate management skills and apply engineering principles to one's work as a member or leader in a team to manage projects in a multidisciplinary environment.

#### **Lifelong Learning:**

An ability to recognize the importance of and pursue lifelong learning in the broader context of innovation and technological developments.

### **Program Educational Objectives (PEOs)**

The PEOs are broad statements that describe what graduates are expected to achieve a few years after graduation. The PEOs for each of the engineering programs of the university, prepared by the departmental OBE committee, recommended by the concerned Board of Studies and Board of Faculty, and finally approved by the University Academic Council are given under the description of each of the departments/programs. Every graduate engineer should acquire these PEOs after 4 - 5 years of graduation.

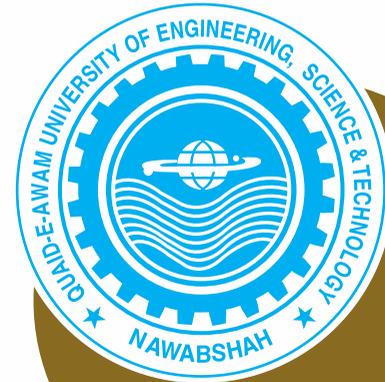
# OFFICERS OF THE UNIVERSITY

**Following are the main officers of the University:**

DESIGNATION	NAME
Vice Chancellor	Prof. Dr. Saleem Raza Samo B.E (MUET), M.E. (Thailand), Ph.D. (UK)
Pro Vice Chancellor	Prof. Dr. Zahid Hussain Abro M.Sc. (Sindh), Ph.D. (Austria)
Dean Faculty of Civil & Mechanical Engineering	Prof. Dr. Noor Ahmed Memon BE (NED), M.Phil (MUET), Ph.D. (Malaysia)
Dean Faculty of EL, ES, & CS Engineering	Prof. Dr. Abdul Fattah Chandio B.E (MUET), Ph.D. (China)
Dean Faculty of Environmental Engineering	Prof. Dr. Kishan Chand Mukwana B.E (MUET), ME (MUET), Ph.D. (QUEST)
Dean Faculty of Science	Prof. Dr. Muhammad Ibrahim Channa M.Sc. (Sindh), Ph.D. (Austria)
Dean Faculty of Technology	Prof. Dr. Abdul Sattar Jamali B.E (MUET), M.E (Thailand), Ph.D. (China)
Controller of Examinations	Prof. Dr. Ahsan Ali Buriro B.E (MUET), M.S (NUST), PhD (Germany)
Director ORIC	Dr. Fareed Ahmed Jokhio B.E (MUET), MS (Sweden), PhD (Finland)
Registrar	Engr. Rizwan Aziz Siddique B.E (MUET) M.E (NUST)
All Chairmen of Teaching Departments	
Director Finance	Mr. Qamaruddin Shaikh MBA (Finance) SALU Khairpur Mir's
Director Planning & Development	Mr. Aashique Ali Joyo M.Phil (Economics)
Librarian	Mr. Ghulam Farooque Channar B.A. (SoU), M.L.IS (SoU)

# Section-II

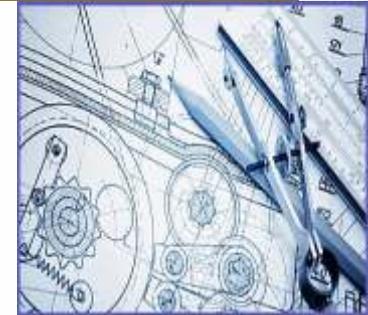
FACULTY OF CIVIL  
&  
MECHANICAL ENGINEERING



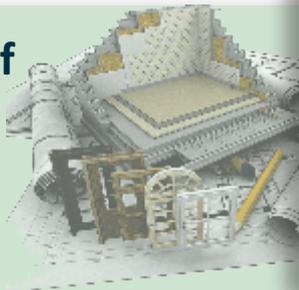
Department of  
Civil  
Engineering



Department of  
Mechanical  
Engineering



Department of  
Building and  
Architectural  
Engineering



Department of  
Industrial &  
Manufacturing  
Engineering



## DEPARTMENT OF CIVIL ENGINEERING



**Prof. Dr. Daddan Khan Bangwar**  
**CHAIRMAN**

Prof. Dr. Daddan Khan Bangwar completed his bachelor's degree in Civil Engineering from Mehran University of Engineering and Technology Jamshoro. He got his M.E in Structural Engineering from NED University of Engineering and Technology and earned PhD in Structural Engineering from Quaid-e-Awam University of Engineering, Science and Technology Nawabshah.

At present, Prof. Dr. Bangwar is working as Professor and Head of Civil Engineering Department, Quaid-e-Awam University of Engineering, Science and Technology Nawabshah.

Prof. Dr. Bangwar worked in renowned organizations of the country, and successfully handled a good number of projects. He is an active researcher and have more than 25 research publications in national /international research journals. Prof. Dr. Bangwar's research interests are Polymer Modified Concrete, Supplementary Cementing Materials and Light Weight Concrete.

### Introduction

Civil Engineering is the art of directing the great sources of manpower in nature for the use and welfare of mankind. It applies the engineering practice to the planning, design, construction, management, operation, and maintenance of such works as buildings, roads, bridges, railways, factories, airports, canals, docks, harbours, sea defence, river control, water supply, sewerage disposal, etc.

Being the oldest and yet the most wide-ranging discipline, the department of Civil Engineering is one of the largest departments of the University. Apart from admissions under regular schemes, a substantial number of students are also admitted on a Self-Finance basis.

The department provides Civil Engineering education, which is based on the requirements and needs of the engineering industry at par with the guidelines of HEC and PEC. The department facilitates students for software training and experimental training in laboratories. The faculty members having higher qualifications such as PhD, M.Phil, M.E and Postgraduate training from the reputed universities of USA, UK, Malaysia, China, Hongkong, Sweden, Australia and other countries are engaged to impart quality

education. In addition to the undergraduate program, the Department of Civil Engineering also offers three separate programs Master's in Civil Engineering, Structural Engineering & Construction Engineering and Management in the evening. In these programs, postgraduate students are being trained to face new challenges in the field. These programs comprise three terms of coursework (24 CH) followed by 8 credit hours of research work as the compulsory requirement for the award of the degree.

No matter what engineering discipline is, there is always a need for research to meet the new challenges of the field. Thus, the prominent feature of the Civil Engineering Department is to conduct research in Structural Engineering and other areas of Civil Engineering. Several local, as well as foreign students, have benefitted from the research facilities and expertise. They have earned the degrees of PhD, M.Phil, and M.E. The experimental studies carried out in the laboratories of the department have been published in journals of international repute and presented in their works International and National Conferences.

### Mission:

To impart quality Civil Engineering technological education and research through modern teaching and tools for socioeconomic and sustainable development to produce highly competent professionals.

### Program Educational Objectives (PEOs)

Following are the program educational objectives that are expected to be exhibited by the Civil Engineers after their graduation.

### Civil Engineering professionals will:

1. Demonstrate sound knowledge and skills required for planning, design and construction of Civil Engineering systems.
2. Manage and illustrate effective teamwork, interpersonal skills and professional growth.
3. Undertake sustainable professional practice considering ethical, societal and environmental implications.

### Degree Programme:

1. Bachelor of Engineering (Civil Engineering)
2. Bachelor of Science in Civil Engineering Technology
3. Master of Engineering in
  - a. Civil Engineering
  - b. Structural Engineering
  - c. Construction Engineering & Management
4. M.Phil (Civil Engineering)
5. PhD (Civil Engineering)

## Teaching Staff

Sr.#	Name	Designation / Qualification
1.	Prof. Dr. Daddan Khan Bangwar	<b>Professor &amp; Chairman</b> B.E (MUET), M.E (NED), PhD (QUEST)
2.	Prof. Dr. Bashir Ahmed Memon	Professor B.E (MUET), M.E (China), PhD (China)
3.	Prof. Dr. Noor Ahmed Memon	Professor, Dean Faculty of Civil Mechanical Engineering, B.E (NED), M.Phil (MUET), PhD (Malaysia)
4.	Prof. Dr. Ahsan Ali Buriro	Professor B.E (MUET), M.S (NUST), PhD (Germany)
5.	Dr. Aftab Hameed Memon	Associate Professor B.E (QUEST), M.E (UTM Malaysia), PhD (UTHM Malaysia), Post Doc (UTHM Malaysia)
6.	Dr. Mukhtiar Ali Soomro	Associate Professor B.E (QUEST), PhD (Hong Kong) <b>On Study Leave abroad (Post Doctorate)</b>
7.	Dr. Riaz Bhanbhro	Associate Professor ( <b>Co-Chairman</b> ) B.E (QUEST), Lic.Tech(Sweden), PhD (Sweden)
8.	Engr. Naseem Usman Keerio	Assistant Professor B.E (MUET), M.E (QUEST)
9.	Engr. Tulsi Das	Assistant Professor B.E (MUET), M.Phil (QUEST)
10.	Engr. Ubaidullah Memon	Assistant Professor B.E (NED), M.S (NUST)
11.	Dr. Mahboob Ali Oad	Assistant Professor B.E (QUEST), M.E (QUEST), PhD (QUEST)
12.	Dr. Jam Shahzaib Khan	Assistant Professor B.E ( MUET), M.E (UK), PhD (UTM)
13.	Dr. Muneeb Ayoub Memon	Assistant Professor B.E (QUEST), M.E (QUEST), PhD (QUEST)
14.	Engr. Aamir Khan Mastoi	Lecturer B.E (MUET), M.E (MUET)
15.	Engr. Aijaz Ali Dahri	Lecturer B.E (QUEST)
16.	Engr. Arif Asghar Gopang	Lecturer B.E (QUEST), M.E (MUET, USPCAS-W) ( <b>ON STUDY LEAVE abroad</b> )
17.	Engr. Imran Ali Channa	Lecturer B.E (QUEST), M.E (NED)
18.	Engr. Mutahar Ali	Lecturer B.E (QUEST), M.E (MUET)
19.	Engr. Ubaidullah Khan	Lecturer B.E (MUET), M.E (NED)
20.	Dr. Shahnawaz Zardari	Assistant Professor (Adhoc Basis) B.E (QUEST), M.E. (QUEST), PhD (QUEST)
21.	Dr. Abdul Qadir Memon	Lab Engineer B.E (QUEST), M.E (QUEST), PhD (QUEST)
22.	Engr. Natees Altaf Memon	Lab Engineer B.E (NED), M.E (MUET)
23.	Engr. Imran Hussain Wagan	Lab Engineer B.E (QUEST)
24.	Engr. Ghulam Nabi Keerio	Lab Engineer B.E (QUEST)
25.	Engr. Ammar Noor Memon	Lab Engineer B.E (QUEST), M.E (MUET)
26.	Mr. Rizwan Ahmed Memon	Lab Instructor D.A.E (Civil)
27.	Engr. Masroor Hassan Memon	Lab Supervisor B.E (MUET)

# Courses of Study

Sr. #	Name of Subject	CH		Marks	Sr. #	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>First Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Engineering Mechanics	3	1	100+50	1	Surveying-I	3	1	100+50
2	Civil Engineering Materials	2	1	50+50	2	Engineering Drawing	2	1	50+50
3	Functional English	3	0	100+00	3	Computer Fundamentals	2	1	50+50
4	Applied Calculus	3	0	100+00	4	Civil Engineering Geology	2	0	50+00
5	Islamic Studies / Ethics	2	0	50+00	5	Linear Algebra & Analytical Geometry	3	0	100+00
6	Pakistan Study	2	0	50+00	6	Communication Skills	3	0	100+00
	Total	15	2	450+100		Total	15	3	450+150

<b>Second Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Surveying-II	3	1	100+50	1	Fluid Mechanics & Hydraulics-I	3	1	100+50
2	Strength of Materials-I	3	0	100+00	2	Strength of Materials-II	3	1	100+50
3	Civil Engineering Drawing	3	1	100+50	3	Transportation Engineering	3	0	100+00
4	Architecture & Town Planning	2	0	50+00	4	Theory of Structures	3	0	100+00
5	Statistics & Probability	3	0	100+00	5	Numerical Analysis & Computer Applications	3	1	100+50
6	Construction Engineering	2	0	50+00					
	Total	16	2	500+100		Total	15	3	500+150

# Courses of Study

Sr. #	Name of Subject	CH		Marks	Sr. #	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>Third Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Fluid Mechanics & Hydraulics-II	3	1	100+50	1	Reinforced & Pre-stressed Concrete	3	1	100+50
2	Plain & Reinforced Concrete	3	1	100+50	2	Hydrology & Water Storage Structures	3	1	100+50
3	Highway & Traffic Engineering	3	1	100+50	3	Steel Structures	3	0	100+00
4	Structural Analysis	3	0	100+00	4	Soil Mechanics	3	1	100+50
5	Engineering Economics	2	0	50+00	5	Modern Methods of Structural Analysis	3	0	100+00
	Total	14	3	450+150		Total	15	3	500+150

<b>Final Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Structural Design & Drawing	3	0	100+00	1	Foundation Engineering	3	0	100+00
2	Geotechnical Engineering	3	1	100+50	2	Environmental Engineering-II	3	1	100+50
3	Irrigation & Drainage Engineering	3	1	100+50	3	Quantity Surveying & Estimation for Civil Works	3	0	100+00
4	Environmental Engineering-I	2	0	50+00	4	Project Planning, Economics & Management	2	0	50+00
5	Professional Ethics for Engineers	2	0	50+00	5	Final Year Project-II (FYP-II)	0	3	00+100
6	Final Year Project-I (FYP-I)	0	3	00+100		<b>Total</b>	<b>11</b>	<b>4</b>	<b>350+150</b>
	<b>Total</b>	<b>13</b>	<b>5</b>	<b>400+200</b>					

## DEPARTMENT OF MECHANICAL ENGINEERING



**Prof. Dr. Muhammad Ramzan Luhur**  
**Chairman**

viscose staple fibre at Nawabshah, Pakistan. In April 2004, he left the industry and joined QUEST, Nawabshah as a lecturer in Mechanical Engineering Department. Soon, after three years of his service, he left for higher studies abroad sponsored by QUEST under Faculty Development Program through Higher Education Commission (HEC) Islamabad Pakistan. Currently, Dr. Luhur is Chairman of the Mechanical Engineering Department, QUEST Nawabshah. He also has served as Director of Postgraduate Studies and Research, QUEST for more than 9 months.

Dr. Luhur is an energetic researcher in Mechanical Engineering, particularly in Wind Engineering. He has more than 30 research publications in HEC-recognized journals and one book chapter published online in CompEdu. Dr. Luhur participated in several conferences and presented his work. He is the supervisor of several Master's and PhD researchers. Dr. Luhur is a lifetime member of the Pakistan Engineering Council. He speaks English, Urdu, Sindhi, Balochi and understands other local languages of Pakistan.

### Introduction

Mechanical Engineering involves the application of physics for the analysis, design, manufacturing and maintenance of mechanical systems and its components. It requires basic understanding of several fields such as mechanics, thermodynamics and energy. Mechanical engineers are capable to apply engineering concepts for the efficient, economic and environment-friendly design and analysis of automobiles, aircraft, heating & cooling systems, buildings & bridges, industrial equipment and machinery.

The department was established in year 1974 and graduates are working in major national and international organizations ranging from Pakistan Steel, PIA, Railways, WAPDA, PMTF, Heavy Mechanical Complex, OGDCL, SSGC, OMV, ENGRO, NRL and several other organizations. A good number of our graduates are also working in the Gulf countries.

The department of Mechanical Engineering offers a four-year (8 semesters) bachelor's degree in Mechanical Engineering. The syllabus contains a good number of practical-oriented subjects which provide a broad spectrum of technical knowledge to the students using laboratory experiments and workshop practice in a learning conducive environment.

Due to advancement in robotics and automation in modern industries, the

Prof. Dr. Muhammad Ramzan Luhur completed his Bachelor of Engineering in Mechanical Engineering from QUEST Nawabshah with first position in the department. He earned his Master's degree in Sustainable Energy Engineering from the Royal Institute of Technology (KTH), Stockholm, Sweden and PhD in Wind Engineering from Carl Von Ossietzky University of Oldenburg, Germany, in 2014.

Dr. Luhur started his practical career from Chemi Group of Industries at their Chemi Visco Fibre Plant, Pakistan's 1st Plant for

department has taken full account of industrial electronics and Mechatronics courses in the syllabus. Besides, the department also offers various short courses not only on Mechanical Engineering softwares, i.e., AutoCAD, Pro-E, CNC, CAD/CAM, SOLIDWORKS, QBlade, ANSYS Fluent and PLC but also on professional and personal career development.

The distinguishing feature of the department is the existence of 08 highly established laboratories, which are fully equipped with the latest equipment. In addition, The jet engine test bench, supersonic wind tunnel, computer numerical controlled (CNC) turning and milling machines, advanced welding processes (TIG, MIG & SPOT) and a workshop are fully established for conducting practicals and research work.

The Mechanical Engineering workshop is not only used for conducting experiments but also used to produce various articles, classes and laboratory furniture for the University at a relatively very low cost than the market.

In addition, the department also offers Master's Program by mix-mode (Course + Research) in Manufacturing Engineering and Industrial Engineering & Management. The active research areas are wind engineering, robotics, advanced manufacturing systems, mechanical system design, mechanical vibration, FEA, materials development & processing, quality management alternative fuels, heat transfer & nano fluids and energy & environment. The faculty members have received their specialized training and higher degrees mostly from developed countries including the UK, Japan, Ireland, Thailand, Romania, Sweden, China, France, Germany and Malaysia.

### Mission:

The mission of the department is to impart cutting edge knowledge to the students in the professional field with effective ethical communication skills to meet the challenges in the sustainable development of academia, industry and society.

### Program Educational Objectives (PEOs)

The following attainments are expected to be imparted by Mechanical Engineering graduates;

PEO 1: Professional to knowledge to fulfil market demands for socio-economic growth and sustainable development of society.

PEO 2: Proficiency in applying modern techniques to solve problems effectively in practice.

PEO 3: Managerial and communication skill coupled with ethical value to work independently and within a team

### Degree Programs:

1. Bachelors:
  - a) B.E in Mechanical Engineering
  - b) B.S in Mechanical Engineering Technology
2. Masters:
  - a) M.E in Manufacturing Engineering
  - b) M.E in Industrial Engineering & Management
3. Doctor of Philosophy:
  - a) Ph.D in Mechanical Engineering

## Teaching Staff

Sr. #	Name	Designation / Qualification
01	Prof. Dr. Muhammad Ramzan Luhur	Professor/Chairman B.E (QUEST), M.E (Sweden), Ph.D (Germany)
02	Prof. Dr. Ali Bux Soomro	Emeritus Professor B.E (Sindh), PSP (Romania), Ph.D (U.K)
03	Prof. Dr. Liaquat Ali Memon	Professor BE (MUET), M.E (Malaysia), Ph.D (Malaysia)
04	Prof. Dr. Qadir Bakhsh Jamali	Professor B.E (MUET), M.E (Malaysia), Ph.D (Malaysia)
05	Dr. Gordhan Das Valasai	Associate Professor B.E (MUET), M.Phil (MUET), Ph.D (MUET)
06	Dr. Aijaz Ali Abbasi	Assistant Professor B.E (QUEST), M.E (MUET), Ph.D (Malaysia)
07	Dr. PirBux alias Waqas Mughal	Assistant Professor B.E (QUEST), M.E (QUEST), Ph.D (China) (on Lien)
08	Dr. Umair Ahmed Rajput	Assistant Professor B.E (QUEST), M.E (QUEST), Ph.D (Malaysia)
09	Engr. Rameez Raja Siddique	Assistant Professor B.E (QUEST), M.E (QUEST)(on study leave abroad)
10	Engr. Qamar Abbas Kazi	Assistant Professor B.E (QUEST), M.E (QUEST)
11	Engr. Muhammad Kashif Abbasi	Assistant Professor B.E (QUEST), M.E (QUEST)
12	Engr. Sher Muhammad Ghoto	Assistant Professor B.E (MUET), M.E (QUEST) (On study leave)
13	Engr. Faheem Ahmed Solangi	Assistant Professor B.E (QUEST), M.E (MUET)
14	Dr. Sajjad Bhangwar	Assistant Professor B.E (QUEST), M.E (QUEST), Ph.D (QUEST)
15	Engr. Azhar Hussain Shah	Lecturer B.E (QUEST), M.E (QUEST)
16	Engr. Abid Ali Khaskheli	Lab. Engineer B.E (QUEST), M.E (QUEST) (on study leave)
17	Engr. Nisar Ahmed Jamali	Lab. Engineer B.E (QUEST), M.E (QUEST)
<b>Teaching Staff (Mechanical Engineering Workshop)</b>		
18	Mr. Akhtar Hussain Mughal	Sr. Workshop Superintendent DAE (Sindh)
19	Engr. Sarmad Soomro	Senior Workshop Instructor BE (QUEST), M.E. (QUEST) (on study leave)
20	Mr. Khuda Bux Saand	Senior Workshop Instructor BE (QUEST), M.E. (QUEST)
21	Mr. Abdul Qadir Gopang	Workshop Instructor DAE (Mechanical)
22	Mr. Bilawal Lakho	Workshop Instructor DAE (Electrical)

## Courses of Study

Sr.#	Name of Subject	CH		Marks	Sr.#	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>First Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Pakistan Studies	2	0	50+00	1	Communication Skills	3	0	100+00
2	Applied Physics	2	0	50+00	2	Differential Equations	3	0	100+00
3	Functional English	3	0	100+00	3	Engineering Drawing & Graphics	2	1	50+50
4	Applied Calculus	3	0	100+00	4	Engineering Statics	2	1	50+50
5	Computer Fundamentals	2	1	50+50	5	Engineering Materials	3	0	100+00
6	Workshop Practice	0	2	00+100	6	Islamic Studies / Ethics	2	0	50+00
	<b>Total</b>	<b>12</b>	<b>3</b>	<b>350+150</b>		<b>Total</b>	<b>15</b>	<b>2</b>	<b>450+100</b>
<b>Second Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Complex Variable & Transforms	3	0	100+00	1	Numerical Analysis & Computer applications	3	1	100+50
2	Engineering Dynamics	2	0	50+00	2	Mechanics of Machines	2	1	50+50
3	Electronic Engineering	2	1	50+50	3	Fluid Mechanics-I	2	1	50+50
4	Mechanics of Materials-I	3	1	100+50	4	Mechanics of Materials-II	3	0	100+00
5	Thermodynamics-I	2	0	50+00	5	Thermodynamics-II	3	1	100+50
6	Electrical Engineering	2	1	50+50	6	<b>Total</b>	<b>13</b>	<b>4</b>	<b>400+200</b>
	<b>Total</b>	<b>14</b>	<b>3</b>	<b>400+150</b>					
<b>Third Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Statistics & Probability	3	0	100+00	1	Manufacturing Processes-I	2	1	50+50
2	Instrumentation & Control	2	1	50+50	2	Machine Design & CAD-II	3	1	100+50
3	Fluid Mechanics-II	3	1	100+50	3	Heat & Mass Transfer	3	1	100+50
4	Engineering Management & Economics	2	0	50+00	4	Mechatronics	2	1	50+50
5	Renewable & Emerging Energy Technologies	2	0	50+00	5	Total Quality Management	2	0	50+00
6	Machine Design& CAD-I	2	1	50+50	6	Technical Report Writing & Presentation Skills	2	0	50+00
	<b>Total</b>	<b>14</b>	<b>3</b>	<b>400+150</b>		<b>Total</b>	<b>14</b>	<b>4</b>	<b>400+200</b>
<b>Final Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Aerodynamics	3	1	100+50	1	Power Plants	3	1	100+50
2	Safety, Health & Environment	2	0	50+00	2	Heating Ventilation & Air-Conditioning Systems (HVAC)	3	1	100+50
3	Manufacturing Processes-II	3	1	100+50	3	Automobile Engineering	2	1	50+50
4	Mechanical Vibrations	3	1	100+50	4	Maintenance Engineering	2	0	50+00
5	FYDP-I	0	3	00+100	5	FYDP-II	0	3	00+100
	<b>Total</b>	<b>11</b>	<b>6</b>	<b>350+250</b>		<b>Total</b>	<b>10</b>	<b>6</b>	<b>300+250</b>

# DEPARTMENT OF BUILDING AND ARCHITECTURAL ENGINEERING



**Prof. Dr. M. Auchar Zardari**  
**Chairman**

organizations in grade 17. He got a scholarship under Faculty Development Program and earned PhD in Soil Mechanics and Foundation Engineering from Lulea University of Technology, Sweden. After completing PhD in 2013, he has been actively engaged in teaching and research at QUEST Nawabshah.

Presently, he has been awarded research funding of Rs. 7.5 million by Higher Education Commission

## Introduction

Building and architectural engineers apply practical and theoretical knowledge to the engineering design of buildings. The goal is to design high-performance buildings that are sustainable, resilient, and economically viable, that ensure the safety, health, and comfort of occupants.

Uniting scientific principles from structural, mechanical, electrical, lighting, acoustical, and construction engineering, building and architectural engineers apply their expertise to conceptualize, design, construct, operate and maintain buildings.

Building and architectural engineers have a great impact on society. Because people spend 86% of their time in indoors, building and architectural engineers concentrate on indoor

Dr Muhammad Auchar Zardari is presently working as Professor, at the Department of Building and Architectural Engineering, QUEST Nawabshah.

He has earned a Bachelor of Civil Engineering from QUEST Nawabshah. After completing his Bachelor's degree, he worked in different

building environments that prioritize the human condition and well-being of society. They also promote sustainable practices by lowering the energy consumption of buildings. As a result, presently, there is a great demand for employment of building and architectural engineers both in private and public sector organizations.

## Program Mission

“To give quality education in building and architectural engineering with innovative & multi-disciplinary approach for sustainable solutions to meet the requirements of building industry and societal benefits.”

## Program Educational Objectives (PEOs)

The graduates of this program are expected to:

1. Propose acceptable, sustainable, and innovative solutions to building and architectural engineering problems.
2. Assume professional positions in the architectural and building construction industry.
3. Pursue continuing education and professional development opportunities to function effectively as a member or leader of a technical team.

## Degree Program:

- Bachelor of Engineering (Building and Architectural Engineering).

## Teaching Staff

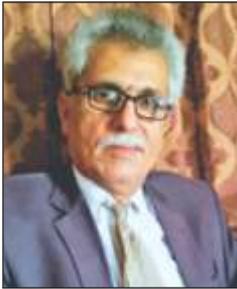
SN	Name	Designation/Qualification
1.	Prof. Dr. Muhammad Auchar Zardari	Professor & Chairman B.E(QUEST), M.Phil(Sweden), Ph.D (Sweden)
2.	Engr. Nadeem-ul-Kareem Bhatti	Assistant Professor B.E(QUEST),M.E(MUET)
3.	Engr. Naeem Mangi	Lecturer B.E(MUET),M.E(QUEST) (On Study Leave abroad)
4.	Engr. Muhammad Ibrahim Shaikh	Lab Engineer B.E (QUEST)
5.	Mr. Jawad-ur-Rehman	Lab Engineer B. Arch.(MUET), MCRP(MUET)
6.	Engr. Muzamil Hussain Tunio	Jr.Lab Engineer B.E (QUEST)
7.	Engr. Abdul Qadeer Zardari	Junior Lab Engineer B.E (QUEST)

## Courses of Study

Sr.#	Name of Subject	CH		Marks	Sr.#	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>First Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	History of Building Technology	1	1	50+50	1	Construction Materials	2	1	50+50
2	Functional English	2	0	50+00	2	Applied Differential Equations	3	0	100+00
3	Calculus and Analytical Geometry	3	0	100+00	3	Pakistan and Islamic Studies	3	0	100+00
4	Applied Physics	2	1	50+50	4	Engineering Mechanics	2	1	50+50
5	Computer Fundamentals	3	0	100+00	5	Occupational Health and Safety	1	0	50+00
6	Engineering Drawing	1	2	50+50	6	Fine Arts	1	1	50+50
Total		12	4	400+150	Total		12	3	400+150

Sr.#	Name of Subject	CH		Marks	Sr.#	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>Second Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Engineering Surveying-I	2	1	50+50	1	Mechanics of Solids	3	1	100+50
2	Fluid Mechanics	2	1	50+50	2	Engineering Surveying-II	2	1	50+50
3	Soil Mechanics	2	1	50+50	3	Structural Analysis-I	3	0	100+00
4	Communication skills	3	0	100+00	4	Engineering Economics	2	0	50+00
5	Probability and Statistics	3	0	100+00	5	Linear Algebra	2	0	50+00
6	Electrical Systems for Buildings	2	1	50+50	6	Architectural Design-I	1	2	50+50
	Total	14	4	400+200		Total	13	4	400+150
<b>Third Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Numerical Analysis	2	1	50+50	1	Structural Analysis-II	2	0	50+00
2	Construction Engineering	2	0	50+00	2	Quantity Surveying Engineering	2	1	50+50
3	Reinforced Concrete Design-I	3	1	100+50	3	Energy Efficient Buildings	1	1	50+50
4	Environmental Engineering	2	1	50+50	4	Architectural Design-II	1	2	50+50
5	Environmental Control Systems	2	1	50+50	5	Reinforced Concrete Design-II	3	1	100+50
6	Mechanical Systems for Buildings	1	1	50+50	6	Geotechnical and Foundation Engineering	3	1	100+50
	Total	12	5	350+250		Total	12	6	400+250
<b>Final Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Project Management	2	1	50+50	1	Building Safety	1	1	50+50
2	Town Planning	1	1	50+50	2	Integrated Building Design	1	2	50+50
3	Architectural Design-III	1	2	50+50	3	Entrepreneurship for Engineers	2	0	50+00
4	Steel Structures	3	0	100+00	4	Structural Dynamics	3	0	100+00
5	Professional Ethics	2	0	50+00	5	FYP-II	0	3	00+100
6	FYP-I	0	3	00+100					
	Total	9	7	300+250		Total	7	6	250+200
					<b>Grand Total</b>	<b>129</b>			

## DEPARTMENT OF INDUSTRIAL AND MANUFACTURING ENGINEERING



**Prof. Dr Abdul Latif Manganhar  
Chairman**

from Mehran University of Engineering and Technology Jamshoro in 2004 and PhD in Energy and Environment Engineering from the Quaid-e-Awam University of Engineering, Science and Technology Nawabshah, in 2018.

Dr Manganhar started his practical career at Mehran University College of Engineering and Technology Nawabshah. He joined MUCET, Nawabshah as a Demonstrator in Mechanical Engineering Department in August 1990. In 1996, Mehran University College of Engineering and Technology, Nawabshah was upgraded and named the Quaid-e-Awam University of Engineering and Technology Nawabshah. Now he is serving as a Professor in the Department of Mechanical Engineering QUEST, Nawabshah. In addition, he is contributing as Chairman of Colony Affaires and the Convener of Harassment Complaint Cell, QUEST Nawabshah.

Dr Manganhar has good research contributions in Manufacturing engineering as well as in Energy and Environment Engineering. He has published more than 20 research publications in HEC-recognized journals. He is teaching and supervising Master's and PhD researchers as well.

### **Introduction**

It is time to pursue a particular line of study to produce dedicated engineering professionals for industrial growth. The objective is to understand the engineering concerned issues of the industrial sector and provide solutions.

Prof. Dr Abdul Latif Manganhar is one of the most senior faculty members of the Mechanical Engineering department. He did his Bachelor of Engineering in Mechanical Engineering from Mehran University College of Engineering and Technology Nawabshah in 1990. He earned his Master's degree in Manufacturing Engineering

The programme of Industrial & Manufacturing Engineering intends to provide engineers, equipped with problem-solving advanced tools and techniques, to the industry in general and especially in the field of manufacturing engineering.

Industrial & Manufacturing Engineering is a full-time BE programme. To cope with the challenging requirement of the manufacturing industry, the plan is designed to deliver theoretical and experimental work knowledge to the graduates in various subjects of Industrial Engineering, Manufacturing Engineering, Engineering Management and Interdisciplinary subjects relevant to the program.

The objective is to equip the graduates with both technical and management skills and connect them with the industry on various projects. Industry projects will help the students to refine their concepts and gain confidence by putting theoretical knowledge into practice.

The major subject areas of the programme are Manufacturing Processes, Total Quality Management, Engineering Management and Economics, Operations Research, Health, Safety and Environment, Entrepreneurship, Robotics and Automation, Metrology and quality control, Human factor Engineering, Operations of manufacturing systems, Management information system, Maintenance Engineering.

The Programme is supported by 10 highly established laboratories, which are fully equipped with the latest equipment. The Jet Engine Test Bench, Supersonic Wind Tunnel, Computer Controlled Programmable CNC Lathe and Milling Machines, Advanced Welding Process, TIG, MIG & SPOT and a workshop are fully established for conducting practical and research. The Programme is also supported by the Mechanical Engineering Workshop which is not only limited to conducting experiments but is also used for the production of various articles, and laboratory furniture for the University at a relatively very low cost than the market.

**Degree Programme:**

## 1. Bachelor of Engineering (Industrial and Manufacturing Engineering)

## Teaching Staff

SN	Name	Designation / Qualification
01	Prof. Dr. Abdul Latif Manganhar	Professor / Chairman B.E (MUET), M.E (MUET), Ph.D (QUEST)
02	Prof. Dr. Abdul Sattar Jamali	Professor B.E (MUET), M.E (Thailand), Ph.D (China)
03	Dr. Imdad Ali Memon	Assistant Professor B.E (QUEST), M.E (QUEST), Ph.D (China)
04	Engr. Mushtaque Ahmed Lakho	Lecturer B.E (QUEST), M.E (QUEST)
05	Engr. Saddam Hussain Rajput	Lab. Engineer B.E (QUEST), M.E (QUEST)
06	Engr. Aisha Rajput	Lab. Engineer B.E (QUEST), M.E (QUEST)

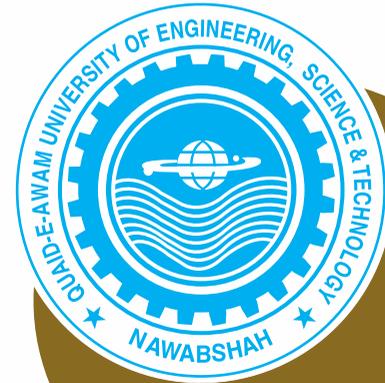
## Courses of Study

1 <sup>st</sup> Semester 1 <sup>st</sup> Year			
Sr. No.	Course Code	Course Title	Credit Hours
1	MTH 104	Pakistan Studies	(2+0)
2	EL 106	Electrical Engineering	(2+1)
3	MTH 101	Applied Calculus	(3+0)
4	IME 101	Engineering Mechanics	(3+1)
5	IME 102	Workshop Practice	(0+2)
6	MTH 106	Functional English	(3+0)
<b>Total Credit Hours</b>			<b>17(13-4)</b>
2 <sup>nd</sup> Semester 1 <sup>st</sup> Year			
Sr. No.	Course Code	Course Title	Credit Hours
1	MTH 105	Islamic Studies	(2+0)
2	MTH 211	Differential Equations	(3+0)
3	CS 100	Computer Fundamentals	(2+1)
4	MTH 107	Communication Skills	(3+0)
5	IME 203	Engineering Drawing & Graphics	(2+1)
6	IME 104	Engineering Materials	(3+0)
<b>Total Credit Hours</b>			<b>17(14-3)</b>

1 <sup>st</sup> Semester 2 <sup>nd</sup> Year			
Sr. No.	Course Code	Course Title	Credit Hours
1	IME 201	Mechanics of Machines	(2+1)
2	IME 202	Machine Design	(3+0)
3	MTH 203	Complex Variable and Transform	(3+0)
4	IME 203	Mechanics of Materials	(3+1)
5	IME 204	Applied Thermodynamics	(3+1)
<b>Total Credit Hours</b>			<b>17(14-3)</b>
2 <sup>nd</sup> Semester 2 <sup>nd</sup> Year			
Sr. No.	Course Code	Course Title	Credit Hours
1	MTH 204	Numerical Analysis & Computer Applications	(3+1)
2	IME 205	Design of Experiment	(3+0)
3	IME 206	Manufacturing Processes	(3+1)
4	IME 207	Quality and Reliability Engineering	(3+0)
5	IME 208	Fluid Mechanics	(3+1)
<b>Total Credit Hours</b>			<b>18(15-3)</b>
1 <sup>st</sup> Semester 3 <sup>rd</sup> Year			
Sr. No.	Course Code	Course Title	Credit Hours
1	MTH209	Technical report writing & Presentation skills	(2+0)
2	MTH 301	Statistics & Probability	(3+0)
3	IME 301	Work study and Method Engineering	(2+1)
4	IME 302	Computer Aided Engineering Design	(3+1)
5	IME 303	Instrumentation and Control	(2+1)
6	IME 304	Lean and Agile Manufacturing	(3+0)
<b>Total Credit Hours</b>			<b>18(15-3)</b>
2 <sup>nd</sup> Semester 3 <sup>rd</sup> Year			
Sr. No.	Course Code	Course Title	Credit Hours
1	IME 305	Operation Research	(3+1)
2	IME 306	Production Planning and Control	(3+0)
3	IME 307	Modeling and Simulation	(2+1)
4	IME 308	Computer Aided Manufacturing	(3+1)
5	IME 309	Automation and robotics	(3+0)
<b>Total Credit Hours</b>			<b>17(14-3)</b>
1 <sup>st</sup> Semester Final Year			
Sr. No.	Course Code	Course Title	Credit Hours
1.	IME 401	Finite Element Analysis	(3+1)
2.	IME 402	Maintenance Engineering	(2+0)
3.	IME 403	Human Factors Engineering	(2+1)
4.	IME 404	Production system Design	(3+1)
5.	IME 405A	FYP-I	(0+3)
<b>Total Credit Hours</b>			<b>16(10-6)</b>
2 <sup>nd</sup> Semester Final Year			
Sr. No.	Course Code	Course Title	Credit Hours
1	IME 406	Entrepreneurship	(3+0)
2	IME 407	Operations of Manufacturing system	(3+1)
3	IME 408	Human Resources Management	(3+0)
4	IME 409	Supply chain and Logistics	(3+0)
5	IME 405B	FYP-II	(0+3)
<b>Total Credit Hours</b>			<b>16(12-4)</b>

# Section-III

## FACULTY OF ENVIRONMENTAL ENGINEERING



Department of  
Environment  
Engineering



Department of  
Energy Systems  
Engineering



Department  
of  
Chemical  
Engineering



## DEPARTMENT OF ENVIRONMENT ENGINEERING



**Prof. Dr. Abdul Nasir Laghari  
Chairman**

been instrumental in shaping the department's academic and research direction, fostering a culture of excellence, and pushing the boundaries of environmental engineering education.

Before his current position, Dr. Laghari served as an Assistant Professor in the same department for thirteen years, contributing significantly to the institution's growth and development. His professional journey includes notable roles such as Deputy Director (Environment) at the Sindh Irrigation & Drainage Authority (SIDA), Hyderabad, and Lecturer at the Institute of Environmental Engineering & Management, Mehran University of Engineering & Technology (MUET), Jamshoro. Throughout his career, Dr. Laghari has undertaken additional responsibilities, including chairing various departments and serving in administrative capacities, showcasing his versatility and dedication to the field.

Dr. Laghari's academic achievements are remarkable, including a Bachelor of Engineering in Civil Engineering from Mehran University of Engineering & Technology (MUET), Jamshoro, Pakistan, a Master of Science in Environmental Resource Management from Brandenburg Technical University (BTU), Cottbus, Germany, and a Ph.D. in Engineering Sciences with a specialization in Environmental Engineering from the University of Innsbruck (UIBK), Austria. His research interests span a wide spectrum, from climate change and water resources management to pollution control and environmental impact assessment. With a diverse skill set and unwavering commitment, Dr. Abdul Nasir Laghari has authored over 30 publications, published in highly reputable international journals, contributing significantly to the advancement of environmental science and engineering. Additionally, he has played a pivotal role in preparation of various schemes for SIDA, including the development of legal and regulatory frameworks for urban/industrial effluent disposal, groundwater extraction, wetland management, capacity building of environmental management organizations, establishment of environmental baselines, and environmental awareness programs for farmer communities, sponsored by NDP and the Asian Development Bank.

Dr. Abdul Nasir Laghari, Chairman of the Environment Engineering Department at Quaid-E-Awam University of Engineering, Science & Technology (QUEST), Nawabshah, Pakistan, is an esteemed environmentalist with a profound academic background and extensive professional experience. With over two decades of dedicated service, Dr. Laghari has demonstrated exemplary leadership and innovation in the field of environmental engineering. Since assuming the role of Professor at QUEST in December 2018, he has

### Introduction

Pakistan is a developing country and is gifted by Almighty Allah with immense natural resources. In the past agriculture was the main sector contributing to the country's economic development. However, in the past decades, there is considerable expansion and development in the urbanization, industrialization and transportation sectors. The growth in these sectors has caused an abrupt change in the natural environment. When there is a change in the natural environment it results in environmental pollution. As a result, environmental pollution causes affect all valuable environmental components like water, air, soil, fauna and flora.

The effects caused by this environmental deterioration are not limited to local areas but rather may cause impacts on the regional or international level.

To address the matters of the environmental deterioration caused by the transportation, urbanization, and industrialization sectors, the new department "Environment Engineering" is introduced in Quaid e Awam University of Engineering, Science & Technology, Nawabshah. The graduate environment engineers will be able to understand, investigate, plan, design and mitigate the factors causing deterioration in the natural environment.

The department has highly qualified and experienced faculty members to teach environment engineering courses to impart in-depth knowledge in the discipline. The students will be provided with on-hand knowledge about the natural environment and engaged in state-of-the-art laboratories to learn and apply the same in their professional careers.

### Facilities Available in the Department

Since Environment Engineering is a new department and is being spilt from the Energy & Environment Engineering Department therefore the majority of laboratory facilities will be utilized from those laboratories already existing in Energy and Environment Engineering Department. The details of these are given as under:

#### Computer Laboratories

Two fully equipped computer labs are existing to fulfilling the computational requirements of the new department. In these labs more than 50 latest personal computers are available and are connected to the internet and digital library. The students can access the internet free of charge. At the same time, the students can access e-books free of charge to these thousands of books through HEC extended facility.

#### Seminar Library

The department has its Seminar Library with books on engineering subjects in general and Environmental Engineering in particular. The Library has also enough stock of the latest Journals, research articles, newsletters etc. the interested students and faculty members can have a copy of the same for education and knowledge.

### Environment Laboratory

A fully equipped Environment Engineering Lab is available in the department. In this lab majority of pollution measuring latest equipment relating to air, water and wastewater quality parameters are available. The availability of the latest equipment trains studying students' state-of-the-art knowledge about monitoring of natural environment scientifically. The experienced and trained lab staff is fully engaged with the students for gaining practical base techniques and methodologies for monitoring the valuable environmental parameters.

### Engineering Materials & Fluid Mechanics Laboratory

This lab is available to provide practical knowledge regarding engineering materials and fluid mechanics characteristics. Many types of equipment like Universal Testing Machines (UTM) for testing all kinds of materials (Metals and Non-Metals) including rubber are also available in this lab.

### Thermodynamics Laboratory

In this lab variety of equipment are available for carrying out practical experiments. Various important equipment like Internal Combustion Engine (Diesel & Petrol), Vapor Jet Refrigeration Unit, Heat Transfer Unit (Conduction, Radiation and Convection), Flue Gas Analyzer, Fuel

Combustion Unit, etc. are available.

### Biofuel Laboratory

This is a newly established lab in the department to conduct practicals related to biofuels, chemical titrations, treatment of crude oil and oil-related quality parameters.

### Quality Policy

The Environment Engineering Department is committed to imparting Quality Education through theoretical deliberations, laboratory base practical experiments, technical field visits and internship activities so that the students can seek enhanced skills and thorough knowledge.

### Vision:

To produce professional graduates to cater for the requirements of the market for the socio-economic development of the country.

### Mission:

The department of Environment Engineering is committed to imparting state-of-the-art quality education to enrolled students through theoretical deliberations, laboratory base practical experiments; technical field visits and internship activities so that the students can seek enhanced skills and thorough knowledge.

## Degree Programme:

**Bachelor of Engineering (Environmental Engineering)**

**Master of Engineering (Environmental Engineering)**

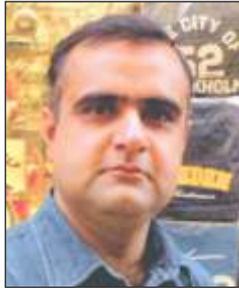
### Teaching Staff

SN	Name	Designation / Qualification
01	Prof. Dr. Abdul Nasir Laghari	Professor & Chairman B.E (MUET), M.E (Germany), MSc (NUST), PhD (Austria)
02	Prof. Dr. Kishan Chand Mukwana	Professor & Dean Faculty of Environmental Engineering B.E (MUET), M.E (MUET), Ph.D (QUEST)
03	Prof. Dr. Abdul Qayoom Jakhrani	Professor B.E (MUET), ME (MUET), Ph.D (Malaysia)
04	Dr. Abdul Rehman Jatoi	Associate Professor B.E (QUEST), M.E (QUEST), PhD (QUEST)
05	Dr. Ahsanullah Soomro	Associate Professor B.E (QUEST), M.E.(QUEST), PhD (China)
06	Dr. Asif Saleh Qureshi	Assistant Professor B.E (QUEST), Lic. (Sweden), Ph.D (Sweden) (on Post Doc study leave abroad)
07	Dr. Imran Ahmed Samo	Assistant Professor B.E (QUEST), M.E.(QUEST), PhD (China)
08	Dr. Asif Ali Siyal	Assistant Professor B.E (QUEST), M.E.(QUEST), PhD (China)
09	Engr. Haris Jawad Arain	Lab Engineer B.E (QUEST), PGD (MUET), M.E (QUEST)
10	Engr. Ameen Abdul Raqeeb	Lab Engineer B.E (QUEST), M.E (QUEST)

# Courses of Study

Sr. #	Name of Subject	CH		Marks	Sr. #	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>First Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Introduction to Environmental Engineering	3	0	100+00	1	Surveying & Leveling	3	1	100+50
2	Computer Fundamentals	2	1	50+50	2	Pakistan Studies	2	0	50+00
3	Islamic Studies/Ethics	2	0	50+00	3	Applied Calculus	3	0	100+00
4	Functional English	3	0	100+00	4	Environmental Physics	3	0	100+00
5	Environmental Chemistry	3	1	100+50	5	Introduction to Microbiology	2	1	50+50
	Total	13	2	400+100		Total	13	2	400+100
<b>Second Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Electrical Technology	3	1	100+50	1	Environmental Hydrology	2	1	50+50
2	Engineering Drawing & Graphics	2	1	50+50	2	Applied Thermodynamics	3	1	100+50
3	Linear Algebra & Analytical Geometry	3	0	100+00	3	Differential Equations & Fourier Series	3	0	100+00
4	Fluid Mechanics	3	1	100+50	4	GIS & Remote Sensing	3	1	100+50
5	Water Supply & Treatment Engineering	3	1	100+50	5	Communication Skills	3	0	100+00
	Total	14	4	450+200		Total	14	3	450+150
<b>Third Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Sustainable Development & Urban Planning	2	0	50+00	1	Green Energy Technologies	3	1	100+50
2	Numerical Analysis & Computer Applications	3	1	100+50	2	Biotechnology	2	1	50+50
3	Air & Noise Pollution Control	3	1	100+50	3	Health, Safety & Environment	3	0	100+00
4	Wastewater Engineering	3	1	100+50	4	Statistics & Probability	3	0	100+00
5	Agricultural Pollution	2	0	50+00	5	Solid Waste Management	3	1	100+50
	Total	13	3	400+150		Total	14	3	450+150
<b>Final Year</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Environmental Economics & Entrepreneurship	3	0	100+00	1	Risk Assessment & Management	3	0	100+00
2	Modeling of Environmental Systems	2	1	50+50	2	Natural Resources Management	3	0	100+00
3	Industrial Pollution & Control	3	1	100+50	3	Environmental Impact Assessment	3	0	100+00
4	Project Planning & Management	3	0	100+00	4	Cleaner Production Techniques	2	1	50+50
5	Environmental Laws & Policies	2	0	50+00	5	FYP-II	0	3	00+100
6	FYP-I	0	3	0+100					
	Total	13	5	400+200		Total	11	4	350+150

## DEPARTMENT OF ENERGY SYSTEMS ENGINEERING



**Prof. Dr. Shahid H. Siyal**  
**Chairman**

Dr. Shahid Hussain Siyal is working as a Professor and Chairman of Energy Systems Engineering Department. Dr. Shahid is an active researcher and his research interest is Application of GIS (Geographic Information System) to assess renewable energies resource potentials on local, national and regional levels. During his

PhD studies he assessed wind-to-hydrogen energy potential by using GIS-based methodology for Sweden to meet future renewable targets in the country. He published more than 17 research publications in well reputed international & national journals recognized by Higher Education Commission (HEC) Pakistan. Furthermore, he presented research work in various conferences. Dr. Shahid has supervised five Masters Students at Royal Institute of Technology (KTH), Stockholm, Sweden.

In 2003, Dr. Shahid completed Bachelor of Mechanical Engineering from Quaid-e-Awam University of Engineering, Sciences and Technology, Nawabshah (QUEST). In 2012 and 2019, he completed Master's degree in Sustainable Energy Engineering and PhD degree in Energy Technology respectively from Royal Institute of Technology (KTH), Stockholm, Sweden.

During 2004-2005, Dr. Shahid worked as Trainee Assistant Manager at Thatta Cement Factory. During 2005-2006, he worked as Assistant Manager at Pakistan Steel Mills, Karachi. Later, he left the Steel Mills in September 2006 and joined the QUEST, Nawabshah as a lecturer at the Department of Energy and Environment Engineering. After three years of service at QUEST, he went to Sweden for MS and PhD studies under Faculty Development Program (FDP) sponsored by HEC.

### Introduction

The Department of Energy Systems Engineering focuses on the design and operation of energy intensive processes in a more efficient and economic manner through mathematical optimization. The field of Energy Systems Engineering deals with energy efficiency, energy services, facility management, plant engineering, environmental compliance, sustainable energy and renewable energy technologies. This program offers a broad range of theoretical and applications-based courses to provide comprehensive knowledge across the field.

The courses offered by the department are mainly focused on major energy resources like Oil, Gas, Coal, Nuclear, Wind, Biomass and Solar. Because, it is important for stakeholders to exploit all energy resources and thereby improve energy security in order to reduce environmental pollution and economic burden caused by heavy imports of energy related products. Consequently, the emphasis has been given to cover the following important areas:

- Exploration/Exploitation and processing of various energy resources (both conventional as well as renewable).
- Environmental impacts of energy production and utilization - Solution/ Mitigation measures for reducing environmental pollution Conservation of energy and natural resources.
- Conservation of Biodiversity & Ecosystems.
- Framing energy policy and management.
- Health and safety in industries.

Public concern about processes which affect the environment will continue to influence almost all industrial operations over the next decade and beyond. Energy production and the minimization of pollution are the key problems to be addressed for the sustainable cities of the future. In world of finite resources and witnessing a population explosion, much effort is being made to change the way in which developed societies consume energy and materials. Thus, courses are designed to provide broader technical knowledge through theory classes supported by tutorials, laboratory experiments and field visits.

The engineers graduating from this discipline are being employed by: Water and Power Development Authority (WAPDA), Gas companies, Oil Refineries, Oil and Gas Development Corporation (OGDC), Environmental Protection Agency (EPA), Ministry of Climate Change and Alternate Energy Board, Pakistan International Airlines (PIA), Fauji Fertilizer Company (FFC), Pakistan Railways, Heavy Mechanical Complex (HMC), Pakistan Ordinance Factories (POFs), Heavy Industries Taxila (HIT).

Faculty members having higher qualifications from developed countries, such as UK, Germany, Austria, Sweden, Malaysia, France and Thailand, are imparting knowledge to students of this department with best possible pedagogical methods and help of latest technologies. The proactive faculty of this department keeps improving their training and education by attending course, national and international conferences, and getting higher degrees inland and abroad.

#### Vision

To produce the graduate professional in the targeted field to meet the job market for socio-economic & sustainable development of country.

#### Mission

The Department is committed to provide quality education, training, and outreach services through teaching, research, innovation, and extension for sustainable global development. The department takes care of an intellectual culture that integrates theory with practice and produce graduates with knowledge, skills, and responsible citizenry.

#### Programme Educational Objectives (PEOs)

After graduation, the students of the Energy Systems Engineering Programme are expected to attain the following PEOs:

1. Having strong knowledge and skills in Energy Systems engineering discipline.
2. Pursuing research and innovation and be able to provide industrial solutions for mitigation of energy crisis to overcome the energy demand.
3. Participating actively in efforts to address energy, environmental and societal, challenges to achieve sustainable development.

#### Degree Programme

At present, the department offers the following degree programs:

1. Bachelor of Engineering (BE) in Energy Systems Engineering.
2. Master of Engineering (ME) in Energy Systems Engineering.
3. Doctor of Philosophy (PhD) in Energy and Environment Engineering.

## FACILITIES AT DEPARTMENT

### Computer Laboratories

Two fully equipped computer labs are established for students of this department. In these labs, more than 50 latest PCs connected with Internet and Digital Library to access latest literature and scientific findings are available.

### Seminar Library

The department has its own individual seminar library with all necessary books, journals, research articles, newsletters, etc. for the use of students and faculty members of this department.

## LABORATORIES AT DEPARTMENT

### Energy Laboratory

This lab is equipped with latest equipment in order to provide practical knowledge of all energy generation processing units to students. In this lab Miniature Hydel and Wind power plant, Photovoltaic cells, solar power plant and other demonstrating units are available for the students.

### Environment Laboratory

In this lab, environmental pollution measuring equipment relating to air, noise & water such as, BOD, COD, DO, Turbidity, Spectrophotometer, and Conductivity / TDS meters, Particulate matter, Gas Analyzer, Weather Station are also available. Besides this water quality testing equipments are also available in this lab. This lab will provide practical knowledge about the environmental pollution to the students.

### Engineering Materials & Fluid Mechanics Laboratory

This lab provides practical knowledge regarding Engineering Materials & Fluid Mechanics to the students. Many equipment is lying such as Universal Testing Machines (UTMs) for testing all kinds of material (Metals & Non-Metals) including rubber are also available in this lab. Other equipments related to fluid mechanics are also available to provide practical knowledge to students.

### Thermodynamic Laboratory

In this laboratory numerous experiments are being conducted related to Thermodynamics, Heat & Mass Transfer, Power Plant and Fuel & Combustions. Various important equipment such as Internal Combustion Engines (Diesel & Petrol), miniature Steam Power Plant, Vapor jet Refrigeration Unit, Heat Transfer Unit (Conduction, Radiation, Convection) Flue gas analyzer, Fuel combustion unit, Impulse turbine, and Cross flow heat exchanger etc., are also available in the laboratory.

### Biofuel Laboratory

This is newly established lab in the department to conduct practical related to chemical titration, treatment of crude oils, and investigation of oil quality parameters. The practical work is also carried out in order to determine Free Fatty Acids (FFA),

Saponification values total acid Number etc. After analysis of crude oil biodiesel is produced through single esterification or transesterification. In addition, a processor model no Fuelpod2 with 50 L capacity is available to produce biodiesel at mass production from waste cooking oil and non-edible oils which is very cheap from diesel oil.

### Quality Policy

The department is committed to impart Quality Education for building and strengthening student's skills to uplift the career so as to enable them to bring brilliant academic achievements and industrial leadership.

### Teaching Faculty

SN	Name	Designation / Qualification
1.	Prof. Dr. Shahid Hussain Siyal	Professor & Chairman B.E (QUEST), M.E (Sweden), PhD (Sweden)
2.	Prof. Dr. Saleem Raza Samo	Professor & Vice Chancellor B.E. (MUET), M.E (Thailand), PhD (UK)
3.	Prof. Dr. Asif Ali Memon	Professor B.E (QUEST), M.E(France), Ph.D (France)
4.	Prof. Dr. Abdul Qayoom Jakhrani	Professor B.E (MUET), M.E(MUET), Ph.D (Malaysia)
5.	Dr. Zafar Ali Siyal	Associate Professor B.E (QUEST), M.E(QUEST), PhD (QUEST)
6.	Engr. M. Junaid Ahsan Arain	Assistant Professor B.E (QUEST), M.E(QUEST)
7.	Dr. Zaki Hassan Memon	Assistant Professor B.E (QUEST), M.E (MUET), PhD (China)
8.	Dr. Mahdi Hassan Mallah	Assistant Professor B.E (QUEST), M.E (QUEST), PhD (China)
9.	Engr. Yasir Ali Memon	Lecturer B.E (QUEST), PGD (QUEST)
10.	Engr. Hammad Hashmi	Lecturer B.E (QUEST), M.E (QUEST)
11.	Engr. Urooj Gul	Jr. Lab Engineer B.E (QUEST), M.E (QUEST) (on study leave abroad)

# Courses of Study

List of courses for the Energy Systems Engineering.

SEMESTER-1				SEMESTER-2			
	Course Title	Th.	Pr.		Course Title	Th.	Pr.
1	Energy Systems & Resources	3	0	1	Engineering Thermodynamics	3	1
2	Functional English	3	0	2	Basic Electrical Engineering	2	1
3	Applied Calculus	3	0	3	Engineering Drawing & Graphics	2	1
4	Workshop Technology	0	1	4	Differential Equations, Power Series, Laplace Transform	3	0
5	Computer Fundamental	2	1	5	Communication Skills	3	0
6	Islamic Studies / Ethics	2	0	6	Pakistan Studies	2	0
<b>Sub Total</b>		<b>13</b>	<b>2</b>	<b>Sub Total</b>		<b>15</b>	<b>3</b>
<b>Total credits</b>		<b>15</b>		<b>Total credits</b>		<b>18</b>	
SEMESTER-3				SEMESTER-4			
	Course Title	Th.	Pr.		Course Title	Th.	Pr.
1	Fuels & Combustion	3	1	1	Thermal Systems Engineering	3	1
2	Fluid Mechanics	3	0	2	Hydro Power Engineering	3	1
3	Materials for Energy Applications	2	0	3	Bio-Energy Engineering	3	1
4	Numerical Analysis and Computer Applications	3	1	4	Instrumentation & Measurement	2	1
5	Basic Electronics	2	1	5	Statistics & Probability	3	0
6	Computer Programming	2	1				
<b>Sub Total</b>		<b>15</b>	<b>4</b>	<b>Sub Total</b>		<b>14</b>	<b>4</b>
<b>Total credits</b>		<b>19</b>		<b>Total credits</b>		<b>18</b>	
SEMESTER-5				SEMESTER-6			
	Course Title	Th.	Pr.		Course Title	Th.	Pr.
1	Heat & Mass Transfer	3	1	1	Solar Thermal Technologies	3	1
2	Photovoltaic Technology	3	1	2	Power Plant Technology	3	0
3	Health Safety & Environment	3	0	3	Energy Efficiency in Buildings	3	0
4	Energy Conservation & Auditing	3	0	4	Energy Storage Technologies	3	1
5	Hybrid Vehicles & Smarter Energy	3	0	5	Technical Report Writing	3	0
<b>Sub Total</b>		<b>15</b>	<b>2</b>	<b>Sub Total</b>		<b>15</b>	<b>2</b>
<b>Total credits</b>		<b>17</b>		<b>Total credits</b>		<b>17</b>	
SEMESTER-7				SEMESTER-8			
	Course Title	Th.	Pr.		Course Title	Th.	Pr.
1	Wind Energy Engineering	3	1	1	Climate Change & Environment	3	1
2	Power Transmission, Distribution & Utilization	3	0	2	Energy Planning & Economics	3	0
3	Computer Applications in Energy Systems	2	1	3	Clean Coal Technologies	3	0
4	Project Management	3	0	4	Entrepreneurship & Innovation	3	0
5	Final Year Project - I	0	3	5	Final Year Project – II	0	3
<b>Sub Total</b>		<b>11</b>	<b>5</b>	<b>Sub Total</b>		<b>12</b>	<b>4</b>
<b>Total credits</b>		<b>16</b>		<b>Total credits</b>		<b>16</b>	

# DEPARTMENT OF CHEMICAL ENGINEERING



**Dr. Kashif Hussain Mangi**  
**I/C Chairman**

Dr. Kashif Hussain Mangi, PhD in Process and Bioprocess Engineering mainly focused to develop passive thermal regulation for microalgae production in a solar photobioreactor from the University of Nantes, France. Dr. Mangi is equipped with modern research and technology skills.

Dr. Mangi has been engaged in collaborative research with researchers from France, USA,

Korea, Malaysia, and China. He has published more than 20 peer-reviewed research publication, which are focused to the field of chemical engineering, renewable energy, process, and energy optimization.

With a very vast professional experience in academics, research, and industrial sectors for more than 15 years, Dr. Mangi has a significant understanding of the National and International curriculum of Chemical Engineering and allied fields. Dr. Mangi has worked in Pakistan's leading universities where he has been equipped with management and admirative skills by performing in different administrative roles such as a departmental coordinator for Postgraduate Programs, University-Industry Linkage, Examinations and Quality Enhancement. Dr. Mangi has also pioneered the International Student Chartered Chapter of American Chemical Society, USA which is consistently being recognised **Outstanding** and **Commendable** awards by International Review Committee of American Chemical Society, USA.

## Introduction

The Department of Chemical Engineering holds Level-II accreditation by the Pakistan Engineering Council, in accordance with the standards and prerequisites set forth by the Washington Accord. It was established in 2013 to address the pressing issue of a severe shortage of chemical engineers in the country and to provide high-quality education in a research-oriented environment with ample opportunities for personal and professional development.

The department boasts a team of highly qualified and experienced faculty members dedicated to delivering foundational courses within a friendly and congenial environment. Students enrolled in the program benefit from access to state-of-the-art laboratories, providing hands-on experience in applying fundamental principles of chemical engineering. These laboratories are not only equipped for practical education but also actively engage in cutting-edge research and development within the field of chemical engineering.

The curriculum also addresses challenges in process improvement, energy efficiency, process simulation, environmental and green engineering, heat and

mass transfer, and material engineering domains. By integrating modern perspectives and emerging technologies into our curriculum, we aim to produce well-rounded chemical engineers equipped to contribute to sustainable solutions and advancements in the field. The Department of Chemical Engineering provides students with a comprehensive and forward-looking education that prepares them for success in the modern chemical engineering landscape.

Our Alumni have a proved themselves by acquiring professional roles in Pakistan's leading organizations including Engro Corporation, Lucky Group of Companies, Oil and Gas, Sugar, and Cement Industries.

## FACILITIES AVAILABLE IN THE DEPARTMENT

### Seminar Library

The seminar library is established with all necessary books, research journals, articles, magazines, and newsletters. They are available for the use of students and faculty members of the Chemical Engineering department.

### Computer Laboratory

The department provides students with fully equipped computer labs. In these labs, more than 30 latest PCs connected to the internet and digital library are available to access the latest literature and scientific findings. Efforts are being made to arrange more PCs with enhanced specifications and video conferencing in this department for faculty members and students as well.

### Heat Transfer Laboratory

Practicals related to conduction, convection and radiation are performed in the Heat transfer laboratory.

### Mass Transfer Laboratory

Practicals related to mass transfer including gas and liquid diffusion, Liquid-liquid Extraction, and reactive mass transfer are performed in this laboratory

### Simultaneous Heat & Mass Transfer Laboratory

In this laboratory practicals of Mass Transfer and Heat Transfer are performed. The lab is equipped with equipment such as a Gas absorption column, diffusion apparatus for gas and liquid, steam generator (Boiler), distillation column, climbing film evaporator and Tray dryer.

### Particulate Laboratory

In this laboratory, practical related to unit operation is performed. Equipment such as plate and frame filtration unit, sedimentation, crushing, and mixing are available.

### Instrumentation & Control Laboratory

In this lab, practical related to Instrumentation & Control(IC) is performed. Equipment such as temperature control, level control, pressure control, and multivariable control system with the latest design is available.

### Fluid Mechanics Laboratory

In this lab Practials related to flow such as pumps operation, flow through an orifice, rotameter, venturi, and dimensionless number calculations are performed in the laboratory

### Biochemical Laboratory

Aerobic and Anaerobic Bio Digester

**Vision**

To produce professional graduates to cater for the requirements of the market for socio-economic development at the national and international levels.

**Mission**

To provide the state of art education and to develop the skills through effective teaching, industrial exposure and research innovation with modern trends.

**Program Educational Objectives (PEOs)**

The program educational objectives (PEOs) are formed based on the vision and mission of the Department of Chemical Engineering as well as QUEST. These

PEOs are designed for the implementation of the OBE system through the faculty meeting of the Department of Chemical Engineering and approved by the Board of studies, Board of faculty and Academic council. The students with a Bachelor of Engineering in Chemical are expected to accomplish the following PEOs.

PEO 1: To produce Chemical Engineers capable of meeting the challenges of industries, academia and society.

PEO 2: To impart knowledge of core chemical engineering subjects and to enable students to solve complex engineering problems.

PEO3: To produce Chemical Engineers having engineering ethics, effective communication and the capability to work as an individual and in a team.

**Teaching Staff**

S. No.	Faculty Member(s)	Designation/ Qualification
1.	Dr. Kashif Hussain Mangi	In-Charge Chairman / Assistant Professor PhD (Nantes, France), M.E (MUET), B.E (MUET)
2.	Dr. Rizwan Khan Soomro	Associate Professor PhD (S Korea), M.E (MUET), B.E (MUET)
3.	Dr. Babar Ali Qureshi	Assistant Professor (on Leave) PhD(Tsinghua Uni., China), M.E (MUET), B.E (MUET)
4.	Dr. Abdul Sami Channa	Assistant Professor PhD (BUCT, China), M.E. (QUEST), B.E (MUET)
5.	Engr. Zubair Ahmed Chandio	Assistant Professor M.E (UTP, Malaysia), B.E (MUET) (on Study Leave)
6.	Engr. Nabi Bux Jalbani	Assistant Professor M.E (MUET), B.E (MUET) (on Leave)
7.	Engr. Hira Lal Soni	Assistant Professor M.E (NED-UET), B.E (NED-UET) (on Study Leave)
8.	Engr. Mukhtiar Ali Mallah	Lecturer B.E (MUET) (on Study Leave)
9.	Engr. Shafeeque Ahmed Wahocho	Lecturer M.E (NED-UET), B.E (MUET) (on Study Leave)
10.	Dr. Faheem Akhtar Shaikh	Lab Engineer PhD (MUET), M.E (MUET), B.E (MUET)
11.	Engr. Hafiz Aneesur Rehman	Lab Engineer PhD (In Progress), M.E (MUET), B.E (MUET)
12.	Engr. Mahmood Nabi Abbasi	Jr. Lab Engineer M.E (MUET), B.E (MUET) (Ph.D in progress)
13.	Engr. Ahsan Atta Rao	Jr. Lab Engineer M.E (MUET), B.E (MUET) (on Study Leave)
14.	Engr. Aamir Bhatti	Jr. Lab Engineer B.E (QUEST), (M.E in progress)

## 1. Engineering Knowledge

An ability to apply knowledge of mathematics, science, engineering fundamentals and engineering specialization to the solution of complex engineering problems.

## 2. Problem Analysis

An ability to identify, formulate, research literature, and analyses complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

## 3. Design / Development of Solutions

An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

## 4. Investigation

An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.

## 5. Modern Tool Usage

An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations.

## 6. The Engineer and Society

An ability to apply reasoning informed by contextual knowledge to

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

## 7. Environment and Sustainability

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

## 8. Ethics

Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

## 9. Individual and Teamwork

An ability to work effectively, as an individual or in a team on multifaceted and/or multidisciplinary settings.

## 10. Communication

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

## 11. Project Management

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

## 12. Lifelong Learning

An ability to recognize importance and pursue lifelong learning in the broader context of innovation and technological developments.

## COURSES OF STUDY

### First Year, 1<sup>st</sup> Semester

S. No	Name of Subject	Credit Hour		Total credit hour	Maximum marks	
		Th	Pr		Th	Pr
01	Basic Chemical Engineering	2	0	02	50	00
02	Engineering Drawing & Computer Graphics	2	1	04	50	50
03	Pakistan Studies	2	0	02	50	00
04	Islamic Studies/ Ethics	2	0	02	50	00
05	Functional English	2	0	02	50	00
06	Linear Algebra & Analytical Geometry	3	0	03	100	00
07	Workshop Practice	0	2	02	00	100
	Total	13	03	16	350	150

**First Year, 2<sup>nd</sup> Semester**

S.No	Name of Subject	Credit Hour		Total credit hour	Maximum marks	
		Th	Pr		Th	Pr
01	Chemical Process Technology	3	0	3	100	00
02	Inorganic & Organic Chemistry	2	1	3	50	50
03	Engineering Materials	2	0	2	50	00
04	Engineering Mechanics	2	0	2	50	00
05	Applied Calculus	3	0	3	100	00
06	Basic Electrical Technology	2	1	3	50	50
	Total	14	2	16	400	100

**Second Year, 1<sup>st</sup> Semester**

S.No	Name of Subject	Credit Hour		Total credit hour	Maximum marks	
		Th	Pr		Th	Pr
01	Chemical Engineering Thermodynamics-I	3	1	4	100	50
02	Chemical Process Calculations-I	2	0	2	50	00
03	Health, Safety & Environment	2	0	2	50	00
04	Chemical Engineering Fluid Mechanics-I	3	1	4	100	50
05	Physical & Analytical Chemistry	2	0	2	50	00
06	Differential Equations & Fourier Series	3	0	3	100	00
	Total	15	2	17	450	100

**Second Year, 2<sup>nd</sup> Semester**

S.No	Name of Subject	Credit Hour		Total credit hour	Maximum marks	
		Th	Pr		Th	Pr
01	Chemical Engineering Fluid Mechanics-II	3	1	4	100	50
02	Chemical Engineering Thermodynamics-II	3	0	3	100	00
03	Chemical Process Calculations- II	3	0	3	100	00
04	Particulate Technology	3	1	4	100	50
05	Complex Variable & Laplace Transform	3	0	3	100	00
	Total	15	2	17	500	100

**Third Year, 1<sup>st</sup> Semester**

S.No	Name of Subject	Credit Hour		Total credit hour	Maximum marks	
		Th	Pr		Th	Pr
01	Mass Transfer	3	1	4	100	50
03	Heat Transfer Operation	3	1	4	100	50
04	Chemical Engineering Plant Design	2	0	2	50	00
05	Introduction to Computers & Programming Concepts	3	1	4	100	50
	Numerical Analysis & Computer Applications	3	1	4	100	50
	Total	14	4	18	450	200

**Third Year, 2<sup>nd</sup> Semester**

S.No	Name of Subject	Credit Hour		Total credit hour	Maximum marks	
		Th	Pr		Th	Pr
01	Chemical Reaction Engineering	3	1	4	100	50
02	Engineering Economics	2	0	2	50	00
03	Fuel & Energy	3	1	4	100	50
04	Simultaneous Heat & Mass Transfer	3	1	4	100	50
05	Statistics & Probability	3	0	3	100	00
	Total	14	3	17	450	200

**Fourth Year, 1<sup>st</sup> Semester**

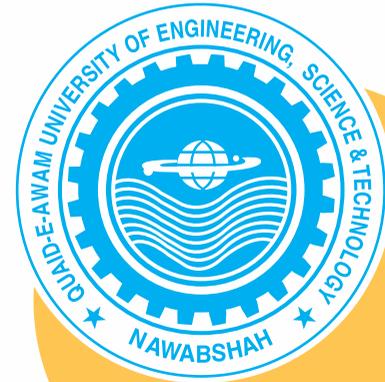
S. No	Name of Subject	Credit Hour		Total credit hour	Maximum marks	
		Th	Pr		Th	Pr
01	Entrepreneurship & Innovation	2	0	2	50	00
02	Instrumentation & Process Control	3	1	4	100	50
03	Pollution Control Engineering	3	1	3	100	50
04	Transport Phenomena	3	0	3	100	00
05	Technical Report Writing & Communication Skills	2	0	2	50	00
06	Final Year Project-I	0	3	3	00	100
	Total	13	5	18	400	200

**Fourth Year, 2<sup>nd</sup> Semester**

S.No	Name of Subject	Credit Hour		Total credit hour	Maximum marks	
		Th	Pr		Th	Pr
01	Chemical Process Design & Simulation	2	1	3	50	50
02	Industrial Management	2	0	2	50	00
03	Petroleum Refinery & Gas Engineering	3	0	3	100	00
05	Biochemical Engineering	3	1	4	100	50
06	Final Year Project-II	0	3	3	00	100

# Section-IV

**FACULTY OF  
ELECTRICAL, ELECTRONIC &  
COMPUTER SYSTEMS  
ENGINEERING**



**Department of  
Electrical  
Engineering**



**Department of  
Electronic  
Engineering**



**Department of  
Computer Systems  
Engineering**



**DEPARTMENT OF TELECOMMUNICATION ENGINEERING**

**DEPARTMENT OF SOFTWARE ENGINEERING**

**DEPARTMENT OF ELECTRICAL ENGINEERING (AUTOMATION & CONTROL)**

**BIOMEDICAL ENGINEERING**

## DEPARTMENT OF ELECTRICAL ENGINEERING



**Prof. Dr. Abdul Sattar Saand,  
Chairman**

networks from Mehran University of Engineering and Technology Jamshoro (MUET), Sindh, Pakistan, in 2005.

He is awarded with many professional and academic awards. He started his carrier as a lecturer at NED University of Engineering and Technology Karachi, Sindh, Pakistan, March, 2000- June, 2001. He worked for more than eight years as a Senior Engineer Telecom (IP and multimedia broadband) at Pakistan Telecommunication Company limited since June, 2001 to July, 2009. Since Dec 2018 he is working as a professor at the department of electrical engineering. Dr. Saand has more than 19 years professional and academic experience of National and International level. He has worked with various organizations at technical managerial level and is well trained nationally and internationally. Dr. Saand is the author of a book chapter titled **"Beamforming for relay assisted MIMO" published by IGI Global USA-2017**. Author of a book Titled **"My little book of Quotations" Subtitled the Sense of inspiration March, 2018**. He is author of more than 34 research publications, published in local and international journals. At present he is supervising **FIVE PhD** students. His research interests are MIMO Technology, Relay assisted MIMO Technology, Massive MIMO, Massive MIMO underwater communications, Maritime wireless broadband networks using evaporation duct channel characteristics, and MIMO OFDM based systems and Non-Linear signal processing for MIMO networks. At the same time, he is editor of the QUEST research journal and editor in chief of Engineering Science and Technology International Research Journal. Dr. Saand is blessed and proud on being the Head of the Department of Electrical Engineering and belongs to the first graduating batch (93 EL) of the Quaid-e-Awam University of Engineering Science and Technology Nawabshah Sindh Pakistan.

### **Introduction**

The Department of Electrical Engineering Quaid-e-Awam University

Prof. Dr. Abdul Sattar Saand obtained PhD degree in Electrical and Electronic Engineering from Universiti Teknologi PETRONAS (UTP), Perak, Malaysia in Jan, 2016. B.E. in Electrical Engineering from Quaid-e-Awam University of Engineering, Sciences & Technology (QUEST), Nawabshah, Sindh Pakistan, in 1999 with distinction. The Master of Engineering in communication systems and

offers a highly respected undergraduate and postgraduate degree programmes and undertakes world-class research. Electrical engineering is a field that usually deals with the study and application of electricity, power engineering, and electromagnetism and new trends in electrical engineering and its associated fields. The Department of Electrical Engineering is characterized cover electrical power, power system control, power electronics, power quality and communication systems, which provides tremendous opportunities for cross-disciplinary interaction in teaching and research.

Our electrical engineering graduates have been serving the society in key academic, government, and industry positions in different parts of the world. Locally, they have made tremendous impact to the socio-economic development of the country and serving the society in every aspect. The Electrical Engineering Department of Quaid-e-Awam University has designed dynamic and focused curriculum to develop well-trained best manpower in Electrical Engineering for academic, industrial, public sector as well as research. The Department also focuses on inculcating ethical and moral values in students. Students are also motivated to participate actively in seminars, symposiums, conferences, short courses, training, workshops and internships.

The Department of Electrical Engineering is putting best efforts to produce highly trained and capable graduate engineers who can take up the challenges of the real world with knowledge, skill, competency and confidence. The academic quality is based on academic standards and practical work. The students here see their dreams come true. The students are sent for Industrial Training and Industrial study tour to different, industries and electric utilities and generation companies all over country during their course curriculum. This gives students the exposure and assurance to work in an industrial culture. Practical aspects of various subjects are supported by well-equipped laboratories such as machine laboratory, electrical power system laboratory, power electronics laboratory, basic electrical and circuit, High voltage laboratory and communication and control laboratory.

### **Vision of the department**

Fostering excellence in Electrical Engineering Education for sustainable development and industrial growth with solutions at the national and international level.

### **Mission of the program**

To provide students of Electrical Engineering with sound technical knowledge and practical skills of relevance to the contemporary industry, together with the spirit of teamwork, ability to communicate effectively and inculcating professional ethics leading to a successful career with lifelong learning.

## Program Educational Objectives (PEOs)

The program aims at imparting quality education to Electrical Engineering graduates for contributing to the society through modern technologies and practices in line with SDGs especially Goal-1, Goal-2, Goal-3, Goal-4, Goal-5, Goal-6, Goal-7, Goal-8, Goal-9, Goal-10, Goal-11 and Goal-12. The four Program educational objectives (PEOs), are as given below, form the basis of the Department of Electrical Engineering at QUEST Nawabshah. Within few years of graduation, the students with Bachelors in Electrical Engineering are expected to attain the following.

**PEO-1:** Exhibit a deep understanding of electrical engineering alongside the adept use of contemporary research trends and methodologies to gain insights into core domains.

**PEO-2:** Deliver economically feasible solutions for fundamental engineering and technical challenges, promoting socioeconomic and sustainable progress.

**PEO-3:** Embody professionalism by upholding ethical values and showcasing interpersonal skills, enabling effective career growth as both a team leader and an individual.

**PEO-4:** Persistent Advance Professional development and technical knowledge through concurrent learning and adaptation.

## Program Learning Outcomes (PLOs)

Following are Program Learning Outcomes (PLOs) graduates are expected to have by the time of graduation.

### 1. ENGINEERING KNOWLEDGE:

- An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

### 2. PROBLEM ANALYSIS:

- An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

### 3. DESIGN/DEVELOPMENT OF SOLUTIONS:

- An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

### 4. INVESTIGATION:

- An ability to investigate complex engineering problems in a methodical way including literature feedback, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.

### 5. MODERN TOOL USAGE:

- An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

### 6. THE ENGINEER AND SOCIETY:

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

## 7. ENVIRONMENT AND SUSTAINABILITY:

- An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

## 8. ETHICS:

- Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

## 9. INDIVIDUAL AND TEAM WORK:

- An ability to work effectively, as an individual or in a team, on multifaceted and/or multidisciplinary settings.

## 10. COMMUNICATION:

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

## 11. PROJECT MANAGEMENT:

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

## 12. LIFELONG LEARNING:

- An ability to recognize importance of and pursue lifelong learning in the broader context of innovation and technological developments.

The Department of Electrical Engineering's Programme Learning objectives (PLOs) are based on three perspectives: breadth, depth and professionalism:

**Breadth** – Our Graduates possess broad education, including problem-solving skills and knowledge of important current issues in electrical engineering, necessary for productive careers in the public or private sectors and for the chase of higher education.

**Depth** – Our Graduates possess an understanding of the fundamental knowledge of electrical engineering prerequisite for the practice and advanced studies in electrical engineering, including its scientific principles, rigorous analysis, and creative design.

**Professionalism** – Our Graduates demonstrate skills for clear communication and accountable teamwork, and professional attitudes and ethics, so that they are prepared for the complex modern work environment and for lifelong learning.

### 1.1.6 Degree programs offered by the department of electrical engineering:

1. Bachelors of Electrical Engineering
2. Masters of Power Engineering
3. PhD in Electrical Engineering

### Teaching Faculty

The Department of Electrical is equipped highly qualified, experienced and motivated teaching faculty which is involved in imparting quality education and strives to foster and encourage a teaching methodology that is both practical and theoretical in approach. With the help of all modern teaching methods and advanced laboratory facilities they train students to excel in various fields

## Teaching Staff

S #	Name	Designation
01	Prof. Dr. Abdul Sattar Saand	Professor/ Chairman/HoD B.E (QUEST), M.E(MUET), PhD,UTP Malaysia
02	Prof. Dr. Muhammad Usman Keerio	Professor B.E (MUET), M.E (NUST) , PhD,China
03	Prof. Dr. Aslam Pervez Memon	Professor B.E (MUET), M.Phil (MUET), Ph.D. (MUET)
04	Dr. Ghulam Mustafa Bhutto	Associate Professor B.E (QUEST), M.E/ Ph.D. (Denmark)
05	Dr. Javed Ahmed Laghari	Associate Professor B.E (MUET), M.E/PhD, UM, Malaysia
06	Dr. Ghulam Sarwar Kaloi	Associate Professor B.E (MUET), M.E(QUEST), PhD, SJTU,China
07	Engr. Muhammad Saleem Memon	Assistant Professor B.E (MUET) ,M.Phil (QUEST)
08	Engr. Abdul Sattar Memon	Assistant Professor B.E (MUET), M.E (NED)
09	Dr. Noor Hussain Mugheri	Assistant Professor B.E (QUEST) , M.E (QUEST), Ph.D. (QUEST)
10	Dr. Munwar Ayaz Memon	Assistant Professor B.E (QUEST) ,M.E/Ph.D (QUEST)
11	Engr. Rameez Akbar Talani	Assistant Professor B.E (QUEST) , M.E (MUET)
12	Engr. Waqar Ahmed Adil Chohan	Assistant Professor B.E (QUEST) , M.E (QUEST), On study leave abroad
13	Dr. Abdul Khaliq Junejo	Assistant Professor B.E (QUEST) , M.E (QUEST), PhD (HUST) China (on Post doc China)
14	Engr. Riaz Hussain Memon	Assistant Professor B.E (MUET) , M.E (QUEST)
15	Dr. Muhammad Akram Bhayo	Assistant Professor B.E (QUEST) , M.E (Germany), Ph.D (Malaysia)
16	Engr. Saadullah Chandio	Assistant Professor B.E (QUEST),M.E (QUEST)
17	Engr. Muhammad Ali Bijarani	Assistant Professor B.E (QUEST),M.E (MUET)
18	Dr. Aamir Ali Bhatti	Assistant Professor B.E (QUEST),M.E (QUEST) PhD QUEST
19	Engr. Mohsin Ali Kundhar	Lecturer B.E (QUEST),M.E (QUEST)
20	Engr. Mansab Ali Lakho	Lecturer B.E (QUEST),M.E (QUEST)
21	Dr. Masood Rehman Shaikh	Faculty Member B.E (QUEST), MSc. (Germany), Ph.D (Malaysia)
22	Engr. Fahad Hussain Zardari	Lecturer (on contract) B.E (QUEST)
23	Engr. Aushique Ali Memon	Lecturer B.E (QUEST) On study leave abroad
24	Engr. Jagdesh Kumar	Lecturer B.E (QUEST)On study leave abroad
25	Dr. Irfan Ali Soomro	Teaching Assistant B.E (QUEST), Ph.D (Malaysia)

## Courses of Study B.E (Electrical)

Sr. #	Course Title	Credit Hrs		
		Th	Pr	Marks
<b>1<sup>st</sup> Semester 1<sup>st</sup> Year</b>				
1	Electrical Workshop Practice	0	1	00+50
2	Applied Physics	3	1	100+50
3	Applied Mechanics	3	0	100+00
4	Computing Fundamentals	2	1	50+50
5	Applied Calculus	3	0	100+00
6	Functional English	3	0	100+00
	<b>Total</b>	<b>14</b>	<b>3</b>	<b>400+150</b>
<b>2<sup>nd</sup> Semester 1<sup>st</sup> Year</b>				
1	Linear Circuit Analysis	3	1	100+50
2	Electronic Devices and Circuits	3	1	100+50
3	Linear Algebra and Analytical Geometry	3	0	100+00
4	Communication Skills	3	0	100+00
5	Islamic Studies / Ethics	2	0	50+00
6	Pakistan Studies	2	0	50+00
	<b>Total</b>	<b>16</b>	<b>2</b>	<b>450+100</b>
<b>1<sup>st</sup> Semester 2<sup>nd</sup> Year</b>				
1	Electrical Network Analysis	3	0	100+00
2	Theory of Electromagnetic Field	3	0	100+00
3	Digital Logic Design	2	1	50+50
4	Computer Programming	2	1	50+50
5	Engineering Drawing	0	1	00+50
6	Differential Equations and Fourier Series	3	0	100+00
	<b>Total</b>	<b>13</b>	<b>3</b>	<b>400+150</b>
<b>2<sup>nd</sup> Semester 2<sup>nd</sup> Year</b>				
1	Instrumentation & Measurement	3	1	100+50
2	Signals and Systems	2	1	50+50
3	Electrical Machines	3	1	100+50
4	Microprocessors and Interfacing	3	1	100+50
5	Complex Variables and Transforms	3	0	100+00
	<b>Total</b>	<b>14</b>	<b>4</b>	<b>450+200</b>

Sr. #	Course Title	Credit Hours		
		Th	Pr	Marks
<b>1<sup>st</sup> Semester 3<sup>rd</sup> Year</b>				
1	Advance Electrical Machines	3	1	100+50
2	Electrical Power Generation	3	0	100+00
3	Communication Systems	3	1	100+50
4	Numerical Analysis with computer applications	3	1	100+50
5	Technical Writing	2	0	50+00
	<b>Total</b>	<b>14</b>	<b>3</b>	<b>450+150</b>
<b>2<sup>nd</sup> Semester 3<sup>rd</sup> Year</b>				
1	Electrical Power Transmission	3	1	100+50
2	Control Systems	3	1	100+50
3	Power Electronics	3	1	100+50
4	Statistics and Probability	3	0	100+00
5	Professional and social ethics	2	0	50+00
	<b>Total</b>	<b>14</b>	<b>3</b>	<b>450+150</b>
<b>1<sup>st</sup> Semester Final Year</b>				
1	Power Distribution and Utilization	3	1	100+50
2	Power System Analysis	3	1	100+50
3	Industrial Drives	3	1	100+50
4	Power Economics and Management	3	0	100+00
5	Final Year Project I (FYP-I)	0	3	00+100
	<b>Total</b>	<b>12</b>	<b>6</b>	<b>400+250</b>
<b>2<sup>nd</sup> Semester Final Year</b>				
1	Power System Control	3	1	100+50
2	Power System Protection	3	1	100+50
3	High Voltage Engineering	3	1	100+50
4	Entrepreneurship and Leadership	2	0	50+00
5	Final Year Project (FYP-II)	0	3	00+100
	<b>Total</b>	<b>11</b>	<b>6</b>	<b>350+250</b>

## DEPARTMENT OF ELECTRONIC ENGINEERING



**Prof. Dr Ehsan Ali Buriro**  
**Chairman**

Germany, in 2011 and received a PhD degree in Micro & Nanoelectronics from IM2NP-AMU, Marseilles, France in 2015. He was working in collaboration with Fraunhofer Institute (ENAS), Department of Advanced System Engineering (ASE) Paderborn, Germany and AMU Marseilles-France.

Besides this, Dr Ehsan has served as Attaché Temporaire d'Enseignement et de Recherche (ATER) for one-year at Polytechnic Marseilles, France.

He joined QUEST as Assistant Professor in 2015 and he was promoted as Associate Professor at the Department of Electronic Engineering in December 2018. He has served as Director, Continuing Education and Director Postgraduate Studies at QUEST. He was appointed as Chairman Department of Electronic Engineering in July 2020. He has produced 10 Masters of Engineering students in various Disciplines and is currently supervising 04 PhD students. His research interest is control system design, Phase Locked Loop, Modeling and Simulations, Fast & Efficient Modeling and design approaches for Mixed Signal & Systems. He has authored 07 IEEE Conferences and more than 25 publications in national and international Journals including 02 in IEEE Transactions on Circuits & systems. He has been the reviewer of many IEEE conferences and journals like IEEE TCAI & TCASII, and Springer.

### Introduction

In the present era, electronic gadgets, devices & systems are so interwoven in the socio-economic fabric of the nation that it is difficult to survive without having adequate human resources trained in the field of Electronic Engineering. Today, even other disciplines of engineering are considered incomplete without the integration of relevant electronic systems and devices. The widespread applications of electronic systems and devices constitute the catalyst for socio-economic development. Modern high-speed computers, automation and telecommunication systems have transformed our living patterns. It has not only extended human facilities but has resulted in cultural

Prof. Dr. Ehsan Ali Buriro received bachelor's degree in Electronic Engineering from MUET, Jamshoro Pakistan in 2005. In the same year, he was appointed as a Lecturer in the Department of Electronic Engineering at QUEST. He was awarded a scholarship from Faculty Development Program to pursue higher studies in Europe. He received an M.Sc degree in Electronic Engineering from HS-Bremen, University of Applied Sciences, Bremen,

Germany, in 2011 and received a PhD degree in Micro & Nanoelectronics from IM2NP-AMU, Marseilles, France in 2015. He was working in collaboration with Fraunhofer Institute (ENAS), Department of Advanced System Engineering (ASE) Paderborn, Germany and AMU Marseilles-France.

Besides this, Dr Ehsan has served as Attaché Temporaire d'Enseignement et de Recherche (ATER) for one-year at Polytechnic Marseilles, France.

He joined QUEST as Assistant Professor in 2015 and he was promoted as Associate Professor at the Department of Electronic Engineering in December 2018. He has served as Director, Continuing Education and Director Postgraduate Studies at QUEST. He was appointed as Chairman Department of Electronic Engineering in July 2020. He has produced 10 Masters of Engineering students in various Disciplines and is currently supervising 04 PhD students. His research interest is control system design, Phase Locked Loop, Modeling and Simulations, Fast & Efficient Modeling and design approaches for Mixed Signal & Systems. He has authored 07 IEEE Conferences and more than 25 publications in national and international Journals including 02 in IEEE Transactions on Circuits & systems. He has been the reviewer of many IEEE conferences and journals like IEEE TCAI & TCASII, and Springer.

In the present era, electronic gadgets, devices & systems are so interwoven in the socio-economic fabric of the nation that it is difficult to survive without having adequate human resources trained in the field of Electronic Engineering. Today, even other disciplines of engineering are considered incomplete without the integration of relevant electronic systems and devices. The widespread applications of electronic systems and devices constitute the catalyst for socio-economic development. Modern high-speed computers, automation and telecommunication systems have transformed our living patterns. It has not only extended human facilities but has resulted in cultural

innovation. Thus, it is imperative need of time to direct our efforts, time and resources to impart the latest knowledge, skills and practical training in the field of Electronic Engineering.

The department of Electronic Engineering offers a four-year (8-semester) Program leading to the degree of Bachelor of Electronic Engineering. This Department also offers a Master of Engineering in two disciplines "Communications Engineering" & "Industrial Automation & Control" and a PhD in Electronic Engineering. These programs have been designed considering all the needs and aspects of the latest trends & developments in the field of Electronic Engineering. These Programs include the teaching of courses adequately supplemented with practical hands-on training in laboratories and the use of other modern tools imparting professional education which is useful for career-oriented professional Engineers. Graduates of Electronic Engineering can find numerous placements in both public as well as private sector organizations and are eligible to pursue higher studies & training in worldwide Universities/Industries.

### Program Educational Objectives (PEOs)

The main objectives are to provide quality education in Electronic Engineering to produce skilled graduates and to fulfil requirements in the field of Electronic Engineering. At the completion of graduation, students are capable:

**ES PEO-1 2023:** Apply proficient engineering knowledge, analytical skills and modern tools to effectively design and develop solutions for complete engineering problems.

**ES PEO-2 2023:** Exhibit strong communication skills and team spirit to address the real challenges of society for improving the environment and sustainability.

**ES PEO-3 2023:** Demonstrate a strong lifelong commitment to ethical practices and social responsibility while promoting and managing projects for sustainable solutions.

### Degree Programs offered:

1. Bachelor of Engineering (Electronic Engineering)
2. Master of Engineering
  - a. Communications Engineering
  - b. Industrial Automation & Control
  - c. Electronic Engineering)
3. Ph.D. (Electronic Engineering)

## Teaching Staff

Sr. #	Name	Designation / Qualification
1.	Prof. Dr. Ehsan Ali Buriro	Professor & Chairman B.E. (MUET), M.Sc (Germany), Ph.D (France)
2.	Prof. Dr. Abdul Fattah Chandio	Professor& Dean FoEECE B.E (MUET), M.S (NUST), Ph.D (China)
3.	Dr. Nadeem Naeem Bhatti	Associate Professor B.E. (MUET), M.E (MUET), Ph.D (Malaysia)
4.	Dr. Abdul Rafay Khatri	Associate Professor B.E. (MUET), M.Sc (Germany), Ph.D(Germany)
5.	Dr. M. Adil Ansari	Associate Professor B.E. (MUET), Ph.D (South Korea)
6.	Dr. Majid Hussain Memon	Assistant Professor B.E (NED), M.E (MUET), Ph.D (MUET)
7.	Engr. Nasreen Nizamani	Assistant Professor B.E. (MUET), M.E (MUET)
8.	Engr. Tarique Rafique Memon	Assistant Professor B.E. (MUET), ME (MUET), Ph.D in progress (MUET)
9.	Dr. Kelash Kanwar	Assistant Professor B.E. (MUET), M.Sc (Germany), Ph.D (Germany)
10.	Dr. Ahsan Murtaza Bughio	Assistant Professor B.E (MUET), M.E & Ph.D (Italy) (On Ex-Pakistan leave)
11.	Engr. Sara Rehman Memon	Assistant Professor B.E. (MUET), ME (QUEST)
12.	Engr. Tasleem Dehraj	Assistant Professor B.E. (QUEST), ME (QUEST)
13.	Engr. Masood Ali Koondhar	Lecturer B.E (QUEST), ME (QUEST)
14.	Engr. Talha Bahtti	Lab Engineer B.E. (MUET), M.Sc (Germany) (On study leave)
15.	Engr. Nazia Keerio	Lab Engineer B.E (QUEST), ME (QUEST)
16.	Engr. Muhammad Saleh Memon	Lab. Supervisor B.E. (NED)
17.	Engr. Faria Durani	Jr. Lab Engineer B.E (QUEST), ME (MUET) (On study leave)

# Courses of Study

S.#.	Course Code	Name of Subject	Credit Hour		Total Credit Hour	Marks		
			Theory	Practical		Th.	Pr.	Total
<b>1<sup>st</sup> Semester 1<sup>st</sup> Year</b>								
1.	MTH106	Functional English	3	0	3	100	0	100
2.	MTH101	Applied Calculus	3	0	3	100	00	100
3.	CS100	Computer Fundamentals	2	1	3	50	50	100
4.	MTH108	Applied Physics	3	0	3	100	00	100
5.	MTH105	Islamic studies	2	0	2	50	00	50
6.	ES103	Electronic Workshop	0	1	1	0	50	50
<b>Total</b>			<b>13</b>	<b>2</b>	<b>15</b>	<b>400</b>	<b>100</b>	<b>500</b>
<b>2<sup>nd</sup> Semester 1<sup>st</sup> Year</b>								
1.	MTH102	Linear Algebra and Analytical Geometry	3	0	3	100	00	100
2.	CS112	Computer Programming	2	1	3	100	00	100
3.	ES104	Basic Electronic Engineering	3	1	4	100	50	150
4.	ES105	Circuit Analysis	3	1	4	100	50	150
5.	MTH107	Communication Skills	2	0	2	50	00	50
6.	ES210	Computer Aided Engineering Design	0	1	1	00	50	50
<b>Total</b>			<b>13</b>	<b>4</b>	<b>17</b>	<b>450</b>	<b>150</b>	<b>600</b>
<b>First Year Credit Hours and Total Marks</b>			<b>26</b>	<b>6</b>	<b>32</b>	<b>850</b>	<b>250</b>	<b>1100</b>
<b>1<sup>st</sup> Semester 2<sup>nd</sup> Year</b>								
1.	ES207	Electronic Circuit Design	3	1	4	100	50	150
2.	ES208	Digital Logic Design	3	1	4	100	50	150
3.	ES209	Instrumentation and Measurements	3	1	4	100	50	150
4.	MTH103	Differential Equations and Fourier Series	3	0	3	100	00	100
5.	MTH104	Pakistan Studies	2	0	2	50	00	50
<b>Total</b>			<b>14</b>	<b>3</b>	<b>17</b>	<b>450</b>	<b>150</b>	<b>600</b>
<b>2<sup>nd</sup> Semester 2<sup>nd</sup> Year</b>								
1.	ES215	Embedded System Design	3	1	4	100	50	150
2.	ES212	Electromagnetic Field Theory	3	0	3	100	00	100
3.	ES213	Integrated Electronics	3	1	4	100	50	150
4.	EL206	Electrical Machines	3	1	4	100	50	150
5.	MTH201	Complex Variables and Transforms	3	0	3	100	00	100
<b>Total</b>			<b>15</b>	<b>3</b>	<b>18</b>	<b>500</b>	<b>150</b>	<b>650</b>
<b>Second Year Credit Hours and Total Marks</b>			<b>29</b>	<b>6</b>	<b>35</b>	<b>950</b>	<b>300</b>	<b>1250</b>

S.#.	Course Code	Name of Subject	Credit Hour		Total Credit Hour	Marks		
			Theory	Practical		Th.	Pr.	Total
<b>1<sup>st</sup> Semester 3<sup>rd</sup> Year</b>								
1.	ES309	Signals and Systems	3	1	4	100	50	150
2.	MTH302	Economics and Engineering Management	2	0	2	50	00	50
3.	ES316	FPGA based System Design	3	1	4	100	50	150
4.	ES311	Wave Propagation and Antennas	3	1	4	100	50	150
5.	ES315	Probability, Random Signals, and Stochastic Processes	3	0	3	100	00	100
<b>Total</b>			<b>14</b>	<b>3</b>	<b>17</b>	<b>450</b>	<b>150</b>	<b>600</b>
<b>2<sup>nd</sup> Semester 3<sup>rd</sup> Year</b>								
1.	ES317	Electronic Communication Systems	3	1	4	100	50	150
2.	MTH204	Numerical Analysis with Computer Applications	3	1	4	100	50	150
3.	ES318	Digital Signal & Image Processing	3	1	4	100	50	150
4.	ES314	Control Systems	3	1	4	100	50	150
5.	MTH402	Professional and Social Ethics	2	0	2	50	00	50
<b>Total</b>			<b>14</b>	<b>4</b>	<b>18</b>	<b>450</b>	<b>200</b>	<b>650</b>
<b>Third Year Credit Hours and Total Marks</b>			<b>28</b>	<b>7</b>	<b>35</b>	<b>900</b>	<b>350</b>	<b>1250</b>
<b>1<sup>st</sup> Semester Final Year</b>								
1.	ES408	Computer Communication and Networking	3	1	4	100	50	150
2.	ES416	Industrial Control Systems	3	1	4	100	50	150
3.	ES410	Power Electronics	3	1	4	100	50	150
4.	MTH403A	Entrepreneurship and Leadership	3	0	3	100	00	100
5.	ES414A	FYP-I	0	3	3	0	100	100
<b>Total</b>			<b>12</b>	<b>6</b>	<b>18</b>	<b>400</b>	<b>250</b>	<b>650</b>
<b>2<sup>nd</sup> Semester Final Year</b>								
1.	ES417	Robotics and Mechatronic Systems	3	0	3	100	00	100
2.	ES418	Optoelectronics	3	1	4	100	50	150
3.	ES415	Microwave Engineering	3	1	4	100	50	150
4.	<b>CS125</b>	Artificial Intelligence	2	0	2	50	00	50
5.	ES414B	FYP-II	0	3	3	0	100	100
<b>Total</b>			<b>11</b>	<b>5</b>	<b>16</b>	<b>350</b>	<b>200</b>	<b>550</b>
<b>Final Year Credit Hours and Total Marks</b>			<b>23</b>	<b>11</b>	<b>34</b>	<b>750</b>	<b>450</b>	<b>1200</b>
<b>Grand Total Credit Hours and Marks</b>			<b>106</b>	<b>30</b>	<b>136</b>	<b>3450</b>	<b>1450</b>	<b>4900</b>

# DEPARTMENT OF COMPUTER SYSTEMS ENGINEERING



**Prof. Dr Intesab Hussain Sadhayo**  
**Chairman**

Dr. Intesab Hussain Sadhayo received his M.S (Rennes, France), Ph.D (Paris), France in 2008 and 2013, respectively. He received his B.E degree in computer systems engineering in 2004 from QUEST, Nawabshah. He joined QUEST in January 2005 as a lecturer and left for Austria for higher studies in 2008. After returning to Pakistan in 2013, he worked as an assistant professor till 2016 and later left for postdoctoral studies in Germany. He worked in Fraunhofer Institute of Integrated Circuits, Erlangen, Germany, and Machine Perception laboratory, Hungarian Academy of Sciences, Budapest, Hungary as a research scientist in 2016-17.

Dr. Intesab has worked in several international research projects and has authored and co-authored more than 30 international journal and conference papers. He is currently supervising several Master and PhD students. His research interests include context-based information retrieval from images and videos using deep learning. He is also the editor of QUEST Research Journal, published bi-annually since 1997.

## Introduction

Computer engineering is one of the fastest growing engineering disciplines which encompasses nearly every aspect of modern life. Being an integral part of our daily life, computer technology has an increasing demand for highly skilled professionals to keep up the pace with its rampant growth and innovation.

Computer Engineering Department, under OBE Level-II is striving hard to develop and maintain a high-quality, comprehensive, rigorous and accredited teaching program to prepare graduates of competence, conscience, and compassion to excel in the field of computing. In order to achieve this goal, we combine the theoretical foundations of computing with the practical engineering knowledge vital to industry, to provide a broad and integrated curriculum. Equipped with modern state-of-the-art laboratories, trained technical staff, and highly qualified faculty, the department of Computer Systems Engineering offers different bachelor, master and PhD degree programs:

## Vision:

To produce highly skilled computer engineers to meet the latest trends in the field of computing and to contribute effectively in the social, economic and technological progress of the country

## Mission:

To provide state-of-the-art education through contemporary techniques in the computing disciplines to produce outstanding professionals and better humans who could not only contribute effectively to the national progress, but can also promulgate and conceive computing knowledge.

## Program Educational Objectives (PEOs)

1. To produce adept computer professionals who have profound knowledge and proficiency in computer engineering and modern technological tools
2. To enable our graduates to be employed as practicing engineers in the fields of analysis, design, and application-specific computing systems for solving real-world and complex problems to contribute towards the socio-economic and technological growth of the country
3. To develop and refine the ethical, communication, management and leadership skills in the students to prepare them for assuming responsible positions within an organization
4. To enable our graduates for a self-motivated pursuit of knowledge in individual and team environment for sustainable development and lifelong learning

## Degree Programme:

1. Bachelor of Engineering (Computer Systems Engineering)
2. Master of Engineering
  - a. Computer Systems Engineering
  - b. Computer Communication & Networks
3. Ph.D (Computer Systems Engineering)

## Teaching Staff

Sr. #	Name	Designation / Qualification
1.	Prof. Dr. Intesab Hussain Sadhayo	Professor & Chairman B.E (QUEST), M.S (Rennes, France), Ph.D (Paris, France)
2.	Prof. Dr. M. Sulleman Memon	Professor B.E (MUET), M.E (MUET), PhD (QUEST)
3.	Prof. Dr. Ubaidullah Rajput	Professor B.E (QUEST), M.E (NUST), PhD (S Korea)
4.	Prof. Dr. Fareed Ahmed Jokhio	Professor B.E (MUET), M.E in IT (MUET), M.S (Sweden), PhD (Finland)
5.	Dr. Irfana Memon	Associate Professor B.E (QUEST), M.S (France), PhD (France)
6.	Dr. Fizza Abbas	Associate Professor B.E (MUET), M.E (MUET), PhD (S Korea)
7.	Dr. Muhammad Ali Soomro	Assistant Professor B.E (MUET), M.E (NED), PhD (QUEST)
8.	Engr. Iftikhar Ahmed Koondhar	Assistant Professor B.E (MUET), M.E (MUET)
9.	Engr. Zuhaib Ahmed Shaikh	Assistant Professor B.E (QUEST), M.E (QUEST) <i>on study leave abroad</i>
10.	Dr. Abdul Wahid Memon	Assistant Professor B.E (MUET), MS (France), PhD (France)
11.	Engr. Agha Shiraz Ahmed Khan	Assistant Professor B.E (QUEST), M. E (QUEST)
12.	Engr. Shahzana Memon	Assistant Professor B.E (QUEST), M.E (QUEST)
13.	Engr. Beenish Qureshi	Lecturer B.E (QUEST), M.E (QUEST)
14.	Engr. Ayesha Jokhio	Lecturer B.S (COMSATS), M.E (QUEST) (on study leave)
15.	Engr. Haseena Rind	Lab Engineer B.E (QUEST), M.E (QUEST)(on study leave)
16.	Engr. Dileep Kumar	Lab Engineer B.E (MUET), M.E (MUET)

## Courses of Study

Sr. #	Name of Subject	CH		Marks	Sr. #	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>First Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Computing Fundamentals	3	1	100+50	1	Object Oriented Programming	3	1	100+50
2	Computer Programming	3	1	100+50	2	Communication Skills	2	0	50+00
3	Applied Physics	3	1	100+50	3	Electronic Engineering	3	1	100+50
4	Linear Algebra & Analytical Geometry	3	0	100+00	4	Applied Calculus	3	0	100+00
5	Functional English	2	0	50+00	5	Pakistan Studies	2	0	50+00
					6	Islam Studies / Ethics	2	0	50+00
Total		14	3	450+150	Total		15	2	450+100
<b>Second Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Data Structures and Algorithms	3	1	100+50	1	Computer Architecture & Design	3	0	100+00
2	Database Management Systems	3	1	100+50	2	Computer Communication & Networks	3	1	100+50
3	Digital Logic & Design	3	1	100+50	3	Operating Systems	3	1	100+50
4	Complex Variables & Transforms	3	0	100+00	4	Automation and Robotics	3	1	100+50
					5	Computer Graphics	2	1	50+50
Total		12	3	400+150	Total		14	4	450+200
<b>Third Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Statistics & Probability	3	0	100+00	1	Artificial Intelligence	3	1	100+50
2	Engineering Economics	2	0	50+00	2	Software Engineering	3	1	100+50
3	Microprocessors and Interfacing	3	1	100+50	3	Modeling & Simulation	3	1	100+50
4	Communication Systems	3	1	100+50	4	Professional & Social Ethics	2	0	50+00
5	Web Programming	3	1	100+50	5	Embedded Systems	3	1	100+50
Total		14	3	450+150	Total		14	4	450+200
<b>Final Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Entrepreneurship & Leadership	2	0	50+00	1	System Administration	3	1	100+50
2	Data Sciences & Analytics	3	1	100+50	2	Parallel & Distributing Computing	3	1	100+50
3	Mobile Applications Development	3	1	100+50	3	Wireless Communication	3	1	100+50
4	Digital Image Processing	3	1	100+50	4	FYP - II	0	3	00+100
5	FYP- I	0	3	00+100					
Total		11	6	350+250	Total		9	6	300+250

# DEPARTMENT OF TELECOMMUNICATION ENGINEERING



**Prof. Dr. M. Mujtaba Shaikh  
Chairman**

Prof. Dr. M. Mujtaba Shaikh is working in QUEST, Nawabshah as a Faculty member since January 2008 and currently he is a Professor and head of the Telecommunication Engineering Department, Quaid-e-Awan University of Engineering, Science, & Technology (QUEST), Nawabshah. He holds Ph.D in Telecommunication Engineering from the University of Malaga, Spain, and has also served as a researcher there in the Department of Communications Engineering. He completed his M.S

in Telecommunication from Usman Institute, Hamdard University, Karachi, Pakistan, and his graduation in Electronic Engineering from Mehran University of Engineering & Technology, Jamshoro, Sindh, Pakistan. He worked in DSI corporation Pvt. Limited for two years as an Electronic Engineer and in K-Electric as an Assistant Manager at Communication and SCADA Department for five years. He has more than 23 years of teaching, research, and industrial experience.

Dr. Shaikh has also served on different key administrative posts of the QUEST such as Director, Postgraduate Studies and Director Finance. Currently, he is also serving as Chairman, Testing Service and Director, Institute of Information & Communication Technologies (IICT) of the QUEST. He is also a member of several statutory bodies of the university like the advanced studies and research board (AS & RB), academic council, Senate, HCC, etc.

Dr. Shaikh has produced many master's and one PhD student. Currently, he is supervising four master's and five Ph.D. students. His research interests include Wireless Communications in general and especially in 4G, 5G, and 6G Networks and Technologies, Heterogeneous Cellular Networks, NOMA, mmWave Communication, MIMO Technology, and Joint Communication and Radio sensing in Mobile Networks. He has participated in different national/international conferences and is the author of various publications in national and international journals with several R & D Projects on his credit.

## **Introduction**

Telecommunication Engineering stands among the fields with continuous growth throughout the times and the pace has exponentially increased since the start of the second decade of the 20th century. Communication is an essential facility and with the inception of the internet being platform of every other service, it has infiltrated every aspect of 21st-century life. Telecommunication has synchronized and overlapped multiple other areas, be it wired communication paving the ground of communication over copper growing to optical fibre such as broadcast wired networks, complex digitalized switching systems, etc. or wireless communication with vast communication networks and services such as

RADAR communication, Satellite communication, Mobile Communication evolved up to 5G/6G. Telecommunication has been the field with specialization in all these areas and even more.

The Department of Telecommunication Engineering offers four years (8- semesters) programme leading to a degree of Bachelor of Engineering (B.E) in Telecommunication. This programme includes the teaching of courses adequately supplemented with practical hands-on training in laboratories and the use of other modern ways in imparting professional education to prepare students to take leading positions over a wide range of expert organizations and research projects in information technology and communication industries. Moreover, courses are refined and upgraded as per the latest trends and cutting-edge technologies to equip students with the state-of-art skill set and enable young graduates to achieve numerous job opportunities in both public as well as private sector organizations.

## **Vision**

To provide affordable high-quality education and to produce engineers with high knowledge and skills in the field of telecommunication engineering to solve complex engineering problems individually and as a team player for accelerated socio-economic development.

## **Mission**

To serve the engineering profession by offering high-quality education to create professionals and contribute to the local and global society by providing innovative solutions with a focus on research and development through industry-academia linkages in telecommunication and related studies.

## **Program Educational Objectives (PEOs)**

1. To acquire strong technical knowledge in telecommunication engineering that leads to the capability of analyzing and designing efficient communication systems, and participating in professional practice, testing and troubleshooting of telecommunication engineering systems.
2. To produce academicians and researchers with strong independent critical thinking as well as sound leadership capabilities in communication and network engineering projects to meet engineering and societal requirements.
3. To produce responsible citizens who can efficiently resolve sustainable environmental issues and commit to professional ethics through life-long learning.

## **Degree Programmes:**

1. Bachelor of Engineering (Telecommunication Engineering)- 2014 and onwards
2. Master of Engineering ( Telecommunication Systems and Networks) - 2022 and onwards
3. Ph.D (Telecommunication Engineering)- 2023 and onwards

## Teaching Staff

Sr. #	Name	Designation / Qualification
1.	Prof. Dr. M. Mujtaba Shaikh	Professor/ Chairman B.E (MUET), M.S (Hamdard), PhD (Spain)
2.	Engr. Nawaz Ali Zardari	Assistant Professor B.E (MUET), M.Sc (U.K)(on study leave abroad)
3.	Engr. Ghulam Fizza Shah	Assistant Professor B.E (MUET),M.E (MUET)(on study leave abroad)
4.	Engr. Atta Muhammad Panhyar	Assistant Professor B.E (IBA Sukkur), M.S (IBA Sukkur)
5.	Dr. Safia Amir Dahri	Assistant Professor B.E (QUEST), M.E (QUEST), PhD (QUEST)
6.	Engr. Sarfraz Ahmed Soomro	Assistant Professor B.E (QUEST), M.E (QUEST)
7.	Engr. Sundas Metlo	Assistant Professor B.E (MUET), M.E (MUET)
8.	Engr. Asadullah Laghari	Lecturer B.Sc Eng. (COMSAT), M.S (IBA Sukkur)(on study leave)
9.	Engr. Nuzhat Madina	Lecturer B.E (MUET)
10.	Engr. Fozia Panhwar	Lecturer B.E (MUET), M.E (QUEST) (on study leave)
11.	Engr. Mujeeb-ur-Rehman	Lecturer B.Sc Eng. (COMSAT), M.E (QUEST) (on study leave)
12.	Engr. Leela Wanti Lohano	Lecturer B.E (MUET), M.E (MUET) (on study leave)
13.	Dr. Sarang Karim Khoso	Lecturer B.E (MUET), M.E (MUET), PhD (MUET)
14.	Engr. Fatima Qureshi	Lecturer B.E (QUEST), M.E (QUEST)(on study leave)
15.	Engr. Mohi u ddin	Jr. Lab Engineer B.E (IIEE), M.E (QUEST)

## Courses of Study

Sr. #	Name of Subject	CH		Marks	Sr.#	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>First Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Introduction to Computers	2	1	50+50	1	Object Oriented Programming	3	1	100+50
2	Introduction to Telecommunication	3	0	100+00	2	Basic Electronics	3	1	100+50
3	Applied Physics	3	1	100+50	3	Communication Skills	3	0	100+00
4	Applied Calculus	3	0	100+00	4	Linear Algebra and Analytical Geometry	3	0	100+00
5	Functional English	3	0	100+00	5	Pakistan Studies	2	0	50+00
6	Islamic Studies/Ethics	2	0	50+00					
Total		16	2	500+100	Total		14	2	450+100
<b>Second Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Technical Report Writing and Presentation Skills	2	0	50+00	1	Engineering Economics and Management	3	0	100+00
2	Circuit Analysis	3	1	100+50	2	Linear Integrated Circuits	3	1	100+50
3	Amplifiers and Oscillators	3	1	100+50	3	Electromagnetic Field Theory	3	0	100+00
4	Digital Logic Design	3	1	100+50	4	Signals and Systems	3	1	100+50
5	Differential Equations and Fourier Series	3	0	100+00	5	Complex Variables and Transforms	3	0	100+00
Total		14	3	450+150	Total		15	2	500+100
<b>Third Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Organizational Behavior	3	0	100+00	1	Microprocessors and Microcontrollers/ID Elective-I	3	1	100+50
2	Digital Signal Processing	3	1	100+50	2	Numerical Methods	3	0	100+00
3	Wave Propagation and Antennas	3	1	100+50	3	Computer Communication and Networks /ID Elective – I	3	1	100+50
4	Communication Systems	3	1	100+50	4	Digital Communication & Information Theory	3	1	100+50
5	Probability and Stochastic Processes	3	0	100+00	5	Entrepreneurship and Leadership	3	0	100+00
Total		15	3	500+150	Total		15	3	500+150
<b>Final Year</b>									
<b>1<sup>st</sup>Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	RF and Microwave Engineering	3	1	100+50	1	Next Generation Networks / MBC Depth Elective - II	3	0	100+00
2	Emerging wireless Technologies & RF Planning	2	0	50+00	2	Satellite and Radar Communications / MBC Depth Elective-III	3	0	100+00
3	Mobile and Wireless Communications	3	1	100+50	3	Laser and Fiber Optics	3	1	100+50
4	Transmission and Switching Systems	3	0	100+00	4	Professional and Social Ethics	2	0	50+00
5	FYP-I	0	3	00+100	5	FYP -II	0	3	00+100
Total		11	5	350+200	Total		11	4	350+150

## Elective Courses

Sr. No.	Major Based Core (MBC) Depth Electives
01	Transmission and Switching Systems
02	Satellite and Radar Communications
03	Next Generation Networks
04	Satellite Communications
05	Telecom Standards and Regulations
06	Network Security
07	Radar Systems Engineering

Sr. No.	ID Electives: Specialty	ID Electives: Subjects
01	Photonics / optics	<ul style="list-style-type: none"> <li>i. Fundamentals of photonics / optics</li> <li>ii. Optical communication</li> <li>ii. Microwave Photonics</li> <li>v. Optical Fiber Sensing</li> </ul>
02	Wireless Communication and networks	<ul style="list-style-type: none"> <li>i. Advanced Wireless communication</li> <li>ii. Machine learning for Wireless communication</li> <li>ii. Optical Wireless communication</li> </ul>
03	Embedded systems	<ul style="list-style-type: none"> <li>i. Embedded Systems</li> <li>ii. IoT</li> <li>ii. Digital System Design (FPGA focused)</li> <li>v. Intelligent systems</li> </ul>
04	Cyber Security	<ul style="list-style-type: none"> <li>i. Computer Network and Security</li> <li>ii. Cryptography</li> <li>ii. Coding theory and Application</li> <li>v. Multimedia and Scalable Web</li> </ul>

## DEPARTMENT OF SOFTWARE ENGINEERING



**Prof. Dr. Pardeep Kumar  
Chairman**

Prof. Dr. Pardeep Kumar is currently heading the Software Engineering Department of the university. Previously, he has worked as Director ORIC, Chairman Computer Systems Engineering Department, Director Continuing Education, and Coordinator Students' Attendance Monitoring Cell at QUEST Nawabshah. He is a member of the Higher Education Commission (HEC)

Pakistan's National Curriculum and Review Committee (NCRC), Technology Development Fund (TDF), and Quality Assurance Agency (QAA) to design the curriculum of Computer/Software Engineering, to evaluate research/industrial projects, and to monitor postgraduate programs. Additionally, Dr. Kumar is also working as a Program Evaluator (PEV) on behalf of the Pakistan Engineering Council (PEC) to accredit undergraduate engineering programs at different universities in Pakistan.

Dr. Kumar completed his Ph.D. from Berlin, Germany in 2012. Earlier he did his Bachelor of Computer Systems Engineering and Master of Communication Systems and Networks Engineering from Mehran University of Engineering and Technology Jamshoro, Pakistan in 2001 and 2004 respectively. Dr. Kumar joined QUEST in January 2004 and was granted a Ph.D. scholarship from HEC Pakistan and DAAD Germany in 2007. During his Ph.D. research, he designed and developed a novel MAC protocol for wireless sensor networks and worked on several European Union projects. His research interests are in the fields of Wireless Sensor Networks, IEEE 802.15.4/ZigBee, Internet of Things, Next-Generation Networks, Artificial Intelligence, Big Data, Cyber-Physical Systems, etc.

Dr. Kumar has been the author/editor of 4 books, 16 book chapters, and 65 research publications. He has already produced 4 Ph.D. and 20 master's students and is currently supervising several other research students. Dr. Kumar has visited several countries including Germany, France, the USA, Australia, Italy, Switzerland, the Czech Republic, Egypt,

Slovenia, etc. to share his research work in the capacity of keynote speaker, paper presenter, and session chair. Additionally, he has served as a technical program committee member and organizer for several conferences and workshops around the world.

### Introduction

The main objective of the Software Engineering Department is to offer state of the art education to undergraduate students in the broader field of software engineering so that they can define, design, develop, debug, and deliver high quality, reliable and cost-effective software systems. Software engineers often work as part of a team working for computer systems design firms, software publishers, or for computer or electronic product manufacturers. Because of the wide variety of software applications, numerous opportunities can be pursued by software engineers. Today, the software industry makes software products to be used by most, if not all, fields, such as in e-commerce, banking, retailing, education, social networks, the defense, and gaming industries, etc. Because of this, software engineers are in high demand both in government agencies and private sectors.

Keeping in view of the significance and impact of this field, QUEST has started the Software Engineering program from the batch 2020. A Bachelor of Engineering (BE) degree shall be awarded to the graduating students after completion of 4 years (8 semesters) study. Consequently, we have designed a high-quality, comprehensive, and rigorous teaching program to prepare graduates of competence, conscience, and compassion to excel in the field of software engineering that shall be accredited by the Pakistan Engineering Council. To achieve this goal, theoretical foundations shall be combined with the practical engineering knowledge, which is vital to industry and job market and modern state-of-the-art laboratories, highly qualified faculty, well-trained technical staff, and conducive environment shall be provided.

### Vision

To produce highly professional Software Engineers who will be recognized as innovative leaders by exhibiting the necessary skills to design quality software systems substantive for technological transformation and sustainable development.

### Mission:

To provide a challenging environment of learning skills pertaining to principles, practices, and processes to design and develop software tools with the utmost professionalism and as per market demands to serve humanity at large.

### Program Educational Objectives (PEOs)

After graduation, the Software Engineers are expected to:

1. Impart profound knowledge and skills in the field of Software Engineering
2. Exhibit sound ethical and professional growth for the sustainable socio-economic development of society
3. Acquaint with management, leadership, and life-long learning skills to enhance their adaptability to team environments and changing traits of the software industry

### Degree Programme:

Bachelor of Engineering (Software Engineering)

## Teaching Staff

SN	Name	Designation / Qualification
1.	Prof. Dr. Pardeep Kumar	Professor and Chairman B.E (MUET), M.E (MUET), PhD (Germany)
2.	Dr. Rafia Naz	Associate Professor B.E (MUET), ME (MUET), PhD (Malaysia)
3.	Dr. Imtiaz Ali Halepoto	Associate Professor B.E (QUEST), M.S (Hong Kong), PhD (Hong Kong)
4.	Dr. Sajida Parveen	Associate Professor B.E (QUEST), M.E (MUET), PhD (Malaysia)
5.	Dr. Fayaz Ahmed Memon	Assistant Professor B.E (MUET), ME (MUET), Ph.D (QUEST)
6.	Engr. Fiza Siyal	Assistant Professor B.E (MUET), ME (MUET), (On study leave abroad)
7.	Engr. Fozia Noureen Shaikh	Assistant Professor B.E (QUEST), M.E (MUET)
8.	Dr. Ali Raza Bhangwar	Assistant Professor B.E (QUEST), ME (QUEST), Ph.D (QUEST)
9.	Engr. Muhammad Aamir Bhutto	Assistant Professor B.E (MUET), ME (MUET)
10.	Engr. Mir Muhammad Juno	Lecturer B.E (QUEST), ME (QUEST)

# Courses of Study

Year	SN	Course Code	Name of Subject	CH		Marks	Domain	SN	Course Code	Name of Subject	CH		Marks	Domain
				Th	Pr						Th	Pr		
1 <sup>st</sup>	1 <sup>st</sup> Semester						2 <sup>nd</sup> Semester							
	1	SW101	Computer Fundamentals	2	1	50+50	Computing & Information Sciences	1	SW103	Object Oriented Programming	3	1	100+50	Engineering Fundamental
	2	SW102	Programming Fundamentals	3	1	100+50		2	MTH202	Discrete Mathematics	3	0	100+00	
	3	EL111	Applied Physics	3	1	100+50	Natural Sciences	3	SW104	Introduction to Software Engineering	3	0	100+00	Core Breadth
	4	MTH101	Applied Calculus	3	0	100+00		4	MTH107	Communication Skills	3	0	100+00	Humanities
	5	MTH106	Functional English	3	0	100+00	Humanities	5	MTH104	Pakistan Studies	2	0	50+00	
	6	SW110	Occupational Health & Safety	1	0	50+00	Multi-disciplinary	6	MTH105	Islamic Studies / Ethics	2	0	50+00	
<b>Total</b>				<b>15</b>	<b>3</b>	<b>500+150</b>	<b>Total</b>				<b>16</b>	<b>1</b>	<b>500+50</b>	
2 <sup>nd</sup>	1 <sup>st</sup> Semester						2 <sup>nd</sup> Semester							
	1	SW201	Data Structures and Algorithms	3	1	100+50	Engineering Fundamental	1	SW205	Software Design & Architecture	2	1	50+50	Core Breadth
	2	SW202	Database Systems	3	1	100+50		2	SW206	Computer Networks	3	1	100+50	Engineering Fundamental
	3	SW210	Computer Arch. & Logic Design	3	1	100+50		3	SW207	Web Engineering	3	1	100+50	Core Depth
	4	SW204	Software Req. Engineering	2	0	50+00	Core Depth	4	SW208	Operations Research	3	0	100+00	Natural Sciences
	5	MTH204	NACA	3	1	100+50	Natural Sciences	5	SW209	Entrepreneurship	2	0	50+00	Management Sciences
<b>Total</b>				<b>14</b>	<b>4</b>	<b>450+200</b>	<b>Total</b>				<b>13</b>	<b>3</b>	<b>400+150</b>	
3 <sup>rd</sup>	1 <sup>st</sup> Semester						2 <sup>nd</sup> Semester							
	1	SW301	Software Construction	2	1	50+50	Core Breadth	1	SW306	Software Project Management	3	1	100+50	Core Breadth / Management Sciences
	2	SW302	Elective-I (Mobile Applications Dev.)	3	1	100+50	Core Depth	2	SW310	Digital Marketing	2	1	50+50	Core Depth
	3	MTH301	Statistics & Probability	3	0	100+00	Natural Sciences	3	SW308	Elective-II (Artificial Intelligence)	3	1	100+50	
	4	SW311	Operating Systems	3	1	100+50	Engineering Fundamental	4	SW303	Human Computer Interaction	3	0	100+00	Core Breadth
	5	SW305	Engineering Economics	2	0	50+00	Social Sciences	5	MTH303	Professional & Social Ethics	2	0	50+00	Social Sciences
							6	SW312	Community Services	0	1	00+50		
<b>Total</b>				<b>13</b>	<b>3</b>	<b>400+150</b>	<b>Total</b>				<b>13</b>	<b>4</b>	<b>400+200</b>	
4 <sup>th</sup>	1 <sup>st</sup> Semester						2 <sup>nd</sup> Semester							
	1	SW401	Cloud Computing	3	1	100+50	Core Breadth	1	SW406	Software Quality Engineering	3	1	100+50	Core Breadth
	2	SW402	Elective-III (Data Sciences)	2	1	50+50	Core Depth	2	SW407	MDEE Elective-IV (Internet of Things)	3	0	100+00	Core Depth
	3	SW403	Software Re-engineering	3	0	100+00		3	SW304	Information Security	3	0	100+00	Core Breadth
	4	SW404	Formal Methods in Software Engg.	3	0	100+00	Engineering Fundamental	4	SW409	FYP-II	0	3	00+100	FYDP/capstone
	5	SW405	FYP-I	0	3	00+100	FYDP/capstone							
<b>Total</b>				<b>11</b>	<b>5</b>	<b>400+200</b>	<b>Total</b>				<b>9</b>	<b>4</b>	<b>300+150</b>	

<b>Theory Total CH</b>	<b>104</b>
<b>Practical Total CH</b>	<b>27</b>

<b>Grand Total CH</b>	<b>131</b>
<b>Grand Total Marks</b>	<b>4600</b>

## DEPARTMENT OF ELECTRICAL (AUTOMATION AND CONTROL) ENGINEERING



**Prof. Dr. Erum Pathan,  
Chairperson**

Prof. Dr. Erum Pathan received her PhD degree in Electrical Engineering from University Tun Hussein in Malaysia in 2020. She received her B.E in Electronic Engineering, and her M . E degree in Telecommunication & control from Mehran University of Engineering and Technology, Jamshoro, Pakistan in 2003, and 2010 respectively.

She started a progressive career with the QUEST, Nawabshah in

2005 as a lecturer, and she was promoted to Assistant Professor at the Department of Electronic Engineering in November 2010. she is currently working as Professor and chairperson, Department of Electrical (Automation and Control) Engineering, Quaid-e-Awam University of Engineering, Science and Technology Nawabshah, Sindh, Pakistan.

Dr. Erum Pathan has worked on several research projects and has authored and co-authored more than 25 national and international journal and conference papers. Her research interests are Robust control theory in Smart Grid, Parallel Inverter, Smart Grid Control systems, Microgrids & Renewable Energy, Power Electronics, Distributed Energy-Storage Systems, Hierarchical Control, IEC61850 Substation Automation systems, AC/DC Microgrid Clusters and Islanded Microgrids.

### Introduction

In the most general sense, Electrical (Automation and control) engineering endeavour the problem which compels a system to the desired situation via appropriate software and hardware. Several problems that occur as a result of the rapid increase in production with the rapidly developing technology after the industrial revolution impel people to seek new ways from which more can be obtained. The utilization of the information resulting from the research in industry and other production systems has led to an emerging new branch of engineering, " Control and Automation Engineering". Control and Automation engineering is a branch of engineering which develops and implements information and technology providing electrical, electronic, mechanical, and computer-based all industrial systems to work intended and planned manner. Control Engineering Program provides training and conducts research in the subjects "automatic control theory and its applications, industrial automation, measurement and instrumentation, robotics, design and implementation of computer-based industrial information systems".

The department offers a four-year (8 Semesters) program leading to

the degree of Bachelor of Electrical (automation and control) engineering. It provides formal education in Automation and Control Engineering through teaching, experimental work and industrial attachment to prepare students for careers as educators, engineers as well as scientists. The graduates can be hired for technical and supervisory positions in the private, and public sector, industries of the country as well as abroad.

### Vision

Fostering excellence in automation and control engineering Education for sustainable development and industrial growth with solutions at the national and international levels.

### Mission

To provide students of Electrical (Automation and control)Engineering with sound technical knowledge and practical skills of relevance to the contemporary industry, together with the spirit of teamwork, ability to communicate effectively and inculcate professional ethics leading to a successful career with lifelong learning.

### Program Educational Objectives (PEOs)

The program aims at imparting quality education to Electrical (Automation and Control) Engineering graduates for contributing to the society through modern technologies and practices in line with SDGs especially Goal-1, Goal-2, Goal-3, Goal-4, Goal-5, Goal-6, Goal-7, Goal-8, Goal-9, Goal-10, Goal-11 and Goal-12. The four program educational objectives (PEOs) are as given below, from the basis of the Department of Electrical (Automation & Control) Engineering at QUEST. Within few years of graduation, the students with Bachelors in Electrical (Automation and Control) Engineering are expected to attain the following:

1. Demonstrate the knowledge of electrical engineering as well as modern research tools for clear understanding of the core domains.
2. Provide cost viable solutions of fundamental engineering and technical problems for socioeconomic and sustainable development.
3. Manifest professional conduct of ethical values along with interpersonal skills to perform and grow effectively in their career as a team leader or as an individual.
4. Effectively enhance their professional development and technical knowledge through persistent learning.

### Degree Programme:

Bachelor of Electrical (Automation and Control) Engineering

## Teaching Staff:

Sr. #	Name	Designation / Qualification
01.	Prof. Dr. Erum Pathan	Professor, Chairperson B.E (MUET), ME (MUET), Ph.D. (Malaysia)
02.	Dr. Bhagwan Das	Associate Professor B.E (MUET), ME (QUEST), Ph.D. (Malaysia) (on lien Post doc)
03.	Dr. Kamran Ali Memon	Associate Professor B.E (QUEST), ME (QUEST), Ph.D. (China) (on Extraordinary Leave on lien Post doc)
04.	Dr. Muhammad Akram Bhayo	Assistant Professor B.E (QUEST), M.E (Germany), Ph.D. (Malaysia)

## Courses of Study

Sr.#	Name of Subject	CH		Marks	Sr.#	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>First Year</b>									
<b>1<sup>st</sup> Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Applied calculus	03	0	100+00	1	Linear Circuit Analysis	03	01	100+50
2	Functional English	02	0	50+00	2	Communication Skills	02	00	50+00
3	Workshop practice	00	01	00+50	3	Electronic Devices and circuits	03	01	100+50
4	Computing fundamentals	02	01	50+50	4	Linear Algebra & Analytical Geometry	03	00	100+00
5	Applied Physics	03	01	100+50	5	Pakistan Studies	02	00	50+00
6	Applied Mechanics	03	00	100+00		Islamic Studies / Ethics	02	00	50+00
<b>Total Credit Hours</b>		<b>13</b>	<b>3</b>	<b>400+150</b>	<b>Total Credit Hours</b>		<b>15</b>	<b>2</b>	<b>450+100</b>

## Courses of Study

Sr.#	Name of Subject	CH		Marks	Sr.#	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>Second Year</b>									
<b>1<sup>st</sup> Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Signals and Systems	02	01	50+50	1	Sensors and Signal Conditioning	03	01	100+50
2	Theory of Electromagnetic Field	03	00	100+00	2	Digital signal processing	02	01	50+50
3	Digital Logic & Design	02	01	50+50	3	Electrical Machine	03	01	100+50
4	Computer Programming	02	01	50+50	4	Embedded System and Microcontroller	03	01	100+50
5	Differential Equations and Fourier Series	03	00	100+00	5	Complex Variables & Transforms	03	00	100+00
6	Engineering Drawing	00	01	00+50					
<b>Total Credit Hours</b>		<b>12</b>	<b>04</b>	<b>350+200</b>	<b>Total Credit Hours</b>		<b>14</b>	<b>04</b>	<b>450+200</b>
<b>Third Year</b>									
<b>1<sup>st</sup> Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Advanced Electrical Machine	03	01	100+50	1	Control System - II	03	01	100+50
2	Control System - I	03	01	100+50	2	Power Electronics	03	01	100+50
3	Communication System	03	01	100+50	3	IoT System Design and Applications	03	01	100+50
4	Technical Writing	02	00	50+00	4	Professional and social ethics	02	00	50+00
5	Numerical Analysis & Com. Application (N.A.C.A)	03	01	100+50	5	Statistic and Probability	03	00	100+00
<b>Total Credit Hours</b>		<b>14</b>	<b>03</b>	<b>450+200</b>	<b>Total Credit Hours</b>		<b>14</b>	<b>03</b>	<b>450+150</b>
<b>Final Year</b>									
<b>1<sup>st</sup> Semester</b>					<b>2<sup>nd</sup> Semester</b>				
1	Automaton and robotics	03	01	100+50	1	Artificial intelligence and application	03	01	100+50
2	Renewable Energy and Systems	03	01	100+50	2	Smart Grid	03	01	100+50
3	Industrial Drives	03	01	100+50	3	Industrial Maintenance and Safety	03	00	100+00
4	Power Economics and Management	03	00	100+00	4	Entrepreneur and Leadership	03	00	100+00
5	FYP-I	00	03	00+100	5	FYP-II	00	03	00+100
<b>Total Credit Hours</b>		<b>11</b>	<b>06</b>	<b>400+250</b>	<b>Total Credit Hours</b>		<b>12</b>	<b>05</b>	<b>400+200</b>

## DEPARTMENT OF BIO MEDICAL ENGINEERING



**Dr. Abdul Aleem Jamali**  
Chairman

Dr. Abdul Aleem Jamali is currently working as Chairman/Associate Professor in the department of Biomedical Engineering, Quaid-e-Awam University of Engineering, Science & Technology (QUEST), Nawabshah. He received Ph.D degree from the University of Kassel, Germany in 2015. His PhD research focused on the design of a novel nano-biosensor.

His research got recognition in terms of more than 25 research publications and awards including Young Scientist Award from the

International Union of Radio Science (URSI), FDP Scholarship from Higher Education Commission (HEC, Islamabad) / Quaid-e-Awam University, Nawabshah, and several travel grants to present his work.

Dr. Jamali served as reviewer/external examiner for assessing postgraduate research in different universities in Pakistan. He has produced 11 Master of Engineering graduates and supervises 03 PhD students. His research interests include computational electromagnetic, optical/microwave antennas, and the design of nano-photonic biosensors.

Dr. Jamali has also won a research project under National Research Program for Universities (NRPU)-2021 funded by HEC, Pakistan.

### BIOMEDICAL ENGINEERING DEPARTMENT-AT A GLANCE

Biomedical engineering is an interdisciplinary field of engineering, medicine and biology. It focuses on the design and maintenance of biomedical instruments used in health sector by combining electronic engineering principles and knowledge of medicine and biology. It utilizes the design and problem solving skills of engineering with medical sciences to progress health care treatment such as diagnostics, monitoring, and rehabilitation. Biomedical engineering has recently emerged as a specialized field of study to produce biomedical engineers for the

management of medical equipments in hospitals/health sectors according to industrial standards. This includes procurement, preventive maintenance, routine testing, and future recommendations for biomedical equipment. There is a demand for biomedical engineers in but not limited to the following sectors: hospitals, pharmaceutical engineering, rehabilitation engineering, clinical engineering, biomedical instruments, medical imaging, biosensor, implants, and medical device regulations.

Realizing the demand for biomedical engineers in the health sector and medical industry, the QUEST, Nawabshah has initiated a B.E. Biomedical Engineering program. It is a four years (8-semester) outcome based education (OBE) program accredited by Pakistan Engineering Council (PEC). The program is designed to provide necessary knowledge, analytical and leadership abilities, critical thinking, and ethical values to the graduates to adapt to technological developments and cope with challenges in the health care system. This includes the teaching of courses adequately supported with the hands-on practical training in laboratories by using state-of-the art equipment and modern tools.

### Industrial/Academic Linkages

Biomedical Engineering department recently initiated a process of industrial plus academic collaboration with healthcare sectors for the on-the-field training, enabling students to achieve global sustainable development goals (SDGs).

### PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

The PEOs of the B.E. Biomedical Engineering program are:

1. To demonstrate biomedical engineering knowledge to identify and address the technical problems
2. To enhance intellectual and analytical abilities in taking initiative and/or developing environmentally sustainable and innovative ideas for technological growth in the field of biomedical engineering
3. To work effectively as a team member or lead multidisciplinary teams while demonstrating interpersonal and management skills and ethical responsibilities

### TEACHING STAFF

S. No.	Name of Faculty Member	Designation and Qualification
1.	Dr. Abdul Aleem Jamali	Associate Professor and Chairman B.E. (MUET), M.Sc. (Germany), Ph.D. (Germany)
2.	Dr. Suhail Khokhar	Associate Professor B.E. (QUEST), M.E. (QUEST), Ph.D. (Malaysia)
3.	Engr. Barkat Khoso	Lecturer B.E. (MUET), M.E. (MUET)
4.	Engr. Hajira Fatima	Lecturer (on Contract) B.S. (LUMHS, Jamshoro), M.E. (MUET)
5.	Engr. Muhammad Ismail	Jr. Lab. Engr. B.E. (QUEST), M.E. (QUEST), Ph.D. in Progress (QUEST)
6.	Engr. Noor-ul-Ain Brohi	Jr. Lab. Engineer (On Contract) B.E. (QUEST), M.E. (QUEST)

## Courses of Study

<b>1<sup>st</sup> Semester 1<sup>st</sup> Year</b>					
S. No.	Code	Course Title	Theory	Practical	Total
1	MTH121	Applied Physics	3	1	4
2	CS100	Computer Fundamentals	2	1	3
3	MTH106	Functional English	3	0	3
4	MTH122	Basic Mathematics	3	0	3
	MTH123	Basic Biology			
5	BM101	Introduction to Biomedical Engineering	2	0	2
6	MTH105	Islamic Studies	2	0	2
<b>Total Semester Credit Hours</b>			<b>15</b>	<b>2</b>	<b>17</b>
<b>2<sup>nd</sup> Semester 1<sup>st</sup> Year</b>					
S. No.	Code	Course Title	Theory	Practical	Total
1	ES104	Basic Electronic Engineering	3	1	4
2	MTH101	Applied Calculus	3	0	3
3	BM103	Physiology	3	1	4
4	ES105	Circuit Analysis	3	1	4
5	MTH107	Communication Skills	3	0	3
<b>Total Semester Credit Hours</b>			<b>15</b>	<b>3</b>	<b>18</b>
<b>1<sup>st</sup> Semester 2<sup>nd</sup> Year</b>					
S. No.	Code	Course Title	Theory	Practical	Total
1	MTH-203	Complex Variable & Transform	3	0	3
2	ES210	Computer Aided Engineering Design	0	1	1
3	ES208	Digital Logic Design	3	1	4
4	BM202	Human Anatomy	2	1	3
5	CS-113	Object Oriented Programming	2	1	3
<b>Total Semester Credit Hours</b>			<b>10</b>	<b>4</b>	<b>14</b>
<b>2<sup>nd</sup> Semester 2<sup>nd</sup> Year</b>					
S. No.	Code	Course Title	Theory	Practical	Total
1	BM203	Biomedical Electronics	3	1	4
2	BM204	Biochemistry	2	1	3
3	MTH204	Numerical Analysis & Computer Applications	3	1	4
4	MTH104	Pakistan Studies	2	0	2
5	ES221	Signals & Systems	3	1	4
<b>Total Semester Credit Hours</b>			<b>13</b>	<b>4</b>	<b>17</b>

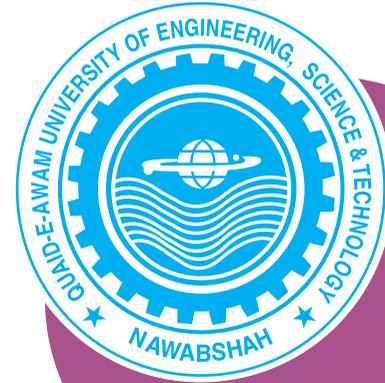
1 <sup>st</sup> Semester 3 <sup>rd</sup> Year					
S. No.	Code	Course Title	Theory	Practical	Total
1	BM301	Biomedical Instrumentation I	3	1	4
2	MTH301	Statistics & Probability	3	0	3
3	ES215	Embedded System Design	3	1	4
4	BM308	Biomechanics	3	1	4
5	BM303	Biomedical Signal Processing	3	1	4
<b>Total Semester Credit Hours</b>			<b>15</b>	<b>4</b>	<b>19</b>
2 <sup>nd</sup> Semester 3 <sup>rd</sup> Year					
S. No.	Code	Course Title	Theory	Practical	Total
1	BM304	Biomedical Instrumentation II	3	1	4
2	BMXXX	Elective-I	3	0	3
3	BM306	Biomedical Control Systems	3	1	4
4	CS321	Modelling & Simulation	2	1	3
5	MTH421	Engineering Management	2	0	2
<b>Total Semester Credit Hours</b>			<b>13</b>	<b>3</b>	<b>16</b>
1 <sup>st</sup> Semester Final Year					
S. No.	Code	Course Title	Theory	Practical	Total
1	MTH423	Professional Practices & Ethics	2	0	2
2	BM401	Medical Imaging	2	1	3
3	ES410	Power Electronics	3	1	4
4	BMXXX	Elective-II	3	0	3
5	BM411	Final year Design Project-I	0	3	3
<b>Total Semester Credit Hours</b>			<b>10</b>	<b>5</b>	<b>15</b>
2 <sup>nd</sup> Semester Final Year					
S. No.	Code	Course Title	Theory	Practical	Total
1	BMXXX	Elective-III	3	0	3
2	BM307	Biomaterials	3	1	4
3	BMXXX	Elective-IV	3	0	3
4	MTH424	Entrepreneurship	2	0	2
5	BM412	Final year Design Project-I	0	3	3
<b>Total Semester Credit Hours</b>			<b>11</b>	<b>4</b>	<b>15</b>
<b>Total Credit Hours</b>			<b>102</b>	<b>29</b>	<b>131</b>

#### Elective Courses

S. No.	Course code	Name of Elective Courses
1.	BM431	Medical Device Quality System and Standards
2.	BM432	Biomedical Engineering Systems
3.	BM433	Medical Device Regulatory Affairs
4.	BM434	Medical Robotics
5.	BM435	Rehabilitation Engineering
6.	BM436	Nano Biotechnology
7.	BM437	Telemedicine Systems
8.	BM438	Artificial Intelligence
9.	BM440	Hospital Information System

# Section-V

## FACULTY OF SCIENCE



### Department of BS

-  INFORMATION TECHNOLOGY
-  COMPUTER SCIENCE
-  MATHEMATICS & STATISTICS
-  BASIC SCIENCE & RELATED STUDIES
-  ENGLISH (LANGUAGE & LITERATURE)
-  PHYSICS
-  ARTIFICIAL INTELLIGENCE
-  CYBER SECURITY
-  DATA SCIENCE
-  CHEMISTRY

## DEPARTMENT OF INFORMATION TECHNOLOGY

### Bachelor of Science (Information Technology) Department



**Prof. Dr. Mukhtiar Ahmed**  
**CHAIRMAN**

Prof. Dr. Mukhtiar Ahmed has received PhD degree from University Technology Malaysia (UMT) and secured the best postgraduate award. Dr. Mukhtiar's research areas are: IoT, Cloud Computing, Under Water Wireless Sensor Networks, Wireless body Area Networks, Mobile Adhoc Networking, Vehicular Area Networking, Parallel Transmission Protocols, Computer Programming, Advanced Software Engineering and Block Chain based applications.

systems. It particularly deals with the software applications using computers to convert, store, protect, process, transmit and retrieve information securely.

#### Vision

The Bachelor of Science in Information Technology (BS (IT)) program is to prepare students for successful careers as IT professionals and to make a positive contribution to the society.

#### Mission

Our mission is to provide quality education to undergraduate and graduate students in accordance with the principles of the University mission. We strive for excellence in creating, applying, and imparting knowledge in Information Technology through comprehensive educational programs and research based teaching. We expect our graduates to provide their services to professional societies and the community, and become an active part of IT industry in our nation.

#### Introduction

Information and Communication Technology is an ever growing and a challenging field with a broader scope comprising of the study, design, development and implementation of computer-based information

### Teaching faculty

S. No.	Name of Faculty Member	Designation and Qualification
1.	Prof. Dr. Mukhtiar Ahmed Memon	Professor & Chairman PhD(UTM), Malaysia
2.	Prof. Dr. Zahid Hussain Abro	Professor & Pro Vice Chancellor PhD(CS), Austria
3.	Prof. Dr. Muhammad Ibrahim Channa	Professor & Dean Faculty of Science PhD(ICT), Thailand
4.	Dr. Shah Zaman Nizamani	Associate Professor PhD(IT), Pakistan
5.	Dr. Saifullah Memon	Assistant Professor MS(IT), Pakistan, PhD (CS) China
6.	Dr. Baqar Ali Zardari	Assistant Professor PhD (IT), Pakistan
7.	Dr. Saima Siraj Soomro	Assistant Professor MS(IT), (QUEST), PhD (IT), Pakistan
8.	Mr. Waqas Ali Sahito	Assistant Professor MS(IT), (QUEST) (On Study Leave)
9.	Mr. Himat Ali Shah	Assistant Professor MS(IT), (QUEST) (On Study Leave)
10.	Dr. Muniba Memon	Lecturer PhD(CS), Malaysia

# Courses of Study

Sr. #	Course Code	Name of Subject	CH		Marks	Sr. #	Course Code	Name of Subject	CH		Marks
			Th	Pr					Th	Pr	
<b>FIRST YEAR</b>											
<b>SEMESTER-I</b>						<b>SEMESTER-II</b>					
1.	CS100	Computer Fundamentals	2	1	50+50	1.	CC122	Object Oriented Programming	3	1	100+50
2.	CC111	Programming Fundamentals	3	1	100+50	2.	MTH107	Communication Skills	3	0	100+00
3.	MTH106	Functional English	3	0	100+00	3.	MTH101	Applied Calculus	3	0	100+00
4.	GE113	Islamic Studies/Ethics	2	0	50+00	4.	UE121	Principles of Accounting	3	0	100+00
5.	MS111	Applied Physics	3	0	100+00	5.	ITS121	Digital Logic & Design	2	0	100+00
6.	GE114	Pakistan Studies	2	0	50+00	6.	UE212	Business Economics	3	0	100+00
7.	MS112	Pre-Calculus-1*	0	0	00+0	7.	MS124	Pre-Calculus-II*	0	0	00+0
Total			15	2	450+100	Total			17	1	600+50
Note: Pre-Calculus-I and Pre-Calculus-II are Non-Credit subjects for Pre-Medical Students only and shall not affect the overall credits of the first semester as per NCEAC requirements.											
Sr. #	Course Code	Name of Subject	CH		Marks	Sr. #	Course Code	Name of Subject	CH		Marks
			Th	Pr					Th	Pr	
<b>SECOND YEAR</b>											
<b>SEMESTER-III</b>						<b>SEMESTER-IV</b>					
1.	ITS312	Computer Architecture & Microprocessors	3	0	100+00	1.	CC226	Software Engineering	3	0	100+00
2.	MS215	Linear Algebra	3	0	100+00	2.	CC227	Database Systems	3	1	100+50
3.	CC213	Data Structure & Algorithm	3	1	100+50	3.	UE213	Principles of Psychology	3	0	100+00
4.	CC214	Computer Networks	3	1	100+50	4.	ITC221	Systems & Network Administration	3	1	100+50
5.	CC215	Operating Systems	3	1	100+50	5.	MTH301	Statistics & Probability	3	0	100+00
Total			15	3	500+150	Total			15	2	500+100

## Courses of Study

THIRD YEAR											
SEMESTER-V						SEMESTER-VI					
1.	ITC312	IT Project Management	3	0	100+00	1.	ITC325	Virtual Systems & Services	3	1	100+50
2.	ITS323	Software Requirement Engineering	3	0	100+00	2.	ITE322	Mobile Application & Development	2	1	50+50
3.	ITC413	Web Technologies	3	1	100+50	3.	MTH202	Discrete Mathematics	3	0	100+00
4.	ITE311	Human Computer Interaction	3	0	100+50	4.	ITS324	Modeling & Simulation	3	0	100+00
5.	ITC314	Information Technology Infrastructure	2	0	50+00	5.	CC329	Information Security	3	0	100+00
6.	GE326	Technical & Business Writing	3	0	100+00	6.	ITE323	E-Commerce	2	0	50+00
Total			17	1	550+100	Total			16	2	500+100
FINAL YEAR											
SEMESTER-VII						SEMESTER-VIII					
1.	ITS415	Operation Research	3	0	100+00	1.	ITC426	Database Administration & Management	3	1	100+50
2.	ITS416	Automata Theory	2	0	50+00	2.	ITS417	Compiler Construction	2	0	50+00
3.	GE267	Professional Practices	3	0	100+00	3.	ITE425	Cloud Computing	3	0	100+00
4.	UE414	Entrepreneurship	3	0	100+00	4.	ITE426	Big Data Analytics	2	0	50+00
5.	ITE414	Artificial Intelligence	3	1	100+50	5.	ITC427	Cyber Security	3	0	100+00
6.	CC4110	FYP-I	0	3	00+100	6.	CC4211	FYP-II	0	3	00+100
Total			14	4	450+150	Total			11	4	400+150
Total BS(IT) credit hours						140					

## DEPARTMENT OF COMPUTER SCIENCE



**Prof. Dr. Akhtar H. Jalbani**  
**CHAIRMAN**

Prof. Dr. Akhtar Hussain Jalbani received his MS and PhD degrees in Computer Science from the Asian Institute of Technology (AIT) Bangkok, Thailand in 2009 and 2012, respectively. Currently, he is working as a Professor and Chairman in the Department of Computer Science, Quaid-e-Awam University of Engineering, Science & Technology, Nawabshah.

During his studies at AIT, Dr. Jalbani actively participated in research and teaching responsibilities. He participated in many research conferences and meetings in different countries. His research is broadly in artificial intelligence (AI) and its applications. He has been attracted by problems that require a blend of techniques to develop systems and algorithms that support decision-making for autonomous agents. His research vision is to use both theory and experiment to create novel algorithms, mechanisms, and systems that enable and support individual and group decision-making. His research projects have touched on various areas within artificial intelligence and computer science more broadly including algorithms and complexity, game theory and computational social choice, data analytics, data mining, and machine learning, decision-theoretic planning and

decision making under uncertainty, preference handling and reasoning, and constraint programming and optimization.

Dr. Jalbani is HEC Approved Supervisor and produced several Masters and PhD students. Presently, he is also supervising and co-supervising Master's and PhD students. Dr. Jalbani has been credited with several National and International conferences and journal papers. He is also a member of the editorial boards of various research journals.

### Introduction

Quaid-e-Awam University of Engineering, Science & Technology, Nawabshah offers a 4-years full-time Bachelor of Science in Computer Science. The degree program comprises of 8-Semesters as recommended by the Higher Education Commission (HEC) of Pakistan.

The key objective of the program is to deliver knowledge to the students of the region in the field of Computer Science. The courses offered in this program provide skills in the computing profession to meet the requirements of the country and enable students to develop reliable software products meeting the needs of intended users and organizations. This is achieved by applying sound scientific, mathematical and engineering principles. The laboratory facilities at the department are equipped with Xeon / Core i7, Multimedia, Internet and Network which provide an ideal environment for learning.

### Degree Programme:

Bachelor of Science (Computer Science)

## Teaching Staff

Sr. #	Name	Designation / Qualification
01	Prof. Dr. Akhtar Hussain Jalbani	Professor BSCS (QUEST), MS. & Ph.D (AIT, Bangkok Thailand)
02	Prof. Dr. Muhammad Saleem Vighio	Professor B.C.S (Sindh), M.S (AAU, Denmark), Ph.D (AAU, Denmark)
03	Engr. Anees Ahmed Soomro	Assistant Professor B.E (MUET), M.E (QUEST)
04	Dr. Aijaz Ahmed Arain	Assistant Professor B.Sc. (H) (Sindh) M.Sc. (Sindh) M.S (QUEST), Ph.D (QUEST)
06	Dr. Shamshad Lakho	Assistant Professor BSCS (QUEST), M.S (QUEST), Ph.D (QUEST)
08	Mr. Nadeem Channa	Lecturer BSCS (QUEST), M.S (QUEST)

## Courses of Study

Sr. #	Name of Subject	CH		SN	Name of Subject	CH	
		Th	Pr			Th	Pr
<b>First Year</b>							
<b>1<sup>st</sup> Semester</b>				<b>2<sup>nd</sup> Semester</b>			
1	Pre-Calculus-I			1	Applied Calculus	3	0
2	Pre-Calculus-II			2	Digital Logic Design	3	1
3	Computer Fundamentals	2	1	3	Object Oriented Programming	3	1
4	Programming Fundamentals	3	1	4	Communication Skills	3	0
5	Functional English	3	0	5	Islamic Studies/Ethics	2	0
6	Applied Physics	3	0				
7	Pakistan Studies	2	0				
<b>Total</b>		<b>13</b>	<b>2</b>	<b>Total</b>		<b>14</b>	<b>2</b>
<b>Second Year</b>							
<b>1<sup>st</sup> Semester</b>				<b>2<sup>nd</sup> Semester</b>			
1	Computer Organization & Assembly Language	3	1	1	Design & Analysis of Algorithms	3	0
2	Data Structures & Algorithms	3	1	2	Database Systems	3	1
3	Linear Algebra & Analytical Geometry	3	0	3	E-commerce	3	0
4	Discrete Mathematics	3	0	4	Visual Programming	3	1
5	Financial Accounting and Management	3	0	5	Statistics & Probability	3	0
<b>Total</b>		<b>15</b>	<b>2</b>	<b>Total</b>		<b>15</b>	<b>2</b>
<b>Third Year</b>							
<b>1<sup>st</sup> Semester</b>				<b>2<sup>nd</sup> Semester</b>			
1	Theory of Automata	3	0	1	Compiler Construction	3	0
2	Theory of Programming Languages	3	0	2	Computer Networks	3	1
3	Operating Systems	3	1	3	Numerical Analysis and Computer Applications	3	0
4	Software Engineering	3	0	4	Artificial Intelligence	3	1
5	Web Engineering	2	1	5	Technical & Business Writing	3	0
6	Professional practices	2	0				
<b>Total</b>		<b>16</b>	<b>2</b>	<b>Total</b>		<b>15</b>	<b>2</b>
<b>Final Year</b>							
<b>1<sup>st</sup> Semester</b>				<b>2<sup>nd</sup> Semester</b>			
1	Graph Theory	3	0	1	Cyber Security	3	0
2	Information Security	3	0	2	Big Data Analytics	3	1
3	Entrepreneurship & Leadership	2	0	3	Human Computer Interaction	3	0
4	Parallel & Distributed Computing	2	1	4	FYP-II	0	3
5	Mobile Application Development	3	1				
6	FYP-I	0	3				
<b>Total</b>		<b>13</b>	<b>5</b>	<b>Total</b>		<b>9</b>	<b>4</b>

## DEPARTMENT OF MATHEMATICS & STATISTICS



**Prof. Dr. Khuda Bux Amur**  
**CHAIRMAN**

Development Program of Higher Education Commissions (HEC) of Pakistan to pursue a PhD. In the spring of 2012, he was accepted into the doctoral program in the area of "Vibrations of Conveyor Belt Systems" of the Mathematical Physics group in the Department of Applied Mathematics, Delft University of Technology, Netherlands. During his PhD journey, Dr. Malookani presented his research work at local and international conferences related to the field of dynamics and vibrations in various countries such as the Netherlands, Austria, the USA and Pakistan. In addition, he also visited various countries such as Germany, Belgium, France, Hungary, Italy, Spain, Austria, Luxembourg, Slovakia, the Czech Republic and the USA for historic and cultural purposes. He received his Doctor of Philosophy (PhD) in Applied Mathematics in the Department of Applied Mathematics in 2016. He has authored and co-authored more than thirty research papers in HEC recognized journals.

After returning to Pakistan in 2016, Dr. Malookani joined as an Assistant Professor in the Department of Mathematics & Statistics, QUEST, Nawabshah. He has also served as a chairman of the Department of Physics for two and half years at QUEST, Nawabshah. At present, he is working as a Professor in the Department of Mathematics & Statistics and Head of Department (HoD) in the same department. He is currently supervising several Master's and PhD students in the department of Mathematics in the area of mathematical physics. His research interests include stability analysis of dynamical systems, vibrations and wave analysis of mechanical and structural systems and applicability of asymptotic methods in continuous systems.

### Introduction

Quaid-e-Awam University of Engineering, Science & Technology (QUEST), Nawabshah is committed to fostering a vibrant community of Engineers and scholars who explore and push the boundaries of engineering, science and technology. Given the significance of engineering and technology education, it was considered crucial to establish a department of mathematics to focus on logical reasoning, problem solving, and analytical skills.

The Department of Mathematics and Statistics was founded in 2006 and has since produced many brilliant graduates. It includes energetic community of scholars, educators and students dedicated to achieving excellence in the field of mathematics through rigorous education and innovative research. Our department is a hub for students and researchers passionate about uncovering

the intricacies of mathematics and applying their knowledge to solve real-world problems. We strive to foster a supportive and inclusive environment that encourages creativity, critical thinking and collaboration, prepare our students for successful careers in a rapidly changing world. From pure mathematics to applied mathematics and statistics, our department offers a wide range of courses, programs and resources to help students develop their mathematical knowledge, skills and passion.

Our department offers a broad spectrum of educational programs ranging from undergraduate to PhD levels, focusing on deep mathematical theories and practical applications. Each program is designed to challenge our students with a curriculum that balances theoretical knowledge and practical applications. Our undergraduate program lays a solid foundation in core mathematics, while offering electives in advanced topics such as economics, physics and econometrics, our graduate programs are renowned for their rigor and depth, focusing on specialized research areas including but not limited to:

1. Mathematical techniques for the solution of ODEs and PDEs
2. Image Processing
3. Fluid Mechanics
4. Commutative Algebra
5. Lie Group Theory

The Department of Mathematics and Statistics is proud of its robust research environment supported by advanced facilities and interdisciplinary collaboration. Our faculty is leading researchers in their fields, regularly contributing to prestigious journals and conferences worldwide. Over the years, we host annual and international conferences that bring together experts from diverse disciplines to discuss recent advancements in pure and applied mathematics. Our partnerships reach into industry and government sectors, while our research influences technological developments.

Our faculty is at the forefront of research in areas such as linear algebra, numerical and analytical techniques for the solution of the ODEs and PDEs, group theory and commutative algebra. They are committed to advancing the field of mathematics through innovative research, exceptional teaching and active engagement with the broader academic and professional community. They are not only leaders in their research areas but are also dedicated mentors who strive to inspire and guide the next generation of mathematicians.

We believe in nurturing a supportive and inclusive environment where all students can find guidance, supports and motivation from both peers and professors. Our department offers various student-led organizations, including QUEST, mathematical society. We also provide access to modern computer labs. Students can take advantage of numerous resources including our computer labs and participate in internships and research projects that prepare them for successful careers in academia, industry and beyond.

We invite prospective students, visiting scholars and collaborators to explore the many opportunities our department has to offer. Whether you are aiming to start your academic journey in mathematics or seeking collaboration on cutting edge research, you will find a welcoming community and unmatched support at our department.

### Degree Programs:

- Bachelor of Science (Mathematics)
- Master of Science (Mathematics)
- Ph.D. (Mathematics)

## Teaching Staff

SN	Name	Designation / Qualification
01	Prof. Dr. Rajab Ali Malookani	Professor / Chairman B.Sc (University of Sindh), M.Sc (University of Sindh), Ph.D. (Netherlands)
02	Prof. Dr. Khuda Bux Amur	Professor M.Sc. (University of Sindh), M.S. (GIKI. TopiSwabi), Ph.D. (France)
03	Dr. Shakeel Ahmed Kamboh	Associate Professor B.S (University of Sindh), Ph.D. (Malaysia)
04	Dr. Abdul Hanan Sheikh	Associate Professor B.Sc (SALU), M.Sc (QAU), Ph.D. (Netherlands)
05	Dr. Sajad Hussain Sandilo	Associate Professor B.Sc (Sindh University), M.Sc (QAU), Ph.D (Netherlands)
06	Dr. Muhammad Afzal Soomro	Associate Professor B.Sc (SALU), M.Sc (QAU), Ph.D. (Netherlands)
07	Dr. Sanaullah Dehraj	Assistant Professor B.S. (University of Sindh), M.S (NED UET), Ph.D (QUEST)
08	Dr. Shujaat Ali Shah	Assistant Professor B.Sc (SALU), M.Sc (SALU), M.Phil (QAU), PhD (QUEST)
09	Dr. Wajid Ali Shaikh	Assistant Professor B.Sc., M.Sc. & M.Phil (Sindh University), Ph.D (MUET)
10	Dr. Kamran Nazir Memon	Assistant Professor B.S (SALU), M.S (COMSATS), Ph.D. (MUET)
11	Dr. Asghar Ali Maitlo	Assistant Professor B.Sc., & M.Sc (SALU), M.S (QUEST), Ph.D. (France)
12	Mr. Iqrar Ali Pali	Assistant Professor BS (QUEST), MS (QUEST), On Study Leave
13	Mr. Muzaffar Bashir Arain	Assistant Professor BS (QUEST), MS (QUEST), On Study Leave

# Courses of Study

Sr. #	Name of Subject	CH		Marks	Sr. #	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>FIRST YEAR</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Calculus-I	03	00	100+00	1	Calculus –II	03	00	100+00
2	Discrete Mathematics	03	00	100+00	2	Statistics	03	00	100+00
3	Islamic Studies/ Ethics	02	00	50+00	3	Computer Programming	02	01	50+50
4	Functional English	03	00	100+00	4	Pakistan Studies	02	00	50+00
5	Physics-I	03	01	100+50	5	Communication Skills	03	00	100+00
6	Computer Fundamentals	02	01	50+50	6	Physics-II	03	01	100+50
Total		16	02	500+100	Total		16	02	500+100
<b>SECOND YEAR</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Set Topology	03	00	100+00	1	Fuzzy Logic	03	00	100+00
2	Calculus-III	03	00	100+00	2	Operations Research	03	00	100+00
3	Linear Algebra	03	00	100+00	3	Ordinary Differential Equations-I	03	00	100+00
4	Number Theory	03	00	100+00	4	Group Theory	03	00	100+00
5	Economics	03	00	100+00	5	Econometrics	03	00	100+00
Total		15	00	500+00	Total		15	00	500+00
<b>THIRD YEAR</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Ordinary Differential Equations-II	3	0	100+00	1	Classical Mechanics	03	00	100+00
2	Differential Geometry	3	0	100+00	2	Partial Differential Equations	03	00	100+00
3	Numerical Analysis-I	3	1	100+50	3	Complex Analysis	03	00	100+00
4	Real Analysis	3	0	100+00	4	Measure Theory	03	00	100+00
5	Mathematics Software	2	1	50+50	5	Numerical Analysis-II	03	01	100+50
Total		14	02	450+100	Total		15	01	500+50
<b>FINAL YEAR</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Transform Techniques	03	00	100+00	1	Probability Theory	03	00	100+00
2	Algebraic Topology	03	00	100+00	2	Integral Equations	03	00	100+00
3	Functional Analysis	03	00	100+00	3	Analytical Dynamics	03	00	100+00
4	Rings and Fields	03	00	100+00	4	Introduction to Elliptic Curves	03	00	100+00
5	Optimization Techniques	03	00	100+00	5	Fluid Mechanics	03	00	100+00
06	FYP-I	00	03	00+100	06	FYPI-II	00	03	00+100
Total		15	03	500+100	Total		15	03	500+100

## DEPARTMENT OF BASIC SCIENCE & RELATED STUDIES



**Prof. Dr. Saifullah Bhutto**  
**CHAIRMAN**

Prof. Dr. Saifullah Bhutto is currently serving as a Chairman, department of Basic Science and Related Studies. He is Professor of Islamic studies. Prof. Dr. Bhutto earned his bachelor's in pharmacy, Masters in Islamic Studies and Master of Philosophy from University of Sindh. Prof. Dr. Bhutto started his career from QUEST as a

lecturer in 2006 and after serving four years to this institution, he proceeded to Turkey to pursue Doctor of Philosophy in Islamic Studies from Ankara University. After acquiring PhD degree, Prof. Dr. Bhutto joined Quaid-e-Awam University back in 2015. As a researcher, he has many publications to his credit in national and international peer reviewed journals on various subjects of Islamic studies and Humanities in English, Turkish, Arabic & Urdu.

He possesses a vast experience of teaching and researching. Besides being a researcher, he has attended many trainings organized by Higher Education Commission Pakistan concerning religious teachings and their implications in the practical life, professional development, etc. Owing to his inclination towards the religion, Prof. Dr. Bhutto has attained the privilege of leading Taraweeh prayer & delivering lectures many times in international community as well.

Furthermore, he has presented his papers in national as well international conferences and he has emerged as a renowned researcher in the field of Islamic Studies. It is pertinent to mention here that Prof. Dr. Bhutto has been invited as a keynote speaker in many renowned national and international conferences. He has contributed significantly in his field. In this perspective, he has remained the Member of Advisory Board of the journals such as 'The Journal of Tafsir Studies, Sakarya, Turkey' and 'ALDEBAL Arabic research journal, Pakistan'. He is HEC approved supervisor and the areas of his research are religious tolerance, inter-faith harmony, social cohesion, Islam & science, Islamic manuscripts.

### Introduction

The Department of Basic Science & Related Studies covers the courses of natural sciences, physical sciences, management sciences, social sciences and humanities in various Engineering and Science disciplines of the University. It focuses to train Engineering, Science and Information Technology students to prepare them a better human capital for the workforce. Additionally, it assists and guides students ranging from Engineering & Science disciplines to be skilled in Management Skills, Soft Skills, Communication Skills and Generic Skills in order to be fit in the competitive corporate world following graduation.

The English Language Centre of the University is also part of this department. The Centre is well equipped with men and material in terms of well qualified PhD faculty and latest audio and video laboratories. The major function of the Center is to enhance the Communication Skills abilities and capabilities of Engineering and Science students. It shall not be exaggeration to add that modern industry needs well rounded Engineering Graduates equipped with Hard and Soft Skills due to increasing influence of globalization and industrialization over the corporate world. Thus, English Language Center plays paramount role to prepare our budding Engineering Students as per need of modern industry. Moreover, the Center offers various English Language and Communication Skills courses/trainings for Engineering Graduates to earn CPD points as prescribed mandatory by Pakistan Engineering Council (PEC). Additionally, the Centre offers various short courses and Trainings for the academic and administrative staff of the University to perform their job assignments efficiently.

## Teaching Staff

Sr. #	Name	Designation / Qualification
1.	Prof. Dr. Saifullah Bhutto	Professor/ Chairman M.Phil (University of Sindh), Ph.D (Turkey)
2.	Prof. Dr. Inayatullah Kakepoto	Professor M.A (SALU), Ph.D (Malaysia)
3.	Dr. Abdul Ghafoor Shaikh	Assistant Professor M.SC. (University of Sindh), MPhil (QAU Islamabad), Ph.D (QUEST)
4.	Mr. Liaquat Ali Tunio	Assistant Professor M.SC. (SALU), MPhil (QAU Islamabad), PGCOE (Islamabad)
5.	Mr. Syed Muhammad Saeed Ahmed	Assistant Professor M.SC. (Maths) University of Sindh PGCOE, Islamabad
6.	Mr. Ghulam Yameen Mallah	Assistant Professor B.Sc. (University of Sindh), M.Sc. & M.Phil (QAU, Islamabad)
7.	Dr. Hafiz Muhammad Memon	Assistant Professor B.S (University of Sindh), M.S (QUEST), Ph.D (QUEST)
8.	Mr. Ravi Kumar	Assistant Professor B.S (University of Sindh), M.Phil (MUET)
9.	Mr. Mehboob Ali Jatoi	Assistant Professor B.S (QUEST), MS (QUEST)
10.	Mr. Ajeeb-ur-Rehman Junejo	Assistant Professor B.Sc. (SALU), MSc (Sweden)
11.	Dr. Abbas Ali Ghoto	Assistant Professor B.Sc., M.Sc., M.Phil & Ph.D (University of Sindh)
12.	Mr. Tarique Hussain Keerio	Lecturer M.A. , M.Phil (University of Sindh)
13.	Mr. Saleemullah Bhutto	Lecturer (on Contract) M.A. , M.Phil (University of Sindh)
14.	Mr. Muhammad Ismail Rahu	Lecturer (on Contract) M.A. , M.Phil (MUET)

## DEPARTMENT OF ENGLISH (LANGUAGE AND LITERATURE)



**Prof. Dr Insaf Ali Siming**  
**CHAIRMAN**

Prof. Dr. Insaf Ali Siming, the founding Chairman of the Department of English, belongs to Khairpur Mirs', Sindh. After having completed his MA in English Literature with distinction from Shah Abdul Latif University Khairpur Mirs', Dr. Siming joined the Department of English, Shah Abdul Latif University Khairpur. Later on, he joined QUEST Nawabshah as a lecturer (English) in 2008. Dr. Siming has earned his PhD in Applied Linguistics from UTHM Malaysia.

He has immense experience in research and teaching as he is contributing toward publishing quality research papers in renowned research journals and offering his expert services to various universities of Pakistan as an expert board of studies and selection boards. Dr. Siming has presented his research work at national and international conferences including Malaysia, Singapore, Thailand and Pakistan. Dr. Siming is HEC approved Supervisor and member of various statutory bodies of QUEST and other national University. He is renewer of many national and international journals. Dr. Siming is a active member of many Scholarship like Ehsas need cum merit. A good number of research scholars pursuing their postgraduate programs are also co-supervised by Dr. Siming as his research interests revolve around the different areas and perspectives of Applied Linguistics and Learner Motivation.

### Introduction

The Department of English has been established in view of the contemporary global trends in English language, linguistics and literature. The department has a vibrant and highly foreign qualified and motivated faculty with a significant number of PhDs. The Motivating principles of establishing the department include meeting the language needs and necessities of English in Pakistan and incorporating growing trends in English language, linguistics and literature in academic and professional spheres of life. In addition, a guiding principle is to facilitate innovation through social, cultural, political and economic processes for personal growth. In doing so, the ability to master the art of innovation and creativity through literary learning and high moral character building of students can further guide them to attain their cherished goals.

Our department, for the very first time, offered a distinguished B.S program in English Language and Literature in 2019 in line with HEC NSRC-2017-18. The study programme was designed with a harmonized

approach between Language and Literature. This blend of integrated areas provides students with an in-depth understanding of curricular and creative tasks Driven through language learning. This goes with learner-based and hands-on activities to be carried out during the extensive four-year period of the study programme. To understand the fundamental concepts of research and its practical dimensions, students are required to submit a research dissertation as a pre-requisite in their final year to earn the degree.

Besides, the department also offers a range of learners' need-based short courses to develop academic as well as professional skills of the undergraduate and graduate students of various disciplines of this prestigious University. For this purpose, the department has dedicated and well-equipped audio-visual resources and labs with sufficient accommodation. Apart from offering a regular degree program, the department is actively engaged in organizing the talks of prominent national and international scholars of English Language and Literature to provide exposure to growing trends of language teaching and learning across the globe. One such program was hosted by the department in the month of March 2019 in which international speaker and prominent linguist, Dr. Elizabeth M. Anthony, engaged the students on the topic "Embrace Disruption, Rethink Learning" with her valuable guidance and extensive experience. Dr. Elizabeth works as an Associate Professor at the Department of Languages and Linguistics, Center for Language Studies, UTHM, Malaysia. Followed by motivational talk on the topic "Speak up about upon its future" on dated 5<sup>th</sup> September 2023. By Mr. Fayaz Hussain Rahoojo, Deputy Commissioner Dadu. An other Lecture Program was organized on topic "English Language Learning & Challenges" by Prof. Dr. Tariq Hussain Umrani, Professor IELL University of Sindh, Jamshoro on dated: 17<sup>th</sup> October 2023.

The department of English has established its seminar library that consists of the latest books ranging from communication skills, general English and the books prescribed in the B.S study scheme. The Department of English envisages enhancing the students' literary sensibilities, academic integrity, and professional uplifting of values essential for lifelong learning. It is worth mentioning that with the sincere efforts of the worthy Vice-Chancellor, Professor Dr. Saleem Raza Samo, the department came into existence. A recent development in the department of English is the establishment of the International English Language Testing System (IELTS) Lab under international standards. IELTS Language lab has a seating capacity of thirty students at a time with the latest computer facilities. The IELTS language lab has been donated and inaugurated by renowned educationist, social activist and leading orthopaedic doctor Professor Dr. A W Bhatti who is a Pakistani-born American citizen.

### Degree Programme:

Bachelor of Study in English (Language and Literature)

## Teaching Staff

Sr. #	Name	Designation / Qualification
01	Prof. Dr. Insaf Ali Siming	Professor & Chairman B. A (SALU), M.A (SALU), Ph.D (Malaysia)
02	Prof. Dr. Mansoor Ahmed Channa	Professor BS (SALU), M.A (SALU), MPhil (Thailand), Ph.D (Malaysia)
03	Mr. Muhammad Arif Soomro	Assistant Professor M.A (NUML), MS (MUET) On Study Leave
04	Mr. Mansoor Ahmed Koondhar	Lecturer M.A (University of Sindh), PhD (in progress)
05	Mr. Abdullah Laghari	Lecturer M.A (University of Sindh), PhD (in progress)
06	Mr. Mukhtiar Ali Rajper	Lecturer M.A (SALU), M.A (NUML) M.Phil (University of Sindh)

## Courses of Study

Sr. #	Name of Subject	CH		Marks	Sr. #	Name of Subject	CH		Marks	
		Th	Pr				Th	Pr		
<b>FIRST YEAR</b>										
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester					
1	Functional English	3	0	100+00	1	History of English Literature	3	0	100+00	
2	Introduction to Literary Studies	3	0	100+00	2	Phonetics and Phonology	3	0	100+00	
3	Introduction to Language Studies	3	0	100+00	3	Communication Skills	3	0	100+00	
4	Study Skills	3	0	100+00	4	Introduction to IT Skills	2	1	50+50	
5	Introduction to Psychology	3	0	100+00	5	Statistical Methods	3	0	100+00	
6	Islamic Studies/Ethics	2	0	50+00	6	Pakistan Studies	2	0	50+00	
Total				17	00	550+00	Total			
							16	01	500+50	

## Courses of Study

Sr. #	Name of Subject	CH		Marks	Sr. #	Name of Subject	CH		Marks
		Th	Pr				Th	Pr	
<b>SECOND YEAR</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	English Through Technology	3	0	100+00	1	Academic Reading and Writing	3	0	100+00
2	Novel/Short Story (Fiction)	3	0	100+00	2	Prose (Non-fiction)	3	0	100+00
3	Major Literary Movements	3	0	100+00	3	Syntax	3	0	100+00
4	Introduction to Morphology	3	0	100+00	4	Sociolinguistics	3	0	100+00
5	Introduction to Philosophy	3	0	100+00	5	Poetry-I (Classical Poetry)	3	0	100+00
6	International Relations	3	0	100+00	6	Creative Writing	3	0	100+00
Total		18	00	600+00	Total		18	00	600+00
<b>THIRD YEAR</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Novel 18th to 19th Century	3	0	100+00	1	Drama-I (Classical and Renaissance)	3	0	100+00
2	Semantics	3	0	100+00	2	Poetry-II (Romantic and Victorian)	3	0	100+00
3	Literary Criticism-I	3	0	100+00	3	Literary Criticism-II	3	0	100+00
4	Psycholinguistics	3	0	100+00	4	Pragmatics	3	0	100+00
5	Women Writers	3	0	100+00	5	English for Specific Purposes (ESP)	3	0	100+00
6	Intercultural Communication	3	0	100+00	6	Research Methodology-I	3	0	100+00
Total		18	00	600+00	Total		18	00	600+00
<b>FINAL YEAR</b>									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
1	Drama-II (Modern)	3	0	100+00	1	Modern Novel	3	0	100+00
2	Postcolonial Literature	3	0	100+00	2	Pakistani Literature in English	3	0	100+00
3	Translation Studies	3	0	100+00	3	Stylistics	3	0	100+00
4	Critical Discourse Analysis	3	0	100+00	4	Syllabus and Materials Designing	3	0	100+00
5	FYP-I	3	0	100+00	5	FYP-II	3	0	100+00
Total		15	00	500+00	Total		15	00	500+00

## DEPARTMENT OF PHYSICS



**Dr. M. Afzal Soomro**  
**CHAIRMAN**

Dr. Muhammad Afzal Soomro is a distinguished academician. He commenced his academic journey with a Bachelor's degree from Degree College Larkana, followed by a Master's degree in Mathematics from Quaid-e-Azam University, Islamabad. In 2008, upon completing his Master's degree, Dr. Soomro embarked on his career in academia at Quaid-e-Awam University. Recognizing his potential, he was honored with a scholarship under the Faculty Development Program (FDP),

affording him the opportunity to broaden his horizons and delve deeper into his field of study. He pursued his Ph.D. in Algebra at the University of Groningen, Netherlands, successfully defending his thesis titled "Algebraic Curves over Finite Fields." In 2013, armed with a Ph.D. in Algebra, he returned to Quaid-e-Awam University to contribute to academic excellence.

His research interests span a diverse array of areas in mathematics and theoretical physics, encompassing algebra, topology, algebraic geometry, and number theory. Dr. Soomro has authored over 20 research papers in esteemed HEC-recognized journals across different fields of mathematics. His academic journey has been characterized by a steadfast dedication to teaching and research. He has imparted knowledge across a wide spectrum of courses, including Group Theory, Topology, Algebraic Topology, Rings and Fields, Commutative Algebra, and Functional Analysis. His expertise and passion for teaching have served as a source of inspiration for countless students over the years.

Currently, Dr. Soomro serves as the Chairman of the Department of Physics at Quaid-e-Awam University. His current teaching responsibilities include delivering courses on Statistical Mechanics, a fundamental subject in the realm of physics.

### Introduction

The main goal of the physics department is to offer quality education to undergraduates and provide them with a holistic approach to the physical principles of the universe. Furthermore, it aims to enable them to think creatively and critically about scientific problems and experiments. This, in turn, can help them develop quantitative reasoning

skills and conduct training sessions for students' planning careers in physics. It includes those whose interests lie in college/university teaching, industrial jobs or other sectors of human society. Unprecedented developments in all the areas of science and technology are based on the understanding of the physical laws of nature. Physics plays a very important role in recent technological advancement in industry and other social sectors. This can lead to light the intrinsic motivation in exploring the hidden mysteries in nature and find their solutions.

Keeping in view the importance of Physics, the QUEST has begun a Bachelor of Science (BS) program in Physics from batch 2021. The department offers a four-year (8 semesters) undergraduate program for the degree of BS (Physics). This program includes foundational courses such as Mechanics, Electricity and Magnetism, Waves and Oscillations, Modern Physics, Optics, etc. The major courses included are Classical Mechanics, Electromagnetic Theory-I and II, Quantum Mechanics-I and II, Atomic and Molecular Physics, Solid State Physics-I and II, Nuclear Physics, and Fluid dynamics. In addition, the students will have access to laboratories where they can perform experiments as a compulsory part of their course structure. The laboratory work provides the climax experience to the core courses, gathering the knowledge acquired in different theoretical courses and bridging the gap between theoretical knowledge taught in textbooks problems and the experimental foundations of this knowledge.

### Vision

To establish a global center of excellence in Physics research and building a knowledge society.

### Mission

To impart outstanding physics knowledge and prepare students for professional careers in Physics and pursuing advanced degrees in Physics.

### Program Educational Objectives (PEOs)

1. Understand the basic concepts in physics and to apply them in formulating the real-world problems of different areas of engineering, medical and natural sciences.
2. Solve the complex problems related with different disciplines of engineering, medical and natural sciences, using latest hardware and software tools and mathematical and physical techniques.

Extend their knowledge in pursuing their post graduate studies and their careers in academic and industry and advance personally and professionally by accepting professional and societal responsibilities as an individual and/or in a team with the sense of ethical and legal aspect.

## Teaching Staff

Sr.#	Name	Designation / Qualification
01	Dr. Muhammad Afzal Soomro	Associate Professor M.Sc (QAU, Islamabad), Ph.D. (the Netherlands)
02	Mr. Imran Kanhio	Assistant Professor BS (QUEST), MS (QUEST)
03	Mr. Imdad Hussain Kalhoro	Lecturer (on Contract) B.E (QUEST), M.E (QUEST)
03	Ms. Jannat Soomro	Lab Instructor

## Course Scheme

### FIRST SEMESTER (FIRST YEAR)

Sr. #	COURSES OF STUDIES	Marks			Credit Hour	Course Code
		Theory	Practical	Total		
01	Mechanics (Th+Lab)	100	50	150	03+01	PHY 111
02	Applied Calculus	100	00	100	03	MTH 112
03	Computer Fundamentals (Th+Pr)	50	50	100	02+01	IT 113
04	Environmental Physics	100	00	100	03	PHY 114
05	Functional English	100	00	100	03	MTH 115
06	Pakistan Studies	50	00	50	02	MTH 116
<b>Total</b>		<b>500</b>	<b>100</b>	<b>600</b>	<b>18</b>	

### SECOND SEMESTER (FIRST YEAR)

Sr. #	COURSES OF STUDIES	Marks			Credit Hour	Course Code
		Theory	Practical	Total		
01	Electricity & Magnetism(Th+Lab)	100	50	150	03+01	PHY 121
02	Heat & Thermodynamics	100	00	100	03	PHY 122
03	Differential Equations	100	00	100	03	MTH 123
04	Accounting	100	00	100	03	MTH 124
05	Communication Skills	100	00	100	03	MTH 125
06	Islamic Studies/Ethics	50	00	50	02	MTH 126
<b>Total</b>		<b>550</b>	<b>50</b>	<b>600</b>	<b>18</b>	

### FIRST SEMESTER (SECOND YEAR)

Sr. #	COURSES OF STUDIES	Marks			Credit Hour	Course Code
		Theory	Practical	Total		
01	Waves and Oscillations (Th+Lab)	100	50	150	03+1	PHY 211
02	Optics (Th+Lab)	100	50	150	03+01	PHY 212
03	Physical Chemistry	100	00	100	03	MTH 213
04	Linear Algebra	100	00	100	03	MTH 214
05	Technical and Business Writing	100	00	100	03	MTH 215
<b>Total</b>		<b>500</b>	<b>100</b>	<b>600</b>	<b>17</b>	

# Course Scheme

## SECOND SEMESTER (SECOND YEAR)

Sr. #	COURSES OF STUDIES	Marks			Credit Hour	Course Code
		Theory	Practical	Total		
01	Modern Physics (Th+Lab)	100	50	150	03+01	PHY 221
02	Electronics-I (Th+Lab)	100	50	150	03+01	PHY 222
03	Classical Mechanics	100	00	100	03	PHY 223
04	Complex Variable and Transform	100	00	100	03	MTH 224
05	Probability and Statistics	100	00	100	03	MTH 225
<b>Total</b>		<b>500</b>	<b>100</b>	<b>600</b>	<b>17</b>	

## FIRST SEMESTER (THIRD YEAR)

Sr. #	COURSES OF STUDIES	Marks			Credit Hour	Course Code
		Theory	Practical	Total		
01	Electronic Material and Devices	100	00	100	03	PHY311
02	Electromagnetic Theory-I	100	00	100	03	PHY 312
03	Quantum Mechanics-I	100	00	100	03	PHY 313
04	Mathematical Methods of Physics-I	100	00	100	03	PHY 314
05	Numerical Analysis & Computer Applications (Th+Pr)	100	50	150	03+01	MTH 315
<b>Total</b>		<b>500</b>	<b>50</b>	<b>550</b>	<b>16</b>	

## SECOND SEMESTER (THIRD YEAR)

Sr. #	COURSES OF STUDIES	Marks			Credit Hour	Course Code
		Theory	Practical	Total		
01	Electromagnetic Theory-II	100	00	100	03	PHY 321
02	Electronics-II (Th+Lab)	100	50	150	03+01	PHY 322
03	Mathematical Methods of Physics-II	100	00	100	03	PHY 323
04	Quantum Mechanics-II	100	00	100	03	PHY 324
05	Statistical Mechanics	100	00	100	03	PHY 325
<b>Total</b>		<b>500</b>	<b>50</b>	<b>550</b>	<b>16</b>	

## FIRST SEMESTER (FOURTH YEAR)

Sr. #	COURSES OF STUDIES	Marks			Credit Hour	Course Code
		Theory	Practical	Total		
01	Introduction to Relativity	100	00	100	03	PHY 411
02	Digital Electronics (Th+Lab)	100	50	150	03+01	PHY 412
03	Fluid Dynamics	100	00	100	03	PHY 413
04	Atomic & Molecular Physics	100	00	100	03	PHY 414
05	Solid State Physics-I	100	00	100	03	PHY 415
<b>Total</b>		<b>500</b>	<b>50</b>	<b>550</b>	<b>16</b>	

## SECOND SEMESTER (FOURTH YEAR)

Sr. #	COURSES OF STUDIES	Marks			Credit Hour	Course Code
		Theory	Practical	Total		
01	Solid State Physics-II	100	00	100	03	PHY 421
02	Particle Physics	100	00	100	03	PHY 422
03	Nuclear Physics	100	00	100	03	PHY 423
04	Lasers	100	00	100	03	PHY 424
05	Comprehensive Viva Voce	00	100	100	03	PHY 500
<b>Total</b>		<b>400</b>	<b>100</b>	<b>500</b>	<b>15</b>	

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE



**Dr. Asghar Ali Chandio**  
**CHAIRMAN**

Dr. Asghar Ali Chandio received his Ph. D. from the School of Engineering and Information Technology (SEIT), University of New South Wales, at Canberra, Australia in 2020. He received his Master's degree in Information Technology from QUEST, Nawabshah in 2014 and Bachelor's degree in Information Technology from University of Sindh, Jamshoro in 2008, where he got first position in the Institute of Information & Communication Technology. He

joined QUEST as a Lecturer in 2010 and left for higher studies in 2016. After returning to Pakistan in 2020, he joined the QUEST as an Assistant Professor till 2021. Presently he works as an Associate Professor in the Department of Artificial Intelligence.

Dr. Asghar has worked on different projects of Computer Vision, Medical Imaging, Document Analysis and Recognition. He has supervised more than 10 MS students and is currently supervising 05 PhD and 07 MS students. He has authored and co-authored more than 25 international and national journals and conference papers.

His major research interests include machine learning, deep learning, handwritten text recognition, text extraction in natural scene images, medical imaging, document analysis and recognition.

### Introduction

The Department of Artificial Intelligence has been established under the umbrella of the Faculty of Science, Quaid-e-Awam University of

Engineering, Science and Technology, Nawabshah in 2021 by keeping in view the increasing demand for this field of study around the globe. Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving.

AI technologies are nowadays used in healthcare, automobiles, finance, surveillance, social media, entertainment, education, space exploration, gaming, robotics and agriculture. The ultimate goal of artificial intelligence is to create computer programs that can solve real-world problems and achieve goals like human beings. The major areas of AI include machine learning, neural networks, computer vision, robotics, natural language processing, expert systems and speech processing.

The Department is well equipped with advanced computer laboratories and qualified faculty. Currently, there are three (03) foreign qualified PhD faculty members in the Department, who are experts in the AI domain. Some faculty members are pursuing PhD degrees in AI in well-reputed international universities and are expected to join the department in near future. The PhD faculty in the department have strong academic collaborations with national/international institutions. This linkage is helpful for the exchange of students to other national/international institutions. The government of Pakistan is also encouraging and supporting the institutions offering a degree in AI.

### Degree Programmes:

Bachelor of Science (Artificial Intelligence)

## Teaching Staff

Sr.No	Name	Designation/ Qualification
01	Dr. Asghar Ali Chandio	Associate Professor & Chairman BS (UoS), MS (QUEST), PhD (Australia)
02	Prof. Dr. Adnan Manzoor	Professor (On Leave) BSc (Uos), MSc (Uos), MS (QUEST), PhD (Netherlands),
03	Dr. Shafiullah Soomro	Associate Professor (On Leave) B.E (QUEST), ME (MUET), PhD (South Korea)
04	Mr. Zeeshan Rasool	Assistant Professor BS (CS) (QUEST), MS (CS) (Malaysia)

# Courses of Study

First Semester, First Year							
Course Code	Course Title	Domain	Pre-requisite	Credit Hours		Marks	
				Th	Pr	Th	Pr
	*Pre-Calculus-I		None	3	0	100	00
AI111	Computer Fundamentals	GEN	None	2	1	50	50
AI112	Programming Fundamentals	CORE	None	3	1	100	50
MTH113	Islamic Studies / Ethics	GEN	None	2	0	50	00
MTH114	Discrete Mathematics	GEN	None	3	0	100	00
MTH115	Functional English	GEN	None	3	0	100	00
MTH116	Applied Physics	GEN	None	3	0	100	00
<b>Sub Total</b>				<b>16</b>	<b>02</b>	<b>500</b>	<b>100</b>
<b>Total</b>				<b>18 (16+2)</b>		<b>600 (500+100)</b>	
Second Semester, First Year							
Course Code	Course Title	Domain	Pre-requisite	Credit Hours		Marks	
				Th	Pr	Th	Pr
	*Pre-Calculus-II		None	3	0	100	00
AI121	Object Oriented Programming	CORE	AI112	3	1	100	50
AI122	Digital Logic Design	CORE	None	2	1	50	50
AI123	Financial Accounting	SS	None	3	0	100	00
MTH124	Communication Skills	GEN	MTH115	3	0	100	00
MTH125	Applied Calculus	MATHS	None	3	0	100	00
MTH126	Pakistan Studies	GEN	None	2	0	50	00
<b>Sub Total</b>				<b>16</b>	<b>02</b>	<b>500</b>	<b>100</b>
<b>Total</b>				<b>18 (16+2)</b>		<b>600 (500+100)</b>	
<p><b>*Note:</b> Pre-Calculus I and II are Non-Credit subjects and will not affect the overall credits of the first and second semesters as per NCEAC requirements. The students who have not studied Mathematics at intermediate level have to pass deficiency courses of Mathematics (06 credits) in the first two semesters.</p>							

# Courses of Study

First Semester, Second Year							
Course Code	Course Title	Domain	Pre-requisite	Credit Hours		Marks	
				Th	Pr	Th	Pr
AI211	Data Structures	CORE	AI121	3	1	100	50
AI213	Artificial Intelligence	CORE	AI121	3	1	100	50
AI214	Database Systems	CORE	None	3	1	100	50
MTH215	Statistics & Probability	MATHS	None	3	0	100	00
MTH216	Linear Algebra	MATHS	MTH125	3	0	100	00
Sub Total				15	03	500	150
Total				18 (15+3)		650 (500+150)	
Second Semester, Second Year							
Course Code	Course Title	Domain	Pre-requisite	Credit Hours		Marks	
				Th	Pr	Th	Pr
AI221	Machine Learning	DOMAIN CORE	AI213	3	1	100	50
AI222	Computer Organization and Assembly Language	CORE	AI122	2	1	50	50
AI223	Analysis of Algorithms	CORE	AI211	3	0	100	00
AI224	Programming for Artificial Intelligence	DOMAIN CORE	AI213	2	1	50	50
AI225	Theory of Automata	DOMAIN ELECTIVE	None	2	0	50	00
AI226	Software Engineering	CORE	None	3	0	100	00
Sub Total				15	03	450	150
Total				18 (15+3)		600 (450+150)	

First Semester, Third Year							
Course Code	Course Title	Domain	Pre-requisite	Credit Hours		Marks	
				Th	Pr	Th	Pr
AI311	Operating Systems	CORE	AI211	2	1	50	50
AI312	Artificial Neural Networks & Deep Learning	DOMAIN CORE	AI213	3	1	100	50
AI313	Knowledge Representation & Reasoning	DOMAIN CORE	AI213	3	0	100	00
AI314	Introduction to Management	GEN	None	2	0	50	00
AI315	Introduction to Data Science	DOMAIN ELECTIVE	None	2	0	50	00
AI316	Computer Networks	CORE	None	2	1	50	50
Sub Total				14	03	400	150
Total				17 (14+3)		550 (400+150)	

# Courses of Study

Second Semester, Third Year							
Course Code	Course Title	Domain	Pre-requisite	Credit Hours		Marks	
				Th	Pr	Th	Pr
AI321	Parallel and Distributed Computing	DOMAIN CORE	AI121, AI311	2	1	50	50
AI322	Computer Vision	DOMAIN CORE	AI312	3	1	100	50
AI323	Natural Language Processing	DOMAIN ELECTIVE	AI312	3	1	100	50
AI324	Autonomous Systems	DOMAIN ELECTIVE	AI213	3	0	100	00
AI325	Emerging Trends in Artificial Intelligence	DOMAIN ELECTIV	None	3	0	100	00
Sub Total				14	03	450	150
<b>Total</b>				<b>17 (14+3)</b>		<b>600 (450+150)</b>	

First Semester, Final Year							
Course Code	Course Title	Domain	Pre-requisite	Credit Hours		Marks	
				Th	Pr	Th	Pr
AI411	Final Year Project - I	CORE	None	0	3	00	100
AI412	Information Security	CORE	None	3	0	100	00
AI413	Speech Processing	DOMAIN ELECTIVE	None	2	1	50	50
AI414	Big Data Analytics	DOMAIN ELECTIVE	AI315	3	1	100	50
MTH415	Technical & Business Writing	GEN	MTH115	3	0	100	00
Sub Total				11	05	350	200
<b>Total</b>				<b>16 (11+5)</b>		<b>550 (350+200)</b>	

Second Semester, Final Year							
Course Code	Course Title	Domain	Pre-requisite	Credit Hours		Marks	
				Th	Pr	Th	Pr
AI421	Final Year Project - II	CORE	AI411	0	3	00	100
AI422	Entrepreneurship	GEN	None	2	0	50	00
AI423	Reinforcement Learning	DOMAIN ELECTIVE	AI312	2	1	50	50
AI424	Civics and Community Engagement	GEN	None	2	0	50	00
AI425	Professional Practices	GEN	None	2	0	50	00
Sub Total				08	04	200	150
<b>Total</b>				<b>12 (8+4)</b>		<b>350 (200+150)</b>	

## DEPARTMENT OF CYBER SECURITY



**Dr. Adnan Ahmed Arain**  
**CHAIRMAN**

Dr. Adnan Ahmed Arain received his Ph.D. degree from University Technology Malaysia (UTM), Malaysia in 2016. He received his Master's and B.E degrees from QUEST, Nawabshah in Computer Systems Engineering in 2011 and 2006, respectively. He joined QUEST in August 2006 as a lecturer and was promoted to assistant professor and associate professor in 2011 and 2018, respectively. He has more than 15 years of teaching and research experience.

Dr. Adnan has published more than 40 international journal and

conference papers. He is currently supervising several Master and Ph.D. students. His research interests include Cybersecurity, Computer networks, security and Quality of Service (QoS) issues in wireless ad-hoc networks (wireless sensor networks, wireless body area networks, underwater sensor networks and vehicular area networks). He is also the manager of research and development in the Office of Research, Innovation and Commercialization (ORIC) at QUEST. He is also a member of the editorial board of the QUEST research journal.

### Introduction

The Department of Cyber Security is going to be established under the umbrella of the Faculty of Science, as a stream program of the Department of Information Technology, Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah in 2022 by keeping in view the increasing demand for this field of study around the globe. Living in the digital age means hackers and cyber terrorists have endless

opportunities to exploit individuals, government institutions, and even large companies. To defend against cyber-attacks and security breaches, top organizations are willing to pay a lot for cyber security experts who can protect their data and remove vulnerabilities. A bachelor's degree in Cyber Security teaches students to identify computer systems and network vulnerabilities, protect computer operating systems, networks, and data from cyber-attacks. Graduates have the skills to find system vulnerabilities while building solutions to prevent malicious attacks and the forensic knowledge to show where attacks have occurred and identify their origins. Cybersecurity professionals are in high demand across a wide variety of industries such as Financial/banking, e-commerce, government, healthcare, military and manufacturing, where people's transactions, assets, and health records need to be protected. Cyber security program graduates have a wide range of career opportunities. Positions that use the specialized knowledge gained from cyber security program includes network security engineers, penetration testers, security analysts, system security consultants, and network and security administrators. These positions can be found in the public and private sectors. The U.S. Bureau of Labor Statistics reports that the market for security specialists is growing at a fast rate of 31% job increase in this field by 2026.

The Department of Cyber Security offers 4 years Bachelor of Science (BS) degree in Cyber security. The Department is well equipped with advanced computer laboratories and qualified faculty members. Currently, there are six (06) foreign qualified Ph.D. faculty members in the Department. The Ph.D. faculty in the department have strong academic collaborations with national/international institutions.

### Degree Programmes:

1. Bachelor of Science (Cyber Security)

### Teaching Staff

Sr. #	Name	Designation / Qualification
1.	Dr. Adnan Ahmed Arain	Associate Professor & Chairman Ph.D.(CS), Malaysia
2.	Prof. Dr. Zahid Hussain Abro	Professor & Pro Vice Chancellor faculty of Science PhD(CS), Austria
3.	Prof. Dr. Muhammad Ibrahim Channa	Professor & Dean Faculty of Science PhD(ICT), Thailand
4.	Prof. Dr. Mukhtiar Ahmed Memon	Professor and Chairman IT PhD(UTM), Malaysia
5.	Dr. Muhammad Awais Rajput	Assistant Professor PhD(CS), Germany (on leave)
6.	Mr. Saifullah Memon	Assistant Professor MS(IT), Pakistan, PhD (CS), China
7.	Mr. Aamir Rasool Memon	Teaching Assistant BS (CS), QUEST, MS (CS)(in progress)

## Courses of Study

### First Semester, First Year (Semester – I)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours		Total
					Th	Pr	
1		Pre-Calculus-I	Maths	None	00	00	14
2	CYS111	Computer Fundamental	General Education	None	02	01	
3	CYS112	Programming Fundamentals	Computing Core	None	03	01	
4	MTH113	Pakistan Studies	General Education	None	02	00	
5	MTH114	Functional English	General Education	None	03	00	
6	MTH115	Islamic Studies / Ethics	General Education	None	02	00	
Sub-Total					12	02	

### Second Semester, First Year (Semester – II)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours		Total
					Th	Pr	
1		Pre-Calculus-II	Maths	Pre-Calculus-I	00	00	18
2	CYS121	Object Oriented Programming	Computing Core	CYS112	03	01	
3	CYS122	Computer Networks	Computing Core	None	03	01	
4	CYS123	Digital Logic and Design	Computing core	None	03	01	
5	CY124	Introduction to Cyber Security	Domain core	None	03	00	
6	MTH115	Applied Physics	General Education	None	03	00	
Sub-Total					15	03	

### First Semester, Second Year (Semester – III)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours		Total
					Th	Pr	
1	MTH211	Communication Skills	General Education	None	03	00	18
2	CYS212	Data Structures & Algorithms	Computing Core	CYS112	03	01	
3	CYS213	Database Systems	Computing Core	None	03	01	
4	CYS214	Artificial Intelligence	Computing core	CYS112	03	01	
5	MTH215	Applied Calculus	Maths	None	03	00	
Sub-Total					15	03	

### Second Semester, Second Year (Semester – IV)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours		Total
					Th	Pr	
1	CYS221	Network & Information Security	Domain Core	CYS112	03	01	17
2	CYS222	Cyber Laws & Cyber Crime	Domain Elective	CYS124	02	00	
3	CYS223	Computer Organization & Assembly Language	Computing core	CYS123	02	01	
4	CYS224	Software Engineering	Computing Core	None	03	00	
5	CYS225	Analysis of Algorithm	Computing core	CYS212	02	00	
6	MTH226	Linear Algebra	Maths	MTH215	03	00	
Sub-Total					15	02	

## Courses of Study

### First Semester, Third Year (Semester – V)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours		Total
					Th	Pr	
1	CYS311	Secure Software Design & Development	Domain core	CY121	02	01	17
2	CYS312	Information Assurance	Domain core	None	03	00	
3	CYS313	Operating Systems	Computing Core	None	03	01	
4	CYS314	Machine Learning	Computing Core	CYS214	03	01	
5	MTH315	Discrete Mathematics	Maths	None	03	00	
Sub-Total					14	03	

### Second Semester, Third Year (Semester – VI)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours		Total
					Th	Pr	
1	CY321	Vulnerability Assessment and Reverse Engineering	Domain Elective	None	02	01	18
2	CY322	Digital Forensics & Malware Analysis	Domain core	None	03	01	
3	CY323	Ethical Hacking and Penetration Testing	Domain Elective	CY121	03	01	
4	CYS324	Embedded system	Domain Elective	None	02	00	
5	MTH321	Introduction to Project Management	Elective Supporting	None	02	00	
6	MTH322	Statistics and Probability	Maths	None	03	00	
Sub-Total					15	03	

### First Semester, Final Year (Semester – VII)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours		Total
					Th	Pr	
1	CYS411	Cryptography and Cryptanalysis	Domain Elective	CYS211	02	00	16
2	CYS412	Parallel & Distributed Computing	Domain Core	Operating Systems	02	01	
3	CY413	Data Sciences & Analytics	Domain Elective	None	03	01	
4	MTH414	Marketing and Digital Strategies	Elective Supporting	None	02	00	
5	MTH415	Technical & Business Writing	General Education	Comm. Skills	02	00	
6	CYS416	Final Year Project - I	Computing core	None	00	03	
Sub-Total					11	05	

### Second Semester, Final Year (Semester – VIII)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours		Total
					Th	Pr	
1	CYS421	Cloud Security	Domain Elective	None	03	00	15
4	CYS422	Wireless and Mobile Security	Cyber Elective	CY121	03	00	
3	MTH423	Entrepreneurship	General Education	None	02	00	
4	MTH424	Professional Practices	General Education	None	02	00	
5	MTH425	Civics and community Management	General Education	None	02	00	
6	CYS426	Final Year Project - II	Computing Core	FYP-1	00	03	
Sub-Total					12	03	15
Grand-Total					109	24	133

## DEPARTMENT OF BS(DATA SCIENCE) PROGRAMME



**Dr. Mehwish Leghari**  
Coordinator

Dr. Mehwish Leghari received her PhD degree in IT, in 2021 from the University of Sindh, Jamshoro. She received her MS(IT) in 2015 from QUEST Nawabshah and BS(IT) in 2007 from University of Sindh Jamshoro. Dr. Leghari started her career as a Software Engineer at Isra University Hyderabad. Later she joined QUEST in 2011. Currently she is coordinator of the Data Science programme and Assistant Professor at Artificial Intelligence Department QUEST. She has authored more than 15 research

papers in national and international journals and conferences. She is currently supervising/co-supervising several PhD students. Her research interests include Artificial Intelligence in general and Machine Learning, Deep Learning and Biometrics Recognition in particular.

### Introduction

BS (Data Science) program has been started under the umbrella of Faculty of Science in 2022. The program has been started by keeping in view the need of data scientists in today's rapidly developing era of Artificial Intelligence. Data Science provides the approach to process enormous, complex and diverse data that is called big data, into meaningful insights that facilitate in the process of organizational decision making. In current era of Information Technology and Artificial Intelligence data is the backbone of all the organizations. Experts of data science have opportunities in the various domains like healthcare, banking and finance, automation and transport industry, governments and almost every industry where business relies on big data. Data scientist is one of the top ranked careers nowadays and the importance of data has created the demand of data scientists in huge amount.

BS (Data Science) is a four-year (8 semesters) program. The goal of the

program is to prepare students to explore data and retrieve insights from that data to improve business decisions. The courses offered in this program provide students with in-depth knowledge of the field of data science in general and the skills in its related fields like statistics, databases, computer programming, machine learning, data modeling and simulation in particular. The BS(DS) degree program prepares the students for the careers like data scientist, data engineer, data analyst, data architect, business analyst and data administrator. The high qualified faculty and the state of the art laboratories of university provide an ideal learning environment to the students.

### Vision of the BS(DS) Programme

To produce data scientists with competency and high quality analytical skills for the achievement of global socioeconomic goals

### Mission of the BS(DS) Programme

To provide high quality data science education and produce excellent professionals who may contribute optimistically towards the society and efficiently to the achievement of global sustainable development

### Program Educational Objectives BS(DS) Programme

1. To produce skilled computer professionals having strong theoretical knowledge and adequate practical skills in the field of computing and data science
2. To train the students with skills by using modern tools and techniques for design, development and analysis of the complex and diverse data into eloquent insights for intelligent decision making
3. To enhance the independent and team-work capacities in the students by refining communication and leadership skills
4. To provide better understanding of social and ethical values to the students for continuous learning and practice as a computer professional

### Degree Programme:

- Bachelor of Science (Data Science)

## Teaching Staff

No.	Name	Designation / Qualification
01.	Dr. Mehwish Leghari	Assistant Professor & Coordinator Ph.D. (Sindh)
02.	Engr. Jawed Akhtar Unar	Assistant Professor M.E (MUET)

## Courses of Study

### First Semester, First Year

S. No	Course Code	Course Title	Credit Hours		Marks	
			Th	Pr		
1		Pre-Calculus-I*	00	00	00+00	
2	CS101	Computer Fundamentals	02	01	50+50	
3	DS112	Programming Fundamentals	03	01	100+50	
4	MTH101	Applied Calculus	03	00	100+00	
5	MTH106	Functional English	03	00	100+00	
6	MTH115	Islamic Studies / Ethics	02	00	50+00	
7	MTH116	Discrete Mathematics	03	00	100+00	
*Non-credit Deficiency course for the students with pre-medical in intermediate.			<b>Total</b>	<b>16</b>	<b>02</b>	<b>500+100</b>

### Second Semester, First Year

S. No	Course Code	Course Title	Credit Hours		Marks	
			Th	Pr		
1		Pre-Calculus II*	00	00	00+00	
2	DS121	Object Oriented Programming	03	01	100+50	
3	DS122	Digital Logic Design	02	01	50+50	
4	MTH123	Applied Calculus	03	00	100+00	
5	MTH124	Communication Skills	03	00	100+00	
6	MTH125	Pakistan Studies	02	00	50+00	
*Non-credit Deficiency course for the students with pre-medical in intermediate			<b>Total</b>	<b>13</b>	<b>02</b>	<b>400+100</b>

### First Semester, Second Year

S. No	Course Code	Course Title	Credit Hours		Marks
			Th	Pr	
1	DS211	Computer Networks	03	01	100+50
2	DS212	Data Structures	03	01	100+50
3	DS213	Software Engineering	03	00	100+00
4	DS214	Artificial Intelligence	03	01	100+50
5	MTH215	Statistics and Probability	03	00	100+00
<b>Total</b>			<b>15</b>	<b>03</b>	<b>500+150</b>

### Second Semester, Second Year

S. No	Course Code	Course Title	Credit Hours		Marks
			Th	Pr	
1	DS221	Introduction to Data Science	02	01	50+50
2	DS222	Database Systems	03	01	100+50
3	DS223	Analysis of Algorithms	02	00	50+00
4	MTH224	Linear Algebra	03	00	100+00
5	DS225	Machine Learning	02	01	50+50
6	DS226	Advance Statistics	03	00	100+00
<b>Total</b>			<b>15</b>	<b>03</b>	<b>450+150</b>

## Courses of Study

### First Semester, Third Year

S. No	Course Code	Course Title	Credit Hours		Marks
			Th	Pr	
1	DS311	Computer Organization and Assembly Language	02	01	50+50
2	DS312	Deep Learning	02	01	50+50
3	DS313	Data Warehousing and Business Intelligence	03	01	100+50
4	DS314	Information Security	03	00	100+00
5	MTH315	Technical and Business Writing	03	00	100+00
6	DS316	Introduction to Management	02	00	50+00
<b>Total</b>			<b>15</b>	<b>03</b>	<b>450+150</b>

### Second Semester, Third Year

S. No	Course Code	Course Title	Credit Hours		Marks
			Th	Pr	
1	DS321	Operating Systems	02	01	50+50
2	DS322	Data Mining	02	01	50+50
3	DS323	Natural Language Processing	03	01	100+50
4	DS324	Web Engineering	03	01	100+50
5	DS325	Human Resource Management	03	00	100+00
<b>Total</b>			<b>13</b>	<b>04</b>	<b>400+200</b>

### First Semester, Final Year

S. No	Course Code	Course Title	Credit Hours		Marks
			Th	Pr	
1	DS411	Final Year Project - I	00	03	00+100
2	DS412	Big Data Analytics	03	01	100+50
3	DS413	Entrepreneurship	02	00	50+00
4	DS414	Data Visualization	02	01	50+50
5	DS415	Platform & Architecture for Data Science	03	00	100+00
<b>Total</b>			<b>10</b>	<b>05</b>	<b>300+200</b>

### Second Semester, Final Year

S. No	Course Code	Course Title	Credit Hours		Marks
			Th	Pr	
1	DS421	Final Year Project - II	00	03	00+100
2	DS422	Parallel and Distributed Computing	02	01	50+50
3	DS423	Professional Practices	02	00	50+00
4	DS424	Reinforcement Learning	03	00	100+00
5	DS425	Civic and Community Engagement	02	00	50+00
<b>Total</b>			<b>09</b>	<b>04</b>	<b>250+150</b>
<b>Grand Total</b>			<b>106</b>	<b>26</b>	

## DEPARTMENT OF CHEMISTRY



**Dr. Ahsanullah Soomro**  
**CHAIRMAN**

Dr. Ahsanullah Soomro received his PhD degree in Energy and Environment in 2019 from Southeast University, China. He received his Bachelor's and Master's degrees in 2009 and 2014, respectively from QUEST, Nawabshah. As an accomplished researcher with over a decade of experience, including roles as an Associate Professor in the Environmental Engineering Department at Quaid-e-Awam University of Engineering, Science, and Technology, Pakistan, his responsibilities in

this role encompass teaching, research, and administrative duties, including leading the Chemistry Department as the Chairman. He has published several research papers in reputable SCI-indexed research journals, presented his work at international conferences, and actively engaged in interdisciplinary collaboration.

His research interests include gasification, waste to energy, CO<sub>2</sub> capture & low carbon Technology, hydrogen production, desalination and environmental engineering.

### Introduction

Bachelor of Science in Chemistry has been started under the umbrella of Faculty of Science in 2022 with the primary goal of providing

excellent education in Chemistry for a diverse range of learners. The Department offers four-year undergraduate degree program, aligning with the standards set by the Higher Education Commission (HEC) of Pakistan. Our courses focus on experimental techniques, providing students with basic concepts and hands-on laboratory training.

Our comprehensive education covers all sub-disciplines of chemistry, including organic, inorganic, physical, biological, theoretical, and analytical chemistry. Within this framework, we aim to enable students to become responsible citizens by equipping them with knowledge, skills, attitudes, and values. Our goal is to prepare students for success in both scientific and non-scientific professions.

Diligent efforts from our expert faculty members ensure that students receive a top-quality education in modern chemistry. With rigorous academic programs, state-of-the-art facilities, and passionate faculty, we are committed to providing an exceptional education that prepares our students for successful careers in chemistry and beyond.

Join us as we embark on a journey of exploration, innovation, and academic excellence in the realm of Chemistry.

### Facilities available in the department

The BS Chemistry program is started in Chemical Engineering Department. The facilities available in Chemical Engineering will also be offered to the students of Chemistry.

### Vision

To produce Chemistry graduates with competitive skills to contribute towards the regional and global socioeconomic development.

### Teaching faculty

S. No.	Faculty Member(s)	Designation / Qualification
1.	Dr. Ahsanullah Soomro	Chairman / Associate Professor Ph.D. (China), M.E. (QUEST), B.E. (QUEST)
2.	Dr. Rizwan Khan Soomro	Assistant Professor Ph.D. (SKKU., S. Korea), M.E. (MUET), B.E. (MUET)
3.	Engr. Kashif Hussain Mangi	Assistant Professor PhD (France), M.E (MUET), B.E (MUET)
4.	Engr. Hira Lal Soni	Assistant Professor M.E (NED-UET), B.E (NED-UET)
5.	Engr. Hafiz Anees ur Rehman	Lab Engineer M.E (MUET), B.E (MUET), Ph.D. (In progress)
6.	Engr. Mahmood Nabi Abbasi	Lab Engineer M.E (MUET), B.E (MUET)
7.	Ms. Nousheen Tabassum	Teaching Assistant BS Chemistry (SBBU SBA)

Note: The BS Chemistry program is started in the Chemical Engineering Department. The faculty members of the Chemical Engineering Department will share the teaching load.

# DEPARTMENT OF CHEMISTRY

## Courses of Study

Course Code	Course Title	Credit Hours (Theory)	Credit Hours (Lab)
<b>Semester – I</b>			
CS-100	Computer fundamentals	2	1
MTH-104	Pakistan Studies	2	0
MTH-106	Functional English	3	0
CHM-112	Inorganic Chemistry-I	3	1
CHM-113	Physics-I	2	1
MTH-119	Basic Mathematics	3	0
<b>Total credit hours: 18</b>		<b>15</b>	<b>3</b>
<b>Semester – II</b>			
MTH-101	Applied Calculus	3	0
MTH-105	Islamic Studies/Ethics	2	0
MTH-107	Communication Skills	3	0
CHM-121	Functional Biology-I	2	0
CHM-122	Organic Chemistry-I	3	1
CHM-123	Physics-II	2	1
<b>Total credit hours: 17</b>		<b>15</b>	<b>2</b>

Course Code.	Course Title	Credit Hours (Theory)	Credit Hours (Lab)
<b>Semester – III</b>			
MTH-209	Technical & Business Writing	3	0
CHM-211	Functional biology-II	2	0
CHM-212	Forensic Chemistry	2	0
CHM-213	Environmental Chemistry	3	1
CHM-214	Physical Chemistry-I	3	1
MTH-301	Statistics & Probability	3	0
<b>Total credit hours: 18</b>		<b>16</b>	<b>2</b>
<b>Semester – IV</b>			
CHM-221	Green Chemistry	3	0
CHM-222	Analytical Chemistry-I	3	1
CHM-223	Biochemistry-I	2	1
CHM-224	Applied Chemistry	3	0
CHM-225	Thermodynamics	2	1
<b>Total credit hours: 16</b>		<b>13</b>	<b>3</b>
<b>Total for 1st year (two semesters)</b>		<b>33</b>	

# DEPARTMENT OF CHEMISTRY

## Courses of Study

Course Code.	Course Title	Credit Hours (Theory)	Credit Hours (Lab)
<b>Semester – V</b>			
CHM-311	Inorganic Chemistry-II	3	1
CHM-312	Organic Chemistry-II	3	1
CHM-313	Physical Chemistry-II	3	1
CHM-314	Analytical Chemistry-II	3	1
<b>Total credit hours: 16</b>		<b>12</b>	<b>4</b>
<b>Semester – VI</b>			
CHM-321	Inorganic Chemistry-III	3	1
CHM-322	Organic Chemistry-III	3	1
CHM-323	Physical Chemistry-III	3	1
CHM-324	Fuel Chemistry	3	1
<b>Total credit hours: 16</b>		<b>12</b>	<b>4</b>
<b>Courses of Specialization in Organic Chemistry</b>			
Course Code.	Course Title	Credit Hours (Theory)	Credit Hours (Lab)
<b>Semester – VII</b>			
CHM-411	Heterocyclic And Organometallic Compounds	3	0
CHM-412	Reactive Intermediates	3	0
CHM-413	Organic Spectroscopy	3	0
CHM-414	Organic Special Lab-I	0	1
CHM-415	Stereochemistry	3	0
CHM-416	Final Year Project-I	0	3
<b>Total credit hours: 16</b>		<b>12</b>	<b>4</b>
<b>Semester – VIII</b>			
CHM-421	Natural Products	3	0
CHM-422	Organic Synthesis	3	0
CHM-423	Medicinal Chemistry	3	0
CHM-424	Organic Special Lab-II	0	1
CHM-425	Nanotechnology	3	0
CHM-426	Final Year Project-II	0	3
<b>Total credit hours: 16</b>		<b>12</b>	<b>4</b>

**Total Credit Hours: 133**

## DEPARTMENT OF CHEMISTRY

### Courses of Study

Courses of Specialization in Analytical Chemistry			
Course Code.	Course Title	Credit Hours (Theory)	Credit Hours (Lab)
<b>Semester – VII</b>			
CHM-411	Atomic Spectroscopy	3	0
CHM-412	Electroanalytical Techniques	3	0
CHM-413	Advanced Separation Techniques	3	0
CHM-414	Analytical Special Lab-I	0	1
CHM-415	Basic concepts of crystallography	3	0
CHM-416	Final Year Project-I	0	3
<b>Total credit hours: 16</b>		<b>12</b>	<b>4</b>
<b>Semester – VIII</b>			
CHM-421	Luminescence Spectroscopy and Thermal Analysis	3	0
CHM-422	Nuclear Analytical Techniques	3	0
CHM-423	Food And Drug Analysis	3	0
CHM-424	Analytical Special Lab-II	0	1
CHM-425	Nanotechnology	3	0
CHM-416	Final Year Project-II	0	3
<b>Total credit hours: 16</b>		<b>12</b>	<b>4</b>

**Total Credit Hours: 133**



# FACULTY OF TECHNOLOGY

## Introduction:

Due to the rapid growth of industrialization and consequent expansion in the demand for skilled manpower in the country, it became indispensable to improve and upgrade the standard and quality of technical education. It was realized that there was an extreme paucity of technical institutes to cater for the growing need for technical staff for the emerging industrial sector in the country. To meet this challenge, the Government decided to introduce degree courses of Bachelor level in certain selected disciplines of technology at the technical colleges. The QUEST also starts BS Engineering Technology in the field of Civil, Mechanical, and Electrical Technology to cater for the needs of industries. The Faculty of Technology supervises the conduct of degree programs offered by the affiliated colleges.

Three government technical colleges were affiliated with Quaid-e-Awam University of Engineering, Science, & Technology Nawabshah: one of the leading universities in the country. The affiliated colleges were:

Government Habib College of Technology, Nawabshah

Government College of Technology, Larkano

In 2017, the Government College of Technology Khairpur Mir's was upgraded as the independent Technology University.

The curriculum followed NTC by the colleges is per the recommendations and guidelines of HEC and approval of the Academic Council of the university. The admission process, the conduct of classes and the conduct of the examinations are implemented by the affiliated colleges in light of the decisions of the Academic Council detailed in the respective college's prospectus and supervised by the University authorities on a regular basis. The colleges offered B.Tech (04 years) programs in Civil, Electrical and Mechanical technologies up to the 2017-2018 session. However, in pursuance of directives of HEC Pakistan, the colleges were directed to start Bachelor of Science in (Engineering Technology) instead of B.Tech. The colleges are working on the task to get accreditation with the National Technology Council (NTC) Pakistan for the BS programs. The colleges shall offer admissions in Bs programs after getting the necessary approvals from HEC, NTC and QUEST.

## Affiliation Process:

An educational institution applying for affiliation to the University shall make an application to the University and shall satisfy it.

- that the educational institution is under the management of the government of a regularly constituted governing body;
- that the financial resources of the educational institution are sufficient to enable it to make due provision for its continued maintenance and efficient working;
- that the strength and qualification of the teaching and other staff, and the terms and conditions of their service, are adequate to make the provision for the courses of instruction, teaching or training to be undertaken by the educational institution;

- that the educational institution has framed proper rules regarding the efficiency and discipline of its staff and other employees;
- that the building in which the educational institution is to be located is suitable, and that provision will be made in conformity with the statutes and the Regulations for the residence of students, not residing with their parents or guardians, in the hostels established and maintained by the educational institution or in hostels or lodgings approved by it, and the supervision and physical and general welfare of students;
- that provision has been made for library and adequate library services;
- that where affiliation is sought in any branch of experimental sciences, due arrangements have been made for imparting instruction in that branch of science in a properly equipped laboratory, museum, and other places of practical work
- that due provision based on certain circumstances may be permitted, or be made for the residence of Principal and members of the teaching staff in or near off the college or the place provided for the residence of students; and
- that the affiliation of the educational institution regarding the provision that has been made for students by another educational institution in its neighbourhood will be harmful to the interests of education or discipline.

The application shall further contain an undertaking that after the educational institution is affiliated any transference of, and changes in the management and the teaching staff shall be forthwith reported to the University, and that the teaching staff shall possess such qualifications as are or may be prescribed.

The procedure to be followed in disposing of an application for the affiliation of an educational institution shall be or maybe as prescribed.

The Syndicate may, on the recommendation of the Affiliation Committee, grant or refuse affiliation to an educational institution provided that affiliation shall not be refused, unless the educational institution has been given an opportunity of making a representation against the proposed decision.

Addition of courses by the affiliated educational institution:

Where an educational institution desires to add to the courses of instruction in respect of which it is affiliated, the procedure prescribed under sub-section (3) of section 32 shall, so far as may be, followed. Reports from affiliated educational institutions:

Every educational institution affiliated with the university shall furnish such reports, returns and other information as the University may require enabling it to judge the efficiency of the educational institution.

The University may call upon any educational institution affiliated with it to take, within a specified period, such action as may appear to the University to be necessary for respect of any of the matters referred to in sub-section (1) of section 32.

### Withdrawal of affiliation

If an educational institution affiliated with the university fails at any time to fulfil any of the requirements mentioned in this Act, or if an institution has failed to observe any of the conditions of its affiliation, or its affairs are conducted in a manner which is prejudicial to the interests of education, the Syndicate may, on the recommendation of the Affiliation Committee, and after considering such representation as the educational institution may wish to make, withdrawal, either in\* whole or in part, the rights conferred on the educational institution by affiliation or modify such rights.

The Procedure to be followed for the withdrawal of affiliation shall be such as may be prescribed.

### Appeal against refusal or withdrawal of affiliation

An appeal shall lie to the Senate against the decision of the Syndicate refusing to affiliate an institution or withdrawal in whole or in part the rights conferred on an institution by affiliation or modifying such rights. Taking over of institution or college:

The Chancellor may, on request of any affiliated institution or college direct that the control and management of such educational, institution or college may be taken over by the university

The Chancellor may, for the efficient management and control of the such educational institution or college establish a Board of Governors.

The Board of Governors shall consist of:

The Pro-Chancellor (Chairman)

The Vice-Chancellor (Vice-Chairman)

Such other members as may be appointed by the Chancellor.

Subject to special or general direction of the Chancellor the Board of Governors shall exercise general supervision and control over the affairs of such institution or college and without prejudice to the generality of these powers it shall.

Formulate the policy for running the institution or college in the light of guidelines issued by the university from time to time;

Control and administer the property of the institution or college;

Manage and regulate the funds, finances, assets and investments of the institution or college:

Maintain the accounts of the institution or college in the prescribed form and get such accounts audited in the prescribed manner;

Appoint teachers and other employees of the institution or college and have the power to take disciplinary action against them.

### BS Engineering Program at QUEST

The QUEST, under the Faculty of Technology, allowed affiliated colleges to start BS (Engineering Technology) in Civil, Electrical and Mechanical vide Academic Council Resolution No. ACAD-34.7 dated 10.03.2021.

The QUEST main campus Nawabshah also started BS (Engineering

Technology) program in the field of Food Engineering Technology under the Faculty of Technology vide Academic Council Resolution No. ACAD-35.3 dated 28.07.2021 for Batch 2021 and ONWARDS.

### Fees Structure

Furthermore resolved as per BS (Engineering Technology) program as per Resolution No.ACAD-35.2 dated 28.07.2021.

Sr. #	Description	Amount of Fee (in Rupees)
1	Processing Fee for fresh application of affiliation	Rs. 50,000/-
2	Inspection Fee	Rs. 25,000/-
3	Affiliation Fee for (BS Program)	Rs. 300,000/-
4	Yearly affiliation fee per degree course	Rs. 150,000/-
	<b>Total</b>	<b>Rs. 525,000/-</b>

Share of 25% from the self-finance income will also be charged every year.

Entry test will be conducted by the University itself.

Examination rules and regulation will be implemented as per the prescribed policy of the University along with amendments from time to time under the supervision of vigilance committee.

HEC update version of BS (Engineering Technology) be implemented for all the Technologies.

Vigilance Committee will be regularly monitor the conduct of classes and the examination to ensure all the facilities provided as per University affiliation policy.

Examination (Regular and Supplementary) will be conducted according to established policy of the University.

SN	Name	Designation / Qualification
01	Prof. Dr. Abdul Sattar Jamali	Dean, Faculty of Technology
02	Mr. Hammadullah Abro	Principal, Govt. Habib College of Technology Nawabshah
03	Dr. Muhammad Saleh Shah	Principal, Govt. College of Technology Larkano

## DEPARTMENT OF FOOD ENGINEERING TECHNOLOGY



**Dr. Mahdi Hassan Mallah**  
**In-Charge Chairman**

Dr. Mahdi Hassan Mallah received his Ph.D. degree from Southeast University Nanjing, China, in 2022. Currently, he is working as an In-Chairman in the department of Food Engineering Technology at QUEST, Nawabshah, Sindh, Pakistan. He has more than 13 years of teaching / research experience. Dr. Hassan has presented his research work in national and international conferences including China, Spain, France, Italy and Pakistan. He has published more than 15 research papers in national and international journals.

Dr. Hassan has a strong background research in Biological wastewater treatment, bioremediation and Stormwater system, biodegradation of antibiotics, Environmental Microbiology, pollutant transformation in aquatic environments, enhance various microbial communities to promote water quality, Drinking water treatment and microbial ecology, with a focus on the removal of pollutants from river or lakes, Urban, municipal, Industrial wastewater. He also investigated the impact of antibiotics on microbial communities and the potential for the development of antibiotic-resistant bacteria (ARB) in treated effluent.

Dr. Mahdi Hassan Mallah received his Ph.D. degree from Southeast University Nanjing, China, in 2022. Currently, he is working as an In-Chairman in the department of Food Engineering Technology at QUEST, Nawabshah, Sindh, Pakistan. He has more than 13 years of teaching / research experience. Dr. Hassan has presented his research work in national and international conferences including China, Spain,

France, Italy and Pakistan. He has published more than 15 research papers in national and international journals.

### Introduction

Food Engineering Technology is a multidisciplinary approach that is considered a specialized field pact with various aspects of foods. Food Engineering Technology deals with, Food Production, Food Processing & Analysis, Research & Development, Product Development, Food Laws & Regulation, Food Safety and Food Quality, Preservation & Packaging of Food, selection and maintain the hygienic level of all types of foods like meat, fruits, vegetables, cereals, fish, egg, milk, etc. It provides economical solutions to technical problems of food industries; significantly contributes to the development of new food products and their manufacturing processes, and fulfilling the social & commercial needs of the industry. Food Engineering Technology deals with the challenges of the rapidly growing food industry and develops cutting-edge techniques to meet the national and global challenges in food security, food safety, and human nutrition.

Pakistan is an Agriculture country where the agriculture sector plays a major role in economic development. There is a significant increase in the establishment of the food industry in recent years and consequently, the demand for Food Engineering Technology graduates has increased tremendously at the national level and in the Gulf countries. It is a need-based, professionally oriented field to assist the community towards improved living. It is the key subject in shaping the future course of lives by preparing useful citizens with relevant knowledge and competencies to transform them into efficient custodians of the nation's future.

### Vision

To produce professional graduates in the field of Food Engineering Technology to cater for the requirement of the market for socio-economic and sustainable development of the country.

### Mission

To produce high-quality professionals for the food and allied industries. The competent graduates are capable of applying knowledge and skills for solving problems of society and food industries with professional standards and ethics.

## Teaching Staff

Faculty Member(s)	Designation	Qualification
Dr. Mahdi Hassan Mallah	Assistant Professor Chairman	Ph.D. (Southeast University Nanjing, China) M.E & BE (QUEST Nawabshah)
Dr. Babar Ali Qureshi	Associate Professor	Ph.D. (Tsinghu university, China), ME& BE (MUET, Jamshoro) (Lien)
Dr. Pir Bux Urf Waqas Mughal	Assistant Professor	Ph.D (BUCT, China) ME& BE (QUEST Nawabshah) (Lien)
Engr. Hammad Hashmi	Lecturer	M.E& B.E (QUEST, Nawabshah)

**FIRST YEAR**

**1<sup>st</sup> Semester**

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
01	MTH-101	Applied Calculus	3+0	
02	FET-101	Applied Physics	3+0	
03	MTH-106	Functional English	3+0	
04	MTH-105	Islamic Studies or Ethics	2+0	
05	FET-102	Introduction to Food Technology	3+0	
06	MTH-104	Pakistan Studies	2+0	
<b>Total Credit</b>			<b>16</b>	

**2<sup>nd</sup> Semester**

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
01	MTH-301	Statistics & Probability	3+0	
02	CS-100	Computer Fundamentals	2+1	
03	MTH-107	Communication Skills	3+0	
04	FET-121	Basic Agriculture	2+1	
05	FET-122	Food Chemistry	3+0	
06	ME-108	Workshop Practice	0+2	
<b>Total Credit</b>			<b>13+4 = 17</b>	

**Total Credit Hours = 32**

**SECOND YEAR**

**3<sup>rd</sup> Semester**

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
01	FET-201	Marketing and Agriculture Business	3+0	
02	FET-202	Fluid Mechanics	2+1	
03	FET-203	Applied Thermodynamics	2+1	
04	FET-204	Fruits and Vegetables Processing	2+1	
05	FET-205	Food Biochemistry	3+0	
06	FET-206	Food Microbiology	2+1	
<b>Total Credit</b>			<b>18</b>	

**4<sup>th</sup> Semester**

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
01	FET-221	Unit Operation in Food Technology-I	3+1	
02	FET-222	Meat, Poultry and Egg Technology	3+1	
03	FET-223	Dairy Technology	2+0	
05	FET-224	Food Biotechnology	2+0	
05	FET-225	Cereal Technology	2+1	
06	FET-226	Bakery Products Technology	2+1	
<b>Total Credit</b>			<b>18</b>	

**Total Credit Hours = 36**

**THIRD YEAR**

**5<sup>th</sup> Semester**

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
01	FET-301	Unit Operation in Food Technology-II	3+1	
02	FET-302	Food Safety	3+0	
03	FET-303	Sugar and Confectionary Technology	2+1	
04	FET-304	Fats and Oils Technology	2+0	
05	FET-305	Instrumental Techniques in Food Analysis	2+1	
06	FET-306	Beverage Technology	2+1	
<b>Total Credit</b>			<b>18</b>	

**6<sup>th</sup> Semester**

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
01	FET-321	Heat Transfer and Mass Transfer	3+1	
02	FET-322	Food Plant Layout and Design	2+0	
04	FET-323	Food Processing	3+0	
04	FET-324	Food Product Development	2+0	
04	FET-325	Postharvest Technology	2+1	
06	FET-326	Project-I	0+3	
<b>Total Credit</b>			<b>17</b>	

**Total credit hours = 35**

**FINAL YEAR**

**7<sup>th</sup> Semester**

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
01	FET-401	Food Laws and Regulations	3+0	
02	FET-402	Entrepreneurship	2+0	
03	FET-403	Food Packaging Technology	2+1	
04	FET-404	Food Quality Management	2+0	
05	FET-405	Project-II	0+3	
<b>Total Credit</b>			<b>13</b>	

**8<sup>th</sup> Semester**

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
1	FET 420	Supervised Industrial Training	0+16	
<b>Total Credit</b>			<b>16</b>	

## DEPARTMENT OF CIVIL ENGINEERING TECHNOLOGY



**Dr. Aftab Hameed Memon**  
**Associate Professor &**  
**Coordinator CET**

Dr. Aftab Hameed Memon is serving as an Associate Professor and the Coordinator of the Civil Engineering Technology Program at the Department of Civil Engineering, Quaid-e-Awam University of Engineering, Science, and Technology Nawabshah.

Dr. Aftab has earned his bachelor's degree in civil engineering from the Quaid-e-Awam University of Engineering, Science, and Technology (QUEST) in Nawabshah. He graduated with a Master of Science in

Construction Management from the University of Technology Malaysia (UTM). He received his PhD and Post Doctorate in Civil Engineering with a specialization in Construction Management from the University Tun Hussein Onn Malaysia (UTHM).

Dr. Aftab joined QUEST in 2007 and is actively involved in teaching and research. He has worked in the construction industry with well-known organizations. He has published over 100 research papers in national and international journals. He has won several awards for presenting research findings at various international competitions and exhibitions. Dr. Aftab's research interests include Construction & Project Management, Sustainable Construction, Waste Management, Multivariate Statistical Analysis, and Construction Materials

### Introduction

The Bachelor of Engineering Technology (Civil) is a technology-based industrial-Driven educational system. Engineering programs focus on theory and conceptual design, while Engineering Technology programs emphasize the application and implementation of technology. Cooperative Education combines classroom learning with work experience. Bachelor of Engineering Technology (Civil) is a cooperative model program designed for Pakistan's construction industry. This is 134 credit program that starts in the fall of 2022. The program prioritizes planning, design modules, construction, and environmental management technologies. QUEST is starting the Bachelor of

Engineering Technology (Civil) as a self-sustained program and will adopt OBE based system for program evaluation.

This program aims at producing energetic fieldworkers with the practical skills to work for various construction companies. Bachelor of Engineering Technology (Civil) graduates will find work in the construction industry based on their technical expertise, management skills and familiarity with cutting-edge engineering technologies. Bachelor of Engineering Technology (Civil) graduates will be in power alongside world-famous graduates.

### Mission:

To produce trained technical graduates who are equipped with basic skills, techniques, and modern tools to provide services to industry leaders, civil engineering technologists, and entrepreneurs to successfully execute construction projects and address the challenges of the construction industry and society.

### Program Education Objectives

After the completion of four year BSc degree in Civil Engineering Technology,

1. Graduates will have knowledge of Civil Engineering Technology and modern tools to develop solutions to industry problems
2. Graduates will be able to apply their technical and managerial abilities to assume leadership roles for the advancement of the engineering technology industry.
3. Graduates will be able to contribute to multidisciplinary industrial projects for socioeconomic development by demonstrating good communication skills and professionalism.
4. Graduates will have continuous professional learning abilities and emphasis on social, environmental and ethical issues.

## Courses of Study

Sr. No	Course Code	Subject	Credit Hour		Weekly Contact Hours	
			Theory	Practical	Theory	Practical
<b>1<sup>ST</sup> SEMESTER 1<sup>ST</sup> YEAR</b>						
1.	MTH-110	Islamic Studies / Ethics	2	0	2	0
2.	MTH-101	Applied Calculus	3	0	3	0
3.	CS-100	Computer Fundamentals	2	1	2	3
4.	CE-203	Civil Engineering Drawing	2	1	2	3
5.	CT-124	Surveying	3	1	3	3
6.	CM-112	Occupational Health & safety Management	2	0	2	0
<b>Total</b>			<b>14</b>	<b>3</b>	<b>14</b>	<b>9</b>
<b>Grand Total</b>			<b>14+3= 17</b>		<b>14+9 = 23</b>	
<b>2<sup>ND</sup> SEMESTER 1<sup>ST</sup> YEAR</b>						
1.	CT-134	Concrete Technology	2	1	2	3
2.	MTH-107	Functional English	3	0	3	0
3.	CT-144	Applied Mechanics	2	1	2	3
4.	CT-154	Materials and Methods of Construction	2	1	2	3
5.	MTH-211	Differential Equation	3	0	3	0
6.	MTH-104	Pakistan Studies	2	0	2	0
<b>Total</b>			<b>14</b>	<b>3</b>	<b>14</b>	<b>9</b>
<b>Grand Total</b>			<b>14 + 3 = 17</b>		<b>14 + 9 = 23</b>	
<b>1<sup>ST</sup> SEMESTER 2<sup>ND</sup> YEAR</b>						
1.	CE-209	Architecture and Town Planning	2	0	2	0
2.	MTH-301	Statistics & Probability	3	0	3	0
3.	CE - 308	Soil Mechanics	3	1	3	3
4.	CT-243	Fluid Mechanics	3	1	3	3
5.	CT-254	Mechanics of Solids	3	1	3	3
<b>Total</b>			<b>14</b>	<b>3</b>	<b>14</b>	<b>9</b>
<b>Grand Total</b>			<b>14+3 = 17</b>		<b>14+9 = 23</b>	
<b>2<sup>ND</sup> SEMESTER 2<sup>ND</sup> YEAR</b>						
1.	CE 303	Transportation Engineering	3	1	3	3
2.	CT-274	Water Supply &Wastewater Management	3	0	3	0
3.	CM-213	Environmental Management	2	1	2	3
4.	CE - 206	Theory of Structures	3	1	3	3
5.	MTH-107	Communication Skills	3	0	3	0
<b>Total</b>			<b>14</b>	<b>3</b>	<b>14</b>	<b>9</b>
<b>Grand Total</b>			<b>14 + 3 = 17</b>		<b>14 + 9 = 23</b>	

1 <sup>ST</sup> SEMESTER 3 <sup>RD</sup> YEAR						
1.	CT- 313	Hydrology	2	1	2	3
2.	CT- 323	Reinforced Concrete Structures	3	1	2	3
3.	CT-333	Construction and Hydraulic Machinery	2	0	2	0
4.	CT-343	Computer Aided Building Modeling and Design	2	0	2	0
5.	CE 407	Foundations Engineering	3	1	3	3
6.	CT-350	Professional Ethics for Technologist	2	0	2	0
<b>Total</b>			<b>14</b>	<b>3</b>	<b>14</b>	<b>9</b>
<b>Grand Total</b>			<b>14 + 4 = 18</b>		<b>14 + 12 = 26</b>	
2 <sup>ND</sup> SEMESTER 3 <sup>RD</sup> YEAR						
1.	CT – 363	Pre-stressed & Precast concrete	3	1	3	3
2.	CT – 373	Geology & Earthquake Engineering	2	0	2	0
3.	CT – 383	Irrigation and Hydraulic Structures	2	1	2	3
4.	CE- 307	Steel Structures	2	1	2	3
5.	CM - 313	Project Management	3	0	3	0
6.	CT – 3103	Project-I	0	3	0	9
<b>Total</b>			<b>12</b>	<b>6</b>	<b>12</b>	<b>18</b>
<b>Grand Total</b>			<b>12 + 6 = 18</b>		<b>12 + 18 = 30</b>	
1 <sup>ST</sup> SEMESTER FINAL YEAR						
1.	CT – 401	Economics	3	0	3	0
2.	CT – 402	Entrepreneurship	3	0	3	0
3.	CT – 403	Quantity Surveying and Contract Documents	3	1	3	3
4.	CT – 404	Building Services	3	0	3	0
5.	CT – 4103	Project-II	0	3	0	9
<b>Total</b>			<b>12</b>	<b>4</b>	<b>12</b>	<b>12</b>
<b>Grand Total</b>			<b>12 + 4 = 16</b>		<b>12 + 12 = 24</b>	
2 <sup>ND</sup> SEMESTER FINAL YEAR						
1		Supervised Industrial Training	00	16	00	(8x5=40 Hrs / week) = 640
<b>Grand Total</b>			<b>00+16=16</b>		<b>00+640=640</b>	

1 week Training = 1 Credit Hour

1 Week Training = 40 Contact Hours @ 05 days of 08 hrs per day

# Section-VII

**FACILITIES AVAILABLE  
AT THE UNIVERSITY**



**Various Directors**

**Sections of  
the University**

**Facilities Available  
to Students**

## VARIOUS DIRECTORS / SECTIONS OF THE UNIVERSITY

### **Directorate of Quality Enhancement Cell (QEC)**

The QEC at QUEST, Nawabshah has been functioning smoothly and effectively since, March 2006. QEC takes full responsibility for the Self-Assessment process of all the academic programs, particularly at the undergraduate level, where full monitoring of the programs is being accomplished through students' evaluation and other related activities. Based on the student evaluation & feedback better improvement in the faculty members is being observed, which resulted in enhancement of the quality of teaching and education as well.

According to the requirement of the Quality Assurance Agency of the Higher Education Commission, Islamabad, QEC has been allowed non-voting membership in the Senate, Academic Council, Board of Faculty, Advanced Studies Research Board and Affiliated Committees to implement the HEC/PEC guidelines of various bodies. Dean QEC being a member of the Plagiarism Standing Committee ensures free, fair and transparent proceedings in the cases of plagiarism. QEC is a regular member of the Pakistan Network of Quality Assurance in Higher Education (PNQAHE) and Director QEC is also a member of PNQAHE Executive Committee. The Directorate of Quality Enhancement Cell also ensures the implementation of HEC minimum requirements for faculty appointment and admission in M.S/M.E/ M.Phil. & Ph.D. programs.

The Self-Assessment process at the undergraduate level has been accomplished. The scope is extended to M.S/M.E/M.Phil. & PhD programs. However, a sufficient number of Self-Assessment Reports have been prepared and assessed by the concerned program teams. At present, QEC is monitoring the standard of education not only a QUEST but also at Constituent Engineering College, Larkana and Affiliated colleges i.e., GCT Khairpur, Government Habib College of Technology, Nawabshah and GCT Larkana. A Series of awareness workshops/seminars has been conducted for students, faculty and staff of colleges and the main campus (QUEST) for newly admitted students as a regular feature of QEC.

MS/M.Phil/Ph.D review conducted by HEC team and QEC has also conducted Self Institutional Performance Evaluation (SIPE) report and submitted to Higher Education Commission for the year 2020-21 for the ranking purpose.

Director, QEC  
Tel No.: 0244-9370381 Ext: 3156  
Email: [directorqec@quest.edu.pk](mailto:directorqec@quest.edu.pk)

### **OFFICE OF THE RESEARCH, INNOVATION AND COMMERCIALIZATION (ORIC)**

The HEC aims at motivating and facilitating Higher Education Institutions (HEIs) to make research a top priority for sustainable economic growth and a future knowledge economy. For this purpose, a centre is being established in universities including QUEST Nawabshah to encompass all research activities under a single umbrella known as the Office of Research, Innovation and Commercialization (ORIC).

The ORIC provides strategic and operational support to research activities/programs of the university, and it has a central role in facilitating the outcome of the university's research. This research will focus mainly on turning invention (pure knowledge) into innovation (products and production processes) that can ultimately impact the welfare of the community.

For, further information, please contact:

**Dr. Fareed Ahmed Jokhio**

Director ORIC

Ph: 0244-9370381-5(Ext: 2640, 3244)

Email: [director\\_oric@quest.edu.pk](mailto:director_oric@quest.edu.pk)

### **Sports Section**

Quaid-e-Awam University provides excellent sports facilities to its students because it is believed that a healthy mind requires a healthy body. There is a common room annexed in each hostel which facilitates indoor games like table tennis, Carom and Chess. Additionally, there is ample space between two joint hostels where students can play table tennis, cricket, volleyball and outdoor badminton.

A sports complex is also located near the boys' hostel where facilities for all the sports like Athletics, Gymnastics, Football, Volleyball, Basketball, Badminton, Cricket, table tennis, Fitness and Bodybuilding are available.

A gymnasium exclusively for girls has newly been established which is located near the girls' hostel where facilities for all the sports like Badminton, table tennis, Basketball, Handball, Volleyball, Throw ball, Cricket and Fitness are available. The students, as well as teachers, take advantage to play games where the trained coach gives training on daily basis.

In addition to all of this, the University has established a multipurpose hall where all the sporting facilities are available for serious sportsmen who desire to represent the university at Regional, National, and International as well as HEC Sports events. The Sports section also organizes All Pakistan HEC sports events every year in collaboration with HEC Islamabad.

Besides National, International events, there are conferences, seminars, exhibitions, convocation, and musical events and a pre-entry test is also conducted in the Multipurpose hall, every year, where thousands of students can appear for the pre-entry test examination.

The University supplies the equipment and consumables to the extent that budget funds are available. The officers, faculty members and lower staff also play games in the evening time. The qualified coaches give training and the Sports Section issue sports material on daily basis to the keen sportsmen for playing games and return the same after play.

The Sports Section provides an ample number of facilities to the students for participation in games and sports, both indoor & outdoor. Facilities are provided for all the major sports including Cricket, Football, Tennis, Badminton, Basketball, Tug of War, Handball, Volleyball, and Athletics. A series of in-house tournaments are held to provide participation to the maximum number of students.

All facilities for athletes/sportsmen are also available in the Sports Section. Many other facilities are being developed for the betterment of sportsmen. Recently, a Cricket grassy ground is being developed, where turf wicket has also been prepared for students. The players may take advantage to play on HEC required level, so that they may participate in the HEC sports events as per its requirement.

The in-house sports competitions particularly the sports Festival, Inter-department Sports Championship, Inter house competitions are held timely at the campus in which the best players/best Athletes from boys & girls students are awarded 1st, 2nd and 3rd prize and LAPTOP is awarded separately to the best Girls and Boys players only in the sports festival week. whereas a General trophy is also awarded to the Department that secures maximum points.

The students/players are awarded certificates, shields, trophies and the colour of the university for their encouragement. Sportsmen are also encouraged to take admitted to the different departments on a sports basis every year according to their performance.

**Dr. Jam Shahzaib Sahito**

Chairman Sports Board

Telephone # 0244-9370388/02449370381-4

**Directorate of Postgraduate Studies and Research**

The Directorate of Postgraduate Studies & Research of the university was established soon after the up gradation of the university. Later on, Advanced Studies & Research Board was also constituted to prepare the policies and programmes for postgraduate studies.

The Directorate initially offered M.Phil and PhD programme in various disciplines of Engineering viz Civil, Mechanical, Electrical, Computer Systems and Energy & Environment Engineering. In 2008, the first batch of master's in engineering (evening programme) was registered in the discipline of Construction Engineering & Management (Civil Engineering), Power Engineering (Electrical Engineering) and Manufacturing Engineering (Mechanical Engineering).

University has already awarded 25 PhD degrees up to August 2021 in the fields of Civil Engineering (09), Energy & Environment Engineering (06), Electrical Engineering (01), Information Technology (06), Computer System Engineering (01) and Mathematics (02). In addition, more than 150 candidates are expected to receive master's degrees in various disciplines in the next Convocation.

In addition, more than 170 candidates are expected to receive Master's degrees in various disciplines in the next convocation. At present, 121 PhD students are registered in 08 programs/fields offered at QUEST Nawabshah in various departments namely, Civil Engineering, Mechanical Engineering, Electrical Engineering, Energy & Environment Engineering, Electronic Engineering, Computer Systems Engineering, Information Technology and Mathematics. Every department has highly qualified and skilled faculty members who have received PhD degrees from developed countries like the UK, Australia, Germany, France, Netherlands, Spain, Sweden, Finland, China, Austria, and Malaysia. Currently, more than 100 faculty members are supervising and guiding the postgraduate students of the university.

Currently, the Directorate of Postgraduate Studies offers 16 ME/MS & 08 PhD programs in following fields at main campus (QUEST Nawabshah).

**Master of Engineering Programs**

- \* Construction Engineering & Management
- \* Civil Engineering
- \* Structural Engineering
- \* Power Engineering
- \* Computer Systems Engineering
- \* Computer Communication & Networks
- \* Manufacturing Engineering
- \* Industrial Engineering & Management
- \* Environmental Engineering
- \* Energy Systems Engineering
- \* Communication Engineering
- \* Industrial Automation & Control
- \* Master of Science Programs
- \* Information Technology
- \* Software Engineering
- \* Computer Science
- \* Mathematics

### PhD Programs

- \* Civil Engineering
- \* Mechanical Engineering
- \* Electrical Engineering
- \* Energy & Environment Engineering
- \* Electronic Engineering
- \* Computer Systems Engineering
- \* Information Technology
- \* Mathematic

Further information regarding the Postgraduate programs offered in the university can be found in the Postgraduate Programs Prospectus.

#### **Dr. Abdul Qayoom Jakhrani**

Director, Postgraduate Studies & Research  
Telephone No. 0244-9370377, 9370381-5,  
Ext: 2683, 2546, 3123 & 2639

### Directorate of Research & Publications

The Directorate of Research and Publications, Quaid-e-Awam University of Engineering, Science, and Technology, Nawabshah publishes research carried out in various domains of Engineering, Science and Technology. The Directorate publishes a bi-Annual research journal named as Quaid-e-Awam University Research Journal of Engineering, Science and Technology abbreviated as QUEST RJ. The Journal publishes high-quality research papers in various domains for sharing up-to-date knowledge among the National and International research community. The journal is recognized in HEC's Y-category. The Directorate also takes the responsibility of publishing books, monographs, and other relevant research material of faculty members. For further information kindly contact the Editor QUEST RJ through email [editor\\_rj@quest.edu.pk](mailto:editor_rj@quest.edu.pk).

#### **Prof. Dr. Ubaidullah Rajput**

Director, Research & Publications  
Telephone No. 0244-9370435, 9370381-5, Ext: 2130  
Web: <http://publications.quest.edu.pk>

### Directorate of Planning & Development

Planning & Development plays a vital role in the development of any organization. The basic objective of P&D is to develop/strengthen the university through the preparation of development projects, and proposals in PC-I form (devised by the Planning Commission, Government of Pakistan) in collaboration with the Sectional Heads, Departments, and Directorates. Basically, the Directorate coordinates with different departments of the university as well as the Higher Education Commission and other provincial organizations for the up-gradation, consolidation, and improvement of the university.

To develop the faculty members of the university, the Directorate of P&D processes the case of scholarships, workshops (local/ foreign) etc. The other major task of the Directorate is to monitor the progress of the development projects of the university irrespective of their source of funding and to assess the impact of completed development projects.

For more information please contact:

#### **Dr. Ashique Ali Joyo**

Director (P&D)  
Telephone No. 0244-9370376  
02244937081-14 Ext: 2689 / 2205

### Directorate of Industrial Liaison

Quaid-e-Awam University of Engineering, Science & Technology, Nawabshah is located in the deep interior of Sindh, with several industrial concerns of great importance like cotton, sugar and small industries in the surroundings, QUEST, offers radically new programmes at both undergraduates as well postgraduate science and engineering levels to reflect the needs of 21st century. In addition, it imparts engineering science and technical education and produces young skilled engineers in various disciplines, who play a pivotal role in the development of the country. To enhance the academia-industry relationship and skills among the fresh graduates, the directorate of industrial is striving hard to arrange as well as manage industrial training (Internships) for young graduates to gain practical knowledge as well field experience. As fresh graduates face many difficulties while acquiring jobs, particularly in the private sector due to a lack of practical experience.

This directorate also manages study trips to various locations and Industries to develop the knowledge of graduates for proper planning, construction and management of various projects. DIL has recently increased the number of internships and training with the help of industries in Pakistan & abroad.

Further information about the activities of this Directorate can be obtained from the office of the Director Industrial Liaison, QUEST, Nawabshah.

#### **Prof. Dr. Intesab Hussain Sadhayo**

Director, Industrial Liaison, QUEST, Nawabshah.  
Telephone No. 0244-9370361.

### Directorate of Students Affairs

The Directorate of Students Affairs plays a significant role to facilitate the students and is working enthusiastically for the welfare of local and foreign students. The Directorate organizes extra-curricular activities to cherish the inventive, as well as, intellectual potential of the students. The capabilities that usually remain untouched in a conventional classroom ambience; facilitates organization and societies that conduct multifaceted activities to attract the interest of students. This Directorate works by organizing said awareness activities to promote the discipline of behaviour among students so that they become responsible members of society.

#### **Mr. Atta Muhammad Chandio**

Deputy Chief Security officer / Student Affairs  
Telephone No. 0244-9370381-4 (Ext-2106)

## Directorate of Continuing Education

The Directorate of Continuing Education (DCE) is established in the University to facilitate skill development and to update the knowledge in the different fields of Engineering Science and Technology for prospective Engineers, scientists, Teachers and administrative staff by spreading the knowledge through different professional development program by conducting seminars, workshops and lectures, debates and talks.

The DCE is established in view of the long demand for continuous professional development to meet the standard skilled manpower. The DCE is continuously revising and devising skill-related training programs in collaboration with other departments of the university.

The following activities are the core objectives of the DCE:

To arrange short courses to keep professionals updated with the latest developments in various professional fields

To organize continuing professional developments (CPD) lectures/workshops/seminars / short courses by inviting speakers from within the university and experts from other universities/industries for the Engineers of the country.

To encourage and facilitate the national and international professional organizations to arrange talks, exhibitions, and jobs fairs in the fields of engineering, science and technology. To create collaborative research activities among QUEST and different research, academic and industrial institutes at the National and international levels.

### Dr. Nadeem Naeem Bhatti

Director, Continuing Education  
Email: [nadeembhatti@quest.edu.pk](mailto:nadeembhatti@quest.edu.pk)

## Directorate of Finance

The Directorate of Finance deals with all financial correspondence with supporting of the Competent Authority in developing and delivering the organization's financial strategy. This Directorate manages the financial property (movable, immovable), and investments of the University, Continuous review of financial position, control and management information systems and procedures, and implements improvements across the organization in consultation with the other Sectional Head of Departments.

The Directorate is updating, reviewing, and documenting the organization's financial policies and procedures, ensuring the accuracy of financial and related information. Producing the periodical reports as required for the Statutory Bodies of the university such as the Finance Planning Commission, Syndicate and Senate.

The further information, please contact:

### Mr. Qamaruddin Shaikh

Deputy Director Finance  
Tel: +92-244-9370371  
Email: [df@quest.edu.pk](mailto:df@quest.edu.pk)

## FACILITIES AVAILABLE TO STUDENTS

### Central Library

The Central library started functioning in the new state-of-the-art building near the multipurpose hall in December 2018. The new building provides a cool and congenial atmosphere for the students for reading. there are 69655 books and 16415 titles are in current stock. These books are related to Engineering, Science and Technology, which are being housed in various sections of the Central Library. A good number of Engineering and Technology Research Journals are on current subscription. Local periodicals and journals are also acquired for enhancing the knowledge of students in the current affair and everyday science and technology. All the technical functions of Central Library (cataloguing, classification, circulation, accessioning, etc.) are automated and the link of OPAC (online public access catalogue) is placed on the webpage of QUEST. The OPAC can be accessed through the link <http://opac.quest.edu.pk>.

### Book-Bank Scheme Section

There are 9810 Textbooks available in Book Bank Scheme Section for the Students. These Books are issued to Students on nominal charges. 5% Rental fees of the total price of a book have been charged. Every Student can get issued the 05 Books from this Section for the entire semester.

### Students/Circulation Section

The Circulation Section is fully equipped with the latest books on all the existing disciplines of Engineering and allied science. Every student can get issued 05 books for a period of one month from this Section. The enrolled students need to apply online on the given link of google forms and Rs.100 shall be deposited through challan in Bank to get register themselves for the library membership. The Central Library will issue the Barcode and QR Code enabled identity card to the registered students. The card is valid for all the sections and services of the University Library.

### Thesis Section

There are more than 5960 theses available in this section. The student can get their thesis and study in the Reference Section only. The entire record of the thesis (Title, Author, Subject) is also uploaded on OPAC, the students can also search their required thesis through QUEST Library OPAC.

### Reference Section

The Reference section of the Central Library is very rich. A copy of each new arrival book is placed in the Reference section for Reference purposes. The big Reference halls provide a congenial atmosphere to users with a fully air-conditioning facility. Reference books like ASTMS standards, encyclopedia of science and Technology, Encyclopedia of Britannica, yearbooks, subject encyclopedias, and dictionaries are available to assist the Students in their studies and research. An Electronic magnetic security system is installed for the collection of the Reference section.

### **HEC National Digital Library Program**

The QUEST has full-text access to major resources through HEC's National digital library program. There are more than 23000 research journals and 1,44,000.00 eBooks are full text accessible on QUEST premises. The prominent resources are IEEE, ASTM, Library, AAPT, ASCE, AMS, Springer link, Wileyinterscience, etc. These resources are full text accessible on QUEST IP (within QUEST Premises) however the VPN account has been issued to all researchers to access these resources from their homes.

### **eBook Repository**

The Central Library established an eBook repository where 18,300 eBooks are placed in pdf format. The collection in this repository comprises all existing disciplines of QUEST. These eBooks can be downloaded from the local network of QUEST i.e. <http://ebooks.quest.edu.pk:8080>

### **QR Code Technology**

The Central Library initiated the QR Code technology for library services. The entire Reference Collection is QR Coded. Students' Library Membership Cards are also QR Coded. With the help of QR Code technology, the students can reach full-text online availability of their required book. QR Code Technology can be used through a smartphone with QR Code Scanner app. (available free on the google play store).

### **IT Facilities**

The printing and scanning facility is also available for the users. Besides this, the entire library building is covered with a WIFI internet connection. The Students can easily use the internet on their laptops /smartphones anywhere in the library building.

### **Events**

The Central library regularly organizes training workshops/sessions for the Students on effective use of library OPAC/eBook repository/HEC digital library resources. The Central Library also organises a book fair every year and invites the leading publishers /book/sellers from the entire country to display their valuable collections. The Central library regularly purchases the latest books on the existing subjects through University Library Committee.

### **Mr. G. Farooque Channar**

Librarian

Contact: 0244-9370387

Email: [lib@quest.edu.pk](mailto:lib@quest.edu.pk)

### **English Language Centre**

The English Language Centre of the University is located on the 1st floor of the old Library Building @ English Department. The major objective of establishing the English Language Centre was to enhance the English Language Proficiency of students and the academic non-academic staff of the university.

The Center offers English, Communication Skills, Research Methodology, and Academic Writing Skills courses currently. The Centre

is well equipped with men and material in terms of PhD qualified faculty and state-of-the-art audio and video Laboratories. The following academic staff is currently associated with the English Language Centre. The Audio Laboratory helps the students in improving their listening skills. It has a seating capacity of 32 students. It provides a very congenial learning environment for effective listening and improving effective interpersonal skills, on the other hand, the Video Laboratory has a seating capacity of 54 students. It helps the students in improving their speaking as well as presentation skills. Furthermore, the English Language Centre has its own "Seminar Library" with a good stock of the latest books on English Communication Skills, GRE and ILETS along with CDs for practical demonstration. It is noteworthy to mention here that besides curricular activities English Language Centre Provides a platform to the students for co-curricular activities such as debates and declamation contests. In this connection, many declamation contests have been arranged in collaboration with the Higher Education Commission of Pakistan.

The major events arranged for the year 2017-2018, are the "18thAllamalqbal Bilingual Declamation Contest" and "One Week Training on English Proficiency in Oral and Written Communication for Employees and Officers from Grade 07 to 17 at QUEST from 14th to 18th May 2018".

### **Prof. Dr. Insaf Ali Siming**

Incharge, English Language Centre

## **STUDENTS ACCOMMODATION**

QUEST, Nawabshah is a prestigious institution that witnesses academic excellence in the vicinity of the city Nawabshah. Students all around the world are seeking their education in various departments pertaining to the field of Engineering, Science and Technology. In this connection, hostel management has been contributing significantly in terms of providing quality accommodation coupled with outstanding facilities to the learners and the teachers in all respects since its inception. To begin with, the university has 13 hostels all for the students; 10 are reserved for boys, whereas three are reserved for girls. Concerning the boys' hostels, one hostel has especially been reserved for those students who are coming around the world to seek their higher education. This hostel is under construction and will be brought to use for foreigners this academic year. As regards girls' hostels, one hostel is under construction. A detailed account of the facilities provided at the hostels is given as follows.

### **Common Halls**

Common Halls comprise various facilities to keep the students abreast of national as well as international affairs. Besides, these common halls contain some sections of entertainment for the students. For this purpose, the availability of TV, Cable, newspapers and reading halls is ensured so as to enhance the students' intellectual, technical and socio-political levels.

### **Canteen Facility**

Every hostel possesses satisfactory dining facilities. It is very pertinent to mention that Hostel Management has formed a committee to ensure the provision of quality food at subsidized charges. The FIRC (Food Inspection & Regularization Committee) is comprised of hostel Wardens and the medical doctor. In this connection, the said committee ensures the implementation of all guidelines at the canteens provided by the Sindh Food Authority (SFA). In case any hostel canteen fails to comply with the prescribed rules and regulations, the monitoring committee takes stern action against the canteen operators which leads to the closure of the respective canteens. For students' health stability, every hostel provides homemade-like food.

### **Hostel Market Area**

Facilitating the students is the top priority of hostel management. For this purpose, the hostel market has been established which contains groceries, commodities, snacks et cetera. Furthermore, a special tea canteen has also been established therein which provides quality Tea and Paratha 24/7. Owing to this facility, the students need not pay visits to the city; thus, they save their time and stay focused on their objectives.

### **Drinking-Water Facility**

Water coolers & chillers are installed in all residential hostels. Water filters are replaced as per guidelines of Drinking water standards. Hostels facilitate the students with pure Drinking water. Owing to annual blockage of water, there arises a Drinking water crisis students are frequently faced with; but for that, by dint of the hostel administration's dedication, commitment and advanced planning, RO (Reverse Osmosis) systems have been installed as per need.

### **Security System at Hostels**

Keeping in view the safety and protection of the students, the university administration provides all the time regular and high-alert Security systems in all Boys' as well as Girls' hostels. Before the entry of the students, their particulars are strictly checked at the main entrance. In this connection, the relevant data is also recorded in the visitor's book to maintain the peaceful atmosphere at hostels. Provision of CCTV is completed on a few blocks while for others is under process also installation of Biometric Entry System is under progress.

### **Emergency Services**

In case of any vulnerable physical health of students, there are highly trained medical officers available for both girls and boys (one for each). The dispensary has also been set up to ensure the proper treatment of the students in times of emergency. Each dispensary contains a senior doctor, dispenser & Dresser. Hostel Dispensary provides free OPD & basic medicines for students. University's ambulance is available 24/7 and may be called by the concerned warden/security staff. In addition, Edhi Welfare Ambulance Services is also in our direct contact for 24 hours to cope with an emergency situation.

### **Transport Facility**

For students' convenience, university points are available to provide them pick and Drop facilities from hostel to campus, city to campus and vice versa.

### **Physical Fitness**

In order to keep the students fit, healthy and smart, QUEST has a gymnasium for boys and girls hostels (one for each) so that students may take exercise for their fitness and maintenance. In this regard, there is modern exercise equipment for both students and teachers. In the evening, students join the gymnasium in the majority to keep themselves active and energetic.

### **Co-curricular activities**

In order to keep the students physically fit, QUEST has established Sports Complex with indoor and outdoor sports facilities. Several games are played in the shape of mega-events and tournaments such as cricket, football, racket ball, table tennis, volleyball et cetera. In this regard, there are special grounds for cricket and hockey where these games take place. These huge grounds produce very good players who bring a good name and fame to the institution. Currently, the Sports section is actively polishing students' talent by ensuring their participation in various competitions at the national level. In this way, the students play indoor as well as outdoor games and bring many awards to their names.

### **QUEST Hostel Management System**

QUEST Hostel Management System (<http://www.questhms.com>) is an online software application in which the entire record regarding hostels is available. Besides, transparency of students' residential and payment records has also been ensured. The application can help the students know about their allotted residential rooms and their current liability status. For wardens, it is sufficiently beneficial in terms of keeping the record of students' residence, shifting them to the residence of their choice through proper channels and imposing the penalty against them in case of any violation.

### **Hostel Discipline**

Conduct and Discipline Rules of the hostel are strictly abided by the students and are revised from time to time. In case of any violation of the set code of conduct, Hostel Regulation takes disciplinary action against those who are involved in any misconduct. To maintain conduct and discipline, penalties are imposed on the students. Wardens, Hostel Discipline Committee & Hostel Provost are responsible for maintaining the discipline of the hostel with coordination of the security department working under the supervision of the Chief Security Officer. In case of severe violation, cases are forwarded to University Discipline Committee. Hostel Discipline rules are mentioned in Hostel Application Form.

## Teachers' Hostel

There is a newly-constructed hostel for teachers' residences near the main road. The hostel provides accommodation to the bachelor teachers and officers of the university. The hostel contains a quality mess. The teachers' rooms are facilitated with ACs in the hot summer weather.

## Visiting Faculty Hostel

This is a special hostel available for the accommodation of visiting faculty. The hostel contains modern facilities for dignitaries, visitors, scientists, scholars and other pertinent scholars of national and international levels.

## Eligibility for Hostel Accommodation

A special desk use has been set up for hostel allotment during interviews, where students are provided with a Hostel Application Form on payment of hostel fees. For the students' convenience, Hostel allotment forms are also made available in the office of the Provost (Hostels). As the hostel has limited seats for allotment, therefore, students having domicile of far districts are preferred also the allotment slots are provided on the 'first come first served rule. As per requirement, those students are considered eligible for hostel accommodation who submit applications on the prescribed forms. Keeping in view the availability of seats, the allotment of eligible students is taken into consideration as per hostel rules and regulations.

SN	Description	Fees (Rs.)
1	Admission Fee	2660
2	Room Charges	15950
3	Room Deposit (Once) (Refundable)	1000
4	Medical charges	240
5	Sports/Newspaper	100
6	Utility charges	2790
7	Form Fee	200
8	Transport Charges	2660
9	ID Card	500
	<b>Total</b>	<b>26100</b>

The foreign student's Fee detail is as under.

- Admission Fee USD 500 per annum

## Policy for Hostel Fees

1. Annual Hostel fees to be deposited through bank challan after conformation of dues from concerned warden/ clerk office of the hostel
2. Concerned Copy of challan to be submitted in clerk office of the hostel and a receipt is provided by the concerned clerk
3. Rs.4/day will be charged as late fees if the fees are deposited after the due date
4. The following refund policy is applicable:

100% Refund – in case of withdrawal/ cancellation of allotment before the 15th day of allotment/due date

50% Refund – in case of withdrawal/ cancellation of allotment on 15th day to before 30th day of allotment/due date

No Refund – in case of withdrawal/ cancellation of allotment after 30th day of allotment/due date.

Same policy is applicable on existing allotment cancellation on due date of annual fees.

## Engr. Iftikhar Ahmed Koondhar

Provost (Hostels), QUEST

9370381-5 (5-lines) Ext.3250, [provost@quest.edu.pk](mailto:provost@quest.edu.pk)

## DIRECTORATE OF ICT

The Directorate of ICT was established to provide voice, data, web, videoconference, hardware & software support, and network-related services and to facilitate inter-departmental communication. It also connects QUEST Intranet to the outside world through a bandwidth of 275 Mbps on a fibre link.

The state-of-the-art Tier2 ICT Data Centre equipped with 40-Giga Core Network and Departments/Buildings Uplink Connectivity is established with Access Switches 10 Giga Uplink, and each node having 1 Gig. The Blade Servers and SAN Storage System for high-end processing, and data storage and same has been established with a Giga backbone (optical fibre) to provide high availability (24x7) and uninterrupted Internet connectivity (wired and wireless).

### Voice and Data Services

This Directorate facilitates each section (academic and administrative sections) with voice and data services, consisting of 500 voice and 1000 data points of 1 Giga port connectivity on campus, the voice and data services are accessible at all the locations on Campus. The Alcatel Exchange which was established in 2004 with the capacity of 300 analogue lines, to provide intercom services, is now the Cisco IP Telephony (Call Manager) having a capacity of 300 IP Phones running on the same departmental network connectivity to provide voice and data connectivity using a single point.

### Web Services

The QUEST website provides information about the academic and administrative departments, announcements about undergraduate and postgraduate admissions, examination results, pre-admission test results, vacancy announcements and other essential information to the students and the public in general. The support for various departments and sections is being provided for creating their sub-domains and updating their information.

### Public and Private Servers Hosted at ICT

To provide the public and private accessible in-house Server Resources for the various departments/directorates/sections, viz, Publication Server ([publications.quest.edu.pk](http://publications.quest.edu.pk)),

Library Server ([opac.quest.edu.pk](http://opac.quest.edu.pk)), QUEST Digital Library (Repository) Server, Public Server for QEC Evaluation Proforma ([qecevaluation.quest.edu.pk](http://qecevaluation.quest.edu.pk)), Biometric Attendance Server Machine for staff attendance, locally accessible Server for Online Testing Services, Public Server for QUEST Campus Larkano Website, and various servers have been hosted at the Directorate of ICT, QUEST, by using the in-house virtualization resources, which are fully accessible and functioning 24x7, with all kinds of technical support.

## Hardware and Software Support Services

The technical staff is engaged to provide hardware and software support for all academic and administrative departments/sections including hostels (students, teachers, visiting faculty hostel, and staff colony).

### Wireless Internet Services

The QUEST Smart University (Wi-Fi Services) with 215 Access Points provides seamless and uninterrupted wireless (Wi-Fi) Internet services across the campus (32 buildings) to faculty, officers, and students of QUEST. The users can use QUEST Smart Wi-Fi services using their authenticated login credentials. Two Newly established departments, viz. Chemical Engineering and Telecom Engineering Departments have been provided with Wireless Internet connectivity with 50 Access Points using the in-house resources.

### Video conference Facility

The Video-conferencing facility at QUEST is connected through HEC Giga Intranet Network which provides a platform for the students, faculty members and officers to conduct as well participate in online training and courses organized by HEC and other Universities.

### Security Surveillance Services

The QUEST Campus is being monitored through the surveillance system 24x7, the cameras are installed at the main locations/buildings of the University.

### Engr. Atta Muhammad Chandio

Director ICT

Ph: 0244-930364, Email: [director.its@quest.edu.pk](mailto:director.its@quest.edu.pk)

## MEDICAL FACILITIES

A dispensary has been established at the hostel premises for the resident students; a sufficient quantity of essential medicines is available in the dispensary for minor ailments. A qualified senior doctor has been appointed for the dispensary at Boys Residence Hostel and a qualified senior female doctor also has been appointed for Girls Residence Hostel. However, serious cases are referred to proper hospitals. An ambulance is also available for the students at the time of an emergency. However, if a serious illness inflicts a student, it is the responsibility of the parent/guardian to arrange and pay for the treatment at present.

### Dr. Akbar Ali Khaskheli

Medical Officer

## TRANSPORT FACILITIES

The university provides transport facilities to the students as well as staff through its buses to commute from different localities of the city and the hostels on campus in notified timings and vice versa. In addition to this, the buses also play from the hostels to the city centre in the evening time. Separate transport facilities are provided to the boys and girls students. The university has also an ambulance service for emergency transportation of pupils to hospitals/clinics.

The university has a fixed-route system for buses, so it does not entertain any request for change in the bus route to suit an individual's convenience. Transport is being looked after by a senior teacher as a chairman of transport. At present, the chairman of transport is:

**Prof. Dr. Rajab Ali Malookani**

Chairman Transport

Tel.# 02449370381-4 Ext:2201 or 2133

## STUDENTS' ATTENDANCE MONITORING CELL (SAMC)

SAMC QUEST collects the attendance record of all undergraduate and graduate students of the university daily. It then prepares the eligibility report of each student at the end of each academic session and directs whether he/she may appear in the exam, as per the university policy. SAMC is working on a fully state-of-the-art online attendance system and offers a very transparent and robust method to submit and monitor the students' attendance records to faculty members and administration respectively. This online system is easily accessible through the Internet from anywhere anytime. All the students of the university shall soon be able to view their attendance records through this system.

**Dr. Abdul Wahid Memon**

Coordinator SAMC

Tel. No. 9370381 – 5 (Ext. 2631), Email: [samc@quest.edu.pk](mailto:samc@quest.edu.pk)

## STUDENTS FINANCIAL AID OFFICE (SFAO)

This office has carried out all the activities of Students relating to Financial Assistance / Scholarship matters as well as dealing with the Philanthropist and Donor Agencies. Furthermore, this office has also awarded the Prime Minister's Laptops amongst the PhD, M.Phil, MS, ME, Bachelor & B.Tech. Students of QUEST as per approved criteria set by the Higher Education Commission Islamabad, on the directions of the Prime Minister Republic of Pakistan. The total number of 2548 Laptops awarded amongst the eligible students in Phase-i-ii-iii-IV & V from the fiscal year 2015 to 2019. There are many other donor agencies from the government side and private organizations, including the University, which is providing financial help/assistance to the meritorious and needy students in the shape of loans and scholarships on the recommendations of university concerned students' Financial Aid office. The details of donor agencies are as under.

### 1. **University Merit Scholarship:**

A merit scholarship is provided by the university to the students who are securing the top positions in their respective departments. The total number of scholarships awarded to the top (05) five students of every batch in each discipline, every year.

### 2. **Fata Balouchistan Merit Scholarship:**

This financial assistance is provided by Higher Education Commission Islamabad for the students who are belonging to Fata-Baluchistan Provinces admitted on the provincial quota of reserved seats for encouraging the poor and needy students.

### 3. **HEC Need-Based Scholarship Programme:**

This financial assistance is provided by Higher Education Commission Islamabad to the needy and deserving students for all batches to continue their studies in the Bachelor programme.

### 4. **Punjab Education Endowment Fund:**

This financial assistance is provided by the Provincial Government of Punjab for needy and meritorious students. This scholarship is awarded to students belonging to all provinces on a poverty cum merit basis.

### 5. **Foreign students scholarship:**

This financial assistance is provided by the Economic Affairs Division Islamabad for the students, who are admitted to foreign reserved seats for the bachelor's degree program.

### 6. **IEP–SAC Saudi Arabia Scholarship:**

This financial assistance is provided by the institute Engineers Pakistan, Saudi Arabian Centre to the needy and deserving students on the Poverty Cum Merit basis for the bachelor programme.

### 7. **Late Imdad Muhammad Shah Merit Scholarship**

This Financial assistance is provided by Sayed Late Imdad Muhammad Shah's family only for the fresh batch of students bachelor's degree program on the Poverty Cum Merit basis.

### 8. **Sindh Education Endowment Fund:**

This financial assistance is provided by the Education & Literacy Department Government of Sindh on Poverty-cum-Merit basis to the students of the bachelor's degree programme.

### 9. **Meezan Educational Trust:**

This Financial assistance is provided by Meezan Educational Trust to the needy and deserving students for all batches to continue their studies in befitting manners.

### 10. **Minority Scholarship:**

This financial assistance is provided by the Ministry of Minority Affairs for Non-Muslim students on a poverty cum merit basis. This financial assistance is only for a bachelor's degree program.

**11. Need-Cum-Merit Scholarship (Usher&Zakat) District Merit:**

This financial assistance is provided by the Ministry of Usher and Zakat Govt: of Sindh to the deserving and needy students on a Poverty Cum Merit basis for a bachelor's degree programme

**12. National Bank Loan Scheme:**

This loan is known as a Karz-e- Hasna Loan. The National Bank provides students loan on certain conditions, which are to be met by the recipient.

**13. Pay It Forward:**

This financial assistance is based on a pure merit basis on the recommendation of a private donor. The donor is always supporting the meritorious students.

**14. Poverty-Cum Merit Scholarship District Khairpur:**

This financial assistance is provided by the District government of Khairpur for students who are belonging to Khairpur Mirs on a poverty cum merit basis for a bachelor's degree program.

**15. United Memon Jamait:**

This financial assistance is based on poverty cum merit basis for the students who are belonging to Memon community. This Financial assistance is provided for the bachelor's degree program.

**16. Pakistan Army Scholarship:**

This financial assistance is provided by the Pakistan Army institution to the sons and daughters of the army employees for all batches to continue their studies in befitting manners.

**17. Late Sayed Mohbullah Shah Merit Scholarship:**

This financial assistance is provided by the late Sayed Mohbullah Shah family only for meritorious students in the Bachelor's degree programme.

**18. Diya Pakistan Scholarship:**

This financial assistance is provided by Diya Pakistan trust for needy and deserving students to continue their studies in befitting manners for a period of four years.

**19. Late ATTA MUHAMMAD Soomro Merit Scholarship:**

This financial assistance is provided by the late Atta Muhammad Soomro family to help and support the meritorious students to complete their bachelor's degree programme.

**20. Fouji Fertilizer Company Scholarship:**

This financial assistance is provided by the Fouji Fertilizer Company Limited for the needy and deserving students and selected from operational districts concerned for bachelor's degree programs on a Poverty Cum Merit basis.

**21. PPL Welfare Trust:**

This Financial assistance is provided for students, who are belonging to operational districts i.e.Kashmore, Shahdaktot and Sanghar on a

Poverty Cum Merit basis.

**22. OGDCL Scholarship Programme:**

this financial assistance is provided by OGDCL company through Higher Education Commission Islamabad on the Poverty-Cum Merit basis to the needy and deserving students belonging to operational districts for motivating and encouraging in the academic fields for the bachelor's degree programme and further higher studies.

**23. Schedule Caste Scholarship programme Distt: Tharparkar:**

this financial assistance is provided by District Tharparkar to schedule caste students on the Poverty-Cum Merit basis to the needy and deserving students for the bachelor's degree programme.

**24. Indian Occupied Kashmir Scholarship Programme:**

this financial assistance is provided by the Ministry of Inter-provincial coordination Islamabad Govt: of Pakistan to the students, who are belonging to Indian Occupied Kashmir on the Poverty-Cum Merit basis to the needy and deserving students for motivating and encouraging in their academic performance for the period of (04) years bachelor degree programme.

**25. Pakistan Bait-ul-mal Scholarship:**

this financial assistance is provided by Sindh Bait-Ul-Mal for needy & deserving students of all batches for the bachelor's degree program.

**26. Dr. A. W. Bhatti merit scholarship programme.**

This scholarship is provided by Alert Citizen Welfare Organization, workshop road Sukkur Sindh, with the support and help of Dr. A.W Bhatti, well known Orthopedic Surgeon settled in USA and philanthropist who always believe in supporting the needy and deserving students to complete their education in befitting manners and encourage them to aim further higher education at international universities. Further that with the support and help of Honorable Dr. A.W Bhatti donated the no 25 Desktop with all accessories for the establishment of the TOEFL/GRE/IELTS Preparation & examination centre at the English department QUEST.

**27. Ehsas Undergraduate Scholarship Programme.**

This scholarship is provided by Higher Education Commission Islamabad for needy and deserving students who are unable to pursue University education due to limited financial resources. This scholarship gives covers tuition fees and stipends throughout the bachelor's programme. This scholarship project aims to support female education, therefore 50% of scholarships are reserved for females.

**Mr. Waqar Mujtaba Qazi**

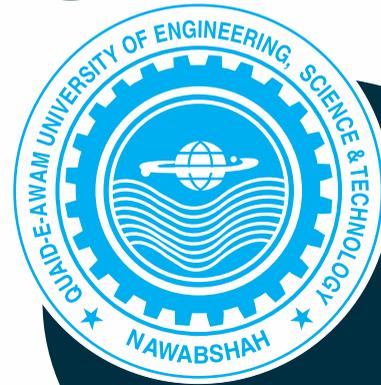
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# Section-VIII

## RULES, REGULATIONS & PROCEDURES



-  Rules & Procedure for Admission
-  General Rules & Regulations
-  Pre-Admission Test Sample Paper

# RULES AND PROCEDURE FOR ADMISSION

## Bachelor Programmes

Admissions to the first-year class for all the degree courses are made according to the policies laid down and rules framed by the authorities of the University from time to time. The number of seats is fixed for the urban and rural areas of each district in Sindh including Karachi division. There are other categories of candidates who are eligible for admission, which are described in detail in the subsequent clauses.

The university reserves the right to make any changes in the admission rules if deemed necessary after printing of this prospectus without notice. The whole process of admissions is conducted and processed by Admission Committee appointed for this purpose by the Vice-Chancellor which takes decisions and announces all results, with due approval of the Vice-Chancellor.

## Eligibility for Admission

Candidates who fulfill the following conditions are eligible for admission at QUEST.

### General (applicable for all disciplines and categories)

- i. They have passed the Higher Secondary Certificate (HSC-II) examination and have secured at least **60 percent marks** for all Engineering program, **(excluding the marks of Hifz-ul-Quran) (Grace marks given by the Board for improvement of Grade shall not be counted)** are eligible for admission under Regular and Self Finance / UDP Scheme.
- ii. They have passed the Higher Secondary Certificate (HSC-II) examination and have secured at least **50 percent marks** for all Science and Technology program (CET & FET).
- iii. At this stage HSC-I with 50% may apply for admission, however they have to pass HSC-II with minimum 60% for B.E Program and 50% for B.S Program.
- iv. Differently-Abled candidates who have passed HSC-II or equivalent Examination are also encouraged to apply against reserved seats.
- v. They possess domicile, and PRC (form C) of relevant category except under foreigners and nominees of other provinces.

vi. Candidates who were admitted previously in any batch/year in the University in any discipline or category are not eligible to apply for admission again and their application shall be rejected without any notice. However, if any admitted student wants to seek admission after first year only in any discipline under Self Finance 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.

vii. Candidates who apply for admission on the basis of fake certificates (detected before or after their admission), or make other false statements, shall be prosecuted under criminal law and their admissions shall be cancelled. In some cases, they may also be debarred for a period of three years from future admissions.

viii. Those candidates, who were admitted to any other institute / university before applying for admission in Quaid-e-Awam University and were rusticated, debarred or their admission was cancelled, shall not be considered for admission in the University. Additionally, if candidate(s) conceals information regarding such disciplinary action and were given/offered admission; their admission would be cancelled immediately after ascertaining such facts. Those candidates who have been convicted involving moral turpitude shall also not be considered for admission in the University.

ix. The relevant provisions of other clauses described hereafter shall also apply.

### Specific Eligibility

In addition to the general eligibility mentioned above the following eligibility conditions also apply in specific cases:

- i. Only those candidates who have passed HSC Examination (or equivalent) in pre-engineering group are eligible to apply or the engineering disciplines. However, they are also eligible to apply for science disciplines as well.
- ii. Candidates who have passed their HSC-II or equivalent examination with computer science as a subject are eligible to apply for BS(IT), BS(AI), BS(CS), BS(Math) and BS(English).

- iii. Candidates who have passed HSC-II examination or equivalent in pre-medical group are eligible To apply for admission in BS(IT), BS(AI), BS(Chemistry) and BS(English). However, they shall have to undertake a condensed, Mathematics course before the start of first term.
- iv. Candidates who have secured at least 40 percent marks in pre-admission test for all categories except nominees from other agencies and foreigners. Shall be considered for admission in respective district merit quota.
- v. Candidates who have passed Diploma of Associate Engineer (in the respective technology) with 60 percent marks from a recognized Board of Technical Education are eligible to apply only for admission under category-F (Table-1).

### Application Form for Admission

Call for admissions are advertised in the prominent provincial / national newspapers as well as on the university website. The candidate are required to fill online form.

SINCE THE APPLICATION FORM IS A LEGAL DOCUMENT, ANY WRONG INFORMATION PROVIDED THEREIN, OVER WRITING OR TAMPERING IN ANY OTHER WAY IS ILLEGAL AND MAY RESULT IN OUTRIGHT REJECTION OF THE FORM WITHOUT ANY NOTICE.

The candidates are required to submit the attested Photostat copies of all the certificates as indicated in the application form.

### Pre-Admission Test

1. All eligible candidates for Categories A,B,C,D,E,F,G,H,I,P and SF (Table-1 to 6) shall compulsorily appear in the pre-admission test to qualify for admission.

2. One-hour MCQ based test will be conducted of the following subjects:
  - Mathematics (not applicable for pre-medical group)
  - Physics
  - Chemistry
  - English

The 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 and multiplying them with the respective weightage and adding the result to calculate the Combined Merit percentage (CMP) as described below.

Percentage of marks in	Multiplying weightage
Secondary Certificate (Matriculation, Science group)	0.10
First Year (HSC-I)	0.20
Pre-admission test	0.70

### Interviews & Admissions

After the receipt of the results of pre-admission test a comprehensive preliminary merit list is prepared for each district/category and candidates will be called for interview before the admission committee as per merit list. The merit list will be displayed on university notice board and website as well for general information. Any claim/observation on merit list should be submitted within 05 days from the date of

display of entry test result. Please note that no claim will be entertained after that period.

The interviews are held as per schedule at Quaid-e-Awam University Campus Nawabshah as intimated on the day of entry test through pamphlets as well as on the University webpage. The candidates whose names are mentioned in the merit list are also required to bring prescribed admission fee at the time of interviews.

This may be noted that the admissions will be offered on spot at the time of interview. The candidate will be required to deposit the required admission fee on the day of interview and roll number will be allotted to the candidate on spot.

**NOTE: THE CANDIDATES ARE ADVISED TO COME ALONG WITH THEIR PARENTS/GUARDIANS AT TIME OF INTERVIEW FOR THEIR CONSULTATION REGARDING SELECTION OF DISCIPLINE. THE ADMISSION FEE IS COMPULSORILY TO BE PAID ON THE DATE OF INTERVIEW.**

### **The Submission of Documents**

The production of following original certificates on already announced interview dates, as mentioned in the schedule, which will be given to the candidates on pre-admission test day, are necessary (especially marks sheet of HSC and PRC of the candidate) without which admission would not be considered and name of the candidate will be deleted from merit list without issuing any notice,

1. Marks sheet of SSC (Matriculation).
2. Marks sheet of HSC (Intermediate, Science).
3. Domicile Certificate of candidate/guardian.
4. PRC on 'C' form of candidate.
5. Matric Pass (Pacca) Certified issued by Board

The names of those candidates, who failed to appear for the interview before the Admission Committee on the scheduled date and time without any intimation and permission, shall be deleted from the merit list of the concerned district/category and they shall not be considered for admission. Schedule of Interview will be announced on the day of test in the presence of candidates. Appearance of the candidates for interview before the Admission Committee is mandatory.

In case of absence, no claim for re-interview would be entertained and the decision of the Admission Committee shall be final. In fact, the candidates who are interested in

admission to keep in touch with the university authorities and their friends to get information in this regard. Thus, their absence from the interview shall account to spell of their right of admission. If a student is studying elsewhere, he/she must clearly mention this fact in the application form. If he/she still wishes to be admitted in Quaid-e-Awam University, and his/her original documents are submitted elsewhere, he/she must mention this fact during admission interviews.

The candidates will be offered admission according to his/her merit at the time of interview. If the candidate wishes to get admission in QUEST, he/she will be required to submit the original documents along with with Dr. awal of admission from institute where he/she is already registered as student within two days. However, he/she must pay the admission fee on the day of interview. In case of failure, his/her admission will be cancelled without any further notice.

### **Distribution of Seats**

Distribution of seats for admissions is 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 all the districts of Sindh province and as agreed between Quaid-e-Awam University and Mehran University in accordance with the distribution of the jurisdiction. This distribution has been updated and approved by the University competent authorities from time to time. The admission to candidates from various districts/categories 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 and Karachi Division as a whole. The number of seats allocated to each district (and their Urban/Rural areas) in various disciplines and for other categories given in Table-1, while the number of seats for each district in Sindh province are shown in Table-2. In Tables-1, 3 and 4, additional information is provided.

The University also offers courses in Computer Science BS(CS) 4-year duration programme (category-H) and Information Technology BS (IT), BS (Mathematics) 4-year full time programme (Category-G and I), Physics, Artificial Intelligence and BS (English), (Category P). The allocated seats for these programmes are shown in Table-5.

### **Additional Marks for Hafiz-e-Quran**

The candidates, who have a certificate, of Hafiz-e-Quran printed form from a registered MaDr.asa 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 HSC.

### **Deduction of Marks due to Gap in Education**

In case of a gap or repetition of HSC Examinations, one percent of the aggregate marks will be deducted for each unaccounted gap of one academic year after appearing in SSC-II examination from the total marks of the HSC/DAE examination of (passed) or equivalent, for the purpose of determination of merit in each District / Category. This deduction is applicable whether the SSC/HSC/DAE examination had been repeated or the gap had occurred owing to any other reason. A maximum of unaccounted gap of five years is allowed between year of appearing in SSC-II examination for the first time and year of admission.

- a. 10 Marks for one year gap, b. 20 Marks for two years gap & c. 30 Marks for 03 to 05 years gap,

### **Procedure for Filling up Seats**

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

- a) In each District, the number of allocated seats and disciplines in rural and urban areas are filled according to their quota given in Table-1 and in the descending order of CMP of the candidates.
- 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.
  - i. Any savings of upper districts (S.No.1-10) of Table-1 would be filled on combined merit of remaining region of districts of same region (S.No.1-10). Similarly, any savings from district quota of lower districts (S.No.11-22) of Table-1 would be filled on combined merit of remaining districts of same region (S. No. 11-22).
  - ii. The same policy would be applicable for Category-B (Girls Quota).
  - iii. Any savings c (i) & c (ii) from district quota (Category-A) would then be filled on all Sindh basis excluding Karachi.
- c) If any candidate(s) vacates the seat(s) before closing of admission then the vacant seat(s) shall be filled from the remaining candidate(s) on merit and disciplines are re-assigned in the second list, third list and so on.

When a student is offered admission in a discipline, which is not of his choice, he/she may inform Chairman Admission Committee in writing whether he/she wants to get admission in the offered discipline or not.

### **Selection Procedure against Various Categories**

All the eligible candidates who have applied for admission against the seats reserved under categories A to E, will be considered first for admission against the seats reserved for their respective districts under category-A. If a candidate who has applied for more than one category, he/she will be offered the disciplines as per his/her merit in each category. He/She has to select discipline of his/her choice from any one category.

In many cases, the discipline of studies finally offered to the selected candidates may not necessarily be their first or second choice or even their last choice (in rare cases). However, since the disciplines are awarded as per CMP of the candidate against the quota of the seats, it is up to the candidate whether he/she wants to study in that discipline. If they decide to take admission and pay the fees, it will mean that they accepted the discipline allocated to them.

### **Eligibility for Admission Against Seats Reserved for Sportsmen (Category-D)**

Following are approved sports and games for admission under category D for which the candidates must have domicile and PRC of former Sukkur or Larkana Divisions including Shaheed Benazirabad (Nawabshah) District.

- i. Sports Games (individual): Athletics, Badminton, Boxing, Bodybuilding, Judo, Swimming, Table Tennis, Tennis, Karate, Squash.
- ii. Sport Games (Team): Basketball, Cricket, Hockey, Football and Volleyball.

The order of priority for selection of candidates, who claim admission against sports quota, will be shown in the application form, provided that:

- a) The age of the candidate is between 16 years (minimum) and 22 years (maximum).
- b) The candidate satisfies the condition of minimum qualifications laid down in clause .
- c) The candidate has represented a sports organization, institution, university, board/college of Sindh province

during the last three years, i.e., highest merit in any sports may not be more than three years old.

The order of priority is subject to the university's requirements of players in events organized at interuniversity level. Candidates admitted under category-D as sportsmen will be required to give an undertaking that they will represent the university in their respective games/sports whenever called upon to do so and that they would not apply as professionals or represent any other public or private institute. Also, the students admitted under this category will not be allowed migration to any other university/institute during their studies at this university.

The Vice-Chancellor is competent to reject any application without assigning any reason and has the authority to hold sports trials, competitions or judge the performance of the candidates through a committee. The Sports Committee will evaluate the eligibility of admission on sports seats, and the Admission Committee on net merit will award the technology / discipline.

- d) Please note that only those candidates would be considered for sport seats who had applied and marked the sports box at the time of filling the form and appended sufficient documents evidence thereof.

NOTE: The candidates possessing experience of individual sport will be preferred over team.

### **Health of Students**

In addition to the physical fitness checkup and certificate the candidates being considered for admission may also be required to appear before a medical board for medical examination. If any candidate is found to have a serious disease at any stage, which may affect his/her capability to study properly or may adversely affect the health of other fellow students, his/her admission would be rejected/cancelled.

### **Closing of Admission**

The admission for the session will be closed at the end of 4th week from the date of start of classes. After this period the seats fallen vacant will not be filled at any stage

### **Cancellation of Admission**

The student who remains absent continuously for two weeks from the date of start of classes or date of closing of admission (whichever is later) without intimation to the Chairman of the concerned teaching department, his/her admission shall stand cancelled automatically without issuing any notice thereof.

### **NOC and Study Leave 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 (NOC) from their employer for their admission purpose. After selection to first year class, they will be required to submit study leave order / NOC from their employer for full time study at this University, because Bachelor's degree programmes are regular, full time, and day programmes. No student admitted in these programmes shall be allowed to engage himself/ herself in employment.

### **Admission in any other Institution**

Being full-time student of this University, no student will be allowed to enroll in any course of studies in other educational institution. Violation of above shall lead to cancellation of admission from the University.

### **Identity Card**

The Chairman of the concerned department will issue ID Card to the student after obtaining admission at this university. It is necessary that student must keep the valid identity card while he/she is on the campus for any purpose.

### **Enrolment Card**

The students are required to enroll themselves in this University after the finalization of the assignment of disciplines and closing of admission and obtain their enrolment cards during first year studies failing which the degree will not be awarded.

## FEES STRUCTURE FOR ALL B.E. PROGRAMS (24-BATCH)

**A. BACHELOR OF ENGINEERING (B.E) (First Semester First year)**

**B. Bachelor of Technology (FET, CET) (First Semester First year)**

**C. BACHELOR OF SCIENCE(B.S) (CS / IT / AI /CYS / DS / English / Mathematics) (First Semester First year)**

S#	Description	Fees (Rs) 24-BATCH
01	Admission Fee (per year)	19250
02	Tuition Fee (per semester)	18000
03	Transport Charges (per semester)	3000
04	QUEST, Endowment Fund (per semester)	1500
05	Games Fee (per semester)	800
06	Pass, Transcript & Degree certificates (per semester)	1650
07	Internet fee (per semester)	2700
08	University Caution Money (once) (Refundable)	3700
09	Subject society Fee (once)	1200
10	Development Fee (once)	1200
11	Enrollment Fee (once)	1200
12	Marks Verification Fee (once)	2500
13	ID Card Fee (once)	600
14	Medical Fitness (once)	1200
	Total	58500

**A. BACHELOR OF ENGINEERING (B.E) (2nd, 4th, 6th and 8th Semesters)**

**B. BACHELOR OF SCIENCE (B.S) (2nd, 4th, 6th and 8th Semesters)**

**C. BACHELOR OF TECHNOLOGY(B.Sc.T) (2nd, 4th, 6th and 8th Semesters)**

S#	Description	Fees (Rs) 24-BATCH
01	Tuition Fee (per semester)	19600
02	Transport Charges (per semester)	3000
03	QUEST, Endowment Fund (per semester)	1500
04	Games Fee (per semester)	800
05	Pass, Transcript & Degree certificates (per semester)	1650
06	Internet fee (per semester)	2700
	Total	29250

**A. BACHELOR OF ENGINEERING (B.E) (3rd, 5th and 7th Semesters)**

**B. BACHELOR OF SCIENCE (B.S) (3rd, 5th and 7th Semesters)**

**C. BACHELOR OF TECHNOLOGY(BSc.T.) (3rd, 5th and 7th Semesters)**

S#	Description	Fees (Rs) 24-BATCH
01	Admission Fee (per year)	19250
02	Tuition Fee (per semester)	19600
03	Transport Charges (per semester)	3000
04	QUEST, Endowment Fund (per semester)	1500
05	Games Fee (per semester)	800
06	Pass, Transcript & Degree certificates (per semester)	1650
07	Internet fee (per semester)	2700
	Total	48500

**BACHELOR OF SCIENCE(B.S) ( PHYSICS / CHEMISTRY) (First Semester First year)**

S#	Description	Fees (Rs) 24-BATCH
01	Admission Fee (per year)	14400
02	Tuition Fee (per semester)	18000
03	Transport Charges (per semester)	3000
04	QUEST, Endowment Fund (per semester)	1500
05	Games Fee (per semester)	800
06	Pass, Transcript & Degree certificates (per semester)	1650
07	Internet fee (per semester)	2700
08	University Caution Money (once) (Refundable)	3700
09	Subject society (once)	1200
10	Development Fee (once)	1200
11	Enrollment Fee (once)	1200
12	Marks Verification Fee (once)	2500
13	ID Card Fee (once)	600
14	Medical Fitness (once)	1200
	Total	53650

**BACHELOR OF SCIENCE (B.S) PHYSICS AND CHEMISTRY (2nd, 4th, 6th and 8th Semesters)**

S#	Description	Fees (Rs) 24-BATCH
01	Tuition Fee (per semester) (20% increase)	19600
02	Transport Charges (per semester)	3000
03	QUEST, Endowment Fund (per semester)	1500
04	Games Fee (per semester)	800
05	Pass, Transcript & Degree certificates (per semester)	1650
06	Internet fee (per semester)	2700
	Total	29250

**B. BACHELOR OF SCIENCE (B.S) PHYSICS AND CHEMISTRY (3rd, 5th and 7th Semesters)**

S#	Description	Fees (Rs) 24-BATCH
01	Admission Fee (per year)	13100
02	Tuition Fee (per semester) (20% increase)	19600
03	Transport Charges (per semester)	3000
04	QUEST, Endowment Fund (per semester)	1500
05	Games Fee (per semester)	800
06	Pass, Transcript & Degree certificates (per semester)	1650
07	Internet fee (per semester)	2700
	Total	42350

**Detail of Summer Semester Course Fee**

The Fee structure for conduct of summer semester classes for Batch-24 is as under

Table-1

Registration Fee per subject	Theory 03 Cr. hrs	Rs. 6000/-
	Theory 02 Cr. hrs	Rs. 4000/-
	Practical	Rs. 3000/-

\*

**Other Fees**

Examination Fees	Semester/Examination Fee (including form fee)	Rs. 2750
Migration Fees	Migration Certificate Fee	Rs. 2000

## Admission Under Self Finance Scheme

Under this scheme various disciplines have been distributed in categories as under. The number of Self Finance seats for each discipline have been reserved on open merit basis domiciled in the province of Sindh.

**Note: No Application Form under Self Finance Scheme will be considered without original "Bank Demand Draft" as Self Finance Fee. (upload the Demand Draft of Self Finance and UDP fees)**

### ❖ Category-I

Self-Finance Scheme for B.E (Civil and Software) is **Rs.11,55, 000/- (Rupees Eleven Lac Fifty-Five Thousand Only)** and UDP Scheme for B.E Program (Civil) is **Rs. 1890,000/- (Rupees Eighteen Lac Ninety Thousand only) including Government Tax.**

### ❖ Category-II

Self-Finance Scheme for B.E (Computer Systems) is **Rs.840,000/- (Rupees Eight Lac and Forty Thousand Only)**

**NOTE:** Admissions on Self Finance scheme under category-II will be made only if seats are available.

### ❖ Category-III

B.E (Electrical, Mechanical, Electronic, Energy System, Telecommunication, Chemical, Environmental, Electrical (Automation & Control), Building & Architectural, Bio Medical and Industrial & Manufacturing is **Rs.525000/- (Rupees Five Lac and Twenty-Five Thousand Only) including Government Tax.**

### ❖ Category-IV

**Admission under Self Finance Scheme in Bachelor of Science (BS) degree program.**

i. **BS (Information Technology) is Rs.8,40,000/- (Rupees Eight Lac and Forty Thousand only) including Government Tax.**

ii. **BS (Computer Science and Artificial Intelligence) is Rs.630000/- (Rupees Six Lac and Thirty Thousand only) including Government Tax.**

iii. **BS (Cyber Security) is Rs.525000/- (Rupees Five Lac and Twenty-Five Thousand only) including Government Tax.**

iv. **BS (Data Science, English Language and literature and Mathematics) is Rs.315000/- (Rupees Three Lac and Fifteen Thousand Only) including Government Tax.**

v. **BS (Physics, Chemistry, Civil Technology and Food Technology) is Rs.210000/- (Rupees Two Lac and Ten Thousand Only) including Government Tax.**

**NOTE: Preference will be given to those candidates who submit fee of Self Finance & UDP on first come first served basis and with online admission form before closing date i.e April 30, 2024.**

(a) The Bank Demand Draft of Self Finance & UDP should be prepared in favor of Director Finance, QUEST, Nawabshah.

Eligible candidates from abroad (Foreign) / Overseas Pakistani can also apply for admission on "Self-Finance basis" against the payment of US \$ 6000/= (US Dollar Six Thousand Only). The Bank Demand Draft should be prepared in US\$ in favor of Director Finance, QUEST,

Nawabshah subject to the condition that the clearance is issued from the Government of Pakistan.

- (c) Limited seats for hostel accommodation are available on first come first served basis.

Hostel accommodation is not allowed to those candidates who are residing within the radius of 30 km of the university premises.

### **Other Rules**

Following other rules also apply for candidates seeking admission under self-finance scheme.

- a) The admission fee as mentioned above is payable once, i.e. at the time of seeking admission to the first-year class.
- b) No application shall be considered that is received without the admission fee.
- c) The candidates once admitted under this scheme shall not be allowed to change their discipline.
- d) There is no refund of admission fees to the candidates who intend to leave / withdraw their admission from this University.
- e) If a candidate withdraws his/her admission after the closing date of admission then he/she have to pay penalty of Rs.100,000/- (Rupees One Hundred Thousand) only, without which admission shall not be cancelled.

### **Bank Account**

The mode of payment by the university to the student, his/her guardian, kin on any account shall be made through crossed cheque. It is mandatory for each student to maintain the bank account facility in bilateral interest for smooth record keeping; hence, none other payment of mode shall be applicable.

### **Admission Under Nominated Categories J,K& N**

Nominations of Pakistan Nationals by Armed forces Directorate, Government of Azad Jammu & Kashmir, Federally Administered Tribal Areas (FATA), Northern Areas and Balouchistan must be received through the respective competent agencies. Only the allocated number of nominations would be admitted, provided that nominees fulfill the requirements of minimum qualification (60% marks in EISC).

### **Admission of Foreign Students Category-M**

Eleven seats are reserved under this category for foreign students who are otherwise eligible for admission at this University. The candidates are to be nominated by the Economic Affairs Division, Government of Pakistan, Islamabad under cultural exchange programme. The fees will be charged same as from the local students. In case any foreign student applies on Self Finance, then in addition to the fees applicable to the local students, he/she is required to pay the admission fee (Self finance) in foreign currency US\$ 10,000 or equivalent to Pakistan rupees. The hostel room charges for foreign student are US\$500 per year or equivalent to Pakistan rupees.

### **Re-admission Policy:**

If a student fails to get admission and does not appear in the examination in any Semester including payment of due fees, he/she would not be considered as the student at the University. Chairman of department may restore his/her admission within one academic year (maximum) into an appropriate lower Semester. Vice-Chancellor may allow such re-admission within two academic years. After that period, the admission of the student would stand cancelled. The student shall be allowed a maximum period of seven years to complete the studies and pass all the examinations with required CGPA as per policy. Otherwise, the engineering students would not qualify for registration with Pakistan Engineering Council (PEC).

**Table-1: DISTRIBUTION OF SEATS IN VARIOUS ENGINEERING DISCIPLINES (BATCH-24)**

S#	District/Category	Cat: Code	CE	CS	EL	ME	ES	TC	ESE	CH	SW	E.E	Total
1	Sukkur	A-1	5	4	6	6	4	4	3	3	5	4	44
2	Ghotki	A-2	4	4	4	4	3	3	3	3	3	3	34
3	Khairpur Mirs	A-3	7	6	7	8	5	4	4	4	5	5	55
4	Shaheed Benazirabad	A-4	9	4	8	8	6	4	4	4	5	6	58
5	Naushahro Feroze	A-5	8	4	7	6	5	4	4	4	4	4	50
6	Larkana	A-6	2	2	2	2	1	1	3	2	1	1	17
7	Shahdadkot	A-7	1	3	1	2	2	2	1	2	2	2	18
8	Shikarpur	A-8	1	2	2	2	2	2	2	1	2	2	18
9	Jacobabad	A-9	1	2	2	1	1	1	2	1	1	1	13
10	Kashmore	A-10	1	1	1	1	1	1	2	2	1	1	12
11	Hyderabad	A-11	1	2	2	2	1	1	1	1	1	2	14
12	Matiari	A-12	1	1	1	1	1	1	0	1	2	1	10
13	Tando Allahyar	A-13	1	1	1	1	0	1	1	1	1	1	9
14	Tando M. Khan	A-14	1	0	1	1	1	1	1	1	1	1	9
15	Dadu	A-15	1	1	2	2	2	1	1	1	1	2	14
16	Jamshoro	A-16	1	1	1	1	0	1	1	1	1	1	9
17	Thatta	A-17	2	2	1	1	1	2	1	1	2	2	15
18	Badin	A-18	2	1	2	2	1	1	1	1	1	1	13
19	Mirpurkhas	A-19	2	1	1	1	1	1	2	2	2	2	15
20	Umerkot	A-20	1	1	1	1	1	1	0	1	1	2	10
21	Tharparkar	A-21	2	1	1	1	1	1	1	1	1	1	11
22	Sanghar	A-22	2	2	2	2	1	1	1	1	2	1	15
23	Karachi	A-23	4	1	4	4	0	1	1	1	1	1	18
Total (A)			60	47	60	60	41	40	40	40	46	47	481
24	Upper (Girls)	B	1	1	3	1	3	0	0	0	2	1	12
25	Lower (Girls)		1	0	4	1	2	0	0	0	1	2	11
26	QUEST Employees	C	7	1	7	7	0	0	0	0	0	0	22
27	Sportsmen	D	0	0	0	1	1	0	0	0	0	0	2
28	Affiliated Colleges	E	1	0	1	0	0	0	0	0	0	0	2
29	Diploma Holders	F	1	0	1	1	1	0	0	0	0	0	4
33	(i) Foreigners	M	3	0	2	2	1	0	0	0	0	0	8
31	Self Finance	SF	36	1	22	7	1	0	0	0	1	0	68
32	UDP	UDP	10	0	0	0	0	0	0	0	0	0	10
Total (B)			60	3	40	20	9	0	0	0	4	3	139
33	A. Jammu Kashmir	J	1	0	1	1	0	0	0	0	0	0	3
34	(i) Tribal Area (FATA)	K	0	0	0	1	0	1	0	1	1	1	5
35	(ii) Northern Area		0	0	0	2	0	0	0	0	0	0	2
36	Armed Forces	L	3	2	1	1	0	0	0	0	0	0	7
37	(ii) OIC	M	0	0	2	1	0	0	0	0	0	0	3
38	Baluchistan	N	1	0	1	0	1	0	0	0	0	0	3
39	HEC (Balochistan)	O	0	1	0	1	0	1	1	0	0	0	4
40	FATA		1	0	1	0	1	0	1	0	0	0	4
	Disable Quota	P	0	0	0	0	0	0	0	0	1	0	1
Total (C)			6	3	6	7	2	2	2	1	2	1	32
Total (A+B+C)			126	53	106	87	52	42	42	41	52	51	652

**Table-2: Distribution of Engineering Seats in Districts Urban / Rural (Batch-24)**

Sr. #	District	Cat: Code	URBAN	RURAL	Total
1	Sukkur	A-1	21	23	44
2	Ghotki	A-2	7	27	34
3	Khairpur Mirs	A-3	12	43	55
4	Sh. Benazirabad	A-4	17	41	58
5	Naushahro Feroze	A-5	10	40	50
6	Larkana	A-6	5	12	17
7	Shahdadt	A-7	5	13	18
8	Shikarpur	A-8	5	13	18
9	Jacobabad	A-9	4	9	13
10	Kashmore	A-10	4	8	12
11	Hyderabad	A-11	6	8	14
12	Matiali	A-12	4	6	10
13	Tando Allahyar	A-13	4	5	9
14	Tando M. Khan	A-14	3	6	9
15	Dadu	A-15	3	11	14
16	Jamshoro	A-16	3	6	9
17	Thatta	A-17	3	12	15
18	Badin	A-18	3	10	13
19	Mirpurkhas	A-19	4	11	15
20	Umerkot	A-20	0	10	10
21	Tharparkar	A-21	0	11	11
22	Sanghar	A-22	5	10	15
23	Karachi	A-23	0	18	18
<b>TOTAL</b>			<b>128</b>	<b>353</b>	<b>481</b>

**Table-3: Distribution of Seats in Various Engineering Disciplines (Batch-24)**

District/Category	Building & Architectural	Industrial & Manufacturing	Biomedical	Electrical Engineering (A&C)
Sukkur				
Ghotki				
Khairpur Mirs				
Shaheed Benazirabad				
Naushahro Feroze				
Larkana				
Shahdadkot				
Shikarpur				
Jacobabad				
Kashmore				
Hyderabad				
Matiari	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>
Tando Allahyar				
Tando M. Khan				
Dadu				
Jamshoro				
Thatta				
Badin				
Mirpurkhas				
Umerkot				
Tharparkar				
Sanghar				
Karachi				
Girls	02	02	02	02
QUEST Employees	01	01	01	01
Self-Finance (Regular)	05	05	05	05
<b>Total</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>

**GRAND TOTAL = 200**

**Table-4: Distribution of Seats in Various Science Disciplines (Batch-24)**

District/Category	BS(IT)	BS(CS)	BS (Math)	BS (English)	BS (Physics)	BS(AI)	BS (Cyber Security)	BS (Data Science)	BS (Chemistry)
Sukkur									
Ghotki									
Khairpur Mirs									
Shaheed Benazirabad									
Naushahro Feroze									
Larkana									
Shahdadkot									
Shikarpur									
Jacobabad									
Kashmore									
Hyderabad									
Matiari	70	70	53	88	58	50	40	48	50
Tando Allahyar									
Tando M. Khan									
Dadu									
Jamshoro									
Thatta									
Badin									
Mirpurkhas									
Umerkot									
Tharparkar									
Sanghar									
Karachi									
Girls	05	05	05	05	05	05	05	05	05
QUEST Employees	05	05	02	02	02	05	02	02	02
Self-Finance (Regular)	20	20	05	05	00	40	13	05	03
<b>Total</b>	<b>100</b>	<b>100</b>	<b>65</b>	<b>100</b>	<b>65</b>	<b>100</b>	<b>60</b>	<b>60</b>	<b>60</b>
<b>Grand Total = 710</b>									

**Table-5: Distribution of Seats in Various Technology Disciplines (Batch-24)**

<b>District/Category</b>	<b>Civil Technology</b>	<b>Food Engg Technology</b>
Sukkur		
Ghotki		
Khairpur Mirs		
Shaheed Benazirabad		
Naushahro Feroze		
Larkana		
Shahdadkot		
Shikarpur		
Jacobabad		
Kashmore		
Hyderabad		
Matiali	<b>45</b>	<b>45</b>
Tando Allahyar		
Tando M. Khan		
Dadu		
Jamshoro		
Thatta		
Badin		
Mirpurkhas		
Umerkot		
Tharparkar		
Sanghar		
Karachi	00	00
Girls	02	02
QUEST Employees	01	01
Self-Finance (Regular)	02	02
<b>Total</b>	<b>50</b>	<b>50</b>

Table-6: Distribution of Seats for Self Finance Scheme (Batch-24)

DISTRICTS		QUEST, NAWABSHAH						
(i) SF (Sindh)	Cat	CE	EL	ME	CSE	ES	SWE	TOTAL
Sukkur	01							
Ghotki	02							
Khairpur Mirs	03							
Shaheed Benazir Abad	04							
Naushahro-Feroze	05							
Larkana	06							
Shahdadkot	07							
Shikarpur	08							
Jacobabad	09							
Kashmore	10							
Hyderabad	11							
Matiari	12	30	22	04	01	01	01	59
Tando Allahyar	13							
Tando Mohammad Khan	14							
Dadu	15							
Jamshoro	16							
Thatta	17							
Badin	18							
Mirpurkhas	19							
Umerkot	20							
Tharparkar	21							
Sanghar	22							
Karachi	23							
(ii) SF (Other Province)		1	0	1	0	0	0	2
(iii)Self Finance (Pass DAE)							0	
(a) SF(Sindh Province)		4	0	1	0	0	0	5
(b) SF (Other Province)		1	0	1	0	0	0	2
<b>TOTAL (ii + iii)</b>		<b>6</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>
<b>G. TOTAL (i+ii+iii)</b>		<b>36</b>	<b>22</b>	<b>07</b>	<b>01</b>	<b>01</b>	<b>01</b>	<b>68</b>

**Table-7: Description of Remaining Categories**

Category	Description	Seats
<b>B</b>	<p>Thirty seats have been reserved for eligible girl candidates domiciled in Sindh province as per the distribution given below:</p> <p><b>QUEST, Nawabshah</b>                      Upper Sindh (Districts at serial nos. 1-10, Table-1) = 12                      Lower Sindh (Districts at serial nos, 11-22, Table-1) = 11                      The seats have not been divided in districts (Urban/Rural areas).</p>	<b>23</b>
<b>C</b>	<p>Real sons/daughters/sisters of Quaid-e-Awam University employees (serving or retired, deceased or working, on deputation of other institutions) shall be considered for admission to first year class against the reserved seats on the following criteria.</p> <ol style="list-style-type: none"> <li>1. 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.</li> <li>2. 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.</li> <li>3. 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.</li> <li>4. 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.</li> <li>5. Fifth preference will be given to real Brothers/Sisters of employees who are confirmed in the University Service and have less than three years continuous University service at their credit.</li> <li>6. 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.</li> <li>7. 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 continuous University service at their credit.</li> <li>8. Eighth preference will be given to real Brothers/Sisters of employees who are not confirmed in the University service and have less than three years continuous University service at their credit.</li> </ol> <p><b>NOTE:</b>                      The merit regarding the category C will be determined as per policy of the University. A copy of the appointment order and confirmation order of the employee must be attached with admission form. Distribution of seats will be as per following:</p> <ul style="list-style-type: none"> <li>• Maximum 08 admissions in any discipline shall be allowed but total admissions shall not exceed 33 seats. For Computer Systems Engineering only 01 (One) seat is reserved under "C" Category.</li> </ul>	<b>22</b>
<b>D</b>	Eligible candidates with proven sportsmen skills and domicile of Sukkur, Shaheed Benazirabad and Larkana Divisions only.	<b>02</b>
<b>E</b>	Real Sons and daughters of regular employees of <b>Government Habib College of Technology, Nawabshah</b> and <b>Govt. College of Technology, Khaipur</b> recommended by the Principal along with CNIC, form "B" and service certificate of employer.	<b>02</b>
<b>F</b>	Candidates who have passed Diploma Examination in Civil, Mechanical, Electrical, Electronic and Chemical/Glass & Fibre Ceramics Technology from Government Technical College/Polytechnic and are domiciled in former Sukkur and Larkana Divisions including District Shaheed Benazirabad (Nawabshah), Diploma holders shall be considered for admission under this category only.	<b>04</b>
<b>J</b>	<p>Candidates belonging to Azad Jamu Kashmir, nominated by the Ministry of Education, Government of Pakistan, Islamabad. The distribution is given below:</p> <ol style="list-style-type: none"> <li>1. QUEST, Nawabshah = 03 Seats</li> </ol>	<b>03</b>

<b>K</b>	(i) Candidates belonging to Federally Administrated Tribal Areas (FATA) 1. QUEST Nawabshah = 05 Seats 2. QUEST Campus, Larkano = 00 Seats	<b>05</b>
	(ii) Northern areas nominated by the state and frontier Region Division, Government of Pakistan, Islamabad.	<b>02</b>
<b>L</b>	Sons and daughters of Armed forces personnel nominated by the General Headquarters, Rawalpindi.	<b>07</b>
<b>M</b>	(i) Foreigner students (under Cultural Exchange Programme) nominated by the Ministry of Finance, Economic Affairs Division, Government of Pakistan, Islamabad. 1. QUEST, Nawabshah = 11 Seats	<b>11</b>
	(ii) Less developed countries of the organization of Islamic Countries, OIC, Nominated /communicated by Higher Education Commission, Islamabad (HEC).	<b>03</b>
<b>N</b>	Candidates belonging to Balouchistan Province, nominated by the Ministry of Education. Government of Balouchistan.	<b>03</b>
<b>O</b>	(i) Candidates belonging to Balouchistan nominated through Higher Education Commission, Islamabad. 1. QUEST, Nawabshah = 04 Seats	<b>08</b>
	(ii) Candidates belonging to FATA nominated through Higher Education Commission, Islamabad 1. QUEST Nawabshah = 04 Seats	
<b>Total Seats</b>		<b>105</b>

**Table-9: Detail of Urban Areas of Sindh Province**

SN	District
1	<b>Sukkur District</b> a) Sukkur Municipality b) Rohri Municipality
2	<b>Ghotki District</b> a) Ghotki Municipality b) Mirpur Mathelo Municipality
3	<b>Khairpur District</b> a) Khairpur Municipality b) Pir-Jo-Goth Municipality c) Gambat Municipality
4	<b>Shaheed Benazirabad District</b> a) Nawabshah Municipality
5	<b>Naushahro Feroze District</b> a) Moro Municipality
6	<b>Larkano District</b> a) Larkano Municipality b) Ratodero Municipality c) Naudero Municipality
7	<b>Kambar Shahdadkot District</b> a) Shahdadkot Municipality b) Qambar Municipality
8	<b>Shikarpur District</b> a) Shikarpur Municipality
9	<b>Jacobabad District</b> a) Jacobabad Municipality
10	<b>Hyderabad District</b> a) Hyderabad Municipality b) Hyderabad Cantonment c) Tando Jam Municipality
11	<b>Kashmore District</b> a) Kandhkot Municipality
12	<b>Matari District</b> a) Hala Municipality
13	<b>Tando Allahyar District</b> a) Tado Allahyar Municipality
14	<b>Tando M. Khan District</b> a) T.M. Khan Municipality
15	<b>Dadu District</b> a) Dadu Municipality b) Mehar Municipality c) K.N. Shah Municipality
16	<b>Jamshoro District</b> a) Kotri Municipality
17	<b>Thatta District</b> a) Thatta Municipality
18	<b>Badin District</b> a) Badin Municipality b) Matli Municipality
19	<b>Mirpur Khas District</b> a) Mirpur Khas Municipality
20	<b>Umerkot District</b> No Urban Areas
21	<b>Tharparkar District</b> No Urban Areas
22	<b>Sanghar District</b> a) Sanghar Municipality b) Shahdadpur Municipality c) Tando Adam Municipality, d) Sanjhorh Municipality
23	<b>Karachi</b>

## GENERAL RULES & REGULATIONS

\*The Regulations (Revised) regarding the General Scheme of Studies for the Bachelor's Degree Programs of the Quaid-e-Awam University of Engineering, Science & Technology under Section 48(1)(a) of the Act 1996.

**1. Short Title:**

These Regulations may be called the Quaid-e-Awam University of Engineering, Science & Technology Bachelor of Degree Courses Regulations 2019, repealing such regulations framed by the University authorities (if any).

**2.** These Regulations shall be subject to the Quaid-e-Awam University of Engineering & Technology General scheme of Studies for the Bachelor's degree courses Statutes 2020.

**3. Commencement:** These Regulations shall be deemed to have come into force with immediate effect and will be applicable partially to batch-19, and fully from batch-20 and onwards.

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

- a) "University" means the Quaid-e-Awam University of Engineering, Science & Technology, Nawabshah"
- b) "Academic Year" means the Academic Year of the University.
- c) "Spring/Fall Semester" means a Period of 21 weeks out of an academic year for teaching and evaluation and /or guidance of the students of the University.
- d) "Summer Semester" means a Period of 08 weeks out of an academic year for teaching and evaluation and/or guidance of the students of the University.
- e) "Vice-Chancellor", "Pro Vice Chancellor", "Dean" , "Director", "Chairman/ Chairperson" "Teacher" and "Controller of Examinations" means respectively the Vice-Chancellor, the Pro Vice Chancellor, the Dean of Faculty, the Director of Institute, the Chairman/Chairperson of Teaching Department, the Teacher and the Controller of Examinations of the University.
- f) "Departmental Committee", each Department/Institute will have a Departmental Committee consisting of three senior most teachers of the Department/Institute including Chairman/Chairperson/Convener.
- g) "Credit Hours (C.H.)" has been defined in Section 6. Credit Hours means teaching/lab work duration defined in Section-6.
- h) "Quality Point (Q.P.), Grade Point Average (G. P.A.), and "Cumulative Grade Point Average (C.G. P.A.) has been defined in Section 17.

**5. Course Structure:** Undergraduate Structure of Bachelor's Degree Course in Engineering, Science, & Technology is given below in Table 5.1

Table 5.1	Course Structure
Total No. of Credit Hours (Minimum)	124
Total No. of Credit Hours (Maximum)	140
Semester Duration	16 weeks of teaching excluding examinations
Course Duration	8 semesters Maximum time limit of 6 years, further extendable for one year with the approval of Statutory Bodies
Summer Session	For deficiency/failure, repetition of courses up to 9 CH (10 CH in special cases) (08 Weeks duration)
Course Load per Fall/Spring Semester for Regular Full -Time Students	18 Credit Hours (In special cases 19 Credit Hours)

**6. Credit Hours For Undergraduate Degrees:**

1. A credit hour means teaching/earning a theory course for one hour each week throughout the semester.
2. One credit hour in laboratory or practical work/project would require lab contact of three hours per week throughout the semester.
3. The credit hours are denoted by two digits within brackets with a plus in between. The first digit represents the theory part while the second (right side) digit represents the practical. Table 6.1 gives the possible distribution of Theory and Practical Credit hours.

**Table 6.1 Distributions of Theory and Practical Credit Hours**

Credit Hours	Distribution in Theory and Practical Hours
01	(0+1)
02	(2+0) / (0 + 2)
03	(3+0) / (2 + 1) / (0 + 3)
04	(3+1) / (0 + 4)

- 7. Course Layout for Undergraduate Students:**
- 7.1 All undergraduate 04 Year degree programs are composed of 124-140 Credit Hours in which 124 represents the minimum and 140 represents the maximum credit hours required to be completed.
- 7.2 The courses for the Engineering programs will consist of 65 – 70 % of curriculum towards the discipline specific areas of concentration as required by Accreditation body. Non-Engineering courses will be of 30–35 %.
- The courses for Social and Basic Sciences disciplines will consist of 60-65% of curriculum towards the discipline specific areas and 35-40% minor/elective.
- 7.3 Every student in a group of maximum 03 students should write a thesis project in the final year (FYP) of 06 credit hours on an approved topic.
- 7.4 Students should be encouraged to do internship in industry/business organizations of about 08 weeks during degree program.

**8. Fall/Spring Semester:**

- 8.1 There will be two regular semesters (Fall & Spring) in an academic year. Table 8.1 gives the breakup.

**Table: 8.1 Breakup of an Academic year (Fall/Spring Semester)**

1. Teaching duration of Fall semester	16 Weeks
2. Conduct of Mid Semester Exam	01 Week
3. Preparation of final Fall Semester Exam	01 Week
4. Conduct of final Fall Semester Exam	02 Weeks
5. Semester Break	01 Week
6. Teaching duration of Spring Semester	16 Weeks
7. Conduct of Mid Semester Exam	01 Week
8. Preparation of final Spring Semester Exam	01 Week
9. Conduct of final Spring Semester Exam	02 Weeks
10. Semester Break	01 Week
11. Summer Break / Summer Semester	08 Weeks
12. Winter Break	02 Weeks
<b>TOTAL</b>	<b>52 WEEKS</b>

**9. Summer Semester:**

- 9.1 There will be no supplementary/special examination
- 9.2 Moreover, a student who has either failed or has been stopped to take the examination due to shortage of class attendance in the subject or wishes to improve his/her grade will be allowed to register in summer semester.

- 9.3 Summer semester will be offered as an optional semester of 08 weeks duration. Students will be offered courses to remove deficiencies and can register up to 09 credit hours for summer semester. In special cases the maximum credit hours allowed for a student shall be 10 credit hours.
- 9.4 The contact hours per week during the Summer Semester will be doubled of the regular semester to ensure that the course is completely taught in a summer session with half of the duration as compared to a regular (Fall/Spring) semester.
- 9.5 All the qualifying rules for Fall/Spring semester will be applicable to summer semester.
- 9.6 The course in a summer semester will be offered with the minimum course registration of 05 students.

**10. Academic Calendar:**

- 10.1 The academic calendar will be prepared for Fall Semester and Spring semester of each academic year and will include the following information.
1. Date of start of classes
  2. Conduct of mid semester
  3. Date of suspension of classes
  4. Schedule of examination
  5. Display of sessional marks
  6. Examination preparation up to
  7. Conduct of final semester exam
  8. Announcement of results
  9. Mark sheet/Transcript issues dates.
- 10.2. In case if the University remains closed for a certain period due to unusual circumstances, then makeup classes shall be arranged by converting weekends/ holidays or evening classes into working days to cover the lapsed time period of the studies in both the cases; regular and summer semester.

**11. Repeating Courses/Improvement of CGPA:**

- 11.1 If a student gets 'F' grade, she/he will be required to repeat the course. However, "F" grade obtained earlier will also be recorded on the transcript.
- 11.2 Students may be allowed to repeat a course in which she/he has obtained grade "C" & below. In such a case both the previous and new grade obtained will be recorded on the transcript, however, only the better grade will be considered for calculation of CGPA.
- 11.3 In case of CGPA improvement, it would be recorded with (Imp) on the transcript.

**12. Attendance:**

A student will be required to have minimum 75 % attendance in a course to appear in the examination of that course condonation of maximum of 10% may be allowed by the Vice-Chancellor in special justified cases (case to case basis).

**13. Examination:**

- 13.1 In each semester, students may be required to appear in quizzes, tests, mid semester, final semester examinations, presentations (individual/group), group discussion, and submit projects/assignments/lab reports etc. These assessment marks (to be determined by the teacher concerned) will have different weightage contributing towards the overall assessment in percent marks.

This weightage may be determined on the basis of the details given in the tables 13.1, 13.2 & 13.3.

**Table 13.1 Details of Marks of Theory**

Sr. No.	Description	Max Marks (100)	Max Marks (50)
1.	Quizzes/Test(s)	10	05
2.	Assignments/Project/Presentation	10	05
3.	Mid Semester Exam: (with no option)	20	10
4.	Final Semester Exam:	60	30
	Total marks	100	50

**Table 13.2 Details of Marks of Practical**

Sr. No.	Description	Max Marks (100 %)
1.	Lab Rubric	30%
2.	Mini Project / Open ended lab	10%
3.	Semester Lab Exam (a) Objective type test (b) Conduct of Pr/Viva voce	60% (20%) (40%)

**Table 13.3 Details of Marks of Final Year Project**

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

- 13.2 In the beginning of a semester, the Instructor of each course should handover syllabus providing information to the students about assessment criteria, paper specification, schedule of material to be taught (Lesson Plan/ TTP), take home assignment policy, required and recommended reading materials and any other information important for the successful completion of the course and its requirements.

- 13.3 To implement semester system effectively, the subject teacher is required to display provisional result within five days after the conduct of final exam of that subject and submit the same to the concerned Chairman and Controller of Examination for scanning and final / formal announcement.

- 13.4 External examination system will be applicable only for Practical viva-voce and final year Project Examination.

#### 14. Grade Equivalence

Table 14.1 Grade Equivalence (w.e.f. 22 batch)

Grade	Grade Point	Percentage of Marks
		Theory / Practical / Project
A+	4.0	>=90%
A	3.5	89% - 81%
B+	3.0	80% - 73%
B	2.5	72% - 65%
C+	2.0	64% - 60%
C	1.5	59% - 55%
C-	1.0	54% - 50%
F*	N/A	<50%
W**	N/A	N/A
I***	N/A	N/A

\*Fail

\*\*Withdrawn

\*\*\*Incomplete

#### Note:

- Fraction will be round off to the nearest whole number.
- The results will be prepared on the basis of Grade Point Average (G.P.A)

#### 15. Computation of Semester Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA):

##### 15.1 Quality Point (Q.P.)

For computation of the (G.P.A.) the quality point (Q.P) shall be determined by multiplying the value of the grade earned by a student with the Credit Hours assigned to that particular course, e.g. if a student obtain "A+" grade for a three credit hour course then the Quality Points will be calculated as follows:  
(Q.P.)=4x3=12.

##### 15.2 Grade Point Average (G.P.A)

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

$$\frac{\text{Sum of Quality Points}}{\text{Sum of the Credit Hours}}$$

##### 15.3 Cumulative Grade Point Average (C.G.P.A)

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

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

#### 16. CGPA requirement for Award of Degree:

- 16.1 For completion of the degree, the minimum qualifying CGPA for a bachelor course BE/BS Students shall be 2.00.
- 16.2 In case a student secures less than 2.00 CGPA (minimum qualifying CGPA) at the end of final Semester, she/he may be allowed to get re-admission in one or more courses, wherein his/her obtained Grade is below C, provided that she/he is not debarred under the CGPA Improvement (as defined in Section 12) and time duration specified for the program (as defined in table 5.1). This shall be a onetime chance.

#### 17. Transfer of Credit Hours:

- 17.1 Credits may be transferred on course to course basis i.e. a person taking course A at University X is allowed to transfer his/her credits to University Y provided that course A is equivalent to course B taught at the Y University.
- 17.2 No credit hour of a course will be transferred if the obtained grade is less than B.
- 17.3 Transfer of Credit Hours shall only be considered as valid if the University/ HEI is a duly recognized institution or is an internationally recognized Universities.

#### 18. Format of Final Transcript:

The final transcript for the award of degree shall contain following information:

##### Front Side:

- Name of Student
- Father's Name
- Surname/Last Name
- For Pakistani nationals : CNIC No / Passport No. for Foreign nationals
- Date of Birth
- Roll No.
- Enrollment No
- Name of the Programme
- Date of Admission into Degree Program
- Semester Wise Break-up
- Subjects Title along with (Subject Code ) and Credit Hours
- Type of Enrollment – Full Time
- Picture of the Applicant be Printed on Transcript
- Date of Completion of Degree Requirements
- Mode of Study – Regular
- Medium of Instruction- English
- Online Result Verification Key/ID (Front Side at the End of the Transcript)
- GPA/CGPA (at the End of the front side of Transcript)

**Back Side:**

- Basic Admission Requirement of the Programme
- Previous Degree held by the Student along with Institution Name
- Credit Hours Exempted/Transferred if any/applicable.
- Grading System to be mentioned.
- Charter Date of the University/DAI may be mentioned.
- Name of Campus/College be mentioned along with HEC Permission Date
- Signature of Issuing Officer(s) (Front and Back Side at the end of the Transcript)
- The transcript must have the water-mark seal on it.

**19. 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 any discrepancy in the results is detected during scanning process, the concerned committee will assign a subject expert (other than the Subject teacher) for rechecking the Scripts. The final recommendations of the Departmental Committee concerning the results will be submitted through the concerned Dean and Pro Vice Chancellor/Vice Chancellor for consideration and approval.

**20. Course File:**

Maintaining the Course File is compulsory for all faculty members. It shall contain complete record of every activity that happens during the course. The course file should contain:

- **(For Theory)**

1. Academic Calendar
2. Course contents with defined CLOs, taxonomy level and linking to PLOs
3. Tentative Teaching Plan
4. Lesson Plan
5. Classes Time Table and student counseling hours including record of makeup classes (if any)
6. Semester Progress Report
7. Student's attendance register
8. Teaching material
9. Class sessional activities and record (Tests/Assignments/etc. with solutions)
10. Mid Semester and Final Exams Question papers and solutions

11. Sample of best, worst and average answer sheets of Tests/Assignment/ Exams.
12. Award Lists
13. Assessment Sheet conforming to the CLOs and PLOs
14. Course Evaluation Report

- **(FOR PRACTICAL)**

1. Academic Calendar
2. List of Experiments
3. Tentative Teaching Plan
4. Laboratory Time Table
5. Student's attendance register
6. Laboratory Manual / Workbook
7. Rubrics Sheet
8. Sample of Objective type paper with solution
9. Sample of Best, Worst, and average Objective type test
10. Award Lists
11. Assessment Sheet conforming to the CLOs and PLOs Modles/ standards/patterns
12. Course Evaluation Report.

**21. Indiscipline in Examinations:**

Any candidate found guilty of following matters, his/her case will be submitted to Unfair Means Cases Committee constituted by the University. This committee will be comprised of Senior Dean as Convener and the concerned Dean and the Chairman as members.

- 21.1 Removes a leaf from his/her answer book, the answer book shall be marked as invalid/cancelled.
- 21.2 Submits forged or fake documents in connection with the examination.
- 21.3 Commits impersonation in the examination.
- 21.4 Copies from any paper, book or notes.
- 21.5 Mutilates the Answer Book.
- 21.6 Possesses any kind of material, which may be helpful to him/her in the examination.
- 21.7 Commits anything that is immoral or illegal in connection with the examination and which may be helpful to him/her in the examination.
- 21.8 Refuses to obey the invigilation staff or refuses to follow the instructions issued by the University in connection with the examination.
- 21.9 misbehaves or creates any kind of disturbance in or around the examination centre
- 21.10 Uses abusive or inappropriate language on the answer script.
- 21.11 Possesses any kind of weapon in or around examination centre.
- 21.12 Possesses any kind of electronic device which may be helpful in the examination

**22. His / Her case shall result in penalties keeping in view the Nature and Intensity of offence, as under:**

- 22.1 Cancellation of paper Unfair Means Cases Committee will decide whether the student will have to appear in summer semester/with regular semester for the cancelled paper.
- 22.2 Suspension from programme for one semester.
- 22.3 Imposition of Heavy or light Fine
- 22.4 Expulsion from the University forever.
- 22.5 Any other action deemed appropriate.

**23. Appeal against the decision of the unfair means cases Committee:**

If a student is not satisfied with the decision of the Unfair Means Cases Committee, she/he can submit an appeal within a week of the decision by the Committee to the Vice Chancellor. No appeal shall lie against the decision of the Syndicate.

**24. Probation (w.e.f. 22 batch):**

Probation is a status granted to the student whose academic performance falls below the minimum University standard i.e. 2.0 CGPA.

- 24.1 The students acquiring less than 1.5/4.00 GPA in a semester but passing in all subjects will be promoted with the condition to acquire more than 2.0 GPA in the next semester and she/he will be put on probation for the next semester.
- 24.2 The students acquiring GPA 1.5 and above but failing in any subject(s) will be placed on probation and promoted to the next semester conditionally. They will have to be registered for summer semester to improve the grade.
- 24.3 Students acquiring GPA less than 1.5 in two consecutive semesters and failing in any subject(s) even after attending summer semester for one academic year will have to seek re-admission. Re-admission will be allowed only twice during 4 years undergraduate degree program. Re-admission will be allowed after the payment of full admission fee.

**25. Permission of Writer for Special Students:**

- 25.1 A visually impaired student may be allowed to attempt the Mid/Final Examinations of the University on Braille/ Computer/any other means of facilitation.

25.2 In case a student is physically handicapped/visually impaired, she/he may apply to the Chairperson of the respective department (with medical certificate as proof of her/his disability) for permission to engage a writer in Tests/ Examinations of the University well before the start of Tests/ Examinations. She/he will be allowed 45 minutes (maximum) extra time to solve the question paper.

25.3 The qualification of the person who acts as writer of a handicapped student must be at least one step lower than that of the student from within the same department (e.g. for level 6 student, the writer should be at the most of level 5).

**26. Damaged/Lost Answer Script:**

In an exceptional case where an answer script is damaged, lost or destroyed due to unavoidable circumstances, then the student may be given the following options:

- 1. Average marks shall be awarded to the student in that subject/course.
- 2. In case of Final Year Examination, if the candidate so desires, she/he shall be given another chance as a special case to take the Examination in that subject/course in the next examination and no examination fee shall be charged from the student.

**27. Awards and Distinctions:**

- 27.1 Medals/Positions will be awarded to the students passing their courses/papers in Semester System in a Single first attempt only.
- 27.2 In a single first attempt Letter Grades will be awarded on the basis of GPA/CGPA and Positions would be given on the basis of CGPA. In case two or more students are acquiring same CGPA only then the Positions will be shared among those students.
- 27.3 No Medal/Roll of Honor will be awarded in the case the students has improved CGPA.

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

## 1. Migration / Transfer Policy

- i. Migration Policy:
  - a. The migration will not be allowed in the first year and final year from other Universities. Migration shall be allowed in second year and third year subject to class strength may not exceed from allowed PEC intake in case migration is requested for Bachelor of Engineering programmes.
- ii. Transfer Policy:
  - a. The transfer shall not be allowed in first and final year. The transfer from QUEST, Campus Larkano to QUEST Nawabshah or vice-versa shall be allowed in second year and third year subject to class strength may not be exceed from allowed PEC intake in case migration is requested for Bachelor of Engineering programmes. Other terms and conditions will remain same.
- iii. The migration from or to QUEST will not be allowed to the students admitted on reciprocal basis, sports category and/or of categories other than "A".
- iv. The migration will be allowed to other students when:
  - a. The Father/Guardian of the student as mentioned in his/her admission form dies and thus the means of support of student at this University are badly affected.
  - b. The Vice Chancellor desires the migration of the student in the interest of the University.
- v. The University will have no objection to admit the students of other University seeking migration to this University, provided the seats are available in the relevant technologies.
- vi. The University reserves the right to refuse any migration from or to this University without assigning any reason thereof.
- vii. The migration of the foreign students will be considered by the University, provided the nominating agency and the Federal Ministry of Education, indicating genuine individual reasons of the students, recommend their applications.
- viii. The student migrating from this University shall have to pay Rs.10000/- fee for processing of NOC.
- ix. The migration fee of the foreigner, local students of other Universities and QUEST Campus Larkano to this University would be allowed on the payment of Migration fee equal to the Self finance fee of the University.
- x. Only passing students will be allowed to apply for migration to QUEST in the same batch/technology.

## 2. Students Conduct & Discipline Regulations

- i. Short Title  
The regulations may be called the Quaid-e-Awam University of Engineering, Science and Technology, students' conduct and discipline regulations, 1996.
- ii. Commencement and Applications  
These regulations shall come into force with immediate effect, and shall apply to all the students of the University and Colleges affiliated to the University
- iii. Definitions  
In these regulations, unless explicitly stated:
  - a. "University" means the Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah.
  - b. "Campus" means 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, Recreation areas for students and staff and any other such as, buildings, or facilities created within the specified boundary of the University and like-wise areas of affiliated colleges.
  - c. "Syndicate" means the Syndicate of the University.
  - d. "Vice-Chancellor" means the Vice-Chancellor of the University.
  - e. "Discipline Committee" means the Discipline Committee of the University constituted under the First Statutes appended to Quaid-e-Awam University Act, 1996 and/or constituted separately for constituent colleges with the approval of the Vice-Chancellor, Quaid-e-Awam University of Engineering, Science and Technology.
  - f. "Dean", "Principal", "Provost", "Chairman of a Teaching Department", "Director of Physical Education", "Deputy Provost", "Superintendent of Workshop", "Warden", "Teacher Incharge", and the "Games Incharge", "Officer Incharge of students", respectively means the Dean, the Principal, the Chairman of Teaching Department the Director Physical Education, the Deputy Provost, the Superintendent of Workshop, the Warden, the Teachers Incharge, the Games Incharge, the Students Welfare Officer, Students Advisor appointed as such by the competent authority of the University.

- iv. Every Student Shall Observe the Following  
He/She must be faithful in his/her religious duties and respect the convictions of others in matters of religion and customs.
- a. A minimum of 42 lectures shall be held in each full subject (having 100 marks), but teachers may take extra lectures to complete the course. The attendance will be allowed on the basis of all the conducted lectures, the minimum number being 42.
  - b. He/She must be loyal to his/her country and refrain from doing anything, which might lower its honour and prestige.
  - c. He/She shall be truthful and honest in his/her dealings with all people.
  - d. He/She must respect the elders and be polite to all especially to the women, the children, the old people, the weak and the helpless.
  - e. He/She must respect his teachers and others in authority in the University.
  - f. He/She must keep his mind clean and be clean in speech, sports and habits.
  - g. He/She shall help his fellow beings especially those in distress.
  - h. He/She must devote himself faithfully to his studies and obey and follow the rules, instructions, and guidelines, issued by the University authorities from time to time.
  - i. He/She must observe austerity and protect the University property.
- v. No Student Shall
- i. Smoke in his classroom, laboratory, workshop, library, examination hall or convocation hall and during any academic functions.
  - ii. Consume alcoholic liquor or other intoxicating drugs within the University Campus or during the instructional, sports or cultural tours or survey campus or enter any such place or attend any study tour or camp while under the influence of such intoxicants.
  - iii. Organize or take part in any function within the University campus, organize any club or society of students without permission of the University authorities.
  - iv. Indulge into activities against the Islamic and Pakistan ideology or national solidarity.
  - v. Indulge into activities promoting, prompting or involving violence or hatred, or contempt.
  - vi. Affiliate himself with any political party or group and organize or take part in holding political gatherings and invite any politicians, expelled or rusticated or debarred students, and antisocial elements in the University campus.
  - vii. 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
  - viii. 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 by him or by forcing others to do so.
  - ix. Bring, keep, or use any kind of weapon or firearms within the University campus.
  - x. Use or occupy fully or partially any room or any building of the University campus un-authorized.
  - xi. Organize or take part in procession or meeting within University campus, prejudicial to the peaceful atmosphere of the University.
  - xii. Stage, invite, or participate in or abet any walk-out, strike, or any other form of agitation against the University or its teachers or officers.
  - xiii. 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.
- vi. The teachers and officers of the University or Committees formed under them for the purpose and other concerned with the students in the University are responsible for the maintenance of discipline and order among the students, while under their charge, and for dealing with any disorderly behavior promptly in the manner prescribed by these regulations.
- vii. The Discipline Committee shall deal with serious cases of indiscipline requiring such actions as prescribed by Regulation 10.
- viii. The 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 a report or otherwise, shall deal with the case himself as he may be competent as provided under the Regulation 10 below, and in other case, he shall inform and recommend the case to the higher authorities/bodies for necessary action as prescribed.

ix. Penalties

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 work or habitually absents himself from the class without reasonable cause; or
- d. willfully damages / disfigures University property or the property of a fellow student or any teacher or any employee of the University; or
- e. disrespects, or hurts any person, or 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 or residence or the regulations relating to the wearing of uniform or academic dress; or
- g. Uses indecent languages, 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 campus or otherwise) which brings bad name to the University.
- i. The penalty or penalties imposed shall be appropriate and proportional to the nature and gravity of the above act or acts.

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

Exclusion from classroom, Workshop or field work for the duration of the period	Teacher/Incharge
Exclusion from the games or the field for the day.	Games Incharge
Exclusion from instruction sports tour or survey camp.	Teacher/Officer Incharge
Exclusion from the department a period not exceeding one-week	Chairman/Head for the Teaching department
Exclusion from all classes or any class for a period concerned/ Principal to exceeding two weeks.	Dean of Faculty of concerned / Principal
Fine not exceeding Rs. 500/-	Teacher Incharge or Superintendent of concerned Workshop
Fine not exceeding Rs. 1000/-	Chairman of the Department or other concerned Officer/Incharge
Fine not exceeding Rs. 5000/-	Dean of the Faculty concerned.
Fine not exceeding Rs. 10000/-	Vice-Chancellor
With-holding of issue of character certificate	Chairman/Head of the teaching department
Cancellation of examination of part thereof, or debarring from the appearing in any examination	Vice-Chancellor on the recommendation of the Discipline Committee
Cancellation of admission fee or University Scholarship	Vice-Chancellor on recommendation of the Faculty concerned/ Principal
Suspension or removal from University Sports	Vice-Chancellor on the recommendation of the executive committee of the University Sports Board
Suspension of admission from the University for a concerned period specified or unspecified pending the final decision	Dean of the Faculty
Rustication/Expulsion from the University for a period not exceeding one year	Vice-Chancellor on recommendations of Discipline Committee

Rustication/Expulsion from the University for a period exceeding one year	Syndicate
Cancellation of admission from the University	Syndicate
With-holding of the issue of any degree	Syndicate

Provided that the higher authorities shall be equally competent to impose penalties within the competence of lower authorities as prescribed above.

- xi. No student shall be rusticated or expelled from the University unless he has been allowed a reasonable chance of defending the accusation against him, provided that if the competent authority is satisfied it may take such an action under emergency to avoid any grave consequences.
- xii.
  - a. 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.
  - b. 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, provided that the Vice-Chancellor may for valid reasons condone delay in any individual case.
- xiii. The Vice-Chancellor or any teacher or officer duly authorized by the Vice-Chancellor may direct a student or a group of students to pay compensation for any loss or damage to property belonging to the University or to fellow student(s) or to an employee of the University, caused by willful act or gross negligence of the students 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/them for indiscipline and impose upon him/them any of the penalties prescribed by Regulation 10 above.

# ADMISSION TEST

## General Instructions for Paper-based Entry Test

1. You will be required to write your name, father's name and seat number on the top of your answer sheet and rough worksheet which will be provided to you by the instructor.
2. You have to give your undivided attention to the instructor when instructions are being given.
3. The test is divided into four sections. Each section consists of 25 questions as given below:
  - a. **Pre-Engineering Group** (English, Physics, Chemistry and Mathematics)
  - b. **Pre-Medical Group** (English, Physics, Chemistry and Biology)
  - c. **General Science Group** (English, Physics, Computer Science and Mathematics)
4. In order to assure a fair chance to every candidate and to conduct the test efficiently, we need and request your cooperation in the form of carefully following the instructions given here and by the instructor during the test.
5. The instructor will tell you when to start work and when to stop.
6. In the interest of fairness, we insist that no one may continue work even for a second after the instructor has asked to stop the work.
7. During the test, do not talk, whisper or turn your eyes or head away from your own papers.
8. To answer the question in the test, you have to blacken the appropriate circle marked with A, B, C or D with a pen provided to you by the University. In case you blacken more than one circle for the same item, your answer will be treated as wrong.
9. You do not have to write anything anywhere on the answer sheet except those mentioned at serial number 1 of this section.
10. A blank sheet will be provided with the answer sheet to do your rough work. You may detach the sheet for your convenience.
11. Do not write anything anywhere on the test booklet. All answers must be given on the answer sheet.
12. Each question carries one mark. There will be no negative marking for any wrong answer.
13. You are strictly prohibited to bring a mobile phone, Calculator, Laptop, iPad, iPod, etc. with you. Failing which the University will not be responsible for loss of your goods or even you may be expelled from the test center.
14. In case of any claim regarding the correctness of any question/key of the question book, the claimant should have to provide a solution of the same verified and attested by the subject specialist. Failing which claim will not be entertained.

15. The candidate(s) will be disqualified if found any evidence of impersonation, cheating or non-compliance with instructions. Further, the candidate(s) will be expelled from the test and legal action shall be taken against him/her accordingly.
16. No candidate is allowed to leave his/her seat until permitted.

## General Instructions for Computer-based Entry Test

1. Computerized Entry Test (CET) consists of 100 multiple choice questions and the time for the test is 60 minutes (one hour).
2. CET is divided into four sections where each section consists of 25 questions as given below:
  - a. **Pre-Engineering Group** (English, Physics, Chemistry and Mathematics)
  - b. **Pre-Medical Group** (English, Physics, Chemistry and Biology)
  - c. **General Science Group** (English, Physics, Computer Science and Mathematics)
3. You will be required to write your name and seat number on the rough worksheet which will be provided to you by the invigilator.
4. You must give your undivided attention when the instructions are being given.
5. The candidate must follow the instructions given by the invigilators during the test for smooth and transparent conduct of the test.
6. During the test, do not talk, whisper or turn your eyes or head away from your own screen.
7. To answer the question in the test, you must select an appropriate option marked with A, B, C or D.
8. Each question carries one mark and there will be no negative marking for any wrong answer.
9. All candidates are strictly prohibited to bring their mobile phone, Calculator, Laptop, iPad, iPod etc. with them. Failing which the University will not be responsible for loss of your devices/gadgets or even you may be expelled from the test center.
10. The credentials of CET shall be provided to the candidate.
11. The candidate must follow the instructions for login to start the test.
12. He/she will not be allowed to continue the test if any candidate terminates/closes the test deliberately or by mistake.
13. The candidate(s) will be disqualified if found any evidence of impersonation, cheating or non-compliance with instructions. Further, the candidate(s) will be expelled from the test and legal action shall be taken against him/her accordingly.
14. No candidate is allowed to leave his/her seat until permitted.

### Pre-Admission Test Sample Paper

#### Physics Examples

1. When a metal is heated sufficiently, electrons are given off by the metal. This phenomenon is known as:

- A. Thermionic emission      B. Secondary emission  
C. Photoelectric effect      D. Canal ray emission

We know that this phenomenon is termed as 'thermionic emission'. Hence the correct answer is 'Thermionic emission'. Therefore, an appropriate option "A" will be selected.

2. When an object moves with constant speed around a circle its centripetal acceleration is always:

- A. directed away from the center of the circle  
B. directed towards the center of the circle  
C. parallel to velocity vector  
D. Parallel to the tangent of the circle

In the above question, we know that the Acceleration will be directed towards the center of the circle. Hence the correct answer will be "directed towards the center of the circle". Therefore, the choice "B" is the correct answer and the appropriate option "B" on the screen will be selected.

3. A stone is dropped from a high building. At the end of 3 seconds of free fall, the speed of the stone in (cm/sec) will be (assume  $g = 10\text{m/s}^2$ )

- A. 30      B. 1000      C. 500      D. 3000

4. A body with a mass of 2.0 kg moves with a constant speed of 20 meters per second. The magnitude of its momentum.

- A. 8.0 kg. m/sec      B. 10 kg. m/sec  
C. 40.0 kg.m/sec      D. 160 kg.m/sec

5. A steel slab is 20 cm long at 273 K. What would be the change in its length if the temperature is raised to 283 K? (coeff. of thermal expansion of Steel =  $1.0 \times 10^{-5}/\text{K}$ )

- A.  $2 \times 10^{-3}\text{m}$       B.  $2 \times 10^{-3}\text{ cm}$       C.  $1.1 \times 10^{-3}\text{ cm}$       D. 0.01 cm

4. Which one of the following instruments is considered the most accurate voltage measuring device?

- A. Ammeter      B. Ohm meter      C. AVO meter      D. Potentiometer

#### Chemistry Examples

1. When a solid goes directly to the gaseous state without passing through the intermediate liquid state, the process is known as:

- A. Distillation      B. Evaporation  
C. Ignition      D. Sublimation

We know that sublimation is the process in which a substance is converted directly from the solid to a gas or from a gas to a solid without an intermediate liquid phase. Thus, the choice 'D' is the

correct answer and the appropriate option "D" on the screen will be selected.

2. The oxidation number of chlorines in perchloric acid is

- A. +9      B. 8      C. +7      D. +6

We know that oxidation number is the positive or negative difference between the number of electrons associated with an atom in a chemical compound and the same atom in an element. Thus, the correct answer is "+7".

3. When a volume of  $\text{H}_2(\text{g})$  reacts with an equal volume of  $\text{Cl}(\text{g})$  at the same temperature and pressure, what volume of the product having the formula HCl is formed?

- A. The volume of HCl produced is always the same as the volume of the limiting reactant.  
B. The volume of Cl produced is always the same as the initial volume of hydrogen.  
C. The product is itself a liquid; hence the volume of the reactants decreases considerably.  
D. The volume of HCl produced is twice the volume of  $\text{H}_2$  (or  $\text{Cl}_2$ ) used.

4. Which one of the following is NOT a property of cathode rays?

- A. Cathode rays travel in straight lines.  
B. The rays can be focused by using a concave cathode.  
C. Cathode rays can penetrate thin sheets of gold.  
D. The nature of cathode rays depends upon the material of which the electrodes are made.

5. Ethene is the first member of the

- A. Alkane Series      B. Unsaturated hydrocarbons  
C. Aromatic hydrocarbons      D. Alkyne series

6. A dipolar, charged but overall, electrically neutral ion is called

- A. double ion      B. zwitter ion  
C. amino ion      D. peptide link

#### Mathematics Examples

1. What is the harmonic mean of 5 and 10?

- A.  $35/6$       B.  $3/20$       C.  $30/3$       D.  $100/9$

We know that for two numbers, the harmonic mean may be given by the formula  $H = 2ab / (a + b)$ . Thus, the correct answer is ' $20/3$ '. Hence on the screen, answer "C" will be selected.

2. What is the nature of the roots of the quadratic equation  $3x^2 + 4x + 5 = 0$ ?

- A. The roots are rational and unequal  
B. The roots are complex numbers  
C. The roots are irrational and unequal  
D. The roots are integers

As the discriminant based on the coefficients of given equations is a complex number. Therefore, the correct answer is 'B' i.e., the roots of the given numbers will be complex numbers.

3. Let A be a subset of IR, the set of real numbers. The intersection of A with its complement A' will always be a

- A. null set      B. universal set  
C. set of integers      D. set of irrational numbers

4. The general term of an arithmetical progression whose first term is 7 and the common difference = -4, is

- A.  $A+11d$       B.  $7+4n$       C.  $11-4n$       D.  $A+(n+1)(-4)$

5. Evaluate  $(\lim_{x \rightarrow 2} x^2 + x - 2) / (4x^2 - 1)$

- A. 0      B.  $\infty$       C. 1      D. 4

6. Solve the differential equation:  $\sec^2 x \tan y \, dx + \sec^2 y \tan x \, dy = 0$

- A.  $\pm 1 + x^2 = 0$       B.  $\operatorname{cosec} 2x + 1$   
C.  $\sec^2 x + \operatorname{cosec}^2 x + \tan^2 x = 0$       D.  $\tan x \tan x$

### English Examples

Choose the answer that gives the correct meaning of the given word

1. SURROGATE:

- A. Unlikely      B. Wide      C. Opening      D. Substitute

From the given choices, the word 'substitute' most closely matches the meaning of the word 'SURROGATE'. Therefore, option "D" will be selected on the screen.

Choose the correct word or phrase for the blank space.

2. He has better marks \_\_\_\_\_ student in his class.

- A. than any      B. than any other  
C. compared to other      D. of any

In comparison to this type, 'than any other' would be the best fit.

Choose the sentence that represents the correct passive voice of the given sentence.

1. We know that you were in town on the night of the crime.  
A. You are known to have been in town on the night of the crime  
B. On the night of the crime, we know that you were in town  
C. You are known by us to be in town on the night of the crime  
D. On the crime night, you were in town it is known by us

Choose the sentence that represents the correct indirect of the given sentence.

2. She said, "I am delighted to be here this evening."  
A. She said she was delighted to have been there in the evening.  
B. She said that she was delighted to be here that evening.  
C. She said that she was delighted to be here this evening.  
D. She said that she was delighted to be there that evening.

### Biology Examples

1. Penicillin was discovered by

- A. Fleming      B. Jenner      C. Robert Brown      D. Laveran

### Computer Science Examples

1. In Bus topology, all nodes are connected to a common communication medium or central cable. This central cable is called

- A. Ethernet card      B. Hub      C. Fiber optic      D. Bus

2. LAN stands for

- A. Less Area Network      B. Low Area Network  
C. Local Area Network      D. Large Area Network

The choice "C" is the correct answer. Therefore, an appropriate option "C" on the screen will be selected.



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