# PROSPECTUS
2025

QUAID-E-AWAM UNIVERSITY
of Engineering, Science & Technology, Nawabshah,
SBA, Sindh-Pakistan

📞 +92 244 9370381-5
+92 244 9370367

🌐 www.quest.edu.pk
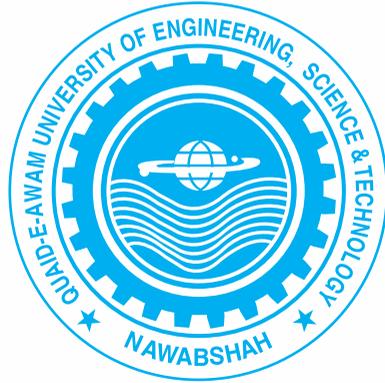
PROSPECTUS

Batch-2025

For Undergraduate Degree Programs in Engineering,
Science & Technology

Note:

This prospectus has been approved by the Academic Council of the University in its **45**th meeting held on **22.04.2025**. 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 / admission@quest.edu.pk
Website: 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.
- ⌃ Member Commonwealth Universities

VISION

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

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.

Prof. Dr. Saleem Raza Samo
Vice Chancellor

With the grace of Almighty Allah (SWT) I have assumed for 2nd tenure 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. Our Alumni are working all over the world as shining stars and we are proud of them.

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. The QUEST is research partner in Erasmus project and as a result MoU is also signed with University of ORADIA, Romania, very recently our University is recognized by Higher Education (HE) Ranking and now QUEST is ranked as 121st.

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 is particular and of Pakistan in general, 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 Graz University of Technology, Austria in July 2010. His research interest includes Human-Centered AI, Agile Software Development Methods, User Experience Design, Agile User Experience Design, Mobile HCI, Mobile-Learning (M-Learning), Technology Acceptance Models, 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. He has also worked there as the Chairman of IT and CS Departments and the Dean Faculty of Science.

He has been awarded the "Certificate of Inventor" by Technical University Graz, Austria. More than 30 MS students and 6 PhD students have completed their studies under his supervision. He has organized five 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 was appointed as the Chairman, Selection Committee, Health Department, Government of Sindh, for the establishment of I.T Unit, PMU of "Sindh Human Capital Investment: 1000 Days- Integrated Health & Population Project", Karachi. 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 and presently serving as the member of Standing Committee on Bio-Economy 2024-2025.

Prof. Dr. Muhammad Ramzan Luhur

Dean, Faculty of Civil & Mechanical Engineering

Dr. Luhur hails from Jhando Luhur, a village near Juma Agham in Taluka Ratodero, District Larkano. He Completed his early education in Ratodero, secured the top position in his matriculation from Pilot Secondary High School, Larkano and pursued intermediate studies at Government Degree College, Larkano. He earned his B.E in Mechanical Engineering from QUEST, Nawabshah, graduating top in his department.

He went to receive Master's in Sustainable Energy Engineering from KTH, Sweden and Ph.D. in Wind Engineering from Carl von Ossietzky University, Oldenburg, Germany (2014). Dr. Luhur began his career at Chemi Group's Viscofibre Plant in Nawabshah. In 2004, he joined QUEST as a lecturer and later pursued advanced studies abroad under the HEC Faculty Development Program.

Dr. Luhur is currently serving as the Dean of the Faculty of Civil and Mechanical Engineering at QUEST, Nawabshah. Previously, he held key positions including Director of Postgraduate Studies and Research and Served two terms as Chairman of the Mechanical Engineering Department. A committed researcher in wind engineering. Dr. Luhur has published over 43 research papers in journals of International repute and contributed a book chapter to CompEdu. He has presented his research at various national and international conferences and currently supervises multiple postgraduate scholars. Dr. Luhur is a lifetime members of the Pakistan Engineering Council and an active member of several academic bodies within the university. He is fluent in English, Urdu, Sindhi and Balochi and is familiar with several other regional languages.

Prof. Dr. Abdul Fattah Chandio

Dean, Faculty of Electrical & Electronic 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 Engineering in Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah. Dr. Chandio was the founder Principal of QUEST Engineering College Larkano, now declared as University of 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 use of IOT for climate change monitoring & hazard mitigation.

Dr. Chandio is the prominent member of expert list of Pakistan Engineering Council for evaluation of Engineering Programs throughout the country. 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. Intesab Hussain Sadhayo

Dean, Faculty
of Computers Engineering

Prof. Dr. Intesab Hussain is currently serving as the Dean and Professor in the Department of Computer Systems Engineering at QUEST Nawabshah. He earned his Bachelor's degree in Computer Systems Engineering from QUEST Nawabshah in 2003, followed by an MS from the University of Rennes 1, and a Ph.D. from Paris Descartes University (Paris 5, France) in 2013.

Dr. Intesab began his academic career as a Lecturer at QUEST in 2004, and brings over 21 years of teaching experience both at QUEST and IUT Paris Descartes, where he taught various computer science courses in the French language. His current research interests include secure communications and Quality of Service (QoS) in computer networks. In addition, he is actively involved in a collaborative project with the French Archaeological Mission focused on the Indus Valley Civilization.

He has also held several key administrative roles, including Chairman of the Departments of Computer Systems Engineering and Telecommunication Engineering, as well as Campus Director of QUCEST Larkano.

Dr. Intesab currently serves as the Director of Industrial Liaison, through which he has successfully facilitated over 6,000 internships in various industries. He has also led several training programs at QUEST, including NFTP, PITP, and NAVTTC.

As Dean, he oversees the departments of Computer Systems Engineering, Software Engineering, and Artificial Intelligence.

Prof. Dr. Muhammad Ibrahim Channa

Dean, Faculty of Science

Prof. Dr. Muhammad Ibrahim Channa has been serving as a Professor of Information Technology since 2014 and as a Dean, Faculty of Science since 2022 at Quaid-e-Awam University of Engineering, Science and Technology Nawabshah. He received B.Sc.(Hon.) and M.Sc. Degrees in Computer Science from University of Sindh Jamshoro. He completed MS in Information Technology from National University of Science and Technology Islamabad and PhD in Information and Communication Technologies from Asian Institute of Technology, Thailand.

He has been serving at various academic and administrative positions at Quaid-e-Awam University of Engineering, Science and Technology Nawabshah such as Chairman, Department of Information Technology, Editor Quaid-e-Awam University Research Journal of Engineering, Science and Technology and Director Office of the Research, Innovation and Commercialization. He has a sound research profile comprising of more than 40 National and International research publications and post graduate research supervision at National and International Universities. He has been actively engaged in introducing new degree programs and organizing seminars, workshops and conferences for the improvement of academics in various departments under the Faculty of Science.

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 Industrial & Manufacturing 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 to the aspiring prospective candidates aiming to excel in their careers. The name of the University of QUEST has now 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 2nd 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 of research as Image Processing, Biomedical Images & Artificial Intelligence.

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 21 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.

CONTENTS

Section-I

Introduction

Academic Calendar 2025-26

About QUEST

Outcome Based Education (OBE) System

ACADEMIC CALENDAR — SEMESTER SYSTEM (OBE SYSTEM)

Batch & Semester	1st Semester First Year (25-Batch)	2nd Semester First Year (25-Batch)	Winter Vacation	Summer Vacation with Make-up Semester
Date of Start of Classes	15.09.2025	02.02.2026	25.12.2025 to 11.01.2026	06 Weeks 23.05.2026 to 06.07.2026
Conduct of Mid Semester Exams	03.11.2025	24.03.2026		
Date of Suspension of classes	24.12.2025	22.05.2026		
Schedule of Examination	29.12.2025	25.05.2026		
Display of Sessional Marks	31.12.2025	27.05.2026		
Examination preparation upto	12.01.2026	12.07.2026		
Conduct of Final Semester Exam	13.01.2026	13.07.2026		
Announcement of result (Expected)	02.02.2026	28.07.2026		

Pre-Admission Test (26-Batch) on 27.05.2026 | **Start of a new session (26-Batch) on 07.09.2026**

SEMESTER SYSTEM

Duration of a Semester		Duration of a Year		Requirements
Teaching	16 weeks	Two Semester Duration (21x2)	42 weeks	✓ Minimum attendance requirement to appear in the exam is 75%. ✓ Minimum number of lectures during a semester in a subject of 3 CH shall be 45. ✓ Minimum number of lectures during a semester in a subject of 2 CH shall be 30.
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			
Total	**21 weeks**	**Total**	**52 weeks**	

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 7th 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 Degree Courses in the following disciplines are offered at QUEST.

BACHELORS PROGRAMS:

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

PH.D PROGRAMS:

- Civil Engineering
- Mechanical Engineering
- Electrical Engineering
- Electronic Engineering
- Computer Systems Engineering
- Energy & Environment Engineering
- Environmental Engineering
- Telecommunication Engineering
- Information Technology
- Mathematics
- Software Engineering

MASTER'S PROGRAMS:

Department of Civil Engineering
1) Civil Engineering
2) Construction Engineering & Management
3) Structural Engineering

Department of Electrical Engineering
1) Power Engineering

Department of Computer Systems Engineering
1) Computer Systems Engineering
2) Computer Communication & Networks

Department of Mechanical Engineering
1) Manufacturing Engineering
2) Industrial Engineering & Management

Department of Environment Engineering
1) Environmental Engineering

Department of Energy Systems Engineering
1) Energy & Environment Engineering
2) Energy Systems Engineering

Department of Electronic Engineering
1) Communication Engineering
2) Industrial Automation & Control
3) Electronic Engineering

Department of Telecommunication Engineering
1) Telecommunication Systems & Networks

Department of Software Engineering
1) Software Engineering

Department of Information Technology
1) Information Technology
2) Software Engineering

Department of Computer Science
1) Computer Science

Department of Data Science
1) Data Science

Department of Mathematics & Statistics
1) Mathematics

Department of English
1) MS (English)

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, CSE, CS, English 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 Part-time as well as 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. Muhammad Ramzan Luhur B.E (QUEST), M.E (Sweden), Ph.D. (Germany)
Dean Faculty of Electrical & Electronic 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), M.E (MUET), Ph.D. (QUEST)
Dean Faculty of Computers Engineering	Prof. Dr. Intesab Hussain Sadhayo B.E (QUEST), M.E (Rennes), Ph.D. (Paris, France)
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. Zahid Karim Shar Chartered Accountant, ICA, Pakistan
Director Planning & Development	Mr. Aashique Ali Joyo M.Phil (Economics)
Librarian	Mr. Ghulam FarooqueChannar B.A. (SoU), M.L.IS (SoU)
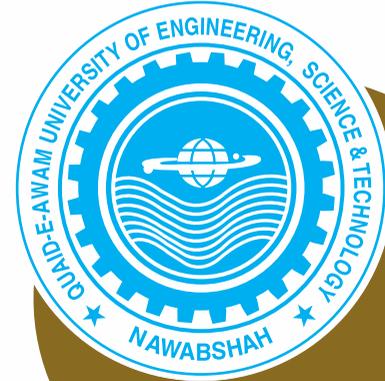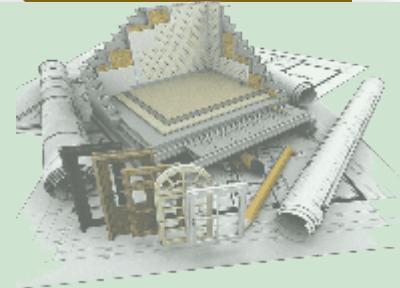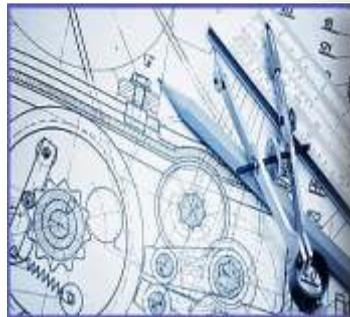
DEPARTMENT OF CIVIL ENGINEERING

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, harbors, sea defense, 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 course work (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. Ph.D (Civil Engineering)

Teaching Staff

Sr.#	Name	Designation / Qualification
1.	Prof. Dr. Daddan Khan Bangwar	**Professor & Chairman** 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. Ahsan Ali Buriro	Professor B.E (MUET), M.S (NUST), PhD (Germany)
4.	Dr. Aftab Hameed Memon	Associate Professor B.E (QUEST), M.E (UTM Malaysia), PhD (UTHM Malaysia), Post Doc (UTHM Malaysia)
5.	Dr. Riaz Hussain Bhanbhro	Associate Professor **(Co-Chairman)** B.E (QUEST), M.Phil (Sweden), PhD (Sweden)
6.	Engr. Naseem Usman Keerio	Assistant Professor B.E (MUET), M.E (QUEST)
7.	Engr. Ubaidullah Memon	Assistant Professor B.E (NED), M.S (NUST)
8.	Dr. Mahboob Ali Oad	Assistant Professor B.E (QUEST), M.E (QUEST), PhD (QUEST)
9.	Dr. Jam Shahzaib Khan	Assistant Professor B.E (MUET), M.E (UK), PhD (UTM)
10.	Dr. Muneeb Ayoub Memon	Assistant Professor B.E (QUEST), M.E (QUEST), PhD (QUEST)
11.	Dr. Shahnawaz Zardari	Assistant Professor B.E (QUEST), M.E. (QUEST), PhD (QUEST)
12.	Engr. Aamir Khan Mastoi	Lecturer B.E (MUET), M.E (MUET)
13.	Engr. Aijaz Ali Dahri	Lecturer B.E (QUEST)
14.	Engr. Arif Asghar Gopang	Lecturer B.E (QUEST), M.E (MUET, USPCAS-W) **(ON STUDY LEAVE abroad)**
15.	Engr. Imran Ali Channa	Lecturer B.E (QUEST), M.E (NED)
16.	Engr. Mutahar Ali	Lecturer B.E (QUEST), M.E (MUET)
17.	Engr. Ubaidullah Khan	Lecturer B.E (MUET), M.E (NED)
18.	Dr. Abdul Qadir Memon	Lab Engineer B.E (QUEST), M.E (QUEST), PhD (QUEST)
19.	Engr. Natees Altaf Memon	Lab Engineer B.E (NED), M.E (MUET)
20.	Engr. Imran Hussain Wagan	Lab Engineer B.E (QUEST)
21.	Engr. Ghulam Nabi Keerio	Lab Engineer B.E (QUEST)
22.	Engr. Ammar Noor Memon	Lab Engineer B.E (QUEST), M.E (MUET)
23.	Mr. Rizwan Ahmed Memon	Lab Instructor D.A.E (Civil)
24.	Engr. Masroor Hassan Memon	Lab Supervisor B.E (MUET)

Courses of Study

SN	Name of Subject	CH Th	CH Pr	Marks	SN	Name of Subject	CH Th	CH Pr	Marks
				First Year					
	1stSemester					**2nd Semester**			
1	Civil Engineering Materials	2	1	50+50	1	Engineering Surveying	2	1	50+50
2	Applied Physical and Electromechanical Fundamentals	2	0	50+00	2	Geology for Engineers	2	0	50+00
3	Engineering Drawing	2	1	50+50	3	Civil Engineering Drawing and Graphics	2	1	50+50
4	Functional English	3	0	100+00	4	Engineering Mechanics	2	1	50+50
5	Quantitative Reasoning-1	3	0	100+00	5	Application of ICT	2	1	50+50
6	Islamic Studies / Ethics	2	0	50+00	6	Quantitative Reasioning-II	3	0	100+00
7	Pakistan Studies	2	0	50+00					
	Total	16	2	450+100		Total	13	4	350+200

				Second Year					
	1stSemester					**2nd Semester**			
1	Computer Programing	2	1	50+50	1	Advance Fluid Mechanics	2	1	50+50
2	Advance Engineering Surveying	2	1	50+50	2	Arts & Humanities (Elective*)	2	0	50+00
3	Fluid Mechanics	2	1	50+50	3	Applied Mathematics	3	0	100+00
4	Mechanics of Solids-I	2	1	50+50	4	Mechanics of Solids-II	2	1	50+50
5	Structural Analysis-I	3	0	100+00	5	Soil Mechanics	2	1	50+50
6	Advance Calculus	3	0	100+00	6	Social Science (Elective**)	2	0	50+00
					7	Architecture & Town Planning	2	0	50+00
	Total	14	4	400+200		Total	15	3	400+150

Courses of Study

Third Year								
1ˢᵗSemester				**2ⁿᵈ Semester**				
1	Numerical Analysis	3	0	100+00	1	Reinforced Concrete Design-I	3	1	100+50
2	Environmental engineering	2	1	50+50	2	Expository Writing	3	0	100+00
3	Structural Analysis-II	3	0	100+00	3	Hydraulics Engineering	2	1	50+50
4	Geotechnical Engineering	3	1	100+50	4	Construction Engineering	2	0	50+00
5	Engineering Hydrology	2	1	50+50	5	Highway and Traffic Engineering	2	0	50+00
6	Survey camp	NC			6	Civics and Community Engagements	2	0	50+00
					7	Community Service	NC		
					8	Internship (6-8 weeks) Mandatory qualifying	NC		
	Total	13	3	400+150		Total	14	2	400+100

Final Year								
1ˢᵗSemester				**2ⁿᵈ Semester**				
1	Foundation Engineering	2	0	50+00	1	Irrigation Engineering	2	1	50+50
2	Pavement analysis & Design	2	1	50+50	2	Geoinformatics	1	1	50+50
3	Modeling and Simulation	1	1	50+50	3	Quantity & Cost Estimation	2	1	50+50
4	Re-inforced concrete design	3	1	100+50	4	Occupational health and safety	2	0	50+00
5	Project Management	2	0	50+00	5	Entrepreneurship	2	0	50+00
6	Steel Structural	2	0	50+00		Final Year Design Project-II (FYP-II)	0	3	00+100
7	Final Year Design Project-I (FYP-I)	0	3	0+100					
	Total	**12**	**6**	**350+250**		**Total**	**9**	**6**	**250+250**

Arts & Humanities Elective		
Sr. #	Code	Course Title
1	CE 218	Professional Ethics
2		Communication and Presentation Skills

Social Science Elective		
Sr. #	Code	Course Title
1	CE 219	Sociology for Engineering
2	CE 220	Human Resource Management
3	CE 303	Engineering Economics

BUILDING AND ARCHITECTURAL ENGINEERING PROGRAM

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

**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 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.	Dr. Nadeem-ul-Kareem Bhatti	Assistant Professor B.E(QUEST),M.E(MUET), Ph.D (QUEST)
3.	Engr. Naeem Mangi	Lecturer B.E(MUET),M.E(QUEST) (On Study Leave abroad)
4.	Mr. Jawad-ur-Rehman	Lecturer B. Arch.(MUET), MCRP(MUET)
5.	Ms. Asma Junejo	Lecturer B. Arch.(MUET), M.Arch(MUET)
6.	Engr. Muhammad Ibrahim Shaikh	Lab Engineer B.E (QUEST)
7.	Engr. Muzamil Hussain Tunio	Jr.Lab Engineer B.E (QUEST)
8.	Engr. Abdul Qadeer Zardari	Junior Lab Engineer B.E (QUEST)

Courses of Study

Sr. #	Name of subject	CH Th	pr	Marks	Sr. #	Name of subject	CH Th	pr	Marks
First year									
1St Semester					2nd Semester				
1	History of Building Technology	1	1	50+50	1	Construction Materials	2	1	50+50
2	Functional English	3	0	100+00	2	Linear Algebra	2	0	50+00
3	Applied Calculus	3	0	100+00	3	Islamic Studies/Ethics	2	0	50+00
4	Applied Physics	2	1	50+50	4	Engineering Mechanics	2	1	50+50
5	Computer Fundamentals	2	1	50+50	5	Occupational Health and Safety	1	0	50+00
6	Engineering Drawing	2	2	50+100	6	Fine Arts	1	1	50+50
	Total	13	5	400+250	7	Communication Skills	3	0	100+00
						Total	13	3	400+150

Sr. #	Name of subject	CH		Marks	Sr. #	Name of subject	CH		Marks
		Th	pr				Th	pr	
Second Year									
1St Semester					**2nd 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	Pakistan Studies	2	0	50+00	4	Engineering Economics	2	0	50+00
5	Statistics and Probability	3	0	100+00	5	Applied Differential Equations	3	0	100+00
6	Electrical Systems for Buildings	2	1	50+50	6	Architectural Design-I	1	2	50+100
	Total	**13**	**4**	350+200		**Total**	**14**	**4**	450+200

Sr. #	Name of subject	CH		Marks	Sr. #	Name of subject	CH		Marks
		Th	pr				Th	pr	
Third Year									
1St Semester					**2nd Semester**				
1	Numerical Analysis and Computer Applications	3	1	100+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+100
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	**13**	**5**	400+250		**Total**	**12**	**6**	400+300

Sr. #	Name of subject	CH		Marks	Sr. #	Name of subject	CH		Marks
		Th	pr				Th	pr	
Final Year									
1St Semester					**2nd 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+100
3	Architectural Design-III	1	2	50+100	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	Final Year Project -II	0	3	00+100
6	Final Year Project-I	0	3	00+100		**Total**	**7**	**6**	250+250
	Total	**9**	**7**	300+300					

DEPARTMENT OF MECHANICAL ENGINEERING

Dr. Abdul Rehman Jatoi
Chairman

Dr. Abdul Rehman Jatoi is a faculty member in the Department of Mechanical Engineering. He completed his Bachelor of Engineering in Mechanical Engineering from Quaid-e-Awam University of Engineering, Science and Technology (QUEST), Nawabshah. He earned his Master's Degree and Doctor of Philosophy in Energy and Environment Engineering from QUEST, Nawabshah, in 2012 and 2019, respectively.

Dr Jatoi started his practical career from Pakistan Railways in 2000. In 2003, he joined QUEST Nawabshah as a Sr. Instructor in Mechanical Engineering Department.

In 2007, Dr Jatoi was appointed as a Lecturer in the Department of Energy and Environment Engineering QUEST Nawabshah. Presently he is serving as Associate Professor in the Department of Mechanical Engineering at Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah.

In addition, he has served as Senior Workshop Superintendent in the Department of Mechanical Engineering QUEST Nawabshah. His experience is in various fields especially in Energy and Environmental Engineering and Industrial Engineering.

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 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 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	Dr. Abdul Rehman Jatoi	Associate Professor / Chairman B.E (QUEST), M.E (QUEST), Ph.D (QUEST)
02	Prof. Dr. Muhammad Ramzan Luhur	Professor & Dean, Faculty of Civil & Mechanical Engg: B.E (QUEST), M.E (Sweden), Ph.D (Germany)
03	Prof. Dr. Ali Bux Soomro	Emeritus Professor B.E (Sindh), PSP (Romania),Ph.D (U.K)
04	Prof. Dr. Abdul Latif Manganhar	Professor B.E (MUET), M.E (MUET), Ph.D (QUEST)
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. Pir Bux 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	Dr. Rameez Raja Siddique	Assistant Professor B.E (QUEST), M.E (QUEST)
10	Engr. Qamar Abbas Kazi	Assistant Professor B.E (QUEST), M.E (QUEST)
11	Engr. Sher Muhammad Ghoto	Assistant Professor B.E (MUET), M.E (QUEST) (On study leave)
12	Engr. Faheem Ahmed Solangi	Assistant Professor B.E (QUEST), M.E (MUET)
13	Dr. Sajjad Bhangwar	Assistant Professor B.E (QUEST), M.E (QUEST), Ph.D (QUEST)
14	Dr. Azhar Hussain Shah	Lecturer B.E (QUEST), M.E (QUEST)
15	Engr. Abid Ali Khaskheli	Lab. Engineer B.E (QUEST), M.E (QUEST)
16	Engr. Nisar Ahmed Jamali	Lab. Engineer B.E (QUEST), M.E (QUEST)
Teaching Staff (Mechanical Engineering Workshop)		
17	Mr. Akhtar Hussain Mughal	Sr. Workshop Superintendent DAE (Sindh) (on contract)
18	Engr. Sarmad Soomro	Senior Workshop Instructor BE (QUEST), M.E. (QUEST) (on study leave)
19	Mr. Khuda Bux Saand	Senior Workshop Instructor BE (QUEST), M.E. (QUEST)
20	Mr. Abdul Qadir Gopang	Workshop Instructor DAE (Mechanical)
21	Mr. Bilawal Lakho	Workshop Instructor DAE (Electrical)

Courses of Study

Sr.#	Name of Subject	CH Th	CH Pr	Marks	Sr.#	Name of Subject	CH Th	CH Pr	Marks
First Year									
1st Semester					**2nd 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
	Total	12	3	350+150		Total	15	2	450+100
Second Year									
1st Semester					**2nd 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				
	Total	14	3	400+150		Total	13	4	400+200
Third Year									
1st Semester					**2nd 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
	Total	14	3	400+150		Total	14	4	400+200
Final Year									
1st Semester					**2nd 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
	Total	11	6	350+250		Total	10	6	300+250

INDUSTRIAL AND MANUFACTURING ENGINEERING PROGRAM

Prof. Dr Qadir Bakhsh jamali
Chairman

Dr. Qadir Bakhsh Jamali is currently working as Professor in Department of Industrial & Manufacturing Engineering. He has completed his Bachelor of Engineering in Mechanical from Mehran University of Engineering and Technology (MUET) Jamshoro, Sindh Pakistan in 2005 with second position in the class. Dr. Jamali has acquired his M.Eng degree from University Tun Hussein Onn Malaysia (UTHM) in Mechanical Engineering (Mechanical System Design) in 2014 and Ph.D. in Mechanical Engineering (Whole Body Vibration) in 2018 from same university. Dr. Jamali has successfully published more than 50 research articles in various indexed / peer-reviewed research journals and has also presented research work in numerous conferences internationally. In addition, he is supervising many research students at Master and Ph.D. level. A good number of M.Eng students have graduated and two Ph.D students are currently enrolled in his supervision / co-supervision.

Further, in his professional career, Dr. Jamali have worked as Trainee of Engineering and Technology Jamshoro as Sr. Workshop Instructor in Department of Mechanical Engineering from December 2005 to January 2011. Later he has joined the Department of Mechanical Engineering, QUEST Nawabshah as Lecturer in January 2011.

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.

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.

The major subject areas of the programme are Manufacturing Processes, Computer Aided Manufacturing, 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.

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 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.

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.

Mission Statement:

To produce engineers with the capabilities of professionalism and leadership in the field of industrial and manufacturing sector who can cope with the challenges of industry, academia and society for sustainable development of global socio-economic environment.

Program Educational Objectives (PEOs):
The Graduates after completing 3-4 years of study will be able;
PEO 1: To understand and analyse the engineering concepts related to industrial and manufacturing engineering.
PEO 2: To apply managerial, technical and communication skills for solving the complex engineering problems as an individual and in team.
PEO 3: To impart professional and ethical values for sustainable socio-economic development of society, nationally and internationally.

Degree Program:
B.E. in Industrial & Manufacturing Engineering

Teaching Staff

Sr. #	Name	Designation / Qualification
01	Prof. Dr. Qadir Bakhsh Jamali	Professor / Chairman B.E (MUET), M.E (Malaysia), Ph.D (Malaysia)
02	Prof. Dr. Abdul Sattar Jamali	Professor & Dean FoT 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. Muhammad Junaid Ahsan	Assistant Professor B.E (QUEST), M.E (QUEST)
05	Engr. Muhammad Kashif Abbasi	Assistant Professor B.E (QUEST), M.E (QUEST)
06	Engr. Mushtaque Ahmed Lakho	Lecturer B.E (QUEST), M.E (QUEST)
07	Engr. Saddam Hussain Rajput	Lab. Engineer B.E (QUEST), M.E (QUEST)
08	Engr. Aisha Rajput	Lab. Engineer B.E (QUEST), M.E (QUEST)

Courses of Study

1st Semester 1st 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)
		Total Credit Hours	17(13+4)
2nd Semester 1st 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)
		Total Credit Hours	17(15+2)

1st Semester 2nd 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)
		Total Credit Hours	17(14+3)
2nd Semester 2nd 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)
		Total Credit Hours	18(15+3)
1st Semester 3rd 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)
		Total Credit Hours	18(15+3)
2nd Semester 3rd 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)
		Total Credit Hours	17(14+3)
1st 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)
		Total Credit Hours	16(10+6)
2nd 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)
		Total Credit Hours	16(12+4)

DEPARTMENT OF ELECTRICAL ENGINEERING

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 networks from Mehran University of Engineering and Technology Jamshoro (MUET), Sindh, Pakistan, in 2005.
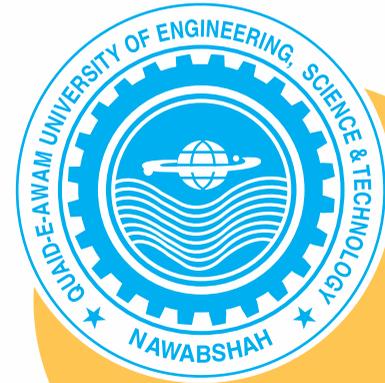
Prof. Dr. Abdul Sattar Saand, Chairman

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 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-11and 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

Sr. #	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	Dr. Waqar Ahmed Adil Chohan	Assistant Professor B.E (QUEST) , M.E (QUEST), Ph.D. (Germany)
13	Dr. Abdul Khalique 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	Engr. Imdad Hussain Kalhoro	Lecturer B.E (QUEST),M.E (QUEST)
22	Dr. Masood Rehman Shaikh	Faculty Member B.E (QUEST), MSc. (Germany), Ph.D (Malaysia)
23	Engr. Fahad Hussain Zardari	Lecturer (on contract) B.E (QUEST)
24	Engr. Aushique Ali Memon	Lecturer B.E (QUEST) On study leave abroad
25	Engr. Jagdesh Kumar	Lecturer B.E (QUEST)On study leave abroad
26	Dr. Irfan Ali Soomro	Teaching Assistant B.E (QUEST), Ph.D (Malaysia)

Courses of Study B.E (Electrical)

			1st Year				
			First Semester				
Sr. No.	Course Code	Course Title	Credit Hours		Total Cr.Hrs	Knowledge Area	Pre-requisite Courses (if any)
			Th	Pr			
1	MTH-106	Functional English	3	0	3	Humanities	---
2	MTH-101	**Calculus and Analytical Geometry**	3	0	3	Natural Science	Mathematics (HSC)
3	EL-151	Linear Circuit Analysis	3	1	4	Engineering Foundation	
4	CS-111	Applications of ICT	2	1	3	Computing	---
5	CE-103	Engineering Drawing	0	1	1	Engineering Foundation	
6	MTH-111	Applied Physics	2	1	3	Natural Science	Physics, (HSC)
		Total Cr. Hrs.	**13**	**4**	**17**		

			1st Year				
			Second Semester				
Sr. No.	Course Code	Course Title	Credit Hours		Total Cr.Hrs	Knowledge Area	Pre-requisite Courses (if any)
			Th	Pr			
1	MTH-103	**Differential Equations**	3	0	3	Natural Science	Applied Calculus
2	CE-110	**Applied Mechanics/ Nat,Sc.Elective**	**3**	**0**	**3**	**IDEE/MDEE**	**Physics, (HSC)**
3	EL-101	Electrical Workshop Practice	0	1	1	Engineering Foundation	Physics, (HSC)
4	MTH-102	Pakistan Studies	2	0	2	Humanities	---
5	CS-112	Computer Programing	3	1	4	Computing	Computing Fundamentals
6	ES-102	Electronic Devices & Circuits	3	1	4	Engineering Foundation	Applied Physics
		Total Cr. Hrs.	**14**	**3**	**17**		

			2nd Year				
			Third Semester				
Sr. No.	Course Code	Course Title	Credit Hours		Total Cr.Hrs	Knowledge Area	Pre-requisite Courses (if any)
			Th	Pr			
1	MTH-201	Complex Variables & Transforms	3	0	3	Natural Science	---
2	MTH-107	**Communication and Presentation Skills**	2	0	2	Art & Humanities Elective	English
3	EL-221	Digital Logic Design	3	1	4	Engineering Foundation	Electronic Devices & Circuits
4	CS-212	Data Structure and Alorithms	3	1	4		
5	EL-201	Electrical Network Analysis	3	1	4	Breath	Linear Circuit Analysis
6	**MTH-**	Occupational Health &Saftey	1	0	1		
		Total Cr. Hrs.	**15**	**3**	**18**		

2nd Year						
Fourth Semester						
Sr. No.	Course Code	Course Title	Credit Hours		Total Cr.Hrs	Knowledge Area	Pre-requisite Courses (if any)
			Th	Pr			
1	**MTH-**	**Engineering Economics (S0.Sc.**	2	0	2	Social Sciences Elective	
2	MTH-104	Linear Algebra	3	0	3	Natural Science	Applied Calculus
3	MTH-105	Islamic Studies / Ethics	2	0	2	Humanities	
4	MTH-301	Probability Methods in Engineering	3	0	3	Natural Sciences	---
5	ES-205	Signals and Systems	2	1	3	Engineering Foundation	Complex Variables and Transforms
6	EL-211	Electromagnetic Field Theory	3	0	3	Engineering Foundation	Applied Physics
		Total Cr. Hrs.	**15**	**1**	**16**		

3rd Year						
Fifth Semester						
Sr. No.	Course Code	Course Title	Credit Hours		Total Cr.Hrs	Knowledge Area	Pre-requisite Courses (if any)
			Th	Pr			
1	EL-261	Electrical Machines	3	1	4	Electrical Engineering Core (Breadth)	Applied Physics
2	CS-313	**Microprocessors and Interfacing**	3	1	4	Electrical Engineering Core (Breadth)	---
3	EL-321	Communication Systems	3	1	4	Electrical Engineering Core (Breadth)	Signals & Systems
4	**MTH-**	Civic and Community Engagement	2	0	2		
5	**EL-311**	**Power Generation**	3	0	3	Core-I	
		Total Cr. Hrs.	**14**	**3**	**17**		

3rd Year					
Sixth Semester					
Sr. No.	Course Code	Course Title	Credit Hours	Total Cr.Hrs	Knowledge Area	Pre-requisite Courses (if any)
1	MTH-	Expository Writing	3	0	3		
2	EL-361	Linear Control System	3	1	4	Electrical Engineering Core (Breadth)	
3	EL-401	Power Distribution & Utilization	3	1	4	Electrical Engineering Core (Breadth)	Electrical Network Analysis
4	EL-351	Electrical Power Transmission	3	1	4	Electrical Engineering Core (Depth)	Electrical Network Analysis
5	MTH-	Project Management	2	0	2		
		Total Cr. Hrs.	**14**	**3**	**17**		

Final Year							
Seventh Semester							
Sr. No.	**Course Code**	**Course Title**	**Credit Hours**		**Total Cr.Hrs**	**Knowledge Area**	**Pre-requisite Courses (if any)**
			Th	**Pr**			
1	EL-371	Power Electronics	3	1	4	Electrical Engineering Core (Depth)	Electronic Devices & Circuits
2	EL-411	Power System Analysis	3	1	4	Electrical Engineering Core (Breadth)	Electrical Network Analysis
3	EL-421	Industrial Drives	3	1	4	Electrical Engineering Core (Breadth)	Power Electronics, Electrical Machines, Control Systems
4	EL-431	Power Economics and Management	3	0	3	Management Sciences	Provide Electrical Code
5	EL-481	Final Year Design Project –I	0	3	3	Design project	---
		Total Cr. Hrs.	**12**	**6**	**18**		

Final Year							
Eighth Semester							
Sr. No.	**Course Code**	**Course Title**	**Credit Hours**		**Total Cr.Hrs**	**Knowledge Area**	**Pre-requisite Courses (if any)**
			Th	**Pr**			
1	EL-451	Power System Operation & Control	3	1	4	Electrical Engg. Core Depth	Power System Analysis
2	EL-461	Power System Protection	3	1	4	Electrical Engineering Core (Depth)	Power System Analysis
3	EL-471	High Voltage Engineering	3	0	3	Electrical Engineering Core (Depth)	Electrical Power Transmission
4	MTH-403	Entrepreneurship	2	0	2	Management Science	---
5	EL-491	Final Year Design Project-II	0	3	3	Design project	---
		Total Cr. Hrs.	**11**	**5**	**16**		

ELECTRICAL (AUTOMATION AND CONTROL) ENGINEERING PROGRAM

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

SN	Name of Subject	CH Th	CH Pr	Marks	SN	Name of Subject	CH Th	CH Pr	Marks
First Year									
1st Semester					**2nd Semester**				
1	Functional English	03	0	100+00	1	Differential Equations	03	00	100+00
2	Calculus and Analytical Geometry	03	0	100+00	2	Computer Programming	03	01	100+50
3	Applications of ICT	02	01	50+50	3	Electronic devices and circuits	03	01	100+50
4	Applied Physics	02	01	50+50	4	Applied mechanics	03	00	100+00
5	Linear Circuit Analysis	03	01	100+50	5	Pakistan studies	02	00	50+00
6	Engineering Drawing	00	01	00+50	6	Electrical workshop practice	00	01	50+00
	Total Credit Hours	**13**	**4**	400+200		**Total Credit Hours**	**14**	**03**	450+150

Courses of Study

Second Year								
1ˢᵗ Semester				**2ⁿᵈ Semester**				
1	Complex variables and transforms	03	00	100+00	1	Engineering economics	02	00	50+00
2	Communication and presentation skills	02	00	50+00	2	Linear Algebra	03	00	100+00
3	Digital logic design	03	01	100+50	3	Islamic studies/Ethics	02	00	50+00
4	Data structure and algorithms	03	01	100+50	4	Signals and systems	03	01	100+50
5	Electrical network analysis	03	01	100+50	5	Electromagnetic field theory	03	00	100+00
6	Occupational health and safety	01	00	50+00	6	Probability methods in Engineering	03	00	100+00
	Total Credit Hours	**15**	**03**	500+150		**Total Credit Hours**	**16**	**01**	500+50

Third Year								
1ˢᵗ Semester				**2ⁿᵈ Semester**				
1	Electrical Machines	03	01	100+50	1	Linear control system	03	01	100+50
2	Embedded system design (ACE-1)	03	01	100+50	2	Internet of thinks (ACE-3)	03	01	100+50
3	Communication systems	03	01	100+50	3	Power electronic (ACE-4)	03	01	100+50
4	Civic and community Engagement	02	00	50+00	4	Expository writing	03	00	100+00
5	Instrumentation and Measurement (ACE-2)	03	01	100+50	5	Project management	02	00	50+00
	Total Credit Hours	**14**	**04**	450+200		**Total Credit Hours**	**14**	**03**	450+150

Final Year								
1ˢᵗ Semester				**2ⁿᵈ Semester**				
1	Renewable energy and systems (ACE-5)	03	00	100+00	1	EV-circuits and electronic (ACE-8)	03	00	100+50
2	Digital signal processing (ACE-6)	03	01	100+50	2	entrepreneurship	02	00	50+00
3	Industrial drives (ACE-7)	03	01	100+50	3	Digital control	03	01	100+50
4	Professional ethics	02	00	50+00	4	Artificial Intelligence (ACE-9)	03	01	100+50
5	Thesis Project-1	00	03	00+100	5	Thesis Project-2	00	03	00+100
	Total Credit Hours	**11**	**05**	350+200		**Total Credit Hours**	**11**	**05**	350+250

DEPARTMENT OF ELECTRONIC ENGINEERING

Prof. Dr Ehsan Ali Buriro
Chairman

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 Temporaired' Enseignementet 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 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-semesters) 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

SN	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 FoEL&ES 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.	Dr. Tarique Rafique Memon	Assistant Professor B.E. (MUET), ME (MUET), Ph.D (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. Talha Bahtti	Lab Engineer B.E. (MUET), M.Sc (Germany) (On study leave)
13.	Engr. Abdul Hafeez Lakho	Lab Engineer B.E (QUEST), ME (QUEST)
14.	Engr. Muhammad Saleh Memon	Lab. Supervisor B.E. (NED)

Courses of Study

S.#.	Course Code	Name of Subject	Credit Hour		Total Credit Hour	Marks		
			Theory	Practical		Th.	Pr.	Total
1st Semester 1st Year								
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
		Total	**13**	**2**	**15**	**400**	**100**	**500**
2nd Semester 1st Year								
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
		Total	**13**	**4**	**17**	**450**	**150**	**600**
	First Year Credit Hours and Total Marks		**26**	**6**	**32**	**850**	**250**	**1100**
1st Semester 2nd Year								
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
		Total	**14**	**3**	**17**	**450**	**150**	**600**
2nd Semester 2nd Year								
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
		Total	**15**	**3**	**18**	**500**	**150**	**650**
	Second Year Credit Hours and Total Marks		**29**	**6**	**35**	**950**	**300**	**1250**

S.#.	Course Code	Name of Subject	Credit Hour		Total Credit Hour	Marks		
			Theory	Practical		Th.	Pr.	Total
1st Semester 3rd Year								
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
		Total	**14**	**3**	**17**	**450**	**150**	**600**
2nd Semester 3rd Year								
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
		Total	**14**	**4**	**18**	**450**	**200**	**650**
	Third Year Credit Hours and Total Marks		**28**	**7**	**35**	**900**	**350**	**1250**
1st Semester Final Year								
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
		Total	**12**	**6**	**18**	**400**	**250**	**650**
2nd Semester Final Year								
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.	**CS125**	Artificial Intelligence	2	0	2	50	00	50
5.	ES414B	FYP-II	0	3	3	0	100	100
		Total	**11**	**5**	**16**	**350**	**200**	**550**
	Final Year Credit Hours and Total Marks		**23**	**11**	**34**	**750**	**450**	**1200**
	Grand Total Credit Hours and Marks		**106**	**30**	**136**	**3450**	**1450**	**4900**

Courses of Study

BIO MEDICAL ENGINEERING PROGRAM

Dr. Abdul Aleem Jamali
Chairman

Dr. Abdul Aleem Jamali received Ph.D Degree from Germany in 2015. His PhD research was mainly focused on design of a novel nano-biosensor, which recognized by more than 2 dozen research publications. He also received many awards including Young Scientist Award from International Union of Radio Science (URSI-France), FDP Scholarship from Higher Education Commission (HEC, Islamabad) / Quaid-e-Awam University, Nawabshah. He had also visited various countries in Europe, Turkey and Russia for research activities.

Dr. Jamali has been serving as a reviewer/external examiner for assessing postgraduate research in several universities of Pakistan. He has produced more than a dozen Master of Engineering graduates and supervising 04 PhD students. His research interest includes computational electromagnetic for the design of nano-photonic biosensors.

Dr. Jamali has also 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. The biomedical engineering has recently emerged as a specialized field of study to produce biomedical engineers for the management of medical equipment in hospitals/health sectors according to industrial standards. This includes procurement, preventive maintenance, routine testing, and future recommendations for biomedical equipments. There is demand of biomedical engineers in but not limited to the following sectors: hospitals, pharmaceutical engineering, rehabilitation engineering, clinical engineering, biomedical, medical imaging, biosensor, implants, and medical device regulations.

To cope up with growing demand of biomedical engineers in health sector and medical industry, the QUEST, Nawabshah has developed a B.E. Biomedical Engineering program-outcome based education (OBE). The program is designed to provide necessary knowledge, analytical and leadership abilities, critical thinking, and ethical values to the graduates to adapt technological developments and resolve challenges in health care system. This includes teaching of courses adequately supported with the hands-on practical training in laboratories by using state-of-the art equipment and modern tools. The department has following 3 dedicated modern Laboratories for psychomotor training:

1. Biomedical Electronics Lab
2. Computing Lab
3. Applied Physics Lab

Industrial/Academic Linkages

Biomedical Engineering Department has industrial plus academic collaboration with healthcare sectors (such as PUMHSW, Nawabshah; NORIN; SHU, Karachi; Alsons group of Industries, Karachi) 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. Graduates will engage in professional practice in biomedical engineering or related fields, demonstrating proficiency in applying engineering principles to solve healthcare-related challenges while committing to ethical standards.

2. Graduates will pursue continuous professional development, including advanced degrees or certifications, to stay current with emerging technologies and practices in biomedical engineering.

3. Graduates will effectively collaborate in interdisciplinary teams, leveraging their engineering expertise to improve healthcare outcomes and address community health challenges responsibly.

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. Tasleem Dehraj	Assistant Professor B.E. (QUEST), M.E. (QUEST)
4.	Engr. Masood Ali Koondhar	Lecturer B.E. (QUEST), M.E. (QUEST), Ph.D. in progress (QUEST)
5.	Engr. Barkat Ali Khoso	Lecturer B.E. (MUET), M.E. (MUET)
6.	Engr. Hajira Fatima	Lecturer B.E. (LUMHS, Jamshoro), M.E. (MUET)
7.	Engr. Noor Muhammad Mallah	Lab. Engr. B.E. (MUET), M.E. (QUEST)
8.	Engr. Muhammad Ismail	Jr. Lab. Engr. B.E. (QUEST), M.E. (QUEST), Ph.D. in progress (QUEST)
9.	Engr. Noor-ul-Ain Borhi	Jr. Lab. Engr. (On contract) B.E. (QUEST), M.E. (QUEST), Ph.D. in progress (QUEST)
10.	Engr. Ammara Mahesar	Jr. Lab. Engr. (On contract) B.E. (LUMHS, Jamshoro)

COURSE OF STUDY

1st Semester 1st Year				
S. No.	Course Title	Theory	Lab	Combined
1	Applied Physics	2	1	3
2	Applications of ICT	2	1	3
3	Functional English	3	0	3
4	Basic Mathematics / Basic Biology	3	0	3
5	Introduction to Biomedical Engineering	1	0	1
6	Islamic Studies	2	0	2
	Total Semester Credit Hours	13	2	15
2nd Semester 1st Year				
S. No.	Course Title	Theory	Lab	Combined
1	Basic Electronic Engineering	3	1	4
2	Applied Calculus	3	0	3
3	Physiology	3	1	4
4	Circuit Analysis	3	1	4
5	Expository Writing	3	0	3
	Total Semester Credit Hours	15	3	18
1st Semester 2nd Year				
S. No.	Course Title	Theory	Lab	Combined
1	Biomedical Electronics	3	1	4
2	Complex Variable & Transform	3	0	3
3	Human Anatomy	3	1	4
4	Object Oriented Programming	2	1	3
5	Computer Aided Engineering Design	0	1	1
6	Occupational Health and Safety	1	0	1
	Total Semester Credit Hours	12	4	16

2nd Semester 2nd Year				
S. No.	Course Title	Theory	Lab	Combined
1	Digital Logic Design	3	1	4
2	Biochemistry	2	1	3
3	Numerical Analysis	3	0	3
4	Pakistan Studies	2	0	2
5	Signals & Systems	3	1	4
	Total Semester Credit Hours	13	3	16
1st Semester 3rd Year				
1	Biomedical Instrumentation I	3	1	4
2	Statistics & Probability	3	0	3
3	Embedded System Design	3	1	4
4	Biomechanics	3	1	4
5	Biomedical Signal Processing	3	1	4
	Total Semester Credit Hours	15	4	19
2nd Semester 3rd Year				
1	Biomedical Instrumentation II	3	1	4
2	Elective-I	3	0	3
3	Biomedical Control Systems	3	1	4
4	Modelling & Simulation	3	1	4
5	Engineering Economics	2	0	2
	Total Semester Credit Hours	14	3	17
1st Semester Final Year				
1	Professional Practices & Ethics	2	0	2
2	Artificial Intelligence in Medical Imaging	2	1	3
3	Power Electronics	3	1	4
4	Project Management	2	0	2
5	Civics & Community Engagements	2	0	2
6	Final Year Design Project-I	0	3	3
	Total Semester Credit Hours	11	5	16
2nd Semester Final Year				
S. No.	Course Title	Theory	Lab	Combined
1	Elective-II	3	0	3
2	Biomaterials	3	1	4
3	Quality Assurance of Medical Devices and Dosimetry Standards	2	0	2
4	Entrepreneurship	2	0	2
5	Final Year Design Project-II	0	3	3
	Total Semester Credit Hours	10	4	14
	Total Credit Hours	103	28	131

Elective Courses

S. No.	Name of Elective Courses	Credit Hours		
		Theory	Lab	Combined
Elective-I				
1.	Biomedical Engineering Systems	3	0	3
2.	Rehabilitation Engineering	3	0	3
Elective-II				
3.	Nano Biotechnology	3	0	3
4.	Telemedicine Systems	3	0	3
5.	Medical Robotics	3	0	3
6.	Hospital Information System	3	0	3

DEPARTMENT OF TELECOMMUNICATION ENGINEERING

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 degreesfrom QUEST, Nawabshahin 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 professorin 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

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 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.

Mission

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.

Program Educational Objectives (PEOs)

1. To develop strong technical knowledge in telecommunication engineering, enabling students to analyze and design efficient communication systems, and participate in professional practice, testing, and troubleshooting.

2. To calculate academicians and researchers with strong independent critical thinking and leadership capabilities in communication and network engineering projects that 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.	Dr. Adnan Ahmed Arain	Associate Professor / Coordinator B.E (QUEST), MS (QUEST), Ph.D.(CS), Malaysia
2.	Prof. Dr. M. Mujtaba Shaikh	Professor B.E (MUET), M.S (Hamdard), PhD (Spain) on Postdoc
3.	Engr. Nawaz Ali Zardari	Assistant Professor B.E (MUET), M.Sc (U.K)(on study leave abroad)
4.	Engr. Ghulam Fizza Shah	Assistant Professor B.E (MUET),M.E (MUET)(on study leave abroad)
5.	Engr. Atta Muhammad Panhyar	Assistant Professor B.E (IBA Sukkur), M.S (IBA Sukkur)
6.	Dr. Safia Amir Dahri	Assistant Professor B.E (QUEST), M.E (QUEST), PhD (QUEST)
7.	Engr. Sarfraz Ahmed Soomro	Assistant Professor B.E (QUEST), M.E (QUEST) on Leave
8.	Engr. Sundas Metlo	Assistant Professor B.E (MUET), M.E (MUET) on Leave
9.	Engr. Asadullah Laghari	Lecturer B.Sc Eng. (COMSAT), M.S (IBA Sukkur)(on study leave)
10.	Engr. Nuzhat Madina	Lecturer B.E (MUET)
11.	Engr. Fozia Panhwar	Lecturer B.E (MUET), M.E (QUEST) (on study leave)
12.	Engr. Mujeeb-ur-Rehman	Lecturer B.Sc Eng. (COMSAT), M.E (QUEST) (on study leave)
13.	Engr. Leela Wanti Lohano	Lecturer B.E (MUET), M.E (MUET) (on study leave)
14.	Dr. Sarang Karim Khoso	Lecturer B.E (MUET), M.E (MUET), PhD (MUET)
15.	Engr. Fatima Qureshi	Lecturer B.E (QUEST), M.E (QUEST)(on study leave)
16.	Engr. Mohi u ddin	Jr. Lab Engineer B.E (IIEE), M.E (QUEST)
17.	Engr. Dua Iqbal	Teaching Assistant B.E (QUEST), M.E (QUEST)

Courses of Study

Sr No.	Course Code	Subject Name	TH	Lab	Knowledge Area	Domain
		1st Semester 1st Year				
1		Applications of ICT	2	1	Computing	Non-Engineering
2		Introduction to Telecommunication	3	0	Engineering Foundation	Engineering
3		Applied Physics	2	1	Natural Science	Non-Engineering
4		Applied Calculus	3	0	Natural Science	Non-Engineering
5		Functional English	3	0	Humanities	Non-Engineering
6		Islamic Studies	2	0	Humanities	Non-Engineering
		Credit Hours	15	2		
		2nd Semester 1st Year				
7		Computer Programming	3	1	Computing	Engineering
8		Electronic Devices and Circuits	3	1	Engineering Foundation	Engineering
9		Communication Skills	3	0	Humanities	Non-Engineering
10		Linear Algebra & Analytical Geometry	3	0	Natural Science	Non-Engineering
11		Occupational Health & Safety	1	0	Engineering Foundation	Engineering
12		Electrical Workshop Practice	0	1	Engineering Foundation	Engineering
		Credit Hours	13	3		
		1st Semester 2nd Year				
13		Circuit Analysis	3	1	Engineering Foundation	Engineering
14		Pakistan Studies	2	0	Humanities	Non-Engineering
15		Differential Equations & Fourier Series	3	0	Natural Science	Non-Engineering
16		Data Structure and Algorithms	3	1	Computing	Engineering
17		Digital Logic Design	3	1	Engineering Foundation	Engineering
18		Engineering Drawing	0	1	Engineering Foundation	Engineering
		Credit Hours	14	4		
		2nd Semester 2nd Year				
19		Economics & Engineering Management	2	0	Management Science	Non-Engineering
20		Electronic Circuit Design	3	1	Engineering Foundation	Engineering
21		Electromagnetic Field Theory	2	0	Engineering Foundation	Engineering
22		Signals & Systems	3	0	Engineering Foundation	Engineering
23		Complex Variables & Transforms	3	0	Natural Science	Non-Engineering
24		Technical Report Writing and Presentation Skills	2	0	Humanities	Non-Engineering
		Credit Hours	15	1		

1st Semester 3rd Year					
Sr No.	Course Code	Subject Name	TH	Lab	Knowledge Area	Domain
25		Organizational Behavior	2	0	Management Science	Non-Engineering
26		Digital Signal Processing	3	1	Engineering Breath	Engineering
27		Wave Propagation & Antennas	3	1	Engineering Breath	Engineering
28		Communication Systems	3	1	Engineering Breath	Engineering
29		Statistics & Probability	3	0	Engineering Foundation	Engineering
		Credit Hours	14	3		
2nd Semester 3rd Year					
30		Microprocessor & Microcontrollers	3	1	Engineering Foundation	Engineering
31		Artificial Intelligence & Machine Learning	2	1	Computing	Engineering
32		Computer Networks & Security	3	1	Engineering Breath	Engineering
33		Digital Communication & Information Theory	3	1	Engineering Depth	Engineering
34		Entrepreneurship	2	0	Management Science	Non-Engineering
		Credit Hours	13	4		
1st Semester 4th (Final) Year					
35		Laser & Fiber Optics	3	1	Engineering Depth	Engineering
36		Numerical Methods	3	0	Natural Science	Non-Engineering
37		Mobile & Wireless Communications	3	1	Engineering Depth	Engineering
38		Transmission & Switching Systems	3	0	Engineering Breath	Engineering
39		Final Year Design Project-I	0	3	Design	Engineering
		Credit Hours	12	5		
2nd Semester 4th (Final) Year					
40		Next Generation Networks	3	0	Engineering Breath	Engineering
41		Satellite & Radar Communications	3	0	Engineering Depth	Engineering
42		Professional & Social Ethics	2	0	Humanities	Non-Engineering
43		RF Planning & Microwave Engineering	3	1	Engineering Depth	Engineering
44		Final Year Design Project-II	0	3	Design	Engineering
		Credit Hours	11	4		
Total Credit Hours: 107 (Theory) + 26 (Lab) = 133 CH					

Section-IV

FACULTY OF ENVIRONMENTAL ENGINEERING
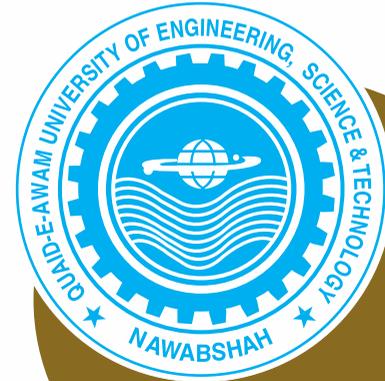
Department of Environment Engineering

Department of Energy Systems Engineering

Department of Chemical Engineering

BS Chemistry Program

DEPARTMENT OF ENERGY SYSTEMS ENGINEERING

Prof. Dr. Abdul Qayoom Jakhrani
Chairman

Prof. Dr. Abdul Qayoom Jakhrani is a distinguished academic, researcher, and administrator, currently serving as the Chairman, Department of Energy Systems Engineering and Director, Postgraduate Studies & Research at Quaid-e-Awam University of Engineering, Science & Technology (QUEST), Nawabshah, Sindh, Pakistan. With over two decades of multidisciplinary experience, his academic journey began with a Bachelor's in Mining Engineering from MUET Jamshoro, followed by a Master's and PhD in Environmental Engineering from MUET Jamshoro and Universiti Malaysia Sarawak (UNIMAS), Sarawak, Malaysia respectively.

Dr. Jakhrani's research expertise spans solar photovoltaic systems, energy storage technologies, water treatment and environmental pollution control, with over 40 research publications in reputable international and national journals. He has presented his work at more than 30 conferences and has led/collaborated numerous research and development projects funded by the Higher Education Commission (HEC) Pakistan, Sindh Solid Waste Management Board, and international academic institutions. In his academic roles at QUEST, he has risen from lecturer to a professor and has actively supervised PhD, Master's, and undergraduate students. His contributions also include extensive curriculum development, conference organization, and capacity building through workshops and seminars.

Dr. Jakhrani holds professional memberships with the Pakistan Engineering Council, Institution of Engineers Pakistan, and Pakistan Engineering Congress. He is also recognized PhD supervisor by HEC Pakistan. As an invited speaker and resource person, he has addressed numerous environmental and energy challenges in various national and international forums. Fluent in multiple languages including English, Urdu, Sindhi, Balochi, and Bahasa Melayu, Dr. Jakhrani continues to influence Pakistan's academic and energy landscape through research, mentorship, and leadership in environmental sustainability.

Introduction

The Department of Energy Systems Engineering is at the forefront of shaping a sustainable energy future through the design, optimization, and management of energy-intensive systems. With a strong focus on energy conservation, energy efficiency, environmental responsibility, and economic feasibility, the program equips students with the skills and knowledge to meet the complex challenges of the global energy landscape.

Our curriculum is designed to blend theoretical depth with practical application. Students explore a wide array of topics, including energy conservation, energy efficiency, renewable energy technologies, plant and facility management, environmental compliance, and sustainable energy systems. Special emphasis is placed on both conventional and renewable energy sources—such as oil, gas, coal, nuclear, wind, biomass, and solar—ensuring a balanced and future-ready perspective. The program's core objective is to promote national energy security by encouraging the strategic use of all available resources while minimizing dependence on imports.

Key areas of academic focus include:

- Exploration and processing of conventional and renewable energy resources
- Environmental impact assessment and pollution mitigation
- Conservation of natural ecosystems and biodiversity
- Energy policy development and management
- Industrial health, safety, and environmental standards

With sustainability emerging as a global priority, the department is committed to preparing professionals who can lead in the transition toward clean energy and resilient urban development. To achieve this, we offer a well-rounded learning experience that combines lectures, laboratory work, open-ended labs, complex engineering problems, tutorials, internships and field-based learning opportunities.

Graduates of the program are highly valued across a wide range of sectors and are currently contributing to national and international organizations, including WAPDA, K-Electric, OGDC, EPA, Ministry of Climate Change, Alternate Energy Development Board, PIA, FFC, Pakistan Railways, POFs, HMC, and HIT.

Our faculty members bring a wealth of international expertise, having earned advanced degrees, and certificates from prestigious institutions in countries, such as the United States, the UK, Germany, Austria, Sweden, Malaysia, France, Thailand, Turkey and China. Through innovative teaching practices and continuous professional development, they are committed to delivering a high-quality, industry-relevant education that empowers graduates to drive change in the energy sector.

Vision
To produce the graduate professional in the targeted field to meet the job market for socio-economic and 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 Progrsamme 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. Master of Engineering (ME) in Energy and Environment Engineering
4. Doctor of Philosophy (PhD) in Energy and Environment Engineering

Facilities at Department
The department houses two state-of-the-art computer laboratories, fully equipped with over 50 modern PCs. All systems are connected to high-speed internet and provide access to a comprehensive digital library, enabling students to explore the latest scientific research, academic literature, and technological advancements. In addition to the computer laboratories, an exclusive seminar library is available within the department, stocked with essential academic resources including textbooks, scientific journals, research papers, newsletters, and more. This facility is accessible to both students and faculty for research and academic development.

Laboratory Facilities
1. Energy Laboratory
The Energy Lab is equipped with advanced experimental setups to provide hands-on learning about energy generation systems. Key installations include miniature hydropower and wind energy systems, photovoltaic cells, solar power models, and other demonstration units, enabling students to gain practical insights into renewable and conventional energy technologies.

2. Environmental Laboratory
This laboratory features a range of sophisticated instruments for monitoring environmental pollution in air, water, and noise. Equipment includes BOD, COD, and DO analyzers, turbidity meters, spectrophotometers, conductivity/TDS meters, particulate matter samplers, gas analyzers, and a weather station. These facilities allow students to engage in comprehensive environmental testing and analysis, with a focus on real-world applications in pollution assessment and control.

3. Engineering Materials & Fluid Mechanics Laboratory
Designed to offer practical experience in materials testing and fluid dynamics, this lab includes Universal Testing Machines (UTMs) for assessing the mechanical properties of various materials—including metals, non-metals, and rubber. Additionally, the lab is equipped with instruments for studying fluid flow behavior, giving students hands-on exposure to key principles in fluid mechanics.

1. Thermodynamics Laboratory

This lab supports a wide range of experiments related to thermodynamics, heat and mass transfer, power generation, and combustion processes. Equipment available includes internal combustion engines (both diesel and petrol), a miniature steam power plant, vapor jet refrigeration units, heat transfer apparatus (covering conduction, convection, and radiation), flue gas analyzers, fuel combustion setups, impulse turbines, and cross-flow heat exchangers. The facility provides students with a practical understanding of fundamental thermal and energy systems.

2. Biofuel Laboratory

The Biofuel Lab is a newly developed facility aimed at conducting experiments on chemical titration, crude oil treatment, and the evaluation of oil quality parameters. Students engage in practical work to determine free fatty acids (FFA), saponification values, total acid numbers, and more. The lab supports the production of biodiesel through esterification and transesterification processes. A **Fuelpod2** biodiesel processor with a 50-liter capacity is also available, allowing students to produce biodiesel from waste cooking oil and non-edible oils—offering a cost-effective alternative to conventional diesel fuel.

Quality Policy

The department is dedicated to delivering high-quality education, aimed at developing and enhancing students' skills for academic excellence and professional leadership. Through rigorous training and practical experience, the department seeks to empower students to achieve remarkable success in both academic and industrial domains.

Teaching Faculty in the Department of Energy Systems Engineering.

SN	Name	Designation / Qualification
1.	Prof. Dr. Abdul Qayoom Jakhrani	Professor & Chairman B.E (MUET), ME (MUET), Ph.D (Malaysia)
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) (on Lien)
4.	Prof. Dr. Shahid Hussain Siyal	Professor B.E (QUEST), M.E (Sweden), PhD (Sweden)
5.	Dr. Zafar Ali Siyal	Associate Professor B.E (QUEST), M.E(QUEST), PhD (QUEST)
6.	Dr. Zaki Hassan Memon	Assistant Professor B.E (QUEST), M.E (MUET), PhD (China)
7.	Dr. Mahdi Hassan Mallah	Assistant Professor B.E (QUEST), M.E (QUEST), PhD (China) (on Leave)
8.	Engr. Yasir Ali Memon	Lecturer B.E (QUEST), PGD (QUEST)
9.	Engr. Hammad Hashmi	Lecturer B.E (QUEST), M.E (QUEST)
10	Engr. Urooj Gul	Jr. Lab Engineer B.E (QUEST), M.E (QUEST)

Courses of Study

	SEMESTER-1				SEMESTER-2		
Course Code	Course Title	Th. (CH)	Pr. (CH)	Course Code	Course Title	Th. (CH)	Pr. (CH)
ESE 111	Energy Systems & Resources	3	0	ESE121	Engineering Thermodynamics	3	1
MTH 106	Functional English	3	0	EL104	Basic Electrical Engineering	2	1
MTH 101	Applied Calculus	3	0	ME102	Engineering Drawing & Graphics	2	1
ME112	Workshop Technology	0	1	MTH103	Differential Equations, Power Series, Laplace Transform	3	0
CS 100	Computer Fundamentals	2	1	MTH 107	Communication Skills	3	0
MTH105/ MTH101	Islamic Studies / Ethics	2	0	MTH104	Pakistan Studies	2	0
	Sub-Total	13	2		Sub-Total	15	3
	Total Credit hours	15			Total Credit hours	18	

SECOND YEAR

	SEMESTER-1				SEMESTER-2		
ESE222	Fuels and Combustion	3	1	ESE223	Thermal Systems Engineering	3	1
ESE201	Fluid Mechanics	3	0	ESE212	Hydro Power Engineering	3	1
ESE202	Materials for Energy Applications	2	0	ESE213	Bio-Energy Engineering	3	1
MTH204	Numerical Analysis and Computer Applications	3	1	ESE433	Environment & Climate Change	3	0
ES203	Basic Electronics	2	1	MTH301	Statistics & Probability	3	0
	Sub-Total	13	3		Sub-Total	15	3
	Total Credit hours	16			Total Credit hours	18	

THIRD YEAR

	SEMESTER-1				SEMESTER-2		
ESE324	Heat & mass Transfer	3	1	ESE314	Solar Thermal Technologies	3	1
ESE314	Photovoltaic Technology	3	1	ESE325	Power Plant Technology	3	0
EE301	Health, Safety & Environment	3	0	ESE331	Energy Efficiency in Buildings	3	0
ESE303	Energy Conservation and Auditing	3	0	ESE317	Energy Storage Technologies	3	1
ESE318	Hydrogen & Fuel Cell Technologies	3	0	MTH183	Technical report Writing	3	0
	Sub-Total	15	2		Sub-Total	15	2
	Total Credit hours	17			Total Credit hours	17	

FINAL YEAR

	SEMESTER-1				SEMESTER-2		
ESE418	Wind Energy Engineering	3	1	ES209	Instrumentation & Measurements	2	1
	Power Transmission, Distribution & Utilization	3	0	ESE434	Energy Planning & Economics	3	0
ESE407	Energy Systems Modeling	2	1	ESE406	Clean Coal Technologies	3	0
MTH189	Project Management	3	0	MTH118	Entrepreneurship & Innovation	3	0
ESE441	Final Year Project -I	0	3	ESE442	Final Year Project -II	0	3
	Sub-Total	11	5		Sub-Total	11	4
	Total Credit hours	16			Total Credit hours	15	

DEPARTMENT OF ENVIRONMENT ENGINEERING

Prof. Dr. Abdul Nasir Laghari
Chairman

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 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.

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

Sr.#	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	Dr. Ahsanullah Soomro	Associate Professor B.E (QUEST), M.E.(QUEST), PhD (China) (on Leave)
04	Dr. Asif Saleh Qureshi	Assistant Professor B.E (QUEST), Lic. (Sweden), Ph.D (Sweden) (on Post Doc study leave abroad)
05	Dr. Imran Ahmed Samo	Assistant Professor B.E (QUEST), M.E.(QUEST), PhD (China)
06	Dr. Asif Ali Siyal	Assistant Professor B.E (QUEST), M.E.(QUEST), PhD (China)
07	Engr. Haris Jawad Arain	Lab Engineer B.E (QUEST), PGD (MUET), M.E (QUEST)
08	Engr. Ameen Abdul Raqeeb	Lab Engineer B.E (QUEST), M.E (QUEST)

Courses of Study

	Name of Subject	CH Th	Pr	Marks		Name of Subject	CH Th	Pr	Marks
First Year									
1ˢᵗSemester					**2ⁿᵈSemester**				
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
Second Year									
1ˢᵗSemester					**2ⁿᵈSemester**				
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
Third Year									
1ˢᵗSemester					**2ⁿᵈSemester**				
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
Final Year									
1ˢᵗSemester					**2ⁿᵈSemester**				
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 CHEMICAL ENGINEERING

Introduction:

The Department of Chemical Engineering holds Level-II accreditation by the Pakistan Engineering Council, in accordance with the standards and pre-requisites 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 Digestor

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

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

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 Semester   First Year

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
1	MTH 106	Functional English	3+0	
2	MTH 105	Islamic Studies/Ethics	2+0	
3	MTH104	Pakistan Studies	2+0	
4	MTH 112	Applied calculus	3+0	
5	CH 101	Organic & Inorganic Chemistry	2+1	
6	CH 102	Chemical Engineering Principles-1	2+0	
7	ME 103	Engineering Drawing & Graphics	0+1	
		Total Credit	**14+2=16**	

Second Semester   First Year

S. No	Course Codes	Name of Subjects	Credit Hours Theory	Practical
1	CH-103	Chemical Process Industry	3+0	
2	MTH 305	Expository writing	3+0	
3	ME-101	Applied Physics	2+1	
4	MTH 202	Differential Equation & Fourier series	3+0	
5	CS 101	Application of ICT	2+1	
6	ME 102	Workshop Practice	0+1	
		Total Credit	**13+3=16**	

First Semester   Second Year

S. No	Course Codes	Name of Subjects	Credit Hours Theory	Practical
1	MTH 301	Statistics & Probability	3+0	
2	CH 201	Chemical Engineering Principles-II	2+0	
3	CH 202	Chemical Engineering Thermodynamics-I	2+1	
4	CH 203	Engineering Materials	2+0	
5	CH 204	Fluid Mechanics-I	2+1	
6	CS 201	Programing & Data Science	2+1	
7	MTH 208	Civic and Community Engagement	2+0	
		Total Credit	**15+ 3=18**	

Second Semester   Second Year

S. No	Course Codes	Name of Subjects	Credit Hours Theory	Practical
1	MTH	Quantitative Reasoning	3+0	
2	CH 205	Chemical Engineering Thermodynamics-II	2+0	
3	CH 206	Heat Transfer	3+1	
4	CH 207	Particulate Technology	3+1	
5	MTH 406/ MTH 407	Arts and Human Electives {I. Communication and Presentation Skills} {II. Professional Ethics}	2+0	
6	CH 208	Occupational Health and Safety (OSH)	1+0	
	CH 209/ CH 210	Social Science Elective 1. Engineering Economics 2. Sociology for Engineers	2+0	
		Total Credit	**16+2=18**	

First Semester   Third Year

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	Practical
1	CH 301	Mass Transfer	3+1	
2	CH 302	Fluid Mechanics II	2+0	
3	El 301	Applied Electrical Engineering	2+1	
4	MTH 301	Numerical Methods with software applications	2+1	
5	CH 303	Transport Phenomena	3+0	
		Total Credit	**12+3=15**	

Second Semester   Third Year

1	CH 304	Instrumentation & Process Control	3+1
2	CH 305	Chemical Reaction Engineering	3+1
3	CH 306	Integrated Management System (I.M.S)	3+0
4	CH 307	Environmental Engineering	3+1
5	CH 308	Fuel & Energy	2+1
		Total Credit	**13+4=18**

First Semester   Final Year

1	CH 401	Separation Processes	2+1
2	CH 402	Project Management	2+0
3	CH 403	Chemical Plant Design	3+0
4	CH406 CH 405	Depth Elective***I [Biochemical Engineering 2. Green technology and SD]	3+0
5	CH 406	Process Modelling, Simulation and Optimization	3+1
	CH 407	FYDP (Part-I)	0+3
		Total Credit	**13+5=18**

Second Semester   Final Year

1	CH 408	Entrepreneurship	2+0
2	CH 409/ CH 410	Depth Elective-II*** {C-1 Petroleum Refinery Engineering} {C-3 Petrochemicals}	3+0
3	CH 411/ CH 412	Depth Elective-III*** {Fuel Cell, and Sustainable Energy} {Clean Coal technology and & co-generation}	3+0
4	CH 413	Chemical Process Safety	2+0
5	CH 414	Maintenance & Utility Engineering	3+0
6	CH 415	FYDP-II	0+3
		Total Credit	**13+3=16**
		Grand Total	**135**

COURSES OF STUDY

BS CHEMISTRY PROGRAM

Dr. Abdul Rafay Khatri
CHAIRMAN

Dr, Abdul Rafay Khatri received his Ph.D. Degree in 2020 from the University of Kassel, Germany. He received his master's degree from Germany and bachelor's degree from muet. As an accomplished researcher with over a decade of experience, including the role as an associate professor in the electronics engineering department of 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 research journals, presented his work at international conferences, and actively engaged in interdisciplinary collaboration.

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.

Mission

To provide state-of-the-art education to the graduates and make them better human beings and build effective partnerships to serve the community in the field of chemistry.

Teaching faculty

S. No	Faculty Member	Designation/Qualification
1	Dr. Abdul Rafay Khatri	Chairman/ Associate Professor Ph.D. (Germany), M.E (Germany) & B.E (MUET, Pakistan)
2	Dr. Rizwan Khan Soomro	Associate Professor Ph.D. (SKKU. S. Korea) M. E (MUET) B.E (MUET)
3	Engr. Kashif Hussain Mangi	Assistant Professor Ph.D. (France) M.E (MUET), B.E (MUET) (on Leave)
4	Engr. Hira Lal Soni	Assistant Professor M.E (NED-UET), B.E (NED-UET) (on study leave abroad)
5	Dr. Hafiz Anees ur Rehman	Lab Engineer M.E (MUET), B.E (MUET) Ph.D. (MUET)
6	Engr. Mahmood Nabi Abbasi	Lab Engineer M.E (MUET), B.E (MUET)
7	Ms. Noasheen Tabassum	Teaching Assistant BS Chemistry (SBBU SBA)
8	Ms. Sidra Yaqoob	Teaching Assistant BS Chemistry (SBBU SBA)

BS CHEMISTRY PROGRAM
Courses of Study

Course Code	Course Title	Credit Hours (Theory)	Credit Hours (Lab)
Semester-1			
CS-100	Computer Fundamentals	2	1
MTH-104	Pakistan Studies	2	0
MTH-106	Functional English	3	0
CHM-112	Inorganic Chemistry	3	1
CHM-113	Physics-1	2	1
MTH-119	Basic Mathematics	3	0
Total Credit Hours: 18		**15**	**3**
Semester-II			
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
Total Credit Hours: 17		**15**	**2**
Semester-III			
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
Total Credit Hours:18		**16**	**2**
Semester- IV			
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-224	Thermodynamic	2	1
Total Credit Hours: 16		**13**	**3**
Total For First Year(Two semesters)		**33**	

BS CHEMISTRY PROGRAM
Courses of Study

Course Code	Course Title	Credit Hours (Theory)	Credit Hours (Lab)
Semester-V			
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
Total Credit Hours: 16		**12**	**4**
Semester-VI			
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
Total Credit Hours: 16		**12**	**4**
Course of specialization in organic chemistry			
Semester-VII			
CHM-411	Heterocyclic and Organometallic Compounds	3	0
CHM412	Reactive Intermediates	3	0
CHM-413	Organic Spectroscopy	3	0
CHM-414	Organic Special-Lab	0	1
CHM-415	Stereochemistry	3	0
CHM-416	Final Year Project-I	0	3
Total Credit Hours:16		**12**	**4**
Semester- VIII			
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
Total Credit Hours: 16		**12**	**4**

Section-V

**FACULTY OF
COMPUTER ENGINEERING**
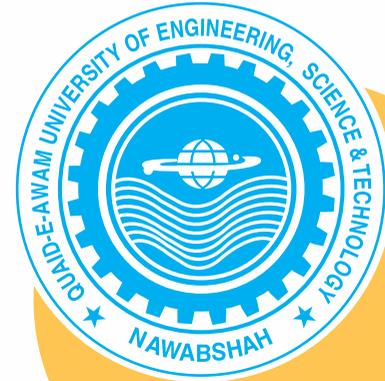
**Department of
Computer Systems
Engineering**

**BS Artificial Intelligence
Program**

**Department of
Software
Engineering**

DEPARTMENT OF COMPUTER SYSTEMS ENGINEERING

Prof. Dr. Ubaidullah Rajput
Chairman

Prof. Dr. Ubaidullah Rajput received his M.S. from NUST and Ph.D. from South Korea in 2011 and 2017, respectively. He earned his B.E. in Computer Systems Engineering from QUEST, Nawabshah in 2005. He began his academic career at QUEST as a lecturer in December 2005 and pursued further studies in South Korea starting in 2013. Upon returning to Pakistan in 2017, he served as an Assistant Professor until 2018, Associate Professor until 2022, and was promoted to Professor in Jan. 2022, a position he holds to date.

Dr. Rajput has been involved in several international research projects and has authored/co-authored over 25 journal articles, 20 conference papers, and 4 patents. He currently supervises multiple Master's and Ph.D. students. His research interests include security and privacy in VANETs, Mobile Social Networks, and Blockchain Technology. He also serves as the Editor of the QUEST Research Journal, published biannually 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.

Keeping in view the significance and impact of this field, the CSE department, as per its mission, strives 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

SN	Name	Designation / Qualification
1.	Prof. Dr. Ubaidullah Rajput	Professor & Chairman B.E (QUEST), MS (NUST, Islamabad), PhD (South Korea)
2.	Prof. Dr. Intesab Hussain Sadhayo	Professor & Dean B.E (QUEST), M.S (Rennes), PhD (Paris, France)
3.	Dr. Fareed Ahmed Jokhio	Professor B.E (MUET), M.E (MUET), PhD (Finland)
4.	Dr. Irfana Memon	Associate Professor B.E (QUEST), M.S (France), PhD (France)
5.	Dr. Fizza Abbas	Associate Professor B.E (MUET), M.E (MUET), PhD (S Korea)
6.	Dr. Muhammad Ali Soomro	Assistant Professor B.E (MUET), M.E (NED), PhD (QUEST)
7.	Engr. Iftikhar Ahmed Koondhar	Assistant Professor B.E (MUET), M.E (MUET)
8.	Engr. Zuhaib Ahmed Shaikh	Assistant Professor B.E (QUEST), M.E (QUEST) *on study leave abroad*
9.	Dr. Abdul Wahid Memon	Assistant Professor B.E (MUET), MS (France), PhD (France)
10.	Engr. Agha Shiraz Ahmed Khan	Assistant Professor B.E (QUEST), M. E (QUEST)
11.	Engr. Shahzana Memon	Assistant Professor B.E (QUEST), M.E (QUEST)
12.	Engr. Ayesha Jokhio	Lecturer B.S (COMSAT), M.E (QUEST) *on study leave abroad*
13.	Engr. Beenish Qureshi	Lecturer B.E (QUEST), M.E (QUEST)
14.	Engr. Dileep Kumar	Lab Engineer B.E (MUET), M.E (MUET)

Courses of Study

SN	Name of Subject	CH Th	CH Pr	Marks	SN	Name of Subject	CH Th	CH Pr	Marks
First Year									
1stSemester					**2nd Semester**				
1	Computing Fundamentals	2	1	50+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+0	4	Applied Calculus	3	0	100+00
5	Functional English	2	0	50+0	5	Pakistan Studies	2	0	50+00
6	Occupational Health and Safety	0	0	--	6	Islam Studies / Ethics	2	0	50+00
	Total	13	3	400+150		Total	15	2	450+100
Second Year									
1stSemester					**2nd Semester**				
1	Data Structures and Algorithms	3	1	100+50	1	Computer Architecture & Design	3	0	100+00
2	Signal & 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	Statistics & Probability	3	0	100+00
	Total	12	3	400+150		Total	15	3	500+150
Third Year									
1stSemester					**2nd Semester**				
1	Database Management Systems	3	1	100+50	1	Artificial Intelligence and Machine Learning	3	1	100+50
2	Engineering Economics	2	0	50+00	2	Software Engineering	3	0	100+00
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+200		Total	14	3	450+150
Final Year									
1stSemester					**2nd Semester**				
1	Entrepreneurship & Leadership	2	0	50+00	1	Elective 2	3	1	100+50
2	Elective 1	3	1	100+50	2	High Performance Computing	3	1	100+50
3	Mobile Applications Development	3	1	100+50	3	Wireless Communication	3	1	100+50
4	Image Processing and Analysis	3	1	100+50	4	FYDP - II	0	3	00+100
5	FYDP - I	0	3	00+100					
	Total	11	6	350+250		Total	9	5	300+250

Elective Courses

1	Elective 1 (CSE Depth)	1. Data Warehousing and Big Data 2. Software Quality Assurance 3. Neural Networks and Fuzzy Logic
2	Elective 2 (MDEE)	1. System and Network Security 2. Internet of Things 3. Cloud and Distributed Computing

BS ARTIFICIAL INTELLIGENCE PROGRAM

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 natural 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. #	Name	Designation / Qualification
1	Dr. Asghar Ali Chandio	Associate Professor& Chairman BS (UoS), MS (QUEST), PhD (Australia)
2	Prof. Dr. Adnan Manzoor	Professor (On leave) BSc (Uos), MSc (Uos), MS (QUEST), PhD (Natherlands),
3	Dr. Shafiullah Soomro	Associate Professor (On Leave) B.E (QUEST), ME (MUET), PhD (South Korea)
4	Mr. Zeeshan Rasool Memon	Assistant Professor BS(CS) (QUEST), MS (CS) (Malaysia)
5	Mr. Atta Muhammad Panhyar	Assistant Professor B.E (IBA), MS (IBA)

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
			Sub Total	**16**	**02**	**500**	**100**
			Total	**18 (16+2)**		**600 (500+100)**	
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
			Sub Total	16	02	500	100
			Total	**18 (16+2)**		**600 (500+100)**	

*Note: 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.

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
			Total	17 (14+3)		600 (450+150)	

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
			Total	16 (11+5)		550 (350+200)	

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
			Total	12 (8+4)		350 (200+150)	

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 undergrade 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 6 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	Th	Pr	Marks	Domain	SN	Course Code	Name of Subject	Th	Pr	Marks	Domain
			1st Semester							**2nd Semester**				
1st	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	
			Total	15	3	500+150				**Total**	16	1	500+50	
			1st Semester							**2nd Semester**				
2nd	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
			Total	14	4	450+200				**Total**	13	3	400+150	
			1st Semester							**2nd Semester**				
3rd	1	SW301	Software Construction	2	1	50+50	Core Breadth	1	SW306	Software Project Management	3	1	100+50	Core Breadth / Management Sceinces
	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	
			Total	13	3	400+150				**Total**	13	4	400+200	
			1st Semester							**2nd Semester**				
4th	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							
			Total	11	5	400+200				**Total**	9	4	300+150	

Theory Total CH	104		**Grand Total CH**	131
Practical Total CH	27		**Grand Total Marks**	4600

Section-VI

FACULTY OF SCIENCE
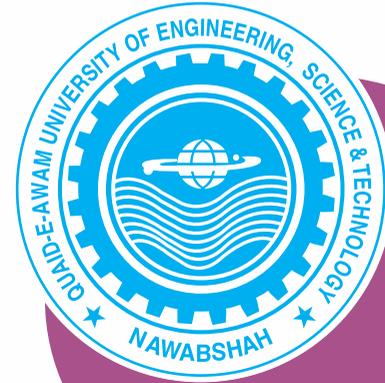
BS PROGRAMS

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

DEPARTMENT OF INFORMATION TECHNOLOGY
Bachelor of Science (Information Technology) Department
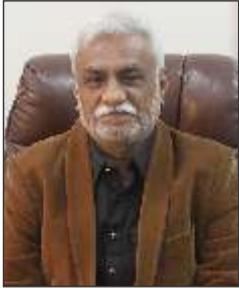
Prof. Dr. M. Suleman Memon
CHAIRMAN

Dr. Memon born at cultural and spiritual city of Sindh, HALA Shareef in 1967. He got his education from primary to college level at his native place. Got admission at Mehran University of Engineering and Technology, Jamshoro in 85 Batch in COMPUTER SYSTEMS ENGINEERING, the second batch of CSE. Mr. Memon got B.E (Computer Engineering), M.E (Software Engineering) and PhD (Information Technology) in 1990, 2003 and 2018 respectively.

Dr. Memon started his professional career as Lecturer in 1991 from Baluchistan Engineering College KHUZDAR. Then worked at Dawood Engineering College KARACHI and finally after establishment of Quaid e Awam UEST NAWABSHAH in 1997, he is working at QUEST. Currently Dr. Memon serves as full Professor and HoD at Information Technology Department.

Administratively Dr. Memon remained the In- charge Chairman of CSE, also serves as Director planning & Development and Director Stocks and Assets Management for many years in past. At University Dr. Memon is member of many academic and statuary bodies as BoS, BoF and Senate etc.

Dr. Memon is writer of more than 50 research articles, published in National and International research Journals. He has presented his university and Pakistan at many international Conferences throughout the globe. Dr. Memon is member of editorial boards and reviewer of many International Journals. Dr. Memon has produced many Master Scholars and currently supervising Five PhD scholars. Dr. Memon is certified PEC s PEV OBE based evaluator.

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

Teaching faculty

S. No	Name of Faculty Members	Designation and Qualification
1.	Prof. Dr. Muhammad Suleman Memon	Professor & Chairman PhD (IT), Pakistan
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.	Prof. Dr. Mukhtiar Ahmed Memon	Professor PhD(CS), Malaysia
5.	Dr. Shahzaman Nizamani	Associate Professor PhD(IT), Pakistan
6.	Dr. Saifullah Memon	Assistant Professor PhD (CS), China
7.	Dr. Baqar Ali Zardari	Assistant Professor PhD (IT), Pakistan
8.	Dr. Saima Siraj Soomro	Assistant Professor PhD (IT), Pakistan
9.	Dr. Waqas Ali Sahito	Assistant Professor PhD(SE), China
10.	Mr. Himat Ali Shah	Assistant Professor MS(IT), Pakistan (On Study Leave)
11.	Dr. Muniba Memon	Assistant Professor PhD (CS), Malaysia
12	Mr. Waqas Ahmed Khilji	Lecturer MS(IT), Pakistan

Courses of Study

FIRST YEAR

	FIRST SEMESTER					SECOND SEMESTER				
S/NO	CODE	SUBJECT	Cr(Th)	Cr.(Pr)	MARKS	S/NO	CODE	SUBJECT	Cr(Th)	Cr.(Pr)	MARKS
1.	CS111	Programming Fundamentals	3	1	100+50	1.	CS122	Object Oriented Programming	3	1	100+50
2.	GE111	Computer Fundamentals	2	1	50+50	2.	CS123	Database Systems	3	1	100+50
3.	GE112	Discrete Mathematics	3	0	100+00	3.	CS124	Digital Logic & Design	2	1	50+50
4.	GE113	Functional English	3	0	100+00	4.	MT122	Linear Algebra	3	0	100+00
5.	GE114	Islamic Studies	2	0	50+00	5.	GE126	Applied Physics	2	1	50+50
6.	GE115	Pakistan Studies	2	0	50+00	6.	MT123	Pre-Calculus-II*	3	0	100+00
7.	MT111	Pre-Calculus-I*	3	0	100+00		TOTAL		13	4	600
	TOTAL		15	2	550						

*PRE-CALCULUS-I AND PRE-CALCULUS-II IS ONLY FOR MEDICAL SCIENCE GROUP AND NON-CREDIT HOURS COURSES

SECOND YEAR

	FIRST SEMESTER					SECOND SEMESTER				
S/NO	CODE	SUBJECT	Cr(Th)	Cr.(Pr)	MARKS	S/NO	CODE	SUBJECT	Cr(Th)	Cr.(Pr)	MARKS
1.	CS215	Data Structure & Algorithms	3	1	100+50	1.	CS229	Computer Organization & Assembly Language	2	1	50+50
2.	CS216	Information Security	2	1	50+50	2.	CS2210	Visual Programming	3	1	100+50
3.	CS217	Object Oriented Analysis & Design	2	1	50+50	3.	CS2211	Cyber Security	2	0	50+00
4.	CS218	ComputerNetworks	3	1	100+50	4.	CS2212	System & Network Administration	2	1	50+50
5.	GE217	Applied Calculus	3	0	100+00	5.	GE228	Communication Skills	3	0	100+00
	Total		12	5	600	6.	MT224	Multivariable Calculus	3	0	
							Total		15	3	600

THIRD YEAR

	FIRST SEMESTER					SECOND SEMESTER				
S/NO	CODE	SUBJECT	Cr(Th)	Cr.(Pr)	MARKS	S/NO	CODE	SUBJECT	Cr(Th)	Cr.(Pr)	MARKS
1.	CS3113	Operating System	3	1	100+50	1.	CS3217	Human Computer Interaction	3	1	100+50
2.	CS3114	Software Engineering	3	0	100+00	2.	CS3218	Software Requirement Engineering	3	0	100+00
3.	CS3115	Web Technologies	2	1	50+50	3.	CS3219	Parallel & Distributed Computing	3	0	100+00
4.	CS3116	Artificial Intelligence	3	1	100+50	4.	CS3220	Theory of Automata	2	0	50+00
5.	MT315	Statistics & Probability	3	0	100+00	5.	CS321	Machine Learning	2	0	50+00
	Total		12	5	600	6.	CS3222	Mobile Application & Development	3	1	100+50
							Total		16	2	600

FINAL YEAR

	FIRST SEMESTER					SECOND SEMESTER				
S/NO	CODE	SUBJECT	Cr(Th)	Cr.(Pr)	MARKS	S/NO	CODE	SUBJECT	Cr(Th)	Cr.(Pr)	MARKS
1.	CS4123	Final YearProject-I	0	3	00+100	1.	CS4225	Final YearProject-II	0	3	00+100
2.	CS4124	Database Administration & Management	2	1	50+50	2.	GE429	Professional Practices	2	0	50+00
3.	CS4125	Cloud Computing	2	0	50+00	3.	GE4210	Civics & Community Engagement	2	0	50+00
4.	EW411	Technical & Business Writing	3	0	100+00	4.	GE4211	Entrepreneurship	2	0	50+00
5.	SSI411	Financial Accounting	3	0	100+00	5.	GE4212	Introduction to Management	2	0	50+00
	Total		12	3	450		Total		9	4	300
	Total credit hours			130			Total Marks			4300	

BS CYBER SECURITY PROGRAM

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 degreesfrom QUEST, Nawabshahin 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 professorin 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 Securityis 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,militaryand 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 afast 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)

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)

Teaching Staff

Courses of Study

First Semester, First Year (Semester – I)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours Th	Pr	Total
1		Pre-Calculus-I	Maths	None	00	00	
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	14
				Sub-Total	12	02	

Second Semester, First Year (Semester – II)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours Th	Pr	Total
1		Pre-Calculus-II	Maths	Pre-Calculus-I	00	00	
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	18

First Semester, Second Year (Semester – III)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours Th	Pr	Total
1	MTH211	Communication Skills	General Education	None	03	00	
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	18

Second Semester, Second Year (Semester – IV)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours Th	Pr	Total
1	CYS221	Network & Information Security	Domain Core	CYS112	03	01	
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	17

Courses of Study

First Semester, Third Year (Semester – V)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours Th	Credit Hours Pr	Total
1	CYS311	Secure Software Design & Development	Domain core	CY121	02	01	
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	17

Second Semester, Third Year (Semester – VI)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours Th	Credit Hours Pr	Total
1	CY321	Vulnerability Assessment and Reverse Engineering	Domain Elective	None	02	01	
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	18

First Semester, Final Year (Semester – VII)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours Th	Credit Hours Pr	Total
1	CYS411	Cryptography and Cryptanalysis	Domain Elective	CYS211	02	00	
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	16

Second Semester, Final Year (Semester – VIII)

S. No	Course Code	Course Title	Category	Pre-requisite	Credit Hours Th	Credit Hours Pr	Total
1	CYS421	Cloud Security	Domain Elective	None	03	00	
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 COMPUTER SCIENCE

Prof. Dr. M. Saleem Vighio
CHAIRMAN

Dr. Muhammad Saleem Vighio obtained master's and PhDdegrees in Computer Science from Aalborg University Denmarkin 2009 and 2012, respectively. Currently, he is working as aProfessor and Chairman in the Department of Computer Science,Quaid-e-Awam University of Engineering, Science & Technology,Nawabshah.

During his studies at Aalborg University, Dr. Vighio activelyparticipated in research and teaching obligations. Heparticipated in many research conferences and meetings indifferent countries like Denmark, Germany, Norway, Sweden,Spain, Italy, Greece, China, and Macao. Notable research unitsDr.Vighio has been a member of different research groups whichinclude Distributed and Embedded Systems (Denmark), Centrefor Embedded Software Systems (Denmark), and Novo Nordisk A/S (Denmark).

Dr.Vighio's PhD work focuses on the verification of software systems including real-time andembedded systems, and Web services protocols. Since 2012, Dr. Vighio has produced severalMasters and PhD students. Presently, he is also supervising and co-supervising Masters and PhDstudents. Dr. Vighio has been credited with several National and International conferences andjournal 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-year full-time Bachelor of Science in Computer Science. The degree program comprises of 8-Semesters asrecommended by the Higher Education Commission (HEC) of Pakistan.

The key objective of the program is to deliver knowledge in the field of Computer Science to thestudents of the region. The courses offered in this program provide skills in the computingprofession to meet the requirements of the country and to enable students to develop reliablesoftware products that meet the needs of intended users and organizations. This is achieved byapplying sound scientific, mathematical, and engineering principles. The laboratory facilities atthe department are equipped with Xeon / Core i7, Multimedia, Internet and Network whichprovide an ideal environment for learning.

Vision of the program:
To produce highly qualified computing professionals who have deep knowledge and innovativeideas and are committed to fulfilling the socio-economic needs of the national and global marketfor sustainable development.

Mission of the program:
To prepare students in various areas of Computer Science by providing them with state-of-the-art education that focuses on integrating scientific theories and practical training to developsolutions and groom their professional careers and lifelong learning.

Program Educational Objectives (PEOs):
1. To provide computing knowledge to the students so that they may apply andsolve real-world problems in Computer Science and related disciplines.
2. To use modern tools and techniques to design, develop and analyze cost-effective systems with a focus on innovation and entrepreneurship.
3. To apply communication skills as an individual and as a team with ethical, socialand professional responsibilities from a national and global perspective.
4. To adapt to emerging computing fields through continuous learning and skilldevelopment.

Degree Program:
1. Bachelor of Science (Computer Science)

Teaching Staff

SN	Name	Designation / Qualification
01	Prof. Dr. Muhammad Saleem Vighio	Professor / Chairman B.C.S (Sindh), M.S (AAU, Denmark), Ph.D (AAU, Denmark)
02	Prof. Dr. Akhtar Hussain Jalbani	Professor BSCS (QUEST), MS. & Ph.D (AIT, Bangkok Thailand)
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)
05	Dr. Shamshad Lakho	Lecturer BSCS (QUEST), M.S (QUEST), Ph.D (QUEST)
06	Mr. Nadeem Channa	Lecturer BSCS (QUEST), M.S (QUEST)

Courses of Study

SN	Name of Subject	CH Th	CH Pr	Marks	SN	Name of Subject	CH Th	CH Pr	Marks
First Year									
1stSemester					**2nd Semester**				
1	Pre-Calculus-I	Non-Credit		100+00	1	Applied Calculus	3	0	100+00
2	Pre-Calculus-II	Non-Credit		100+00	2	Digital Logic Design	2	1	50+50
3	Computer Fundamentals	2	1	50+50	3	Object Oriented Programming	3	1	100+50
4	Programming Fundamentals	3	1	100+50	4	Communication Skills	3	0	100+00
5	Functional English	3	0	100+00	5	Islamic Studies/Ethics	2	0	50+00
6	Applied Physics	3	0	100+00	6	Introduction to Management	2	0	50+00
7	Pakistan Studies	2	0	50+00					
	Total	13	2	600+100		Total	15	2	400+100
Second Year									
1stSemester					**2nd Semester**				
1	Computer Organization & Assembly Language	3	1	100+50	1	Analysis of Algorithms	3	0	100+00
2	Data Structures	3	1	100+50	2	Database Systems	3	1	100+50
3	Linear Algebra & Analytical Geometry	3	0	100+00	3	Discrete Mathematics	3	0	100+00
4	Computer Networks	3	1	100+50	4	Visual Programming	3	1	100+50
5	Introduction to Marketing	3	0	100+00	5	Statistics & Probability	3	0	100+00
	Total	15	3	500+150		Total	15	2	500+100
Third Year									
1stSemester					**2nd Semester**				
1	Theory of Automata	3	0	100+00	1	Compiler Construction	3	1	100+50
2	Computer Architecture	3	0	100+00	2	Software Testing & Quality Assurance	2	1	50+50
3	Operating Systems	3	1	100+50	3	Numerical Analysis & Computer Applications	2	1	50+50
4	Software Engineering	3	0	100+00	4	Artificial Intelligence	3	1	100+50
5	Web Engineering	2	1	50+50	5	Technical & Business Writing	3	0	100+00
6	Professional Practices	2	0	50+00		Total	13	4	400+200
	Total	16	2	500+100					
Final Year									
1stSemester					**2nd Semester**				
1	Advance Database Management Systems	2	1	50+50	1	Cyber Security	3	0	100+00
2	Information Security	2	1	50+50	2	Big Data Analytics	3	1	100+50
3	Final Year Project-I	0	3	00+100	3	Final Year Project-II	0	3	00+100
4	Entrepreneurship	2	0	50+00	4	Human Computer Interaction & Computer Graphics	3	1	100+50
5	Parallel & Distributed Computing	2	1	100+00	5	Civic & Community Engagement	2	0	50+00
6	Mobile Application Development	3	1	100+50		Total	11	5	350+200
	Total	11	7	350+250					

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 generaland the skills in its related fields like statistics, databases, computer programming, machine learning, data modeling and simulation in particular. TheBS(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. MehwishLeghari	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 Th	Credit Hours Pr	Marks
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.			**Total** 16	02	500+100

Second Semester, First Year

S. No	Course Code	Course Title	Credit Hours Th	Credit Hours Pr	Marks
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			**Total** 13	02	400+100

First Semester, Second Year

S. No	Course Code	Course Title	Credit Hours Th	Credit Hours Pr	Marks
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
		Total	15	03	500+150

Second Semester, Second Year

S. No	Course Code	Course Title	Credit Hours Th	Credit Hours Pr	Marks
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
		Total	15	03	450+150

Courses of Study

First Semester, Third Year

S. No	Course Code	Course Title	Credit Hours Th	Pr	Marks
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
		Total	**15**	**03**	**450+150**

Second Semester, Third Year

S. No	Course Code	Course Title	Credit Hours Th	Pr	Marks
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
		Total	**13**	**04**	**400+200**

First Semester, Final Year

S. No	Course Code	Course Title	Credit Hours Th	Pr	Marks
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
		Total	**10**	**05**	**300+200**

Second Semester, Final Year

S. No	Course Code	Course Title	Credit Hours Th	Pr	Marks
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
		Total	**09**	**04**	**250+150**
		Grand Total	**106**	**26**	

DEPARTMENT OF MATHEMATICS & STATISTICS
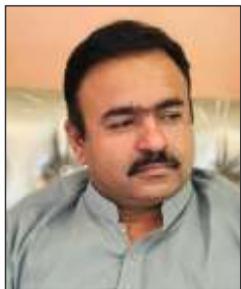
Prof. Dr. Rajab Ali Malookani
CHAIRMAN

Prof. Dr. Rajab Ali Malookani earned his Master of Science (MSc) in Mathematics from the University of Sindh, Jamshoro in 2004. Immediately after graduation, he commenced his academic career as a Research Assistant in the Department of Basic Sciences and Related Studies (BSRS) at Mehran University of Engineering and Technology (MUET), Jamshoro, where he served for approximately three years. In 2008, Dr. Malookani joined the Department of Mathematics and Statistics at Quaid-e-Awam University of Engineering, Science and Technology (QUEST), Nawabshah as a Lecturer.

In January 2012, he was awarded a prestigious scholarship under the Faculty Development Program of the Higher Education Commission (HEC) of Pakistan to pursue doctoral studies abroad. He was admitted into the PhD program in the Department of Applied Mathematics at Delft University of Technology (TU Delft), Netherlands, in the spring of 2012. His research was focused on the "Vibrations of Conveyor Belt Systems", combining theoretical and applied mathematics with engineering mechanics under the Mathematical Physics Group. Throughout his doctoral journey, Dr. Malookani actively presented his research at national and international conferences in countries including the Netherlands, Austria, the USA and Pakistan, and engaged in academic visits to Germany, Belgium, France, Hungary, Italy, Spain, Luxemburg, Slovakia and the Czech Republic, broadening his research perspectives. He was awarded the PhD in Applied Mathematics in 2016.

Upon returning to Pakistan in 2016, Dr. Malookani rejoined QUEST, Nawabshah as an Assistant Professor and quickly ascended to leadership roles. He served as Chairman of the Department of Physics for a period of two and a half years, overseeing academic and research activities. Currently, he holds the position of Professor and Head of the Department of Mathematics and Statistics at QUEST.

Dr. Malookani is actively involved in supervising Master's and PhD students in the field of Mathematical Physics. With over thirty research publications in HEC-recognized journals, Dr. Malookani's work spans towards stability analysis of dynamical systems, vibrations and wave propagation in mechanical structures, asymptotic methods in continuous dynamical systems. His research has practical implications in engineering mechanics, structural dynamics and industrial conveyor systems, making him a valuable contributor to both theoretical and applied mathematics.

Dr. Malookani remains committed to advancing mathematical research in Pakistan, mentoring young researchers, and strengthening academic collaborations with national and international institutions.

Introduction

The Department of Mathematics and Statistics at Quaid-e-Awam University of Engineering, Science and Technology (QUEST), Nawabshah, plays a pivotal role in supporting the university's mission to cultivate a dynamic community of engineers, scientists, and scholars committed to advancing the frontiers of engineering, science, and technology. Recognizing the foundational importance of mathematical reasoning, problem-solving, and analytical skills in all scientific disciplines, the department was established in 2006 to provide robust mathematical education and research opportunities.

Since its inception, the department has produced numerous accomplished graduates and has grown into a vibrant academic community comprising dedicated faculty members, researchers, and students. It is committed to achieving excellence in mathematics education and fostering innovative research across diverse areas of pure and applied mathematics, as well as statistics.

The Department of Mathematics and Statistics offers a comprehensive range of academic programs from undergraduate to doctoral levels. These programs are designed to strike a balance between theoretical foundations and practical applications. The undergraduate curriculum provides a solid grounding in core mathematical concepts, while offering elective courses in advanced subjects such as physics, accounting, and econometrics. The graduate programs are known for their academic rigor and research depth, with specializations in areas such as Mathematical techniques for Solving Ordinary and Partial Differential Equations, Image Processing, Fluid Mechanics, Commutative Algebra and Algebraic Curves.

Our department prides itself on maintaining a strong research culture, supported by advanced facilities and interdisciplinary collaborations. Faculty members are actively engaged in cutting-edge research and have made significant contributions to renowned journals and international conferences. The department also organizes national and international conferences that serve as platforms for scholarly exchange among experts in pure and applied mathematics.

Research areas within the department include, but are not limited to, Linear Algebra, Group Theory, Stability analysis of Dynamical systems, Wave propagation. Faculty members are recognized leaders in their respective fields and are equally committed to excellence in teaching and mentoring. They provide students with guidance, support, and inspiration to explore and contribute to the mathematical sciences.

The department fosters an inclusive and collaborative environment where students benefit from a range of academic and co-curricular resources. These include well-equipped computer laboratories, student-led initiatives such as the QUEST Mathematical Society, and opportunities for internships and research projects. Such initiatives are designed to prepare students for successful careers in academia, industry, and government sectors.

We welcome prospective students, visiting scholars, and research collaborators to explore the opportunities available within the Department of Mathematics and Statistics. Whether you are beginning your academic journey or seeking to engage in cutting-edge research, you will find a supportive and stimulating environment committed to academic excellence and professional growth.

We offer comprehensive programs at all academic levels:

1. Bachelor of Science (Mathematics):
Building strong foundations in pure and applied mathematics

2. Master of Science (Mathematics):
Specializing in advanced areas including: Differential Equations and Dynamical Systems, Fluid Mechanics Computational Mathematics and Image Processing, Statistical Modeling and Data Analysis, Commutative Algebra

3. PhD (Mathematics)
Specializing in advanced areas including: Differential Equations and Dynamical Systems, Computational Mathematics and Image Processing, Statistical Modeling and Data Analysis. Commutative Algebra

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. Sajad Hussain Sandilo	Professor B.Sc (Sindh University),M.Sc (QAU), Ph.D (Netherlands)
04	Dr. Shakeel Ahmed Kamboh	Associate Professor B.S (University of Sindh), Ph.D. (Malaysia)
05	Dr. Abdul Hanan Sheikh	Associate Professor B.Sc (SALU), 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.Phill (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

S. No	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Calculus-I	100	00	100	03	MATH 101
02	Quantitative Reasoning-I	100	00	100	03	MATH 102
03	Islamic Studies/ Ethics	50	00	50	02	MTH 103
04	Functional English	50	00	50	02	MTH 104
05	Physics-I	50	50	100	02+01	ME 101
06	Computer Fundamentals	50	50	100	02+01	IT 105
	Total	400	100	500	16	-----

S. No	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Calculus-II	100	00	100	03	MATH 105
02	Applications of Information and Communication Technologies	50	50	100	02+01	IT 106
03	Quantitative Reasoning-II	100	00	100	03	MATH 106
04	Pakistan Studies	50	00	50	02	MTH 107
05	Communication and Presentation Skills	50	00	50	02	MTH 108
06	Physics-II	50	50	100	02+01	EL 106
	Total	400	100	500	16	

S. No	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Set Topology	100	00	100	03	MATH 201
02	Calculus-III	100	00	100	03	MATH 202
03	Linear Algebra	100	00	100	03	MATH 203
04	Civics and Community Engagement	50	00	50	02	MTH 204
05	Economics	50	00	50	02	MTH 205
06	Expository Writing	100	00	100	03	MTH 206
	Total	500	00	500	16	-----

S. No	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Fuzzy Logic	100	00	100	03	MATH 207
02	Operations Research	100	00	100	03	MATH 208
03	Ordinary Differential Equations-I	100	00	100	03	MATH 209
04	Group Theory	100	00	100	03	MATH 210
05	Number Theory	100	00	100	03	MATH204
06	Entrepreneurship	50	00	50	02	MTH 211
	Total	550	00	550	17	

S. No	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Ordinary Differential Equations-II	100	00	100	03	MATH 301
02	Differential Geometry	100	00	100	03	MATH 302
03	Numerical Analysis-I	100	50	150	03+01	MATH 303
04	Real Analysis	100	00	100	03	MATH 304
05	Mathematics Software	100	50	150	02+01	MATH 305
	Total	500	100	600	16	-----

S. No	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Classical Mechanics	100	00	100	03	MATH 306
02	Partial Differential Equations	100	00	100	03	MATH 307
03	Complex Analysis	100	00	100	03	MATH 308
04	Measure Theory	100	00	100	03	MATH 309
05	Numerical Analysis –II	100	50	150	03+1	MATH 310
	Total	500	50	550	16	

S. No	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Transform Techniques	100	00	100	03	MATH 401
02	Algebraic Topology	100	00	100	03	MATH 402
03	Functional Analysis	100	00	100	03	MATH403
04	Introductory Finite Element Method	100	00	100	03	MATH404
05	Optimization Techniques	100	00	100	03	MTAH 405
06	FYP-I	100	00	100	03	MATH 406
	Total	600	00	600	18	-----

S. No	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Probability Theory	100	00	100	03	MTH 407
02	Integral Equations	100	00	100	03	MTH 408
03	Analytical Dynamics	100	00	100	03	MTH 409
04	Rings and Fields	100	00	100	03	MTH 410
05	Fluid Mechanics	100	00	100	03	MTH411
06	FYP-II	00	100	100	03	MTH412
	Total	600	00	600	18	-----

DEPARTMENT OF PHYSICS

Dr. M. Afzal Soomro
CHAIRMAN

Dr. Muhammad Afzal Soomro is a distinguished academician. He commenced his academic journey in Larkana. He got his Bachelor degree from Degree College Larkana; Master degree in Mathematics from Quaid-e-Azam University, Islamabad. In 2008, upon completing his Master's degree, Dr. Soomro embarked on his career as a teacher 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. He successfully defended 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 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 / Chairman M.Sc (QAU, Islamabad), Ph.D. (Netherlands)
02	Mr. Imran Kanhio	Assistant Professor BS (QUEST), MS (QUEST)
03	Mr. Imdad Ali Kalhoro	Teaching Assistant B.E (QUEST), M.E (QUEST)
04	Ms. Jannat Soomro	Lab Instructor
05	Mr. Sarfraz Ali Khoso	Teaching Assistant BS-Physics (UoS)
06	Mr. Jahangeer Khan Khoso	Teaching Assistant BS-Physics (UoS)

Course Scheme

(I) SEMESTER (FIRST YEAR)

Sr. #	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Mechanics (Th+Lab)				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
	Total	500	100	600	18	

(II) SEMESTER (FIRST YEAR)

Sr. #	COURSES OF STUDIES	MARKS				
		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	Economics	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
	Total	550	50	600	18	

(III) SEMESTER (SECOND YEAR)

S #	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Waves and Oscillations (Th+Lab)				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
	Total	500	100	600	17	

Course Scheme

S #	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
	Total	500	100	600	17	

S #	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Electronics-II (Th+Lab)	100	50	150	03+01	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
	Total	500	100	600	17	

S #	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Electromagnetic Theory-II	100	00	100	03	PHY 321
02	Digital Electronics (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
06	Statistical Mechanics	100	00	100	03	PHY 325
	Total	500	50	550	16	

S #	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Relativity & Cosmology	100	00	100	03	PHY 411
02	Solid State Physics	100	00	100	03	PHY 412
03	Fluid Dynamics	100	00	100	03	PHY 413
04	Atomic & Molecular Physics	100	00	100	03	PHY 414
05	FYP-I	00	100	100	03	PHY 415
	Total	400	100	500	15	

S #	COURSES OF STUDIES	MARKS			Credit Hour	Course Code
		Theory	Practical	Total		
01	Renewable Energy Resource	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	Advanced Computational Physics	100	00	100	03	PHY 424
05	FYP-II	00	100	100	03	PHY 500
	Total	400	100	500	15	

DEPARTMENT OF BASIC SCIENCE & RELATED STUDIES

Prof. Dr. Saifullah Bhutto
CHAIRMAN

Prof. Dr. Saifullah Bhutto is currently serving as Chairman of the department. He is Professor of Islamic studies. Prof. Dr. Bhutto earned his bachelor's in pharmacy, M.A & M.Phil in Islamic Studies from University of Sindh, Ph.D from Ankara University, Turkey. Prof. Dr. Bhutto started his career from QUEST as a lecturer in 2006. 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

SN	Name	Designation / Qualification
1.	Prof. Dr. Saifullah Bhutto	Professor (Islamic Studies) / Chairman M.A. (University of Sindh), Ph.D (Turkey)
2.	Prof. Dr. Inayatullah Kakepoto	Professor (English) M.A (SALU), Ph.D (Malaysia)
3.	Mr. Liaquat Ali Tunio	Assistant Professor (Mathematics) M.SC. (SALU), MPhil (QAU Islamabad), PGCOC (Islamabad)
4.	Mr. Syed Muhammad Saeed Ahmed	Assistant Professor (Mathematics) M.SC. (Maths) University of Sindh PGCOC, Islamabad
5.	Dr. Abbas Ali Ghoto	Assistant Professor (Statistics) B.Sc., M.Sc., M.Phil & Ph.D (University of Sindh)
6.	Mr. Ghulam Yameen Mallah	Assistant Professor (Mathematics) B.SC. (University of Sindh), M.Sc. & M.Phil (QAU, Islamabad)
7.	Dr. Hafiz Muhammad Memon	Assistant Professor (Mathematics) B.S (University of Sindh), M.S (QUEST), Ph.D (QUEST)
8.	Mr. Ravi Kumar	Assistant Professor (Mathematics) B.S (University of Sindh), M.Phil (MUET)
9.	Mr. Mehboob Ali Jatoi	Assistant Professor (Mathematics) B.S (QUEST), MS (QUEST)
10.	Mr. Ajeeb-ur-Rehman Junejo	Assistant Professor (Mathematics) M.Sc. (SALU), MSc (Sweden)
11.	Mr. Ali Asghar Chandio	Assistant Professor (English) M.S (Poland), M.A (UoS)
12.	Mr. Tarique Hussain Keerio	Lecturer (Pakistan Studies) M.A. , M.phil (University of Sindh)
13.	Mr. Saleemullah Bhutto	Lecturer (on Contract) (Islamic Studies) M.A. , M.phil (University of Sindh)
14.	Mr. Muhammad Ismail Rahu	Lecturer (on Contract) (English) 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 statuary 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. Fallowed by motivational talk on the topic "Speak up about upon its future" on dated 5th 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: 17th 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	Dr. Muhammad Arif Soomro	Assistant Professor M.A (NUML), MS (MUET) Ph.D (RUDN University) Moscow Russia
04	Mr. Mansoor Ahmed Koondhar	Lecturer M.A (University of Sindh), PhD (in progress)
05	Dr. Abdullah Laghari	Lecturer M.A (University of Sindh), PhD (University of Sindh)
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 Th	CH Pr	Marks	Sr. #	Name of Subject	CH Th	CH Pr	Marks
FIRST YEAR									
1st Semester					2nd 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 Th	Pr	Marks	Sr. #	Name of Subject	CH Th	Pr	Marks
SECOND YEAR									
1st Semester					2nd 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
THIRD YEAR									
1st Semester					2nd Semester					
1	Novel 18thto 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	3	0	100+00
	Total	18	00	600+00		Total	18	00	600+00
FINAL YEAR									
1st Semester					2nd 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

Section-VII

FACULTY OF TECHNOLOGY

- ✐ **INTRODUCTION & AFFILIATIONS**
- ✐ **PROGRAM OF FOOD ENGINEERING TECHNOLOGY**
- ✐ **PROGRAM OF CIVIL ENGINEERING TECHNOLOGY**

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 heeds 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 and Civil 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/-
	Total	**Rs. 525,000/-**

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

FOOD ENGINEERING TECHNOLOGY PROGRAM

Dr. Imran Ahmed Samo
In-Charge Chairman

Dr. Imran Ahmed Samo is a committed academic and researcher with over 15 years of experience in teaching and research, specializing in sustainable energy solutions and environmental technologies. He earned his Ph.D. in Chemical Technology from Beijing University of Chemical Technology, China, in 2020. Currently, he serves as In-Charge Chairman of the Department of Food Engineering Technology at Quaid-e-Awam University of Engineering, Science & Technology (QUEST), Nawabshah, Sindh, Pakistan.

Dr. Samo's research centers on sustainable hydrogen production and solar desalination. He has advanced seawater electrolysis for overall water splitting, tackling issues like catalyst corrosion and chlorine emission, while improving efficiency for triple-product output. His work supports clean hydrogen production from abundant seawater. In solar desalination, he developed MSR (Microsphere Structures) with high porosity and capillarity, achieving faster evaporation and reducing salt buildup under low-intensity solar light.

Dr. Samo has presented his work at national and international conferences in China and Pakistan, and he has published over 20 research papers in recognized journals. Through his academic leadership and research initiatives, Dr. Samo is contributing significantly to the advancement of sustainable energy technologies and environmental resilience.

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 & commercialneeds 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.

Degree Programme:

Bachelor of Engineering Technology (B.E.Tech)

Teaching Staff

Sr. #	Name	Designation / Qualification
1	Dr. Imran Ahmed Samo	Assistant Professor / In-Charge Chairman B.E (QUEST), M.E.(QUEST), PhD (China)
2	Dr. Mahdi Hassan Mallah	Assistant Professor B.E (QUEST), M.E.(QUEST), PhD (China) (Lien)
3	Dr. Babar Ali Qureshi	Assistant Professor B.E (MUET), M.E.(MUET), PhD (China) (Lien)
4	Dr. Pir Bux Urf Waqas Mughal	Assistant Professor B.E (QUEST), M.E.(QUEST), PhD (China) (Lien)
5	Engr. Hammad Hashmi	Lecturer B.E (QUEST), M.E.(QUEST)

Courses of Study

FIRST YEAR
1ST Semester

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	**Practical**
01	MTH-101	Applied Calculus	3+0	
02	CS-101	Applications of ICT	2+1	
03	MTH-106	Functional English	3+0	
04	FET-103	Basic Agriculture	2+1	
05	MTH-105	Islamic Studies or Ethics	2+0	
06	MTH-104	Pakistan Studies	2+0	
		Total Credit	**(14+2)=16**	

2nd Semester

S. No	Course Codes	Name of Subjects	Credit Hours	
			Theory	**Practical**
01	MTH-301	Statistics & Probability	3+0	
02	FET-101	Applied Physics	2+1	
03	MTH-107	Communication Skills	3+0	
04	FET-123	Introduction to Food Technology	3+0	
05	FET-122	Food Chemistry	3+0	
06	ME-102	Workshop Practice	0+1	
		Total Credit	**(14+2)=16**	

Total Credit Hours= 32

CIVIL ENGINEERING TECHNOLOGY PROGRAM

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 BE Tech (Civil) degree.

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

Course Codes	Course Title	Knowledge Area/Domain	Credit Hrs. (Th+Lb)	Weekly Contact Hrs. (Th+Lb)
SEMESTER-I				
HUM-111	Islamic Studies	Art & Humanities	2+0	2+0
MTH-101	Applied Calculus	Natural Sciences	3+0	3+0
CET-111	Materials and Methods of Construction	Civil Engineering Technology Foundation	2+1	2+3
HUM-112	Pakistan Studies	Art & Humanities	2+0	2+0
HUM-113	Functional English	Art & Humanities	3+0	3+0
CET-112	Applied Mechanics	Civil Engineering Technology Foundation	2+1	2+3
Subtotal			14+2 **=16**	14+6 **=20**
SEMESTER-II				
CET-121	Concrete Technology	Civil Engineering Technology Foundation	2+1	2+3
HUM-121	Communication Skills	Art & Humanities	3+0	3+0
CET-122	Civil Engineering drawing, Drafting and Interpretation	Civil Engineering Technology Foundation	2+1	2+3
MT-121	Differential Equation	Natural Sciences	3+0	3+0
CET-123	Geology	Civil Engineering Technology Breadth	2+0	2+0
CET-124	Surveying	Civil Engineering Technology Foundation	2+1	2+3
Subtotal			14+3=**17**	14+9 =23
SEMESTER-III				
COM-211	Introduction to Computer Programing	Computer Sciences	2+1	2+3
MTH-211	Statistics and Probability	Natural Sciences	3+0	3+0
HUM-211	Professional Ethics	Art & Humanities	2+0	2+0
CET-211	Environmental Technology	Civil Engineering Technology Foundation	2+0	2+0
CET-212	Fluid Mechanics	Civil Engineering Technology Foundation	2+1	2+3
CET-213	Mechanics of Solids	Civil Engineering Technology Foundation	2+1	2+3
Subtotal			13+3 **=16**	13+9 **=22**
SEMESTER-IV				
CET-221	Transportation and Highway Technology	Civil Engineering Technology Breadth	2+1`	2+3
CET-222	Evolution of Architecture and Engineering	Civil Engineering Technology Foundation	2+0	2+0
CET-223	Soil Mechanics	Civil Engineering Technology Foundation	2+2	2+6
CET-224	Structural Principles	Civil Engineering Technology Breadth	2+0	2+0
CM-221	Occupational Health and Safety Management	Management Science	3+0	3+0
NSC-221	Fundamentals of Applied Economics	Natural Sciences	3+0	3+0
Subtotal			14+3 **= 17**	14+9 **= 23**

Course Codes	Course Title	Knowledge Area/Domain	Credit Hrs. (Th+Lb)	Weekly Contact Hrs. (Th+Lb)
		SEMESTER-V		
CET-311	Reinforced and Prestressed Concrete	Civil Engineering Technology Depth	2+1	2+3
CET-312	Construction Equipment and Jobsite Practices	Civil Engineering Technology Breadth	2+1	2+3
CET-313	Computer Aided Drawing and Building Information Modeling	Civil Engineering Technology Depth	1+2	1+6
CET-314	Geotechnical Investigation and Foundations	Civil Engineering Technology Depth	3+1	3+3
CET-315	Project Part -I	Civil Engineering Technology Depth	0+3	0+9
Subtotal			8+8 = **16**	8+24 = **32**
		SEMESTER-VI		
CET-321	Electro-Mechanical Technology	Civil Engineering Technology Breadth	2+0	2+0
CET-322	Irrigation Technology	Civil Engineering Technology Depth	3+0	3+0
CET-323	Construction of Steel Structures	Civil Engineering Technology Depth	2+0	2+0
CET-324	Quantity Surveying and Estimation	Civil Engineering Technology Depth	2+1	2+3
CET-325	Maintenance and Repair of Civil Works	Civil Engineering Technology Breadth	2+1	2+3
MGM-321	Technopreneurship	Management Science	2+0	2+0
CET-326	Project Part-II	Civil Engineering Technology Depth	0+3	0+9
Subtotal			**13+5 = 18**	13+15 = **28**

SEMESTER-VII Supervised Industrial Training (Optional)/List of Elective Courses				
CET-411	GIS and remote Sensing	Civil Engineering Technology Breadth	2+1	2+3
CET-412	Ground Improvement Techniques	Civil Engineering Technology Depth	2+1	2+3
CET-413	Design Assessment Tools	Civil Engineering Technology Breadth	2+1	1+3
CET-414	Building Codes and Compliance	Civil Engineering Technology Breadth	3+0	3+0
CET-415	Smart Technologies for Facilities Management	Civil Engineering Technology Depth	2+1	2+3
CET-416	Construction Project Administration	Civil Engineering Technology Breadth	2+1	2+3
CET-417	Drainage Technology	Civil Engineering Technology Breadth	3+0	3+0
CET-418	Applied Hydraulics	Civil Engineering Technology Depth	2+1	2+3
CET-419	Water Supply Systems	Civil Engineering Technology Depth	2+1	1+3
Note: Students can take 5 to 6 courses from the list according to the per week credit hours.				
Total Credits Hours and Contact Hours in 7th Semester (* Suggested)			16CH*	

SEMESTER-VIII				
Course Codes	Course Title	Knowledge Area/Domain	Credit Hrs. (Th+Lb)	Weekly Contact Hrs. (Th+Lb)
CET-421	**Supervised Industrial Training (Compulsory)**	Civil Engineering Technology Domain Industrial Training	**16**	**40**
Total Credits Hours and Contact Hours in 8th Semester			0+16= **16**	0+40= **40**

Section-VIII

Various Directorates

Sections of the University

DIRECTORATES / 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.

Dr. Nasarullah Channa

Director, QEC
Tel No.: 0244-9370381 Ext: 3156
Email: 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

Sports Section

Quaid-e-Awan University of Engineering Science & Technology takes immense pride in offering outstanding sports facilities to its students, Staff and Faculty members firmly believing in the principle that a healthy mind resides in a healthy body. The university is committed to the holistic development of its students and views physical education and sports as essential components of student life. To promote fitness, teamwork, and discipline among students, the university hasinvested significantly in building world-class sports infrastructure that caters to a wide range of athletic interests.

At the heart of the indoor sports offerings is the Multipurpose Hall, a spacious and wel-equipped facility that allows students to participate in various indoor games such as Table Tennis, Badminton, and Snooker. The hall provides a vibrant atmosphere that encourages friendlycompetition and recreational activities among students. It also serves as a venue for inter-departmental sports events and regular practice sessions under the supervision of qualified trainers.

In addition to the indoor facilities, Quaid-e-Awan University also provides a large open arealocated between the two joint hostels. This versatile space has been designated for outdoor sportsactivities including Cricket, Volleyball, Basketball, and Athletics. This area not only serves as atraining ground but also a recreational zone where students can unwind and engage in team-basedsports after academi hours. Regular matches and informal tournaments are held here,fostering aculture of healthy competition and camaraderie.

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.

Sports at Quaid-e-Awan University are not limited to students alone. Faculty members andadministrative staff are also encouraged to take part in physical activities. In the evenings,manyofficers and professors can be found engaging in friendly matches, creating a dynamic and healthy atmosphere on campus that bridges the gap between students and staff. This inclusive environmentfosters a sense of community and mutual respect across all levels of the university.

To nurture talent and encourage competitive spirit, the university also provides extensive supportto students who aspire to represent Quaid-e-Awan University at regional, national,international,and Higher Education Commission (HEC) sports events. Talented athletes are provided withcoaching, training resources, and other forms of assistance to help them excel in their chosensports. This unwavering support has led to the emergence of numerous sportsmen andsportswomen who have brought recognition and prestige to the university through theirachievements.

Moreover, professional coaches and trainers are employed by the university to conduct dailytraining sessions, ensuring that students can consistently improve their skills and remain physicallyactive. These experts work closely with athletes to refine techniques, improve performance, andprepare them for high-level competitions.

In conclusion, Quaid-e-Awan University stands out as an institution that truly values the role ofsports in academic and personal development. Through its comprehensive sports facilities,inclusive policies, and dedicated training programs, the university not only promotes physicalwell-being but also nurtures qualities such as teamwork, discipline, leadership, and resilienceamong its students. It is a place where education and athletics go hand in hand, creating well-rounded individuals ready to face the challenges of life

Dr. Jam Shahzaib Sahito
Chairman Sports Board
Telephone # 0244-9370388/02449370381-4

Directorate of Postgraduate Studies and Research

It gives me great pleasure and honour to welcome you to the Directorate of Postgraduate Studies & Research (PGS).The students who choose to join us have an opportunity for a very exciting and rewarding academic and intellectualincoming students and scholars. The postgraduate students could discover new areas of interest and developpersonal confidence, competence, creativity and character. Students are provided with knowledge, skills and valueswhich are necessary inputs for the success in a highly competitive and rapidly changing world and they learn tosolve the complex engineering problems individually and as a team.

The postgraduate students learn:
> How to write well?
> How to speak well?
> How to behave well?
> How to live with others?
> How to deal with other people?
> How to solve complex engineering problems?

Computer Systems and Energy & Environment Engineering. In 2008, first batch of Master's in Engineering(evening program) was registered in Construction Engineering & Management, Power Engineering andManufacturing Engineering.

University has already awarded 47 PhD degrees up to February 2025 in different fields of sudies. In addition,around 05 PhD and more than 90 candidates are expected to receive PhD and Master's degrees respectively invarious disciplines in the next convocation. At present, 145 PhD students are registered in 08 programs/fieldsoffered at QUEST Nawabshah in various departments. Every department have highly qualified and skilled facultyNetherlands, Spain, Sweden, Finland, China, Austria and Malaysia. Currently more than hundred faculty membersare supervising and guiding the postgraduate students of the university.

The Directorate of Postgraduate Studies offers 11 PhD and 22 ME/MS programs in following fields at main campus(QUEST Nawabshah).

Doctor of Philosophy (PhD) Program
1.Civil Engineering
2.Mechanical Engineering
3.Electrical Engineering
4.Computer Systems Engineering
5. Energy & Environment Engineering
6.Environmental Engineering
7.Electronic Engineering
8. Telecommunication Engineering
9.Software Engineering
10.Information Technology

Master of Engineering (ME) Program
1. Civil Engineering
2. Construction Engineering & Management
3. Structural Engineering
4. Power Engineering
5. Computer Systems Engineering
6. Computer Communication & Networks
7. Manufacturing Engineering
8. Industrial Engineering & Management
9. Energy & Environment Engineering
10. Energy Systems Engineering
11. Environmental Engineering
12. Electronic Engineering
13. Communication Engineering
14. Industrial Automation & Control
15. Telecommunication Systems & Networks
16. Software Engineering

Master of Science (MS) Program
1. Information Technology
2. Software Engineering
3. Computer Science
4. Data Science
5. English (Linguistics)
6. Mathematics

Further information regarding the Postgraduate programs offered in the university can be found in the prospectus ofPostgraduate Studies published by the Directorate of Postgraduate Studies & Research, QUEST Nawabshah.

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 at Quaid-e-Awam University of Engineering, Science& Technology (QUEST), Nawabshah, is committed to fostering a vibrant research culture bypromoting and disseminating scholarly work across various disciplines of engineering,science,and technology.

The Directorate publishes the Quaid-e-Awam University Research Journal of Engineering, Science& Technology (QUEST RJ)-a biannual, peer-reviewed research journal. QUEST RJ provides aplatform for publishing high-quality research articles and serves as a conduit for sharing the latestadvancements with both national and international research communities. The journal isrecognized in the Y-Category by the Higher Education Commission (HEC) of Pakistan.

In addition to journal publication, the Directorate is responsible for the publication of books,monographs, and other academic works authored by the university's faculty members,supporting the broader goal of advancing scholarly output at QUEST.

For further information or publication inquiries, please contact the Editor, QUEST RJ, at: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 vital role to supporting and facilitating students, working enthusiastically for the welfare of both local and International students. The Directorate organizes extra-curricular activities aims at nurturing the creative and intellectual potential of student's talents that often remain untapped within the conventional classroom environment.

It promotes a vibrant and engaging atmosphere by facilitating diverse activities and events that attract students' interest and encourage their active participation. Though these initiatives, the directorate aims to instill discipline and positive behaviour among students, guiding them to become responsible and contributing members of society.

Mr. Atta Muhammad Chandio

Director Security & Estate Management / Student Affairs

Telephone No.0244-9370381-4 (Ext-2106)

Directorate of Continuing Education

The Director of Continuing Education at QUEST, Nawabshah is responsible for overseeing thedevelopment, management, and expansion of non-degree technical programs designed for undergraduate students, engineers and non-engineering professionals. These programs, such as certifications, CPD workshops, and professional development courses, help individuals enhance their skills, advance their careers, or pursue lifelong learning. The Director ensures that the university's continuing education offerings meet industry demands, stay relevant, and provide flexible learning opportunities for working professionals. This Directorate also manage resources, collaborate with industry partners, and ensure that students receive the necessary support throughout their educational journey.

Dr. Nadeem Naeem Bhatti
Director, Continuing Education
Email: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.

For further information, please contact:

Mr. Zahid Karim Shar
Director Finance
Tel: +92-244-9370371   Email: df@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),

Library Server (opac.quest.edu.pk), QUEST Digital Library (Repository) Server, Public Server for QEC Evaluation Proforma (qecevaluation.quest.edu.pk), Biometric Attendance Server Machine for staff attendance, locally accessible Server for Online Testing Services 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 as 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.

Dr. Abdul Wahid Memon
Director ICT
Ph: 0244-930364,Email: director.its@quest.edu.pk

Section-IX

Facilities Available to Students

9. 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 66921 books and 16200 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 The 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 5980 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 4400 research journals are full text accessible on QUEST internet. 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 21600 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: //10.10.170.122:8080

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

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 academics 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 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.

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 Dr.op 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.

Fees Structure for Undergraduate Students

SN	Description	Fees (Rs.)
1	Admission Fee	2926
2	Room Charges	17545
3	Room Deposit (Once) (Refundable)	1100
4	Medical charges	264
5	Sports/Newspaper	110
6	Utility charges	3069
7	Form Fee	2220
8	Transport Charges	2926
9	ID Card	550
	Total	28710

Fees Structure for pOSTgraduate Students

SN	Description	Fees (Rs.)
1	Admission Fee	3195
2	Room Charges	19140
3	Room Deposit (Once) (Refundable)	1200
4	Medical charges	288
5	Sports/Newspaper	120
6	Utility charges	3348
7	Form Fee	240
8	Transport Charges	3192
9	ID Card	600
	Total	31323

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.

Prof. Dr. Dadan Khan Bangwar
Provost (Hostels), QUEST
9370381-5 (5-lines) Ext.3250, provost@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.

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

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. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8.   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

9.   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.

10.   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.

11.   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.

12.   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.

13.   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.

14.   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.

15.   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.

16.   PPL Welfare Trust:

This Financial assistance is provided for students, who are belonging to operational districts i.eKashmore, Shahdadkot and Sanghar on a Poverty Cum Merit basis.

17.   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.

18.   Indigenous Scholarship:

this financial assistance is providing by Ministry of Sindh Higher Education Commission for BE/BS/ME/MS/M.Phill & Ph.D students who are unable to continue their higher Education because lake of financial resources.

19. KARWAN-E-ILM SCHOLARSHIP FOUNDATION

This financial assistance is providing to needy & deserving students on thePoverty-Cum Merit basis for bachelor degree programme to accomplish theireducation in befitting manners.

20. DIRECTORATE OF COLLEGES & HIGHER EDUCATION,BALOCHISTAN QUETTA/BEEF SCHOLARSHIP

This financial assistance is providing to needy & deserving students on thePoverty-Cum Merit basis for bachelor degree programme to accomplish theireducation in befitting manners.

21. STUDENTS SUPPORT ENDOWMENT FUND:

This financial assistance is providing to needy & deserving studentsrecommendation of concerned chairman department through its committeeconcerned for supporting to maintain the education expenditures.

22. IFTA WELFARE TRUST

This financial assistance is non-governmental welfare organization focusing onhumanitarian projects in Pakistan. Supports orphans and deserving studentswith tuition fees.

23. THE CITIZEN FOUNDATION

Supports deserving alumni in pursuing tertiary education by

facilitatingadmissions, connecting them to scholarship opportunities,

and potentiallysupporting initial expenses, with a focus on alumni

attending well-ranked,lower-cost universities

Mr. Waqar Mujtaba Qazi
Director SFAO
Off: # 0244 – 9370388
E-mail: waqarqazi1971@hotmail.com

Section-X

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, **(exluding 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 ALONGWITH 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 withDr.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 withoutassigning 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 (25-BATCH)

FOR ALL PROGRAMMES EXCEPT PHYSICS AND CHEMISTRY

	1st Semester		2nd Semester	
S#	Description	Fee 25-BATCH	Description	Fee 25-BATCH
1	Admission Fee (per year)	21200		
2	Tuition Fee (per semester)	19800	Tuition Fee (per semester)	21500
3	Transport Charges (per semester)	3300	Transport Charges (per semester)	3300
4	QUEST, Endowment Fund (per semester)	1700	QUEST, Endowment Fund (per semester)	1700
5	Games Fee (per semester)	900	Games Fee (per semester)	900
6	Pass, Transcript & Degree certificates (per semester)	1800	Pass, Transcript & Degree certificates (per semester)	1800
7	Internet fee (per semester)	3000	Internet fee (per semester)	3000
8	University Caution Money (once) (Refundable)	4000		
9	Subject society / PERN Fee (once)	1300		
10	Development Fee (once)	1300		
11	Enrollment Fee (once)	1300		
12	Marks Verification Fee (once)	2700		
13	ID Card Fee (once)	700		
14	Medical Fitness (once)	1300		
	Total (A)	64300	Total (B)	32200
			Grand Total (A+B)	96500

BACHELOR OF SCIENCE(B.S) (PHYSICS / CHEMISTRY)

	1st Semester		2nd Semester	
S#	Description	Fee 25-BATCH	Description	Fee 25-BATCH
1	Admission Fee (per year)	15900		
2	Tuition Fee (per semester)	19800	Tuition Fee (per semester)	21500
3	Transport Charges (per semester)	3300	Transport Charges (per semester)	3300
4	QUEST, Endowment Fund (per semester)	1700	QUEST, Endowment Fund (per semester)	1700
5	Games Fee (per semester)	900	Games Fee (per semester)	900
6	Pass, Transcript & Degree certificates (per semester)	1800	Pass, Transcript & Degree certificates (per semester)	1800
7	Internet fee (per semester)	3000	Internet fee (per semester)	3000
8	University Caution Money (once) (Refundable)	4000		
9	Subject society / PERN Fee (once)	1300		
10	Development Fee (once)	1300		
11	Enrollment Fee (once)	1300		
12	Marks Verification Fee (at the time of verification)	2700		
13	ID Card Fee (once)	700		
14	Medical Fitness (once)	1300		
	Total (A)	59000	Total (B)	32200
			Grand Total per year (A+B)	91200

FOR ALL PROGRAMMES EXCEPT PHYSICS AND CHEMISTRY.

3RD, 5TH AND 7TH Semesters			4TH, 6TH AND 8TH Semesters	
S#	Description	Fee 25-BATCH	Description	Fee 25-BATCH
1	Admission Fee (per year)	21200		
2	Tuition Fee (per semester)	19800	Tuition Fee (per semester)	21500
3	Transport Charges (per semester)	3300	Transport Charges (per semester)	3300
4	QUEST, Endowment Fund (per semester)	1700	QUEST, Endowment Fund (per semester)	1700
5	Games Fee (per semester)	900	Games Fee (per semester)	900
6	Pass, Transcript & Degree certificates (per semester)	1800	Pass, Transcript & Degree certificates (per semester)	1800
7	Internet fee (per semester)	3000	Internet fee (per semester)	3000
	Total (A)	51700	Total (B)	32200
			Grand Total (A+B)	83900

BACHELOR OF SCIENCE(B.S) (PHYSICS / CHEMISTRY)

3RD, 5TH AND 7TH Semesters			4TH, 6TH AND 8TH Semesters	
S#	Description	Fee 25-BATCH	Description	Fee 25-BATCH
1	Admission Fee (per year)	15900		
2	Tuition Fee (per semester)	19800	Tuition Fee (per semester)	21500
3	Transport Charges (per semester)	3300	Transport Charges (per semester)	3300
4	QUEST, Endowment Fund (per semester)	1700	QUEST, Endowment Fund (per semester)	1700
5	Games Fee (per semester)	900	Games Fee (per semester)	900
6	Pass, Transcript & Degree certificates (per semester)	1800	Pass, Transcript & Degree certificates (per semester)	1800
7	Internet fee (per semester)	3000	Internet fee (per semester)	3000
	Total (A)	46400	Total (B)	32200
			Grand Total per year (A+B)	78600

Detail of Summer Semester Course Fee
The Fee structure for conduct of summer semester classes for Batch-25 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. 3000

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 on first come first served basis.

v   Category-I

Self-Finance Scheme for B.E (Civil and Software) is Rs.11,55,000/- (Rupees Eleven Lac Fifty-Five Thousand Only) including Government Tax.

v   Category-II

Self-Finance Scheme for B.E (Computer Systems) is Rs.840,000/- (Rupees Eight Lac and Forty Thousand Only) including Government Tax.

NOTE: Admissions on Self Finance scheme under category-II will be made only if seats are available.

v   Category-III
B.E (other than Civil, Software, Computer Systems Engineering) is Rs. 525000/- (Rupees Five Lac and Twenty-Five Thousand Only) including Government Tax.

v   Category-IV
Admission under Self Finance Scheme in Bachelor of Science (BS) degree program.
i.   BS (Information Technology, Computer Science & Artificial Intelligence) is Rs.8,40,000/- (Rupees Eight Lac and Forty Thousand only) including Government Tax.
ii.   BS (Cyber Security & Data Science) is Rs.630,000/- (Rupees Six Lac and Thirty Thousand only) including Government Tax.
iii.   BS (English Language and literature) is Rs.525000/- (Rupees Five Lac and Twenty Five Thousand Only) including Government Tax.
iv.   BS (Physics, Chemistry, Mathematics, Civil Engineering Technology and Food Engineering 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 on first come first served basis and with online admission form before closing date i.e May 31st, 2025.
(a)   The Bank Demand Draft of Self Finance should be prepared in favor of Director Finance, QUEST, Nawabshah.
(b)   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.

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,

(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-25)

S#	District/Category	Cat: Code	QUEST, NAWABSHAH											
			CE	CS	EL	ME	ES	TC	ESE	CH	SW	E.E	IME	Total
1	Sukkur	A-1	5	4	6	6	4	4	3	3	5	4	1	45
2	Ghotki	A-2	4	4	4	4	3	3	3	3	3	3	1	35
3	Khairpur Mirs	A-3	7	6	7	8	5	4	4	4	5	5	1	56
4	Shaheed Benazirabad	A-4	9	4	8	8	6	4	4	4	5	6	1	59
5	Naushahro Feroze	A-5	8	4	7	6	5	4	4	4	4	4	1	51
6	Larkana	A-6	2	2	2	2	1	1	3	2	1	1	1	18
7	Shahdadkot	A-7	1	3	1	2	2	2	1	2	2	2	1	19
8	Shikarpur	A-8	1	2	2	2	2	2	2	1	2	2	1	19
9	Jacobabad	A-9	1	2	2	1	1	1	2	1	1	1	1	14
10	Kashmore	A-10	1	1	1	1	1	1	2	2	1	1	1	13
11	Hyderabad	A-11	1	2	2	2	1	1	1	1	1	2	1	15
12	Matiari	A-12	1	1	1	1	1	1	0	1	2	1	1	11
13	Tando Allahyar	A-13	1	1	1	1	0	1	1	1	1	1	1	10
14	Tando M. Khan	A-14	1	0	1	1	1	1	1	1	1	1	1	10
15	Dadu	A-15	1	1	2	2	2	1	1	1	1	2	1	15
16	Jamshoro	A-16	1	1	1	1	0	1	1	1	1	1	1	10
17	Thatta	A-17	2	2	1	1	1	2	1	1	2	2	1	16
18	Badin	A-18	2	1	2	2	1	1	1	1	1	1	1	14
19	Mirpurkhas	A-19	2	1	1	1	1	1	2	2	2	2	1	16
20	Umerkot	A-20	1	1	1	1	1	1	0	1	1	2	1	11
21	Tharparkar	A-21	2	1	1	1	1	1	1	1	1	1	1	12
22	Sanghar	A-22	2	2	2	2	1	1	1	1	2	1	1	16
23	Karachi	A-23	4	1	4	4	0	1	1	1	1	1	1	19
	Total (A)		60	47	60	60	41	40	40	40	46	47	23	504
24	Upper (Girls)	B	1	1	3	1	3	0	0	0	2	1	0	12
25	Lower (Girls)		1	0	4	1	2	0	0	0	1	2	0	11
26	QUEST Employees	C	7	1	7	7	0	0	0	0	0	0	0	22
27	Sportsmen	D	0	0	0	1	1	0	0	0	0	0	0	2
28	Affiliated Colleges	E	1	0	1	0	0	0	0	0	0	0	0	2
29	Diploma Holders	F	1	0	1	1	1	0	0	0	0	0	0	4
33	(i) Foreigners	M	3	0	2	2	1	0	0	0	0	0	0	8
31	Self Finance	SF	46	1	22	7	1	0	0	0	1	0	0	78
	Total (B)		60	3	40	20	9	0	0	0	4	3	0	139
32	A. Jammu Kashmir	J	1	0	1	1	0	0	0	0	0	0	0	3
33	(i) Tribal Area (FATA)	K	0	0	0	1	0	1	0	1	1	1	0	5
34	(ii) Northern Area		0	0	0	2	0	0	0	0	0	0	0	2
35	Armed Forces	L	3	2	1	1	0	0	0	0	0	0	0	7
36	(ii) OIC	M	0	0	2	1	0	0	0	0	0	0	0	3
37	Baluchistan	N	1	0	1	0	1	0	0	0	0	0	0	3
38	HEC (Balochistan)	O	0	1	0	1	0	1	1	0	0	0	0	4
39	FATA		1	0	1	0	1	0	1	0	0	0	0	4
	Total (C)		6	3	6	7	2	2	2	1	1	1	0	31
	Total (A+B+C)		126	53	106	87	52	42	42	41	51	51	23	674

Table-2: Distribution of Engineering Seats in Districts Urban / Rural (Batch-25)

Sr. #	District	Cat: Code	URBAN	RURAL	Total
1	Sukkur	A-1	21	24	45
2	Ghotki	A-2	7	28	35
3	Khairpur Mirs	A-3	12	44	56
4	Sh. Benazirabad	A-4	17	42	59
5	Naushahro Feroze	A-5	10	41	51
6	Larkana	A-6	5	13	18
7	Shahdadkot	A-7	5	14	19
8	Shikarpur	A-8	5	14	19
9	Jacobabad	A-9	4	10	14
10	Kashmore	A-10	4	9	13
11	Hyderabad	A-11	6	9	14
12	Matiari	A-12	4	7	11
13	Tando Allahyar	A-13	4	6	10
14	Tando M. Khan	A-14	3	7	10
15	Dadu	A-15	3	12	15
16	Jamshoro	A-16	3	7	10
17	Thatta	A-17	3	13	16
18	Badin	A-18	3	11	14
19	Mirpurkhas	A-19	4	12	16
20	Umerkot	A-20	0	11	11
21	Tharparkar	A-21	0	12	12
22	Sanghar	A-22	5	11	16
23	Karachi	A-23	19	0	19
Total			147	357	504

Table-3: Distribution of Seats in Various Engineering Disciplines (Batch-25)

District/Category	Building & Architectural	Industrial & Manufacturing	Biomedical	Electrical (Automation & Control)
Sukkur	42	19	42	42
Ghotki				
Khairpur Mirs				
Shaheed Benazirabad				
Naushahro Feroze				
Larkana				
Shahdadkot				
Shikarpur				
Jacobabad				
Kashmore				
Hyderabad				
Matiari				
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
Total	**50**	**27**	**50**	**50**
GRAND TOTAL = 177				

Table-4: Distribution of Seats in Various Science Disciplines (Batch-25)

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	70	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	10	13	05	03
Total	**100**	**100**	**65**	**100**	**65**	**90**	**60**	**60**	**60**
Grand Total =700									

Table-5: Distribution of Seats in Various Technology Disciplines (Batch-25)

District/Category	Civil Technology	Food Engg Technology
Sukkur	45	45
Ghotki		
Khairpur Mirs		
Shaheed Benazirabad		
Naushahro Feroze		
Larkana		
Shahdadkot		
Shikarpur		
Jacobabad		
Kashmore		
Hyderabad		
Matiari		
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
Total	**50**	**50**
G.TOTAL	**100**	

Table-6: Distribution of Seats for Self Finance Scheme (Batch-25)

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	40	22	04	01	01	01	69
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
TOTAL (ii + iii)		6	0	3	0	0	0	9
G. TOTAL (i+ii+iii)		46	22	07	01	01	01	78

Table-7: Description of Remaining Categories

Category	Description	Seats

B	Thirty seats have been reserved for eligible girl candidates domiciled in Sindh province as per the distribution given below:
	       QUEST, Nawabshah
	       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).
		23

C	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. 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. 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. 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. 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. 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. 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. 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. 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. **NOTE**: 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: • 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.	22
D	Eligible candidates with proven sportsmen skills and domicile of Sukkur, Shaheed Benazirabad and Larkana Divisions only.	02
E	Real Sons and daughters of regular employees of **Government Habib College of Technology, Nawabshah** and **Govt. College of Technology, Khairpur** recommended by the Principal along with CNIC, form "B" and service certificate of employer.	02
F	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.	04
J	Candidates belonging to Azad Jamu Kashmir, nominated by the Ministry of Education, Government of Pakistan, Islamabad. The distribution is given below: 1. QUEST, Nawabshah = 03 Seats	03

K	(i) Candidates belonging to Federally Administrated Tribal Areas (FATA) 　　1.　QUEST Nawabshah = 05 Seats 　　2.　QUEST Campus, Larkano = 00 Seats	**05**
	(ii) Northern areas nominated by the state and frontier Region Division, Government of Pakistan, Islamabad.	**02**
L	Sons and daughters of Armed forces personnel nominated by the General Headquarters, Rawalpindi.	**07**
M	(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	**11**
	(ii) Less developed countries of the organization of Islamic Countries, OIC, Nominated /communicated by Higher Education Commission, Islamabad (HEC).	**03**
N	Candidates belonging to Balouchistan Province, nominated by the Ministry of Education. Government of Balouchistan.	**03**
O	(i) Candidates belonging to Balouchistan nominated through Higher Education Commission, Islamabad. 　　1.　QUEST, Nawabshah = 04 Seats	**08**
	(ii) Candidates belonging to FATA nominated through Higher Education Commission, Islamabad 　　1.　QUEST Nawabshah = 04 Seats	
	Total Seats	**105**

Table-9: Detail of Urban Areas of Sindh Province

SN	District
1	**Sukkur District** a) Sukkur Municipality b) Rohri Municipality
2	**Ghotki District** a) Ghotki Municipality b) Mirpur Mathelo Municipality
3	**Khairpur District** a) Khairpur Municipality b) Pir-Jo-Goth Municipality c) Gambat Municipality
4	**Shaheed Benazirabad District** a) Nawabshah Municipality
5	**Naushahro Feroze District** a) Moro Municipality
6	**Larkano District** a) Larkano Municipality b) Ratodero Municipality c) Naudero Municipality
7	**Kambar Shahdadkot District** a) Shahdadkot Municipality b) Qambar Municipality
8	**Shikarpur District** a) Shikarpur Municipality
9	**Jacobabad District** a) Jacobabad Municipality
10	**Hyderabad District** a) Hyderabad Municipality b) Hyderabad Cantonment c) Tando Jam Municipality

SN	District
11	**Kashmore District** a) Kandhkot Municipality
12	**Matiari District** a) Hala Municipality
13	**Tando Allahyar District** a) Tado Allahyar Municipality
14	**Tando M. Khan District** a) T.M. Khan Municipality
15	**Dadu District** a) Dadu Municipality b) Mehar Municipality c) K.N. Shah Municipality
16	**Jamshoro District** a) Kotri Municipality
17	**Thatta District** a) Thatta Municipality
18	**Badin District** a) Badin Municipality b) Matli Municipality
19	**Mirpur Khas District** a) Mirpur Khas Municipality
20	**Umerkot District** No Urban Areas
21	**Tharparkar District** No Urban Areas
22	**Sanghar District** a) Sanghar Municipality b) Shahdadpur Municipality c) Tando Adam Municipality, d) Sanjhoro Municipality
23	**Karachi**

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. (Revised in 2022).

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 / Mak-up 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-academic / calendar years, further extendable for one year with the approval of Statutory Bodies
Summer / Mak-up 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)

Teaching duration of Fall semester	16 Weeks
Conduct of Mid Semester Exam	01 Week
Preparation of final Fall Semester Exam	01 Week
Conduct of final Fall Semester Exam	02 Weeks
Semester Break	01 Week
Teaching duration of Spring Semester	16 Weeks
Conduct of Mid Semester Exam	01 Week
Preparation of final Spring Semester Exam	01 Week
Conduct of final Spring Semester Exam	02 Weeks
Semester Break	01 Week
Summer Break / Summer / Mak-up Semester	08 Weeks
Winter Break	02 Weeks
TOTAL	**52 WEEKS**

9. Summer / Mak-up Semester:

9.1 There will be no supplementary/special examination from batch-20 and onwards.

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 /mak-up semester.

9.3 Summer / mak-up 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 / mak-up 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 / mak-up Semester will be doubled of the regular semester to ensure that the course is completely taught in a summer / mak-up 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 / mak-up semester.

9.6 The course in a summer / mak-up 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 Objective type test 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)
7th	3	100	25	15	30	30
8th	3	100	25	15	30	30

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-voice and final year Project Examination.

14. Grade Equivalence

Table 14.1 Grade Equivalence (w.e.f. 22 batch & onward)

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%	*Fail
W**	N/A	N/A	**Withdrawn
I***	N/A	N/A	***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:-

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

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:

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

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. However this exercise shall be carried before receiving the pass, degree certificates.

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, Controller of Examinations are Secretary / member 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. 24 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 / mak-up 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 / mak-up 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 Statues 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 or 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 inthe 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:
   b. **Pre-Engineering Group** (English, Physics, Chemistry and Mathematics)
   c. **Pre-Medical Group** (English, Physics, Chemistry and Biology)
   d. **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 Dr.opped 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 =10m/s)

    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 x 10-5/K)

  A. 2x10-3m   B. 2x10-3 cm   C. 1.1 x10-3 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 H2(g) reacts with an equal volume of Cl(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 hyDr.ogen.

   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 Hz (or Cly) 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 hyDr.ocarbons

    C. Aromatic hyDr.ocarbons   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 quaDr.atic 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 7and the common difference=-4, is

       A A+11d   B. 7+4n   C. 11-4n   D. A+(n+1)(-4)

5. Evaluate $(Lim x2 + x - 2) / (4X2 - 1)$

       A.0   B. ∞   C. 1   D. 4

6. Solve the differential equation: sec2 x tan y dx + sec2 y tan x dy=0

       A. ±1+x2=0   B. cosec2x+1

       C. sec2 x+cosec2 x+tan2 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.

QUAID-E-AWAM UNIVERSITY

Of Engineering, Science & Technology,

Nawabshah (67480), District Shaheed Benazirabad, Sindh-Pakistan

Phone: 0244-9370381-5, 0244-9370359

WWW.quest.edu.pk