



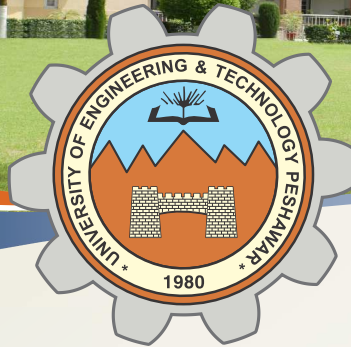
**UNIVERSITY OF  
ENGINEERING AND  
TECHNOLOGY, PESHAWAR**

**ENGINEERING  
A PROMISING  
FUTURE**

A collage of images related to engineering. On the left, a large, glowing blue turbine or engine component is shown. In the center, four students (three men and one woman) wearing white hard hats are gathered around a table, looking at a laptop and some papers. On the right, a large, modern university building with a flagpole is visible.

# **POSTGRADUATE PROSPECTUS**

## **2026-27**



# POSTGRADUATE PROSPECTUS 2026-27



## VISION

To be among the top ranking universities of the world through Education, Research and Innovation



## MISSION

To produce highly qualified, well-rounded professionals through education who play a leading role in the society by powering and driving knowledge-based economy and offer research services and innovation for sustainable development



## Message from the **CHANCELLOR**

Welcome to the University of Engineering and Technology (UET) Peshawar, a premier engineering university where talent is nurtured, innovation is inspired and future engineers, entrepreneurs and scientists are empowered to shape a better tomorrow. I warmly congratulate our newly admitted students and their parents on becoming part of the UET Peshawar family. You have chosen an institution with a proud legacy of academic excellence, innovation and service to society.

UET Peshawar has earned a distinguished reputation as one of Pakistan's leading engineering universities. I am delighted that the university secured 1st position among Technical and Professional Public Sector Universities and 5th position overall in the Khyber Pakhtunkhwa University Rankings 2026, reflecting its unwavering commitment to quality, excellence and continuous improvement.

As technology continues to reshape our world, it is encouraging to see UET Peshawar's commitment to preparing graduates for the future. The University offers a comprehensive range of undergraduate and postgraduate programs in engineering, computing, architecture and interior design, while continuously expanding its academic portfolio with emerging disciplines such as Artificial Intelligence, Cyber Security, Computer Science, Energy Management and Mathematics. Through modern curricula, state-of-the-art laboratories, strong academia-industry partnerships, internships with leading organizations, career development initiatives and merit and need-based scholarships, UET Peshawar offers equal learning opportunities and hands-on skills to the students, needed to excel in an increasingly competitive global environment.

The Government of Khyber Pakhtunkhwa and the Higher Education Department have full confidence in UET Peshawar's leadership and its continued contribution to engineering education, research, innovation and the socio-economic development of the province.

As you embark on this exciting journey, I encourage you to make the most of every opportunity to learn, innovate and lead. I am confident that your experience at UET Peshawar will prepare you to become well-rounded professionals, responsible citizens and future leaders who will contribute to the progress and prosperity of Pakistan.

I wish you every success in your academic journey and a bright and fulfilling future.



**Muhammad Sohail Afridi**  
Chief Minister/Chancellor  
Khyber Pakhtunkhwa



## Message from the **VICE CHANCELLOR**

It gives me immense pleasure to welcome prospective scholars and researchers to the postgraduate programs of UET Peshawar. As a premier institution of engineering, technology, and applied sciences, UET Peshawar remains committed to advancing knowledge, fostering innovation and preparing highly skilled professionals capable of contributing meaningfully to society and the national economy.

Our postgraduate programs are designed to provide students with a stimulating academic and research environment that encourages intellectual curiosity, critical thinking, innovation and problem-solving. With a diverse range of Master's, M.Phil., and Ph.D. programs in engineering, computing, architecture, management, basic sciences, energy and other emerging fields, the University offers opportunities for advanced study that respond to evolving national and global needs.

At UET Peshawar, postgraduate education goes beyond the acquisition of advanced qualifications.

We seek to develop researchers and professionals who can generate new knowledge, address complex challenges and translate research into practical solutions. Our emphasis on research, interdisciplinary collaboration, emerging technologies, and engagement with industry and other stakeholders enables our postgraduate scholars to pursue meaningful academic and professional pathways.

I encourage aspiring scholars to take advantage of the opportunities offered by UET Peshawar and become part of an academic community committed to excellence, innovation, and service. I am confident that your journey at the University will equip you with the knowledge and skills required to make a lasting contribution to Pakistan and the wider world.

I wish all prospective students success in their academic and research endeavours and warmly welcome them to UET Peshawar.



**Prof. Dr. Sadiq Khattak**  
Vice Chancellor



# STUDENT SUPPORT SERVICES

UET Peshawar provides comprehensive admission, academic, and student support services to ensure a smooth transition into university life and a rewarding learning experience throughout your studies. Dedicated offices are available to assist prospective and enrolled students with admissions, academic guidance, student services, public information and communication.



## DIRECTORATE OF POSTGRADUATE STUDIES

The Directorate of Postgraduate Studies (DPGS) deals with admissions of postgraduate students in coordination with Directorate of Admissions. The Directorate also looks after the processing of postgraduate programs and enforcement of regulations approved by the Academic Council and Syndicate.

Ph: +92-91-9222151 E-mail: [dpgs@uetpeshawar.edu.pk](mailto:dpgs@uetpeshawar.edu.pk)



## DIRECTORATE OF ADMISSIONS

The Directorate of Admissions is responsible for providing comprehensive and timely information regarding admissions. It provides general and program-specific guidance to prospective students on eligibility criteria, admission procedures, schedules, application requirements, and selection processes. The Directorate facilitates prospective students throughout the admission process and ensures that they have accurate information to make informed decisions about their academic future.

Ph: +92-91-9216784 website: [www.enggentrancetest.pk](http://www.enggentrancetest.pk) E-mail: [admission@uetpeshawar.edu.pk](mailto:admission@uetpeshawar.edu.pk)



## DIRECTORATE OF MEDIA & PUBLICATIONS

The Directorate of Media and Publications manages the University's strategic communications and in-house publications. It leads the annual admissions outreach campaigns by promoting academic programs, admission schedules and important announcements through print, electronic, and digital media. The Directorate also keeps prospective students informed through the University's official website and social media platforms, including Facebook, Instagram and LinkedIn, ensuring timely access to accurate and up-to-date admission information.

Ph: +92-91-9222147 E-mail: [dirmedia@uetpeshawar.edu.pk](mailto:dirmedia@uetpeshawar.edu.pk)



## CAMPUS MANAGEMENT SOLUTIONS (CMS)/IT CENTER

The Campus Management Solutions (CMS) / Information Technology Center (IT Center) as a central hub for the University's digital academic and administrative services. The web-based CMS provides students, faculty, and staff with convenient access to essential academic information and services, helping streamline university processes, improve efficiency, and reduce reliance on manual systems. The IT Center provides and manages a wide range of technology-enabled services, including CMS software, campus-wide internet and Wi-Fi connectivity, official email services, VPN access to the HEC Digital Library, licensed software, website management, IT help desk support and video conferencing facilities. The Video Conferencing Facility enables the University to conduct online meetings, lectures, seminars, training sessions, examinations, and academic interactions with national and international universities and institutions. The University has also digitized its admissions process through the ERP system, enabling applicants to complete registration, submit applications, view eligibility and program information, check admission status, and make payments online. This has made the admissions process more efficient, transparent, and accessible to prospective students.

Through Smart Campus (Eduroam) and other digital initiatives, UET Peshawar continues to strengthen its technological infrastructure and provide a connected learning environment. These services support technology-enabled teaching, learning, research, communication, student services, and administrative operations across the University.

Ph: +92-91-9222141 E-mail: [cmshelp@uetpeshawar.edu.pk](mailto:cmshelp@uetpeshawar.edu.pk)

## STUDENT SERVICE CENTER

The Student Service Center (SSC) provides a one-window solution for student-related services. It assists undergraduate and graduate students with academic records, examinations, fee matters, scholarships, campus management services and clearance procedures, ensuring timely and efficient support throughout their academic journey.



# CENTERS OF EXCELLENCE

UET Peshawar has a strong legacy of research and innovation, aimed at addressing the needs of society and the economy. Our Centers of Excellence serve as hubs of advanced research, innovation, capacity building and knowledge transfer in emerging fields. Working in collaboration with academic departments, and national and international partners, these centers promote applied, interdisciplinary and problem-oriented research and provide postgraduate students with opportunities to engage in cutting-edge research and real-world challenges. The overview of our major centers of excellence and laboratories in relevant areas of research and expertise offers the prospective postgraduate students an insight into the breadth of research being undertaken at UET Peshawar and the opportunities to enhance their research skills.



**NATIONAL CENTER FOR ROBOTICS AND AUTOMATION**  
(ADVANCED ROBOTICS AND AUTOMATION LAB)

The Advanced Robotics and Automation Lab (ARAL) at UET Peshawar is part of the National Center for Robotics and Automation (NCRA), a national consortium comprising robotics research laboratories at eleven universities across Pakistan. Established in 2018 at the Department of Mechatronics Engineering, UET Peshawar, ARAL was established with support from the Planning Commission of Pakistan and the Higher Education Commission (HEC) to advance research and innovation in robotics and automation. The Lab focuses on developing indigenous prototypes and commercially viable solutions to address national challenges and enhance productivity through robotics and automation technologies. Equipped with state-of-the-art facilities, ARAL undertakes research and provides technological expertise in areas including biomedical applications, precision agriculture, industrial automation, oil and gas, hydro-power, and water and sanitation.

Its key research areas include precision agriculture, with a focus on intelligent and automated systems for efficient farming, crop monitoring, and yield optimization; industrial automation, involving advanced robotic and control systems to improve manufacturing efficiency and productivity; and biomedical devices aimed at enhancing healthcare delivery and patient outcomes. ARAL also emphasizes prototype development, interdisciplinary collaboration, capacity building, and the translation of research into practical and scalable applications.



**EARTHQUAKE ENGINEERING CENTER**

The Earthquake Engineering Center (EEC) established with the HEC's funding is a multi-disciplinary research and education hub established with the mission to reduce seismic disaster risk in the province and across Pakistan. Since its inception, the Center has made remarkable progress in the fields of earthquake engineering, seismic risk assessment, and disaster resilience. It has established strong research collaborations with internationally renowned organizations, universities, and research institutions, contributing to capacity building, human resource development, and advanced research in earthquake engineering.

EEC's activities span across research & development in structural and geo-technical earthquake engineering, capacity building professionals to promote earthquake-resistant design and construction practices, collaborations with national and international stakeholders for developing resilient infrastructure and safer communities. Through its continued efforts, the EEC plays a leading role in strengthening Pakistan's capacity to mitigate and manage seismic hazards.



**NATIONAL CENTER FOR ARTIFICIAL INTELLIGENCE**

National Center of Artificial Intelligence (NCAI) was inaugurated at NUST in 2018. NCAI is the latest technological initiative of Government of Pakistan under the government's Vision 2025 where leading universities are its partners. In pursuance, the Center of Artificial Intelligence at UET Peshawar was established in 2019. It was also designed to act as a hub of innovation, scientific research, knowledge transfer to the local economy, and training in the area of Artificial Intelligence (AI) and its closely affiliated fields. The central aim is to facilitate the researchers in the field of AI; help them establish and grow AI industry following international trends and seek solutions to the indigenous problems through AI.

**NATIONAL CENTER FOR BIG DATA AND CLOUD COMPUTING**

The National Center for Big Data & Cloud Computing (NCBC) is aimed to effectively utilize cloud computing for Big Data applications for finding solutions to the problems of national importance. Keeping in view the advantages of cloud computing in provisioning and processing of big data and its suitability for the emerging trends in mobile devices and R&D environment having limited hardware resources, the utility of the cloud computing is plausible. NCBC's research areas include multimedia streaming and analytics, remote sensing, big data analytics, traffic characterization and analytics, cloud integration and analytics for mass data platform.



## NATIONAL CENTER FOR CYBER SECURITY

The National Center for Cyber Security (NCCS), established in 2018 is a leading hub dedicated to addressing Pakistan's cyber security challenges. With its three specialized labs: Security Testing, IoT Security, and Blockchain Security, the Center focuses on developing advanced solutions for securing web applications, enhancing IoT device protection, and utilizing blockchain technology for secure application development. NCCS has made significant contributions through its cutting-edge research in developing innovative security tools, and building capacity of professionals/practioners in the field of cyber security.

As an Accredited Training Center (ATC) of the globally recognized EC-Council, it provides international certifications such as, CEH and CHFI, preparing the next generation of cyber security experts to meet industry demands. NCCS collaborates with both public and private sectors in fostering strong industry-academia partnerships to ensure its research addressing the real-world security problems.

## GEMS AND JEWELRY CENTER OF EXCELLENCE

The Gems and Jewelry Center of Excellence (GJCoE) is a specialized facility dedicated to advancing skills and knowledge in gemology, lapidary, and jewelry design. Equipped with state-of-the-art laboratories and modern training equipment, the Center provides hands-on learning and applied research opportunities in gem cutting, polishing, and jewelry-making. The Center offers a five-month diploma program in Gemology, Lapidary, and Jewelry, led by a team of qualified teaching faculty and industry experts. Since its establishment, GJCoE has successfully trained and graduated more than 1100 students., many of whom have established their own ventures and contribute to the growth of Pakistan's gems and jewelry sector.



## CENTER FOR INTELLIGENCE SYSTEMS AND NETWORK RESEARCH

The Center for Intelligent Systems and Networks Research (CISNR) is among the pioneering research centers of UET Peshawar for solving indigenous problems utilizing AI and ICT technologies. CISNR was established in March 2012 with funding from the Ministry of IT & Telecom. The spectrum of the Center has expanded to the fields of energy, water, disaster management, climate change, smart climate agriculture, health and safe city; thus covering relevant UN SDGs. It also serves as a registered public consultancy, providing not only technical recommendations but also hard-coded solutions for the local industry. With the mission to provide smart, secure, and innovative solutions that pave the way for a prosperous society, while ensuring gender inclusiveness, CISNR specializes in technological and social development sectors, offering global expertise. applied locally.

## BUILDINGS ENERGY RESEARCH CENTER

The Buildings Energy Research Center (BERC) is a multidisciplinary research and innovation hub focused on advancing energy efficiency, sustainable construction, and climate-responsive building practices in Pakistan. Established as a joint initiative of UET Peshawar and the National Energy Efficiency & Conservation Authority (NEECA) with support from GIZ Pakistan, the Center was inaugurated in February 2024. BERC develops and promotes innovative, cost-effective, and sustainable solutions to reduce energy consumption in buildings through applied research, technology, capacity building, and knowledge exchange. Its key areas include building energy performance, energy modeling, passive design, green building technologies, sustainable materials, renewable energy integration, rainwater harvesting, and energy conservation. The Center brings together engineers, architects, researchers, industry professionals, and policymakers to address challenges in the built environment.



## U.S.-PAKISTAN CENTER FOR ADVANCED STUDIES IN ENERGY

The U.S.-Pakistan Center for Advanced Studies in Energy (USPCAS-E) at UET Peshawar is a leading center for advanced education, applied research, innovation, and capacity building in the energy sector. Established in 2014 through a USD 20 million Cooperative Agreement between USAID and UET Peshawar, the Center is focused on developing sustainable and innovative solutions to Pakistan's energy challenges and strengthening linkages between academia, industry, and government.

USPCAS-E promotes interdisciplinary research in areas including renewable energy, energy storage, energy efficiency, energy systems, and sustainable energy management. Its state-of-the-art laboratories support advanced research, technology development, consultancy, and industry-oriented projects.

The Center secures research grants through partnerships with public and private sector organizations for collaborative research, technology transfer and offering professional services. The Center contributes to postgraduate education by offering postgraduate degree programs in Renewable Energy Engineering, Electrical Energy Systems Engineering, Energy Management and Sustainability, Thermal System Engineering, Renewable Energy Engineering and Electrical Energy Systems Engineering.







### SECURED IOT DEVICES LAB

The Secured IoT Devices Lab (SID Lab) provides a dynamic and interdisciplinary research environment for students in Internet of Things (IoT), Artificial Intelligence (AI), Embedded Systems, Cyber Security, intelligent sensing and data-driven technologies. The Lab enables students to undertake advanced research, experimentation and prototype development in areas such as smart agriculture, environmental and climate monitoring, automation, secure connected systems and sustainable technologies. Students benefit from hands-on research experience, access to emerging technologies, interdisciplinary learning and opportunities to develop practical research and technical skills.

The Lab supports students in transforming research ideas into working prototypes and applied solutions while encouraging participation in collaborative research activities and exposure to national and international academic collaborations.

In addition to research, SID Lab offers students opportunities for technical training, skills development, workshops and capacity-building activities, including training programs and STEAM-based educational initiatives. Through its research-oriented and hands-on learning environment, SID Lab helps students strengthen their technical competence, problem-solving skills and readiness for advanced academic and professional pursuits.



### CISCO NETWORKING ACADEMY

The Cisco Networking Academy provides students with a practical learning environment for developing advanced skills in computer networking, cyber security, routing and switching, Python programming, and network automation. To strengthen the University's capacity for networking education and technical training, the Academy enables students to complement their academic studies with hands-on networking laboratories, practical exercises, technical training and Cisco learning pathways. Students can develop competencies in areas such as network design and configuration, enterprise routing and switching, network security, programmable networks, Cyber Security, and Python Programming.

Students also have opportunities to progress through internationally recognized Cisco learning and certification pathways, including CCNA and CCNP, as well as areas such as Cisco DevNet and Network Technician training. These learning opportunities help students strengthen their practical understanding of modern networked systems, support research and develop advanced technical competencies alongside their studies.



### HUAWEI AUTHORIZED INFORMATION AND NETWORK ACADEMY

The Huawei Authorized Information and Network Academy (HAINA) at UET Peshawar was established in 2020 through collaboration with Huawei to strengthen industry-oriented education and professional skills in Information and Communication Technology (ICT). HAINA provides students and researchers with practical, hands-on learning opportunities that bridge academic knowledge with contemporary industry practices.

HAINA provided trainings in emerging ICT domains including Datacom & Networking, Artificial Intelligence, Cloud Computing, Cyber Security, Internet of Things (IoT), 5G, Big Data, Storage, OpenEuler, OpenGauss and Intelligent Computing. HAINA is equipped with physical Huawei routers and Ethernet switches for hands-on experimentation, paired with access to Huawei MOOCs and digital learning platforms.

The Academy also facilitates training pathways toward internationally recognized Huawei certification levels, including Huawei Certified ICT Associate (HCIA), Huawei Certified ICT Professional (HCIP), and Huawei Certified ICT Expert (HCIE). Through industry-aligned training, professional certification and practical exposure, HAINA contributes to developing a skilled, future-ready ICT workforce and improving the professional readiness of UET Peshawar students and graduates.



# CONTENTS

|                                        |   |
|----------------------------------------|---|
| THE UNIVERSITY                         | 1 |
| PESHAWAR CAMPUS AND SATELLITE CAMPUSES | 2 |

## FACULTY OF CIVIL, AGRICULTURAL AND MINING ENGINEERING 3

|                                                         |    |
|---------------------------------------------------------|----|
| Department of Civil Engineering                         | 4  |
| i. Structural Engineering                               | 6  |
| ii. Water Resources Engineering                         | 8  |
| iii. Geotechnical Engineering                           | 9  |
| iv. Transportation Engineering                          | 10 |
| v. Environmental Engineering                            | 11 |
| vi. Earthquake Engineering                              | 12 |
| National Institute of Urban Infrastructure Planning     | 14 |
| i. Urban Infrastructure Engineering                     | 16 |
| ii. Urban Infrastructure Planning and Management        | 18 |
| Department of Agricultural Engineering, Peshawar Campus | 21 |
| i. Soil and Water Engineering                           | 23 |
| ii. Farm Machinery and Power Engineering                | 25 |
| Department of Mining Engineering, Peshawar Campus       | 27 |
| Mining Engineering                                      | 29 |

## FACULTY OF ELECTRICAL AND COMPUTER ENGINEERING 31

|                                                             |    |
|-------------------------------------------------------------|----|
| Department of Electrical Engineering, Peshawar Campus       | 32 |
| i. Power Engineering                                        | 34 |
| ii. Communication and Electronics Engineering               | 36 |
| iii. Artificial Intelligence                                | 38 |
| Department of Electrical Engineering, Nowshera Campus       | 42 |
| Electronics, Communications and Computing                   | 43 |
| Department of Electronics Engineering, Abbottabad Campus    | 45 |
| Electronics Engineering                                     | 46 |
| Department of Computer Systems Engineering, Peshawar Campus | 48 |
| i. Information Security                                     | 50 |
| ii. Machine Learning                                        | 52 |
| iii. Software Engineering                                   | 54 |
| iv. Digital and Embedded Systems                            | 56 |
| Department of Computer Science, Peshawar Campus             | 58 |
| i. Data Science and Distributed Systems                     | 60 |
| ii. Cyber Security                                          | 62 |

## FACULTY OF MECHANICAL, CHEMICAL AND INDUSTRIAL ENGINEERING 64

|                                                         |    |
|---------------------------------------------------------|----|
| Department of Mechanical Engineering, Peshawar Campus   | 65 |
| i. Mechanical Engineering Design                        | 67 |
| ii. Materials Engineering                               | 68 |
| iii. Dynamics and Control                               | 69 |
| iv. Nano Science and Engineering                        | 70 |
| Department of Mechatronics Engineering, Peshawar Campus | 71 |
| Automation and Control                                  | 73 |
| Department of Chemical Engineering, Peshawar Campus     | 75 |
| Advanced Chemical Engineering                           | 77 |
| Department of Industrial Engineering, Peshawar Campus   | 79 |
| i. Manufacturing Systems Engineering                    | 80 |
| ii. Engineering Management                              | 83 |
| US-Pakistan Center for Advanced Studies in Energy       | 86 |
| i. Renewable Energy Engineering                         | 87 |
| ii. Energy Management and Sustainability                | 91 |
| iii. Thermal System Engineering                         | 94 |
| iv. Electrical Energy Systems Engineering               | 97 |

## FACULTY OF ARCHITECTURE, ALLIED SCIENCES AND HUMANITIES 101

|                                                             |     |
|-------------------------------------------------------------|-----|
| Department of Architecture, Abbottabad Campus               | 102 |
| i. Architectural Heritage and Conservation                  | 105 |
| ii. Responsive Architecture                                 | 106 |
| iii. Energy Efficient Architecture                          | 107 |
| iv. Building Technology                                     | 109 |
| v. M. Arch (General)                                        | 111 |
| Department of Basic Sciences and Islamiyat, Peshawar Campus | 116 |
| Mathematics                                                 | 118 |

## RULES AND REGULATIONS 120

|                                                 |     |
|-------------------------------------------------|-----|
| BOARD OF ADVANCED STUDIES AND RESEARCH (BOASAR) | 120 |
| MASTER'S DEGREE PROGRAMS                        | 121 |
| PH.D. DEGREE PROGRAMS                           | 135 |
| CONDUCT AND DISCIPLINE REGULATIONS              | 144 |
| HOSTEL REGULATIONS                              | 151 |
| CONTACTS                                        | 161 |

# THE UNIVERSITY



UET Peshawar is a premier institution of higher learning in the field of engineering sciences in Khyber Pakhtunkhwa. Started as a College in 1952 and University in 1980, it offers a wide range of undergraduate and postgraduate degree programs covering an entire spectrum of conventional to cutting-edge engineering and non-engineering disciplines through four faculties including Faculty of Electrical and Computer Engineering, Faculty of Civil, Agricultural and Mining Engineering, Faculty of Mechanical, Chemical and Industrial Engineering and Faculty of Architecture, Allied Sciences and Humanities. These programs are offered in its campuses including Abbottabad, Nowshera and Bannu Campus.

UET Peshawar has been treading on a continuous path to achieve its goal with a stronger and more efficient infrastructure and qualified Ph.D. faculty. Currently more than 10,000 students are enrolled in various disciplines of undergraduate and postgraduate levels.

The Centers of Excellence at UET Peshawar are recognized for high impact research in various fields of engineering and teaching excellence in Pakistan. Excellence in teaching is a cornerstone of the UET experience and, is based on an Outcome-Based Education system that emphasizes the achievement of student outcome, thus bringing it at par with international standards.

## PESHAWAR CAMPUS

The Peshawar Campus houses thirteen academic departments, offering a wide range of undergraduate and postgraduate programs in engineering and non-engineering disciplines. All engineering academic programs are accredited under the Outcome-Based Education (OBE) system and internationally recognized through the Washington Accord, ensuring global acceptability of its degrees. With a strength of over 200 Ph.D. qualified faculty members, UET Peshawar places a strong emphasis on quality teaching and research-driven learning. The campus features modern classrooms and state-of-the-art laboratories, offering a dynamic and supportive environment that fosters academic excellence and practical, hands-on training to the students. The Peshawar Campus also hosts several Centers of Excellence which serve as hubs for cutting-edge research, certifications, industrial collaborations and innovation that addresses critical real-world challenges in relevant fields.



# SATELLITE CAMPUSES

## ABBOTTABAD CAMPUS

The Abbottabad Campus, established in October 2002 is located in the scenic and educationally vibrant city of Abbottabad. The campus currently offers undergraduate programs in Electronics Engineering, Architecture, Computer Science, and Software Engineering, along with postgraduate programs in Architecture and Electronics Engineering. Expansion plans are in progress to introduce new programs in Electrical Engineering, Civil Engineering, and Urban & Regional Planning. On-campus hostel facilities include Sarban Hall Boys Hostel, Jalal Baba Boys Hostel, and Fatima Jinnah Girls Hostel, with an additional boys hostel under construction—all located within the secure boundaries of the campus. UET Abbottabad Campus continues to grow as a hub of academic excellence in engineering, architecture, and technology.

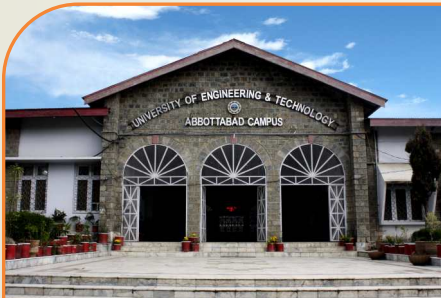
## NOWSHERA CAMPUS

The Nowshera Campus provides a modern learning environment designed to foster academic excellence, engineering innovation and research. Established with the financial support of the Higher Education Commission (HEC), the campus spans 402 acres with a built-up area of approximately 1.02 million square feet. It accommodates more than 3,000 students while featuring modern academic blocks, state-of-the-art laboratories, central facilities, student hostels, faculty residences, sports and recreational facilities. The Campus currently

offers undergraduate and postgraduate education in Civil Engineering, Electrical Engineering, Mechanical Engineering, Industrial Engineering, and Computer Science. Through quality teaching, research, innovation and industry engagement, the Nowshera Campus equips graduates with the knowledge, technical expertise and professional skills required to address contemporary engineering and technological challenges.

## BANNU CAMPUS

The Bannu Campus was established in 2002 to expand access to quality engineering education in the southern districts of Khyber Pakhtunkhwa. Since its inception, the campus has played a vital role in providing higher education opportunities closer to home, contributing to the academic and socio-economic development of the region. Currently, Bannu Campus offers a dynamic learning environment supported by qualified faculty, modern laboratories, library resources, hostels, sports facilities and a clean and secure campus. It currently serves nearly 500 students equipping the students with modern skills and knowledge required to meet the evolving demands of industry and society. The Bannu Campus offers undergraduate academic programs in Civil Engineering, Electrical Engineering, Computer Science and Artificial Intelligence. Through quality education, research and industry engagement, the campus continues to prepare graduates capable of contributing effectively to national development and technological innovation.



Abbottabad Campus



Nowshera Campus



Bannu Campus

# FACULTY OF CIVIL, AGRICULTURAL AND MINING ENGINEERING

## MESSAGE FROM THE DEAN



Welcome to the Faculty of Civil, Agricultural and Mining Engineering!

It is a matter of great pride to welcome the brightest of our youth to the Faculty of Civil, Agricultural, and Mining Engineering at UET Peshawar. A professional and specialized education has become essential for future success in today's competitive and globalized world. Our faculty is dedicated to providing practical and knowledge-based academic excellence in these fields.

Our graduates have made countless contributions to various economic and social sectors, demonstrating their leadership and commitment to society. This reflects the quality of teaching by our highly qualified and experienced faculty members, who bring practical, experience-based knowledge to their classrooms. As experts in their fields, the research conducted by our faculty members continues to drive positive change across the region. We constantly strive to enhance our programs to remain at the forefront of higher education trends. Our PEC (Pakistan Engineering Council) accreditations ensure we maintain high academic standards. Each student here has a bright future, equipped with the skills necessary to meet the demands of private, public, and international organizations. Our classrooms, well-equipped laboratories, and infrastructure are all focused on preparing you to successfully navigate the challenges of the modern world.

With this message, I welcome you and wish you an enjoyable and intellectually satisfying four-year journey with us.

**Prof. Dr. Rizwan M. Gul**  
Acting Dean, Faculty of Civil, Agricultural  
and Mining Engineering

# Department of Civil Engineering

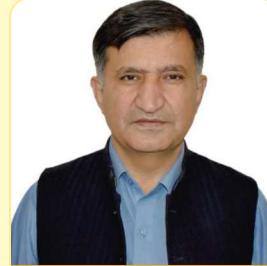
(Peshawar Campus)

Civil engineers plan, design, supervise the construction of and maintain many of the facilities and systems that are essential to modern life in both the public and private sectors. The civil engineering profession is one of the most stable and most diverse of the engineering disciplines. Civil engineers today are designing methods and facilities to cope with many of our planet's most serious problems. In the face of foul air; decaying cities; roadways, and bridges; clogged airports and highways; polluted streams, rivers and lakes, the civil engineer is being called on to design solutions that are workable and cost-effective.

Civil Engineering Department (CED) was established in 1953-54. CED was the first one to introduce postgraduate studies with specialization in Water Resources and Structural Engineering in 1984-85. CED has the honor to be the first among all departments to start the Ph.D. Program in 2000. The ever-evolving PG (Post Graduate) Program of CED aims towards inculcating leadership skills, a strong sense of professionalism and ethical responsibility in the students and prepares them to recognize the need to engage in life long learning.

The students can select a Program that enhances their ability to work as professional engineers in a local/global economy by pursuing a Master's of Science degree with a thesis that represents independent work, or Master's degree with course work focuses on training of Civil Engineering practice in design and construction. Ph.D. Program requires training through course work, research and participation in seminars, conferences, workshops etc. Thus, original contribution to knowledge through Ph.D. research ensures a career in research academia or consultancy.

## CHAIRMAN



Prof. Dr. Amjad Naseer, Ph.D. (Pak)  
**CHAIRMAN**

## FACULTY

### Meritorious Professor

|                      |             |
|----------------------|-------------|
| Prof. Dr. Qaisar Ali | Ph.D. (Pak) |
|----------------------|-------------|

### Professors

|                                |             |
|--------------------------------|-------------|
| Prof. Dr. Irshad Ahmad         | Ph.D. (Pak) |
| Prof. Dr. Amjad Naseer         | Ph.D. (Pak) |
| Prof. Dr. Muhammad Javed       | Ph.D. (Pak) |
| Prof. Dr. Syed Muhammad Ali    | Ph.D. (Pak) |
| Prof. Dr. Rawid Khan           | Ph.D. (UK)  |
| Prof. Dr. Khan Shahzada        | Ph.D. (Pak) |
| Prof. Dr. Mohammad Ashraf      | Ph.D. (Pak) |
| Prof. Dr. Yasir Irfan Badrashi | Ph.D. (Pak) |

### Associate Professors

|                     |               |
|---------------------|---------------|
| Dr. Mujahid Khan    | Ph.D. (Pak)   |
| Dr. Muhammad Waseem | Ph.D. (Italy) |

### Assistant Professors

|                        |                 |
|------------------------|-----------------|
| Dr. Mohammad Adil      | Ph.D. (UK)      |
| Dr. Haleema Attallah   | Ph.D. (Pak)     |
| Dr. Tabinda Masud      | Ph.D. (Pak)     |
| Engr. Faisal ur Rehman | M.Sc. (Pak)     |
| Dr. Mansoor Khan       | Ph.D. (Pak)     |
| Dr. M. Adeel Arshad    | Ph.D. (Pak)     |
| Dr. Shahid Ullah       | Ph.D. (Germany) |
| Dr. Qazi Samiullah     | Ph.D. (France)  |
| Dr. Ateeq Ur Rauf      | Ph.D. (Pak)     |

### Lecturers

|                          |                  |
|--------------------------|------------------|
| Dr. Alamgir Khalil       | Ph.D. (Thailand) |
| Dr. Muhammad Fahim       | Ph.D. (USA)      |
| Dr. Sikandar Hayat Sajid | Ph.D. (Canada)   |
| Engr. Arsalaan Khan      | M.Sc. (Pak)      |
| Engr. Hizbullah Sajid    | M.Sc. (Pak)      |
| Dr. Muhammad Salman      | Ph.D. (Pak)      |
| Dr. Zain Ul Abidin       | Ph.D. (Pak)      |

### Laboratory Engineers

|                     |             |
|---------------------|-------------|
| Engr. Hamna Shakeel | M.Sc. (Pak) |
| Engr. Hanif Ullah   | M.Sc. (Pak) |



## RESEARCH PROJECTS AND FACILITIES

In order to facilitate the Postgraduate study CED fulfills all the necessary infrastructural requirements like Research & Development (R&D) and Post Graduate computing center, Postgraduate Library, laboratory facilities such as 16 meter tilting flume, 200 Tons straining frame, 200 Tons computer controlled U.T.M. and a large test frame with latest data acquisition system and computer controlled tri-axial compression machine, etc., have been installed.

CED helps students to gain practical understanding of the concepts and facilitates Postgraduate research work through its various state-of-the-art laboratories such as Concrete Laboratory, Soil Mechanics & Highway Engineering Laboratory, Structural Laboratory, Hydraulics Laboratory, Material Testing Laboratory, Surveying Laboratory and Public Health Laboratory.

The department offers consultancy services, technical assistance, and laboratory facilities to various government, semi-government and private agencies. The laboratories that are used for these commercial testing include Soil Mechanics and Highway Laboratory, Material Testing Laboratory, Concrete Laboratory and Public Health Laboratory. CED extends its advisory and consultancy services for the diversified nature of Civil engineering problems/design faced by commercial sector (e.g. Non-Destructive Testing, Structural Design, Rehabilitation of existing structures etc). Other civil engineering institutions of the country seek help of CED that has improved upon its intellectual and physical resources over a long period of time. The provincial department often hires the design, vetting and forensic services of our department in connection to various infrastructural projects.

## AREAS OF SPECIALIZATION

The objective of the specialization Program is to provide quality education that is well balanced in theoretical and practical considerations and to prepare quality human resource keeping in view the national needs and thus aspiring towards making the country self-sufficient in the various fields of study. The postgraduate research Program also requires the students to attend seminars, conferences, symposia and publish papers in the journals of national and international repute. Upon the culmination of the postgraduate degree, graduates of the Postgraduate Program will become contributing engineering professionals and influential leaders in the field. In response to national needs, the Department of Civil Engineering offers Master and Ph.D. degrees in Civil Engineering in the following areas of specialization:

1. Structural Engineering
2. Water Resources Engineering
3. Environmental Engineering
4. Transportation Engineering
5. Geotechnical Engineering
6. Earthquake Engineering

In addition, the Department of Civil Engineering also offers advisory and consultancy services for the diversified nature in the construction sector.

# STRUCTURAL ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| CE 5110     | Advanced Structural Analysis-I*  | 3            |
| CE 5112     | Advanced Mechanics of Materials  | 3            |
| CE 5114     | Behaviour of Concrete Structures | 3            |
| CE 5115     | Advanced Concrete Design         | 3            |

\* CE 5110 is Pre-requisite for CE 5115 and CE 5111

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                   | Credit Hours |
|-------------|----------------------------------------------------------------|--------------|
| ING 5111    | Advanced Structural Analysis-II                                | 3            |
| CE 5133     | Foundation Engineering                                         | 3            |
| CE 5152     | Pre-stressed Concrete Design                                   | 3            |
| CE 5153     | Advance Steel Structure-I                                      | 3            |
| CE 5154     | Introduction to Bridge Engineering                             | 3            |
| CE 5155     | Finite Element Analysis of Structural Systems                  | 3            |
| CE 5156     | Plate and Shell Structures                                     | 3            |
| CE 5158     | Applications for Structural Dynamics to Earthquake Engineering | 3            |
| CE 5159     | Design of Masonry Structures                                   | 3            |

## STRUCTURAL ENGINEERING

|          |                                                   |   |
|----------|---------------------------------------------------|---|
| CE 5160  | Hydropower Engineering                            | 3 |
| CE 5190  | Special Topics                                    | 3 |
| CE 5192  | Advance Concrete Technology                       | 3 |
| EQE 5113 | Dynamics of Structures                            | 3 |
| EQE 5157 | Earthquake Engineering–I                          | 3 |
| EQE 5163 | Computer Applications to Structural Engineering   | 3 |
| EQE 5166 | Seismic Design of Concrete and Masonry Structures | 4 |
| EQE 5168 | Seismic Design of Bridges                         | 4 |
| EQE 5169 | Seismic Design of Dams                            | 4 |
| EQE 5171 | Repair and Strengthening of Structures            | 4 |

A student may take maximum one course for **Research-Based** and two courses for **Course-Based** from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CE 5199     | Master Thesis | 6            |
| CE 6199     | Ph.D. Thesis  | 36           |

# WATER RESOURCES ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title            | Credit Hours |
|-------------|-------------------------|--------------|
| CE 5120     | Fluid Mechanics         | 3            |
| CE 5121     | Open Channel Flow       | 3            |
| CE 5122     | Sediment Transport      | 3            |
| CE 5125     | Surface Water Hydrology | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                           | Credit Hours |
|-------------|----------------------------------------|--------------|
| CE 5123     | Hydraulic Structures                   | 3            |
| CE 5124     | Dam Engineering                        | 3            |
| CE 5126     | Water Resources Engineering & Planning | 3            |
| CE 5127     | River Mechanics                        | 3            |
| CE 5128     | Water Resources Engineering            | 3            |
| CE 5132     | Hydraulics of Ground Water             | 3            |
| CE 5160     | Hydropower Engineering                 | 3            |
| CE 5190     | Special Topics                         | 3            |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CE 5199     | Master Thesis | 6            |
| CE 6199     | Ph.D. Thesis  | 36           |



# GEOTECHNICAL ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| CE 5130     | Advanced Soil Mechanics-I        | 3            |
| CE 5131     | Advanced Soil Mechanics-II       | 3            |
| CE 5133     | Foundation Engineering           | 3            |
| CE 5134     | Engineering Properties of Soil-I | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code                                                                                                                                     | Course Title                        | Credit Hours |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------|
| CE 5124                                                                                                                                         | Dam Engineering                     | 4            |
| CE 5132                                                                                                                                         | Hydraulics of Ground Water          | 3            |
| CE 5135                                                                                                                                         | Engineering Properties of Soil-II   | 3            |
| CE 5136                                                                                                                                         | Dynamics of Soil Foundation         | 3            |
| CE 5189                                                                                                                                         | Geotechnical Aspects of Highway     | 3            |
| CE 5190                                                                                                                                         | Special topics                      | 3            |
| EQE 5161                                                                                                                                        | Dynamic Soil Structure Interaction* | 4            |
| MinE 5525                                                                                                                                       | Advanced Rock Mechanics             | 3            |
| MinE 5571                                                                                                                                       | Advance Excavation Engineering      | 3            |
| A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD |                                     |              |

\* EQE 5113 is Pre-requisite for EQE 5161

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CE 5199     | Master Thesis | 6            |
| CE 6199     | Ph.D. Thesis  | 36           |

# TRANSPORTATION ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                           | Credit Hours |
|-------------|----------------------------------------|--------------|
| CE 5181     | Pavement Management and Rehabilitation | 3            |
| CE 5182     | Advanced Pavement Materials            | 3            |
| CE 5185     | Traffic Engineering and Practice       | 3            |
| CE 5188     | Traffic Impact and safety studies      | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code                                                                                                                                     | Course Title                         | Credit Hours |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|
| CE 5180                                                                                                                                         | Advanced Pavement Design             | 3            |
| CE 5183                                                                                                                                         | Highways Geometric Design            | 3            |
| CE 5184                                                                                                                                         | Airport Design                       | 3            |
| CE 5186                                                                                                                                         | Transportation Planning and modeling | 3            |
| CE 5187                                                                                                                                         | Infrastructure Management            | 3            |
| CE 5189                                                                                                                                         | Geotechnical Aspects of Highway      | 3            |
| CE 5190                                                                                                                                         | Special Topics                       | 3            |
| A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD |                                      |              |

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CE 5199     | Master Thesis | 6            |
| CE 6199     | Ph.D. Thesis  | 36           |

# ENVIRONMENTAL ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                    | Credit Hours |
|-------------|---------------------------------|--------------|
| CE 5140     | Water Supply Engineering        | 3            |
| CE 5141     | Sanitary Engineering            | 3            |
| CE 5144     | Solid Waste Management          | 3            |
| CE 5150     | Environmental Impact Assessment | 4            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| CE 5142     | Chemistry and Biology of Water and Sewage                           | 3            |
| CE 5143     | Public Health Engineering                                           | 3            |
| CE 5145     | Air Pollution and Control                                           | 3            |
| CE 5146     | Water Quality modeling                                              | 3            |
| CE 5147     | Economics and Planning of Environmental Health Engineering Projects | 3            |
| CE 5148     | Principles of Water and Wastewater Treatment Processes              | 4            |
| CE 5149     | Industrial Wastewater Pollution Control and Management              | 3            |
| CE 5151     | Environmental Pollution Control                                     | 3            |
| CE 5190     | Special Topics                                                      | 3            |

A student may take maximum one course for Research-Based and two courses for Course-Based from other programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CE 5199     | Master Thesis | 6            |
| CE 6199     | Ph.D. Thesis  | 36           |

# EARTHQUAKE ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                      | Credit Hours |
|-------------|---------------------------------------------------|--------------|
| EQE 5113    | Dynamics of Structures-I                          | 3            |
| EQE 5157    | Earthquake Engineering – I*                       | 3            |
| EQE 5160    | Engineering Seismology                            | 4            |
| EQE 5166    | Seismic Design of Concrete and Masonry Structures | 4            |

\* EQE 5113 is Pre-requisite for EQE 5157

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                       | Credit Hours |
|-------------|----------------------------------------------------|--------------|
| EQE 5171    | Repair and Strengthening of Structures             | 4            |
| EQE 5163    | Computer Applications to Structural Engineering    | 3            |
| EQE 5169    | Seismic Design of Dams                             | 4            |
| EQE 5168    | Seismic Design of Bridges                          | 4            |
| EQE 5164    | Seismic Risk Reduction                             | 4            |
| EQE 5162    | Experimental Mechanics of Structures*              | 4            |
| EQE 5158    | Dynamics of Structures-II*                         | 4            |
| EQE 5159    | Earthquake Engineering – II**                      | 4            |
| EQE 5161    | Dynamic Soil Structure Interaction                 | 4            |
| EQE 5165    | Application and Development of Earthquake Codes*** | 3            |

\*EQE 5113 is Pre-requisite for EQE 5162 & EQE 5159; EQE 5157 is Pre-requisite for EQE 5158; \*\*\*CE 5153 is Pre-requisite for EQE 5165



# EARTHQUAKE ENGINEERING

| Course Code                                                                                                                                     | Course Title                                                   | Credit Hours |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------|
| EQE 5167                                                                                                                                        | Seismic Design of Steel Structures                             | 4            |
| CE 5158                                                                                                                                         | Applications for Structural Dynamics to Earthquake Engineering | 3            |
| CE 5152                                                                                                                                         | Pre-stressed Concrete Design                                   | 3            |
| EQE 5170                                                                                                                                        | Seismic Design of Life-Line Structures                         | 3            |
| CE 5110                                                                                                                                         | Advanced Structural Analysis-I                                 | 3            |
| CE 5112                                                                                                                                         | Advanced Mechanics of Materials                                | 3            |
| CE 5114                                                                                                                                         | Behaviour of Concrete Structures                               | 3            |
| EQE 5190                                                                                                                                        | Special Topics                                                 | 3            |
| A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD |                                                                |              |

## General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

## Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EQE 5199    | Master Thesis | 6            |
| EQE 6199    | Ph.D. Thesis  | 36           |

# National Institute of Urban Infrastructure Planning (NIUIP)

NIUIP was established in December 2010 with Higher Education Commission (HEC) funding. It is committed to promote sustainable urban development in Pakistan, and apply research in combating challenges being faced by rapidly growing urban centers in the country. NIUIP is the first dedicated institute for Urban Infrastructure Planning and Engineering in Pakistan. NIUIP is playing a central role in responding to the challenges of service delivery and infrastructure planning and engineering in key areas such as Water Supply and Sanitation, Waste Management, Land Use and Transportation Systems, Energy and Environment, and GIS Modeling.

NIUIP is equipped with state of the art technologies and equipment such as satellite imagery, simulation modeling for water supply and sewerage systems, Oracle Database software, GPS and remote sensing tools, digital plotters, fully equipped GIS lab with GIS scanners and GIS software, statistical analysis software, and a fully equipped Library.



## DIRECTOR



**PROF. DR. RASHID REHAN**  
Ph.D. (Canada)

## FACULTY

### Professor

|                        |                |
|------------------------|----------------|
| Prof. Dr. Rashid Rehan | Ph.D. (Canada) |
|------------------------|----------------|

### Assistant Professors

|                      |                |
|----------------------|----------------|
| Dr. Salman Saeed     | Ph.D. (Canada) |
| Dr. Fayaz Ahmad Khan | Ph.D. (UK)     |
| Dr. Akhtar Gul       | Ph.D. (Pak)    |

### Lecturer

|                |               |
|----------------|---------------|
| Dr. Afed Ullah | Ph.D. (China) |
|----------------|---------------|



## OBJECTIVES

- To develop it into a center of excellence for teaching, research, and training in urban infrastructure planning in Pakistan
- To conduct research in emerging trends in urban planning and management
- To identify and disseminate global best practices in urban planning and management
- To develop national and international strategic partnerships for collaborative research
- To train in-service professionals in government and non-government organizations in urban infrastructure planning

## PROFESSIONAL AND ADVISORY SERVICES

NIUIP is active in providing advisory and consultancy services on urban infrastructure project planning initiatives in Pakistan. NIUIP is striving to act as a think-tank for important policy making and regulatory issues, and standards for urban planning projects. NIUIP provides services in:

- Master planning of water supply systems
- Master planning of sewerage systems
- Transportation planning
- Best management practices in urban watershed management
- Low-cost waste-disposal systems
- Environmental issues and regulatory compliance
- Stormwater system design
- Condition assessment and asset management of water & sewerage facilities

## AREAS OF RESEARCH AND STUDY

In addition to the core courses, students seeking postgraduate degree at NIUIP (infrastructure engineering degree or

infrastructure planning degree) will have the option to select a specialized area of research and study. Accordingly, Optional courses and research thesis can be selected from the following areas of specializations:

- Infrastructure Planning
- Urban & Regional Planning
- Urban Hydrology and Hydraulics
- Land Use Planning
- Urban Transportation Planning
- Urban Environment and Energy Planning
- Water Supply and Sanitation
- Solid Waste Management
- Spatial Modeling and GIS
- GIS Application to Infrastructure Projects
- Infrastructure Development and Finance
- Infrastructure Utilities Planning & Service Delivery

## NIUIP OFFERS

M.Sc. and Ph.D. Degree Programs in:

- ❖ Urban Infrastructure Engineering
- ❖ Urban Infrastructure Planning & Management

## ELIGIBILITY CRITERIA FOR M.Sc. URBAN INFRASTRUCTURE ENGINEERING DEGREE PROGRAM:

Bachelor's degree in any of the following disciplines:

- Civil Engineering,
- Transportation Engineering
- Water Resources Engineering
- Sanitary Engineering
- Environmental Engineering
- Geoinformatics Engineering

# URBAN INFRASTRUCTURE ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                                         | Credit Hours |
|-------------|----------------------------------------------------------------------|--------------|
| UIE 5801    | Water Supply Systems                                                 | 3            |
| UIE 5802    | Sewerage Systems                                                     | 3            |
| UIE 5811    | Application of GIS/RS for Urban Infrastructure Planning & Management | 3            |
| CE 5144     | Solid Waste Management                                               | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                                    | Credit Hours |
|-------------|---------------------------------------------------------------------------------|--------------|
| CE 5117     | Engineering Contracts & Tendering Process (Mandatory for Course-Based students) | 3            |
| UIE 5807    | Urban Watershed Management                                                      | 3            |
| UIE 5814    | Energy and Water Conservation Planning & Management                             | 3            |
| UIE 5818    | Water, Sanitation and Hygiene in Emergencies                                    | 3            |
| UIE 5805    | Intelligent Transportation Systems                                              | 3            |
| UIE 5806    | Urban Traffic Management                                                        | 3            |
| UIE 5810    | Transportation Planning                                                         | 3            |
| UIE 5816    | Vehicular Traffic Flow Dynamics                                                 | 3            |
| UIE 5817    | Pedestrian Traffic Flow Dynamics                                                | 3            |

## URBAN INFRASTRUCTURE ENGINEERING

|          |                                                                  |   |
|----------|------------------------------------------------------------------|---|
| UIE 5820 | Application of Computational Tools in Research                   | 3 |
| UIE 5804 | Computer-Aided Infrastructure Design, Construction & Management  | 3 |
| UIE 5808 | Infrastructure Condition Assessment                              | 3 |
| UIE 5809 | Infrastructure Asset Management                                  | 3 |
| UIE 5815 | Dynamics of Urban Infrastructure Systems                         | 3 |
| UIP 5819 | Sustainable Urban Infrastructure Planning & Management           | 3 |
| UIE 5803 | Operation and Maintenance of Bridges and Building Infrastructure | 3 |
| UIE 5812 | Disaster Preparedness & Management                               | 3 |
| UIP 5824 | Quantitative Methods & Statistics in Planning                    | 3 |
| UIE 5819 | Advanced Statistics and Data Analysis*                           | 3 |
| UIE 5821 | Climate Resilient Infrastructure                                 | 3 |
| UIE 5890 | Special Topics                                                   | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

\* UIP 5824 is pre-requisite for UIE 5819

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| ME 5398     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| UIE 5899    | Master Thesis | 6            |
| UIE 6899    | Ph.D. Thesis  | 36           |



# URBAN INFRASTRUCTURE PLANNING & MANAGEMENT

NIUIP also offers master's degree program in Urban Infrastructure Planning and Management, in addition to the M.Sc. degree program in Urban Infrastructure Engineering.

The magnitude and dynamics of urbanization place an enormous burden on organizations responsible for the planning and management of urban regions. The core objectives of urban planning and management are seen as understanding dynamic urban processes and developing effective interventions that contribute to the sustainability of urban development.

The M.Sc. degree program in Urban Infrastructure Planning & Management trains the students in the current practices and research in the field of urban planning and management. Major areas of study and research include:

1. Urban and Regional Planning
2. Environmental Laws in Urban Planning
3. Land Use Regulation and Enforcement
4. Census Data Analysis & Policy Making
5. Urban Housing
6. Urban Economics & Real Estate Markets
7. Sustainable Urban Infrastructure Planning & Management
8. Infrastructure Utilities Planning
9. Urban Development & Design
10. Financing of Infrastructure Projects

## ELIGIBILITY CRITERIA FOR M.Sc. URBAN INFRASTRUCTURE PLANNING & MANAGEMENT DEGREE PROGRAM:

Undergraduate degrees (04 years Bachelors i.e. total of 16 years education) or postgraduate degrees (02 years masters i.e. total of 16 years education) in fields of:

- Architecture
- Town planning
- Urban and regional planning
- Environmental sciences
- Geography

In addition to above-mentioned fields, the students holding a Bachelor's degree in any of the following engineering fields are also eligible for M.Sc. Urban Infrastructure Planning & Management Degree Program:

- Civil Engineering
- Transportation Engineering
- Water Resources Engineering
- Sanitary Engineering
- Environmental Engineering
- Geoinformatics Engineering
- Agricultural Engineering
- Industrial Engineering
- Engineering Management

# URBAN INFRASTRUCTURE PLANNING & MANAGEMENT

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                                         | Credit Hours |
|-------------|----------------------------------------------------------------------|--------------|
| UIP 5817    | Urban Housing                                                        | 3            |
| UIP 5819    | Sustainable Urban Infrastructure Planning & Management               | 3            |
| UIE 5811    | Application of GIS/RS for Urban Infrastructure Planning & Management | 3            |
| UIP 5826    | Utility Financing & Service Delivery                                 | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                                    | Credit Hours |
|-------------|---------------------------------------------------------------------------------|--------------|
| CE 5117     | Engineering Contracts & Tendering Process (Mandatory for Course-Based students) | 3            |
| UIP 5815    | Land use Regulation & Enforcement                                               | 3            |
| UIP 5816    | Census Data Analysis & Policy Making                                            | 3            |
| UIP 5818    | Urban Economics & Real Estate Markets                                           | 3            |
| UIP 5820    | Infrastructure Utilities Planning                                               | 3            |
| UIP 5821    | Urban Development & Design                                                      | 3            |
| UIP 5822    | Urban & Regional Planning                                                       | 3            |
| UIP 5823    | Environmental Laws & Policy Making                                              | 3            |
| UIP 5824    | Quantitative Methods & Statistics in Planning                                   | 3            |

## URBAN INFRASTRUCTURE PLANNING & MANAGEMENT

|          |                                              |   |
|----------|----------------------------------------------|---|
| UIP 5825 | Financing of Infrastructure Projects         | 3 |
| UIP 5827 | Urbanization and Urban Sprawl                | 3 |
| UIE 5818 | Water, Sanitation and Hygiene in Emergencies | 3 |
| UIE 5815 | Dynamics of Urban Infrastructure Systems     | 3 |
| UIE 5812 | Disaster Preparedness & Management           | 3 |
| UIE 5819 | Advanced Statistics and Data Analysis*       | 3 |
| UIE 5821 | Climate Resilient Infrastructure             | 3 |
| UIP 5890 | Special Topics                               | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

\* UIP 5824 is pre-requisite for UIE 5819

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| ME 5398     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| UIP 5899    | Master Thesis | 6            |
| UIP 6899    | Ph.D. Thesis  | 36           |

## Department of Agricultural Engineering (Peshawar Campus)

The Department of Agricultural Engineering was established in 1961 and has the honor of producing the first batch of Agricultural Engineers in Pakistan. Since then it has produced thousands of Postgraduate and postgraduate students. Many of these graduates have worked and still working on key positions in various governmental, semi-governmental, private and international organizations. The Department started its M.Sc. Engineering program in 1990 with emphasis on Soil and Water Engineering. In 1994, another area of specialization was added with emphasis on Farm Machinery and Power Engineering. The Department also started Ph.D. program in these two major areas of Agricultural Engineering in 2004. These postgraduate programs in Agricultural Engineering require completion of advanced course work and a research project by the students to become skilled in research methodology. Our students are expected to plan, conduct and analyze a comprehensive research project, and to report the findings in a thesis, a scholarly document of research conducted in accordance with accepted scientific methodology. They benefit from a diverse applied engineering curriculum and enjoy small class size and frequent one-to-one contact with the faculty.

Agricultural Engineering is the application of engineering knowledge and techniques to agriculture. The constantly expanding population of the world has required and will continue to demand an ever-increasing agricultural production of food and fibers through improved irrigation and drainage systems, farm mechanization, and management of soil and water resources. Agricultural Engineering has been one of the major contributors to the increased production that has been realized during the past century. It is oriented to the design and control of equipment and systems for the production, processing and transportation of food, feed, and fiber, as well as the effective use of natural resources. However, it is not limited to agriculture only but has a broad spectrum of other applications like animal husbandry, fisheries, poultry, dairy industry, food processing industry, and grain and cold storages. Renewable energy, bioenergy and biological engineering are a recent addition to this list. In all of these fields the major portion of investment is engineering in nature. This warrants the recruitment of only qualified agricultural engineers to appropriate positions in these fields as agricultural engineering is the only discipline that integrates relevant knowledge of other inter-related disciplines of engineering and natural sciences into one discipline.

### CHAIRMAN



**PROF. DR. ZIA UL HAQ**  
Ph.D. (UK)

### FACULTY

#### Professors

|                                 |                    |
|---------------------------------|--------------------|
| Prof. Dr. Zia Ul Haq            | Ph.D. (UK)         |
| Prof. Dr. Muhammad Shahzad Khan | D.Engg. (Thailand) |
| Prof. Dr. Abdul Malik           | Ph.D. (Pak)        |

#### Associate Professor

|                    |                     |
|--------------------|---------------------|
| Dr. Muhammad Ajmal | Ph.D. (South Korea) |
|--------------------|---------------------|

#### Assistant Professors

|                       |             |
|-----------------------|-------------|
| Dr. Mahmood Alam Khan | Ph.D. (Pak) |
| Dr. Khurram Sheraz    | Ph.D. (Pak) |

#### Lecturers

|                         |                     |
|-------------------------|---------------------|
| Dr. Muhammad Hamed Khan | Ph.D. (New Zealand) |
| Engr. Sajjad Ahmad      | M.Sc. (Pak)         |
| Engr. Nazia Arfeen      | M.Sc. (Pak)         |
| Dr. Arshad Ali          | Ph.D. (Pak)         |



## RESEARCH PROJECTS AND FACILITIES

Our qualified faculty is actively engaged in research projects/studies. Following faculty projects/studies have been conducted in collaboration with different national and international agencies.

- Development of Sugar Beet Planter for Small Farm holdings in Pakistan and Consumptive use study in Peshawar Valley.
- Revision of standards and specifications for Water Management at Farm level.
- Design and development of sugarcane planter for small and medium landholdings of Pakistan.
- Improving Efficiency of on-farm water use and application.
- Integrated Land and Water Management for Stressed Lands.
- To study the drinking water quality in selected areas of Peshawar.
- To determine the sources of ground water pollution in Peshawar.

## AREAS OF SPECIALIZATION

### Soil and Water Engineering

The Department is offering specialization in Soil and Water Engineering. Increasing problems with the scarcity and misuse of water supplies call for extensive research and extension efforts. Improved utilization and management technologies of all aspects of water use have to be actively researched. Emphasis is given to the design and evaluation of pressurized irrigation systems and various water harvesting techniques.

### Farm Machinery and Power Engineering

Specialization in Farm machinery and Power Engineering is aimed to produce qualified technical manpower in the field of Agricultural Engineering. The role of Agricultural Machinery for the increase and timely production of crops cannot be ignored. Therefore it is important to acquire trained qualified agricultural engineers to handle agricultural machinery problems of modern age. This Program offers research based higher technical education to enable our graduates to apply necessary knowledge and skills to upgrade and modify

the use of power and machinery according to the local field conditions of Khyber Pakhtunkhwa.

### Interaction with Industry

The Department has a strong research linkages with the following organizations:-

- On Farm Water Management (OFWM)
- National Agricultural Research Council (NARC)
- National Drainage Program (NDP) and International Water Management Institute (IWMI)
- Environmental Protection Agency (EPA)
- Farm Machinery Institute (FMI)
- Pakistan Council for Research in Water Resources (PCRWR)
- Agricultural Processing Industry, Livestock and Poultry Industry

The Department has conducted successful collaborative research Programs with national and international organizations such as PARC/NARC, UGC, EPA, USAID and GTZ.

# SOIL AND WATER ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                           | Credit Hours |
|-------------|----------------------------------------|--------------|
| AE 5411     | Sprinkle and Trickle Irrigation System | 3            |
| AE 5415     | Applied Watershed Hydrology            | 3            |
| AE 5420     | Salinity and Soil Water Management     | 3            |
| AE 5421     | Soil and Water Conservation            | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                     | Credit Hours |
|-------------|--------------------------------------------------|--------------|
| AE 5410     | Surface Irrigation                               | 3            |
| AE 5413     | Design of Canal Structures                       | 3            |
| AE 5414     | Irrigation Pumping Plants                        | 3            |
| AE 5416     | Soil and Water Pollution                         | 3            |
| AE 5417     | Climate Change and Water Resources               | 3            |
| AE 5418     | Statistical Hydrology                            | 3            |
| AE 5419     | GIS/RS Applications in Water Resource Management | 3            |
| AE 5422     | Advanced Soil Physics                            | 3            |
| AE 5423     | Modeling Dynamic Exchange of Water and Energy    | 3            |
| AE 5424     | Hydraulics of Sediment Transport                 | 3            |



## SOIL AND WATER ENGINEERING

| Course Code | Course Title                            | Credit Hours |
|-------------|-----------------------------------------|--------------|
| AE 5425     | Hydrologic System Modeling              | 3            |
| AE 5426     | Water Resources Planning and Management | 3            |
| AE 5430     | Ground Water Hydrology                  | 3            |
| AE 5432     | Flow Through Porous Media               | 3            |
| AE 5441     | Sub-Surface Drainage                    | 3            |
| AE 5490     | Special Topics                          | 3            |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| AE 5499     | Master Thesis | 6            |
| AE 6499     | Ph.D. Thesis  | 36           |

# FARM MACHINERY AND POWER ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                             | Credit Hours |
|-------------|----------------------------------------------------------|--------------|
| AE 5451     | Advanced Agricultural Machinery Design                   | 3            |
| AE 5453     | Instrumentation and Controls in Agricultural Engineering | 3            |
| AE 5455     | Tractor and Machinery Testing and Evaluation             | 3            |
| AE 5462     | Precision Agriculture and System Management              | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                      | Credit Hours |
|-------------|---------------------------------------------------|--------------|
| AE 5450     | Traction Dynamics                                 | 3            |
| AE 5452     | Kinematics and Dynamics of Machinery              | 3            |
| AE 5454     | Harvesting Machinery                              | 3            |
| AE 5456     | Theory of Models-I                                | 3            |
| AE 5457     | Theory of Models-II*                              | 3            |
| AE 5458     | Computer-Aided-Design                             | 3            |
| AE 5459     | Special Problems in Agricultural Engineering      | 3            |
| AE 5460     | Seminar                                           | 3            |
| AE 5461     | Advances in Farm Machinery and Power Engineering  | 3            |
| AE 5463     | Principles of Ergonomics, Applications and Safety | 3            |
| AE 5464     | Agro-Energy Audit and Management                  | 3            |
| AE 5490     | Special Topics                                    | 3            |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

\* AE 5456 is pre-requisite for AE 5457

## FARM MACHINERY AND POWER ENGINEERING

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| AE 5499     | Master Thesis | 6            |
| AE 6499     | Ph.D. Thesis  | 36           |

# Department of Mining Engineering

(Peshawar Campus)

The Department of Mining Engineering at the University of Engineering and Technology (UET), Peshawar was established in 1974 and has a long-standing tradition of excellence in mining education, research and professional development. The Department has been offering postgraduate education in Mining Engineering since 1991 and PhD studies since 2001. Over the years, the Department has continuously evolved to meet the changing requirements of the mining and minerals sector and emerging technological developments.

The postgraduate programs provide opportunities for advanced study and research in Mineral Processing and Beneficiation, Rock Mechanics, Mine Planning and Design, Mine Ventilation, Occupational Health and Safety, Blasting and Explosives, Mining Methods, Quarrying, Mineral Resource Estimation, Geo-spatial Applications and Sustainable Mining. The Department is also developing research in artificial intelligence, machine learning and digital technologies for mining and mineral processing, with emphasis on value addition and sustainable utilization of Pakistan's mineral resources.

The Department offers M.Sc. and PhD programs in Mining Engineering, designed to develop advanced technical knowledge, research capabilities and professional skills. Postgraduate research is strongly oriented towards solving practical problems of the mining and minerals industry, providing students opportunities to undertake field-based, laboratory and industry-relevant research.

## RESEARCH, PROJECTS AND FACILITIES

The Department is actively involved in research of national and regional importance. Major research areas include mineral beneficiation and process optimization, gravity separation, sustainable mineral processing, mine planning and design, rock mechanics and tunnelling, mine ventilation, occupational health and safety, blasting, mineral resource estimation and block modeling, quarrying, and digital and AI-based applications in mining.

Research and development activities have addressed the beneficiation of indigenous mineral resources, upgrading of coal resources, occupational health and safety of mine workers, mineral resource estimation, rock mechanics and tunnelling, and improved approaches for mineral processing and value addition.

## CHAIRMAN



**PROF. DR. ISHAQ AHMAD**  
Ph.D. (Germany)

## FACULTY

### Professor

|                       |                |
|-----------------------|----------------|
| Prof. Dr. Ishaq Ahmad | Ph.D.(Germany) |
|-----------------------|----------------|

### Assistant Professors

|                             |                |
|-----------------------------|----------------|
| Dr. Salim Raza              | Ph.D. (Canada) |
| Dr. Khan Muhammad           | Ph.D. (UK)     |
| Dr. Zohaib ur Rehman Afridi | Ph.D. (China)  |

### Lecturers

|                     |                  |
|---------------------|------------------|
| Dr. Saira Sherin    | Ph.D. (Pak)      |
| Engr. Talat Bilal   | M.Sc. (Pak)      |
| Dr. Zahid-ur-Rehman | Ph.D. (Pak)      |
| Dr. Sajjad Hussain  | Ph.D. (Pak)      |
| Dr. Sajid Khan      | Ph.D. (Malaysia) |



The Department continues to strengthen its laboratory and research facilities and promote multidisciplinary research and technology development.

#### **INDUSTRY AND ACADEMIC COLLABORATION**

The Department maintains strong linkages with the mining, minerals, cement and infrastructure sectors, government organizations, research institutions and universities. These collaborations provide opportunities for industrial training, internships, field visits, consultancy, collaborative research, technology transfer and employment.

The Department has established professional and research linkages with organizations including Sindh Engro Coal Mining Company (SECMC), Pakistan Mineral Development Corporation (PMDC), Pakistan Stone Development Company (PASDEC), Directorate General Mines & Minerals, Government of Khyber Pakhtunkhwa, Frontier Works Organization (FWO), cement and mineral-based industries, and other public- and private-sector organizations.

The Department also promotes academic and research collaboration with national and international universities, research organizations and

development partners, creating opportunities for joint research, postgraduate supervision, faculty and student exchange, training and knowledge sharing.

Through its academic excellence, industry engagement and research activities, the Department is committed to producing highly skilled mining engineers, researchers and professionals capable of contributing to responsible mining, mineral beneficiation, technological innovation, value addition and sustainable development of Pakistan's mineral resources.

#### **SCHOLARSHIPS AND FINANCIAL SUPPORT**

Postgraduate students may benefit from a range of merit- and need-based scholarships and financial assistance schemes offered through UET Peshawar and external agencies. These include opportunities supported by the Government of Khyber Pakhtunkhwa, Khyber Pakhtunkhwa Education Foundation (KPEF), Chief Minister Educational Endowment Fund, UET Endowment Fund, and other national and institutional scholarship programs. Eligible M.Sc. and PhD students are encouraged to apply for scholarships announced periodically according to the eligibility criteria and availability of funds.



# MINING ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                          | Credit Hours |
|-------------|-------------------------------------------------------|--------------|
| MinE 5515   | Advanced Mineral Processing                           | 3            |
| MinE 5535   | Computer Application in Mining & Advanced Programming | 3            |
| MinE 5565   | Rock Mechanics in Mine Design                         | 3            |
| MinE 5511   | Loss Control and Safety in Mining                     | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                 | Credit Hours |
|-------------|--------------------------------------------------------------|--------------|
| MinE 5562   | Advanced Surface Mine Design                                 | 3            |
| MinE 5525   | Advanced Rock Mechanics                                      | 3            |
| MinE 5530   | Advanced Mine Ventilation Networks and Environment           | 3            |
| MinE 5581   | Dimension Stone Mining                                       | 3            |
| MinE 5576   | Spatial Data Analysis and Reserve Estimation                 | 3            |
| MinE 5540   | Operations Research                                          | 3            |
| MinE 5510   | Mine Administration and labor Relations                      | 3            |
| MinE 5513   | Applications of Ergonomics to Occupational Safety and Health | 3            |
| MinE 5516   | Hazardous Waste Management                                   | 3            |
| MinE 5517   | Environmental Controls in Mining                             | 3            |
| MinE 5520   | Coal Preparation                                             | 3            |
| MinE 5545   | Hydrometallurgy                                              | 3            |
| MinE 5550   | Mineral Process Design                                       | 3            |
| MinE 5551   | Fine Particle Science and Processing                         | 3            |



## MINING ENGINEERING

|           |                                                                         |   |
|-----------|-------------------------------------------------------------------------|---|
| MinE 5555 | Analysis of Deformed Geological Structures                              | 3 |
| MinE 5561 | Subsidence Engineering                                                  | 3 |
| MinE 5563 | Mine System Simulation                                                  | 3 |
| MinE 5564 | Surface Coal Mine Design                                                | 3 |
| MinE 5560 | Underground Mine Design                                                 | 3 |
| MinE 5570 | Rock Slope Engineering                                                  | 3 |
| MinE 5571 | Advance Excavation Engineering                                          | 3 |
| MinE 5575 | Project Management                                                      | 3 |
| MinE 5577 | Advance Geostatistics                                                   | 3 |
| MinE 5580 | Geochemistry                                                            | 3 |
| MinE 5582 | Mine Environmental Control for Blasting                                 | 3 |
| MinE 5536 | Artificial Intelligence (AI) and Its Applications in Mining Engineering | 3 |
| MinE 5590 | Special Topics                                                          | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| MinE 5512   | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| MinE 5599   | Master Thesis | 6            |
| MinE 6599   | Ph.D. Thesis  | 36           |

# FACULTY OF ELECTRICAL AND COMPUTER ENGINEERING



## MESSAGE FROM THE DEAN

It is my great pleasure to welcome you to the Faculty of Electrical and Computer Engineering (FECE)!

At FECE, we are committed to nurturing future engineers, computer scientists, and innovators by providing a dynamic learning environment that combines academic excellence, cutting-edge research, and industry-oriented education. Our academic programs in Electrical Engineering, Electronics Engineering, Computer Engineering, Software Engineering, Computer Science, Data Science, Artificial Intelligence and Cyber Security are designed to equip students with the knowledge, technical expertise, and professional skills required to thrive in an increasingly digital and technology-driven world. These programs are accredited by the Pakistan Engineering Council (PEC), the Higher Education Commission (HEC), and the National Computing Education Accreditation Council (NCEAC), reflecting our commitment to maintaining the highest standards of quality education.

The Faculty operates across four campuses - Main Campus Peshawar, Nowshera Campus, Abbottabad Campus, and Bannu Campus - providing quality engineering and computing education to students from across the region. Our distinguished faculty members are dedicated educators and researchers who actively contribute to scientific advancement through high-impact research, innovative projects, and national and international collaborations.

Research and innovation are integral to our mission. FECE hosts several state-of-the-art research laboratories and national centers, including facilities established under the National Center of Artificial Intelligence (NCAI), the National Center for Cyber Security (NCCS), and the National Center in Big Data and Cloud Computing (NCBC). These centers foster interdisciplinary research and innovation, enabling students and faculty to develop practical solutions to real-world challenges in areas such as artificial intelligence, cyber security, communication systems, embedded technologies, cloud computing, data analytics, and intelligent engineering systems.

Our curriculum emphasizes experiential learning through modern laboratories, industrial internships, capstone design projects, entrepreneurship, and collaborative research with industry. We strive to produce graduates who possess not only strong technical competence but also leadership qualities, ethical values, critical thinking abilities, and a lifelong passion for learning.

The success of our alumni, who are serving with distinction in leading national and international organizations, academia, research institutions, and entrepreneurial ventures, is a testament to the quality of education and professional training offered at FECE.

Choosing FECE means becoming part of a vibrant academic community dedicated to excellence, innovation, and societal impact. I warmly invite you to join us on this exciting journey of discovery, learning, and professional growth. Together, we will shape the technologies and engineering solutions that will define the future.

I wish you every success in your academic and professional endeavors and look forward to welcoming you to the Faculty of Electrical and Computer Engineering.

**Prof. Dr. Syed Waqar Shah**  
Dean, Faculty of Electrical and  
Computer Engineering

## Department of Electrical Engineering (Peshawar Campus)

The Department of Electrical Engineering was established in 1952 as part of the Faculty of Engineering and is currently offering postgraduate academic Programs in Electrical Engineering (Communication and Electronics) and Electrical Engineering (Power). The academic Programs at the postgraduate level are designed to provide students with a thorough understanding of basic principles in high-performance communication systems. The work focuses on the provision of secure mixed-media communication systems in a variety of mobile environments. On the other hand, the challenging problems facing the electrical power industry today are greater than ever before. System design trends have moved towards higher power ratings and higher operating voltages. The planning and design of modern power systems call for an increasing number of specialized engineers. These requirements cannot be met by postgraduate courses alone due to the broad range of studies undertaken at this level. Specialization in electrical power engineering is therefore essential to prepare engineers to face these challenges. It is only at the graduate level that an engineer can attain the competency to apply theoretical knowledge to specific problems in the planning, design, and operation of modern electrical power systems. Advancement in Electronics and Communication is also imperative in emerging fields such as the Internet of Things (IoT) and Machine-to-Machine Communication. The Department has adequate, competent facilities available at both educational and professional levels. The postgraduate Programs in electrical engineering have been designed to include coursework in major subjects such as Electrical Power Engineering, Communication and Electronics Engineering with a research thesis to be completed independently by each student. Emphasis is placed on imparting in-depth knowledge and developing research capabilities among students.

### CHAIRMAN



**PROF. DR. AMJAD ULLAH**  
Ph.D. (Pak)

### FACULTY

#### Professors

|                                     |             |
|-------------------------------------|-------------|
| Prof. Dr. Syed Waqar Shah           | Ph.D. (UK)  |
| Prof. Dr. M. Inayatullah Khan Babar | Ph.D. (USA) |
| Prof. Dr. Haseeb Zafar              | Ph.D. (UK)  |
| Prof. Dr. Amjad Ullah               | Ph.D. (Pak) |
| Prof. Dr. Gulzar Ahmad              | Ph.D. (Pak) |
| Prof. Dr. Gul Muhammad Khan         | Ph.D. (UK)  |

#### Associate Professors

|                      |               |
|----------------------|---------------|
| Dr. Tariqullah Jan   | Ph.D. (UK)    |
| Dr. M. Irfan Khattak | Ph.D. (UK)    |
| Dr. S.M Majid Ashraf | Ph.D. (Pak)   |
| Dr. Shahid Bashir    | Ph.D. (UK)    |
| Dr. Sadiq Ali        | Ph.D. (Spain) |

#### Assistant Professor

|                      |             |
|----------------------|-------------|
| Dr. M. Iftikhar Khan | Ph.D. (Pak) |
|----------------------|-------------|

#### Lecturers

|                       |                |
|-----------------------|----------------|
| Dr. Muhammad Amir     | Ph.D. (Pak)    |
| Dr. Faheem Ali        | Ph.D. (Pak)    |
| Dr. Ruhul Amin Khalil | Ph.D. (Pak)    |
| Dr. Seema Mir Akbar   | Ph.D. (Pak)    |
| Dr. Bilal Ur Rehman   | Ph.D. (Pak)    |
| Dr. Atif Jan          | Ph.D. (Pak)    |
| Dr. Salman Ilahi      | Ph.D. (Pak)    |
| Dr. Muhammad Farooq   | Ph.D. (Pak)    |
| Engr. Asiya Jahangir  | M.Sc. (Pak)    |
| Engr. Hina Zahir      | M.Sc. (Pak)    |
| Engr. M. Usman Ali    | M.Sc. (Pak)    |
| Engr. S.M. Faheem     | M.Sc. (Sweden) |
| Engr. M. Kashif Khan  | M.Sc. (Pak)    |
| Engr. M. Nasar Jamal  | M.Sc. (Pak)    |
| Engr. Wasim Habib     | M.Sc. (Pak)    |
| Engr. Kifayat Ullah   | M.Sc. (Pak)    |

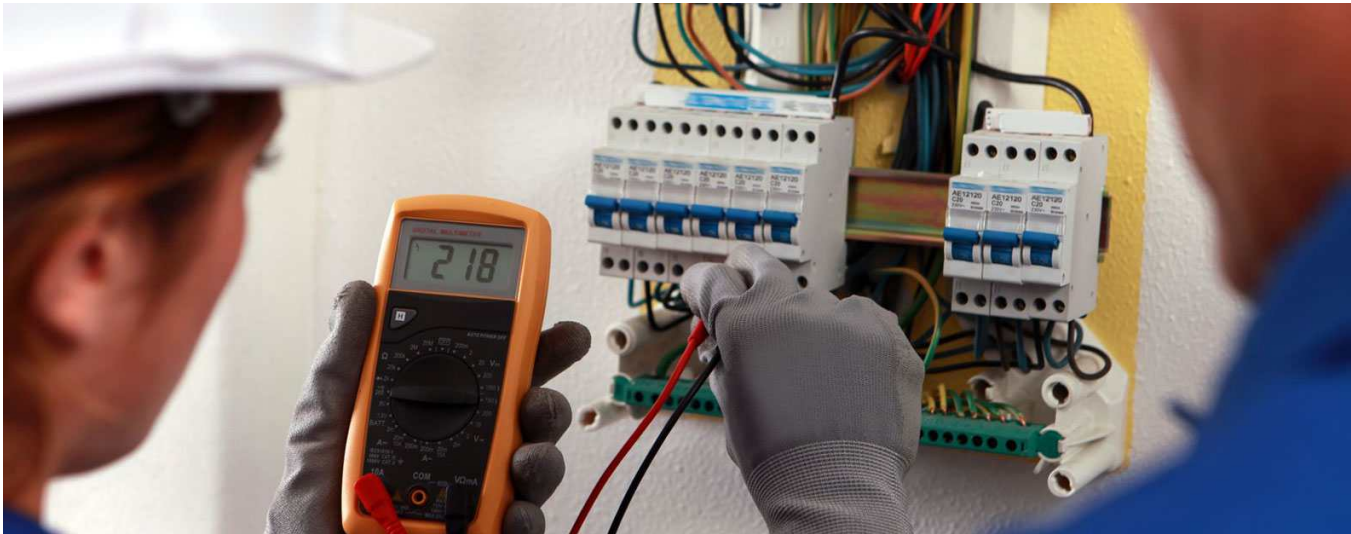
### RESEARCH PROJECTS AND FACILITIES

The department is actively participating in research activities at both Master's and Ph.D. level. The research projects are scrutinized for their application towards problem solving in industry.

### INTERACTION WITH INDUSTRY

The Department presently has industrial links mainly with power and communication related companies and organizations like WAPDA and PTCL. The Department is also providing their Artificial Intelligence and Internet of Things based utility solutions to BRT Peshawar, Mardan Police Department, Pakhtunkhwa Energy Development Organization and Sarhad Rural Support Program. A

team of well-organized experts in the field of electric power, electronics, Artificial Intelligence and telecommunications holds regular meetings with these organizations through R&D projects, commercial projects, departmental steering committee and seminars. A number of research projects especially at Ph.D. level are presently underway, pertaining to problems faced by the industry. The endowment fund Program by the Government of Pakistan provides financial assistance for the research projects.



# POWER ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title            | Credit Hours |
|-------------|-------------------------|--------------|
| EEP 5201    | Power System Analysis-I | 3            |
| EEP 5204    | Power Electronics       | 3            |
| EEP 5214    | Power System Planning   | 3            |
| EEP 5212    | Power System Control    | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                          | Credit Hours |
|-------------|---------------------------------------|--------------|
| EEP 5202    | Power System Analysis-II              | 3            |
| EEP 5203    | Power System Protection               | 3            |
| EEP 5207    | Electrical Transients in Power System | 3            |
| EEP 5208    | Operation of Power System             | 3            |
| EEP 5210    | Direct Energy Conversion              | 3            |
| EEP 5211    | Power System Reliability              | 3            |
| EEP 5228    | Electrical Insulation Engineering     | 3            |
| EEP 5205    | High Voltage D.C. Transmission        | 3            |
| EEP 5209    | Field Theory                          | 3            |
| EEP 5213    | Materials Science                     | 3            |
| EEP 5206    | High Voltage Transmission System      | 3            |

## POWER ENGINEERING

|          |                                                            |   |
|----------|------------------------------------------------------------|---|
| EEP 5216 | Advance Electronic Circuits                                | 3 |
| EEP 5217 | Digital Systems                                            | 3 |
| EEP 5224 | Power Electronics: Converter Modeling, Analysis and Design | 3 |
| EEP 5238 | Advance Power Electronics                                  | 3 |
| EEP 5290 | Special Topics                                             | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EEP 5299    | Master Thesis | 6            |
| EEP 6299    | Ph.D. Thesis  | 36           |



# COMMUNICATION AND ELECTRONICS ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| EEC 5287    | Fiber Optic Communication System | 3            |
| EEC 5281    | Computer Networks                | 3            |
| EEC 5247    | Theory and Design of Antennas    | 3            |
| EEC 5236    | Advanced Electronics             | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                  | Credit Hours |
|-------------|---------------------------------------------------------------|--------------|
| EEC 5277    | Wireless Communication                                        | 3            |
| EEC 5280    | Information and Coding Theory                                 | 3            |
| EEC 5278    | Random Signals and Noise                                      | 3            |
| EEC 5223    | Advance Digital Design                                        | 3            |
| EEC 5246    | Microwave Engineering                                         | 3            |
| EEC 5276    | Digital Communication Systems                                 | 3            |
| EEC 5289    | Network Security                                              | 3            |
| EEC 5290    | Propagation for Wireless Communication                        | 3            |
| EEC 5279    | Stochastic Processes                                          | 3            |
| EEC 5211    | Signal Detection & Estimation                                 | 3            |
| EEC 5282    | Mobile Networking                                             | 3            |
| EEC 5283    | Performance Evaluation and Modeling of Communication Networks | 3            |
| EEC 5212    | Digital Signal Processing                                     | 3            |
| EEC 5213    | Advanced Digital Signal Processing                            | 3            |
| EEC 5214    | Adaptive Filters                                              | 3            |
| EEC 5296    | Database Design & Management                                  | 3            |
| EEC 5284    | Telecom Switching & Signaling Systems                         | 3            |

## COMMUNICATION AND ELECTRONICS ENGINEERING

|          |                                                                    |   |
|----------|--------------------------------------------------------------------|---|
| EEC 5285 | Optical & High-speed Networks                                      | 3 |
| EEC 5286 | Telecom Engineering                                                | 3 |
| EEC 5288 | Integrated Services over Packet Networks (New Generation Networks) | 3 |
| EEC 5237 | Power Electronics: Converter Modeling, Analysis and Design         | 3 |
| EEC 5238 | Advanced Power Electronics                                         | 3 |
| EEC 5222 | Computer System Architecture and Organization                      | 3 |
| EEC 5221 | Switching Theory and Logic Design                                  | 3 |
| EEC 5224 | VLSI Circuit Design                                                | 3 |
| EEC 5231 | Lightwave Devices                                                  | 3 |
| EEC 5297 | Data Structures and Algorithms                                     | 3 |
| EEC 5215 | Computer Vision                                                    | 3 |
| EEC 5216 | Digital Image Processing                                           | 3 |
| EEC 5265 | Linear Systems and Controls                                        | 3 |
| EEC 5267 | Digital Control Systems                                            | 3 |
| EEC 5298 | Optimization Techniques                                            | 3 |
| EEC 5266 | Special Topics                                                     | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EEC 5299    | Master Thesis | 6            |
| EEC 6299    | Ph.D. Thesis  | 36           |

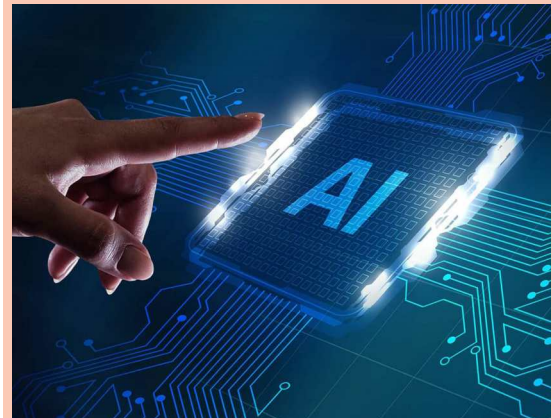
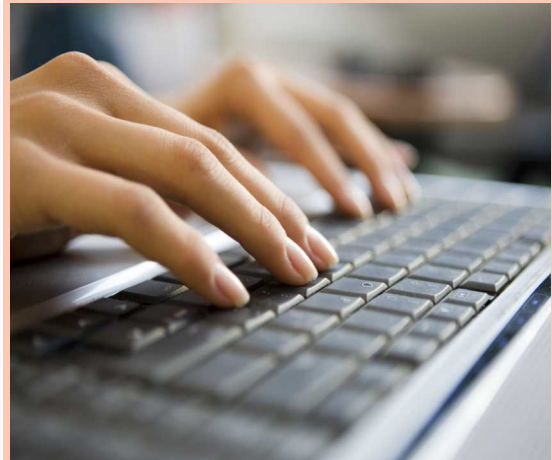
# Artificial Intelligence

The National Center of Artificial Intelligence, University of Engineering and Technology Peshawar was established in the year 2019. The Center was involved in producing highly skilled individuals through its internship and training Programs in coordination with Pakistan Engineering Council and National Vocational and Technical Training Commission. The M.Sc. AI Program that started in Fall 2023 is designed to prepare students to meet industrial challenges by inculcating knowledge, skills and problems solving capabilities by the competent AI faculty.

With the revolution of Industry 4.0, Artificial Intelligence has proven to be a great tool for automation and is required by most industries and high-tech companies. Its branches such as Machine Learning and Computer Vision have diverse applications in the digital domain. On the other hand, challenging problems facing the AI paradigm are much greater than before including deep fakes and augmented voices. The Center has adequate competent facilities which are available at both educational and professional level to equip students with skills and competence to counter these challenges. The Program of Postgraduate education in Artificial Challenges has been designed to include course work in the major subjects of Artificial Intelligence with a research thesis to be done independently by each student. Emphasis will be given to imparting in-depth knowledge and developing research capabilities among the students.

## Research Projects and Facilities

The students will be provided with the facilities such as GPU computational resources, independent AI models development and knowledge to advance in the field of Artificial Intelligence. The students are given complex, and industry driven real world projects as a semester/thesis problem to solve during the graduation problem.



# ARTIFICIAL INTELLIGENCE

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                            | Credit Hours |
|-------------|-----------------------------------------|--------------|
| EEA 501     | Artificial Intelligence                 | 3            |
| EEA 502     | Machine Learning                        | 3            |
| EEA 504     | Probability and Random Signal and Noise | 3            |
| EEA 517     | Deep Learning                           | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                     | Credit Hours |
|-------------|--------------------------------------------------|--------------|
| EEA 503     | Mathematical Methods for Artificial Intelligence | 3            |
| EEA 505     | Computer Vision                                  | 3            |
| EEA 514     | Neural Networks                                  | 3            |
| EEA 515     | Evolutionary Algorithms                          | 3            |
| EEA 516     | Data Mining                                      | 3            |
| EEA 610     | Reinforcement Learning                           | 3            |
| EEA 614     | Natural Language Processing                      | 3            |
| EEA 506     | Probabilistic Graphical Models                   | 3            |
| EEA 507     | Probabilistic Robotics                           | 3            |
| EEA 508     | Sensors and Sensing                              | 3            |
| EEA 509     | modeling and Simulation                          | 3            |

## ARTIFICIAL INTELLIGENCE

|         |                                        |   |
|---------|----------------------------------------|---|
| EEA 510 | Advanced Programming in Python         | 3 |
| EEA 511 | Cyber Security                         | 3 |
| EEA 512 | Internet of Things                     | 3 |
| EEA 513 | Pattern Recognition                    | 3 |
| EEA 605 | Multi-agent Systems                    | 3 |
| EEA 606 | Knowledge Representation and Reasoning | 3 |
| EEA 607 | Speech Processing                      | 3 |
| EEA 608 | Data Acquisition and Control           | 3 |
| EEA 609 | Intelligent Systems                    | 3 |
| EEA 611 | Rehabilitative and Assistive Robotics  | 3 |
| EEA 612 | Bio Robotics                           | 3 |
| EEA 613 | Information Retrieval                  | 3 |
| EEA 615 | Semantic Web                           | 3 |
| EEA 616 | Data Analysis and Visualization        | 3 |
| EEA 617 | Complex Adaptive Systems               | 3 |
| EEA 618 | Text Analytics                         | 3 |
| EEA 619 | Intelligent Transportation Systems     | 3 |
| EEA 620 | Social Simulations                     | 3 |
| EEA 621 | Ethical Machines                       | 3 |
| EEA 622 | Big Data Analytics                     | 3 |
| EEA 623 | Robot Motion Planning                  | 3 |
| EEA 624 | Advanced Image Processing              | 3 |

## ARTIFICIAL INTELLIGENCE

|         |                                       |   |
|---------|---------------------------------------|---|
| EEA 625 | Human Robot Interaction               | 3 |
| EEA 626 | Simultaneous Localization and Mapping | 3 |
| EEA 627 | Robotic Grasping and Fixturing        | 3 |
| EEA 628 | Advanced Signal Processing            | 3 |
| EEA 629 | Computational Creativity              | 3 |
| EEA 630 | Serious Games                         | 3 |
| EEA 631 | Advanced Big Data Analytics           | 3 |
| EEA 632 | Advanced Artificial Intelligence      | 3 |
| EEA 633 | Special Topics                        | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| AE 5491     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EEA 5299    | Master Thesis | 6            |

## Department of Electrical Engineering (Nowshera Campus)

The Department of Electrical Engineering Nowshera Campus, currently offering undergraduate and postgraduate academic Programs in electrical engineering (Electronics, Communications and Computing). Academic Programs at postgraduate level is designed to prepare students to get a thorough knowledge of basic principles in high performance communication systems. The program has been designed to prepare the students for job requirements in state-of-the-art industry, to equip them with the latest technological advancements in the specialized areas of their interest and to help them pursue their career in the field of electrical engineering more effectively.

Electrical Engineering is a vital field that has played an important role in the socio-economic development of the country over the years and the M.Sc. Electrical Engineering Program at Electrical Engineering Department of UET Peshawar Nowshera Campus will prepare the graduates, in the advanced topics such as Communication, Electronics and Computing, to deliver and contribute in the numerous applications of electrical engineering, with respect to changing trends. The Department has adequate competent facilities which are available at both educational and professional level. The Program of Postgraduate education in electrical engineering has been designed to include course work in the major subjects of electrical Electronics, Communications and Computing) engineering and with a research thesis to be done independently by each student. Emphasis will be given on imparting in-depth knowledge and developing research capabilities among the students.

### Objectives of the Program

The courses for Post Graduate programs in Electrical Engineering Nowshera Campus are designed keeping in view the demands of the prospective jobs market. The highly qualified and experienced faculty of the department will flourish the graduates with the required skills of the time, make them independent learners and team builder. In addition, the program is aimed to help the faculty members nurture their personal and professional profile.

The Key objectives of the program are as given below:

- i. To assist the graduates, acquire a profound knowledge of the specialized area
- ii. To mentor the graduates towards the latest research tools in state of the art
- iii. To guide the graduates and make them capable to convert the acquired theoretical knowledge into real tangible products.

### CHAIRMAN



**DR. AKHTAR NAWAZ KHAN**  
Ph.D. (Thailand)

### FACULTY

#### Associate Professor

|                       |                  |
|-----------------------|------------------|
| Dr. Amjad Ali         | Ph.D. (China)    |
| Dr. Akhtar Nawaz Khan | Ph.D. (Thailand) |
| Dr. Yousaf Khan       | Ph.D. (China)    |

#### Assistant Professors

|                        |                   |
|------------------------|-------------------|
| Dr. Uzair Gilani       | Ph.D. (USA)       |
| Dr. Abid Ullah         | Ph.D. (USA)       |
| Dr. Zaka Ullah Zahid   | Ph.D. (USA)       |
| Dr. Abu Bakr Siddique  | Ph.D. (UK)        |
| Dr. Abid Siddique      | Ph.D. (USA)       |
| Dr. Waqas Ahmed Imtiaz | Ph.D. (Pak)       |
| Dr. Abid Iqbal         | Ph.D. (Australia) |
| Dr. Sheraz Khan        | Ph.D. (Thailand)  |

#### Lecturers

|                        |             |
|------------------------|-------------|
| Dr. Irfan Ahmad        | Ph.D. (Pak) |
| Dr. Abdul Basit        | Ph.D. (Pak) |
| Engr. Najvia           | M.Sc. (Pak) |
| Engr. M. Farhan        | M.Sc. (Pak) |
| Engr. M. Rizwan        | M.Sc. (Pak) |
| Engr. Zahid Zaman      | M.Sc. (Pak) |
| Engr. Irshad Ullah     | M.Sc. (Pak) |
| Engr. Fazal-e-Wahab    | M.Sc. (Pak) |
| Engr. M. Ismail Afridi | M.Sc. (Pak) |

#### Laboratory Engineers

|                     |             |
|---------------------|-------------|
| Dr. Aamir Aman      | Ph.D. (Pak) |
| Engr. Waqar Hussain | M.Sc. (Pak) |



# ELECTRONICS, COMMUNICATIONS AND COMPUTING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                      | Credit Hours |
|-------------|-----------------------------------|--------------|
| EE 5401     | Wireless and Mobile Communication | 3            |
| EE 5402     | Device Electronics                | 3            |
| EE 5427     | Artificial Intelligence           | 3            |
| EE 5446     | Python for Data Science           | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                              | Credit Hours |
|-------------|-----------------------------------------------------------|--------------|
| EE 5405     | Advanced Computer Networks                                | 3            |
| EE 5406     | Machine Learning                                          | 3            |
| EE 5410     | Image and Video Processing                                | 3            |
| EE 5414     | Information and Coding Theory                             | 3            |
| EE 5417     | Optical Communications                                    | 3            |
| EE 5421     | Antenna Theory and Design                                 | 3            |
| EE 5425     | Array Signal processing                                   | 3            |
| EE 5431     | Smart Antennas                                            | 3            |
| EE 5436     | Propagation for Wireless Communication                    | 3            |
| EE 5441     | Ethical Hacking and Network Defense                       | 3            |
| EE 5443     | Software Defined Radios                                   | 3            |
| EE 5444     | Statistical Signal Processing                             | 3            |
| EE 5445     | Intelligent Vehicular and Pedestrian Traffic Optimization | 3            |
| EE 5403     | Design and Analysis of Algorithms                         | 3            |
| EE 5404     | Stochastic Processes                                      | 3            |
| EE 5434     | Linear Systems and Controls                               | 3            |

## ELECTRONICS, COMMUNICATIONS AND COMPUTING

|         |                                                              |   |
|---------|--------------------------------------------------------------|---|
| EE 5407 | Data Mining Concepts and Algorithms                          | 3 |
| EE 5408 | Embedded Systems Design                                      | 3 |
| EE 5411 | Simulation Modeling and Analysis                             | 3 |
| EE 5412 | Network Security                                             | 3 |
| EE 5415 | Optimization Theory                                          | 3 |
| EE 5419 | Analysis and Design of Microwave Linear Circuits             | 3 |
| EE 5422 | Power Electronic Converters                                  | 3 |
| EE 5428 | Pattern Recognition                                          | 3 |
| EE 5429 | Distributed Systems                                          | 3 |
| EE 5432 | Data Communication and Security                              | 3 |
| EE 5433 | Advanced Digital Signal Processing                           | 3 |
| EE 5435 | Digital Control Systems                                      | 3 |
| EE 5437 | Electronic Design Automation                                 | 3 |
| EE 5438 | Advanced Control Systems                                     | 3 |
| EE 5439 | Computation Techniques for Electrical Engineers using Matlab | 3 |
| EE 5440 | Nanoelectronics                                              | 3 |
| EE 5442 | USB, The Protocol, Devices and Forensics                     | 3 |
| EE 5448 | Special Topics                                               | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| EE 5447     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EEC 5299    | Master Thesis | 6            |

# Department of Electronics Engineering

(Abbottabad Campus)

Electronics Engineering is one of the fast-growing disciplines having its applications in almost every field which include high speed data communication, automatic power system control devices, aerospace technology, computer hardware, industrial automation, robotic etc. Today's fast growing cellular technology depends on Electronics Engineering. Keeping in view the importance of the subject, the University of Engineering & Technology started the Program at its Abbottabad campus from fall semester 2004, treating it as specialized discipline not being offered at other campuses of the University. The B.Sc. Electronics Engineering degree is successfully running in the UET Abbottabad campus and has graduated 15 batches, with a combined strength of more than 500 engineers who have been duly registered by the Pakistan Engineering Council (PEC).

The Electronics Engineering department is offering M.Sc. Electronics Engineering from Fall-2023. The Department of Electronics Engineering, UET Peshawar, Abbottabad Campus has five Ph.D. faculty members in areas like Chip designing, Embedded Systems, Power Electronics, Nano electronics and renewable energy and power systems. These areas are increasingly becoming important due to the rise of AI and the need for cleaner and cheaper energy.

The department regularly organizes seminars and extension lectures for the benefit of the students and faculty.

## CHAIRMAN



**DR. ADAM KHAN**  
Ph.D. (Pak)

## FACULTY

### Professor

Prof. Dr. Syed Riaz-ul-Hassnain Ph.D. (Pak)

### Associate Professor

Dr. Adam Khan Ph.D. (Pak)

### Assistant Professors

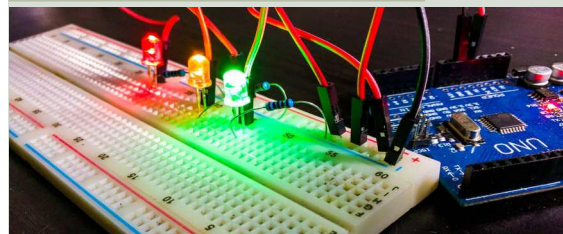
|                      |                 |
|----------------------|-----------------|
| Engr. Wajid Mehmood  | M.Sc. (Germany) |
| Engr. M. Fayyaz Khan | M.Sc. (Pak)     |
| Dr. Anees Ullah      | Ph.D. (Italy)   |
| Dr. Uzma Nawaz       | Ph.D. (Pak)     |

### Lecturers

|                      |                  |
|----------------------|------------------|
| Dr. Haider Zaman     | Ph.D. (China)    |
| Engr. Sania Syed     | M.Sc. (Pak)      |
| Engr. Muhammad Hanif | M.Sc. (Pak)      |
| Engr. Asma Israr     | B.Sc. (Pak)      |
| Engr. Yasir Malik    | M.Sc. (Pak & UK) |
| Engr. Munaza Razzaq  | M.Sc. (Pak)      |
| Engr. Afshan Ishaq   | B.Sc. (Pak)      |
| Engr. Mehmoona Gul   | M.Sc. (Pak)      |
| Engr. Quratulain     | M.Sc. (Pak)      |

### Laboratory Engineers

|                        |             |
|------------------------|-------------|
| Dr. Muhammad Ayaz      | Ph.D. (Pak) |
| Engr. Malik Adnan Khan | M.Sc. (Pak) |
| Engr. Irshad Hussain   | M.Sc. (Pak) |



# ELECTRONICS ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                | Credit Hours |
|-------------|-----------------------------|--------------|
| ELE 5204    | System on Chip Design       | 3            |
| ELE 5205    | Micro Electronics Systems   | 3            |
| ELE 5401    | Power Semiconductor Devices | 3            |
| ELE 5402    | Linear Systems Theory       | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                     | Credit Hours |
|-------------|--------------------------------------------------|--------------|
| ELE 5201    | Real Time Embedded Systems                       | 3            |
| ELE 5202    | FPGA-based digital design for signal processing  | 3            |
| ELE 5203    | Electronic Design Automation for ASICs and FPGAs | 3            |
| ELE 5206    | Advanced Digital Control                         | 3            |
| ELE 5207    | Advanced Computer Architecture                   | 3            |
| ELE 5208    | Digital Signal Processing                        | 3            |
| ELE 5209    | Digital Image Processing                         | 3            |
| ELE 5217    | Advanced VLSI Design                             | 3            |
| ELE 5218    | FPGA-based reconfigurable Systems                | 3            |
| ELE 5301    | Fundamental of Nano Electronics                  | 3            |
| ELE 5302    | Advanced Theory of Semiconductors & Devices      | 3            |
| ELE 5303    | Introduction to Nano Electronics and Technology  | 3            |
| ELE 5304    | Physics of Nano MOSFET                           | 3            |
| ELE 5305    | Semiconductor Device Processing and Technology   | 3            |

## ELECTRONICS ENGINEERING

|          |                                                            |   |
|----------|------------------------------------------------------------|---|
| ELE 5306 | Nanotechnology                                             | 3 |
| ELE 5307 | Organic Semiconductor and Devices                          | 3 |
| ELE 5309 | Fault-tolerant Electronics Systems                         | 3 |
| ELE 5311 | Nanoscale Transistors                                      | 3 |
| ELE 5403 | Power System Analysis                                      | 3 |
| ELE 5404 | Micro Electromechanical Systems                            | 3 |
| ELE 5405 | Electrical Power Generation and Renewable Energy Resources | 3 |
| ELE 5406 | Modeling and Control of Power Converters                   | 3 |
| ELE 5407 | Impedance Source Converters                                | 3 |
| ELE 5408 | Design of Electrical Machines                              | 3 |
| ELE 5409 | AC/DC drives                                               | 3 |
| ELE 5411 | Advanced Power Electronics                                 | 3 |
| ELE 5413 | Photovoltaic Energy and Its Applications                   | 3 |
| ELE 5414 | Adjustable Speed Drives                                    | 3 |
| ELE 5416 | Nonlinear Control System                                   | 3 |
| MA 5404  | Mathematical Methods                                       | 3 |
| ELE 5211 | Special Topics                                             | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| ELE 5317    | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| ELE 5400    | Master Thesis | 6            |

# Department of Computer Systems Engineering

(Peshawar Campus)

The field of Computer Systems Engineering has emerged as one of the principal areas of study throughout the world, making the subject area critical in the development of new computer systems, devices and products. The task of this branch of engineering is to solve practical engineering problems by creating computer based systems, in particular, systems that have a computer embedded in a larger system. It includes a diverse set of engineering skills in the areas such as sensing real world quantities, signal conditioning for sensors, digitizing signals, decision making in hardware and software, software engineering, control systems, robotics, electronic devices for actuators, actuator design; any system that must sense, make decisions, and act in the real world. Increasingly, the computers are used in real time control applications, such as appliances, automobiles, industrial processes, alarm systems, communication systems, robotics and automation. The research in computer systems has its applications in a broad range of situations, such as consumer and medical electronics, custom electronic design, digital communication systems, computer networks, wireless networks, transport systems, electricity generating stations, automation, and heavy machinery.

## RESEARCH PROJECTS AND FACILITIES

The department has highly qualified faculty, which is actively participating in the university's research activities. Research activities are carried out mostly in the field of computer networks, digital signal processing, control systems, artificial intelligence and neural networks, embedded systems, advance digital design, computational bio

## CHAIRMAN



**PROF. DR. SADEEQ JAN**  
PH.D. (LUXEMBOURG)

## FACULTY

### Professors

|                             |                         |
|-----------------------------|-------------------------|
| Prof. Dr. Laiq Hasan        | Ph.D. (The Netherlands) |
| Prof. Dr. Sadeeq Jan        | Ph.D. (Luxembourg)      |
| Prof. Dr. Zahid Wadud Mufti | Ph.D. (Pak)             |

### Associate Professors

|                             |             |
|-----------------------------|-------------|
| Dr. Nasru Minallah          | Ph.D. (UK)  |
| Dr. Nasir Ahmad             | Ph.D. (UK)  |
| Dr. Khurram Shehzad Khattak | Ph.D. (USA) |

### Assistant Professors

|                              |                  |
|------------------------------|------------------|
| Dr. M. Athar Javed Sethi     | Ph.D. (Malaysia) |
| Dr. Arbab Masood Ahmad       | Ph.D. (Pak)      |
| Dr. Safdar Nawaz Khan Marwat | Ph.D. (Germany)  |
| Dr. Salman Ahmed             | Ph.D. (Canada)   |
| Dr. Samad Baseer Khan        | Ph.D. (Thailand) |
| Engr. Ihsan Ul Haq           | M.Sc. (Pak)      |

### Lecturers

|                          |                 |
|--------------------------|-----------------|
| Dr. Rehmat Ullah Khattak | Ph.D. (Pak)     |
| Dr. Abeer Irfan          | Ph.D. (Italy)   |
| Dr. Muniba Ashfaq        | Ph.D. (Pak)     |
| Dr. Durr-e-Nayab         | Ph.D. (Pak)     |
| Dr. Amaad Khalil         | Ph.D. (Pak)     |
| Engr. Sumayyeh Salahudin | M.Sc. (Pak)     |
| Dr. Madiha Sher          | Ph.D. (Pak)     |
| Dr. Asif Ali Khan        | Ph.D. (Germany) |
| Engr. Naina Said         | M.Sc. (Pak)     |
| Engr. Madeha Mushtaq     | M.Sc. (USA)     |
| Dr. Yasir Saleem Afridi  | Ph.D. (Pak)     |

### Laboratory Engineers

|                          |             |
|--------------------------|-------------|
| Engr. Mian Ibad Ali Shah | M.Sc. (Pak) |
| Engr. Abdullah Hamid     | M.Sc. (Pak) |

informatics and computer architecture. For this purpose, the department boosts well-equipped laboratories as detailed below:

1. Three state of the art computing laboratories
2. Digital/Electronics Laboratory
3. Microprocessor Laboratory
4. DSP/Advance Digital Design Laboratory
5. Project Laboratory
6. Embedded Networks Laboratory

#### **INTERACTION WITH INDUSTRY**

The department maintains regular interaction with the public and private sector organizations. Courses in latest engineering techniques of interest to the industry are offered on regular bases.

#### **ELIGIBILITY CRITERIA FOR ADMISSION IN M.SC. COMPUTER SYSTEMS ENGINEERING**

B.S/B.Sc/B.E in Electrical Engineering/Electronics Engineering/Mechatronics Engineering/Computer Systems Engineering/Computer Software Engineering/Telecommunication Engineering recognized by Pakistan Engineering Council.

#### **AREAS OF SPECIALIZATION**

At postgraduate level, the department offers M.Sc. and Ph.D. programs in computer systems engineering. The postgraduate programs provide knowledge and research skills in a wide range of subjects related to computer systems engineering. In particular, the following four streams of specializations are offered in the Master program:

1. Information Security
2. Machine Learning
3. Software Engineering
4. Digital and Embedded Systems



# INFORMATION SECURITY

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                      | Credit Hours |
|-------------|-----------------------------------|--------------|
| CSE 5630    | Cryptography and Network Security | 3            |
| CSE 5640    | Security of Web-based Systems     | 3            |
| CSE 5642    | Cyber Security Principles         | 3            |
| CSE 5661    | Machine Learning Techniques       | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                   | Credit Hours |
|-------------|------------------------------------------------|--------------|
| CSE 5638    | Security and Privacy of Cyber-Physical Systems | 3            |
| CSE 5639    | Advanced Systems Security                      | 3            |
| CSE 5641    | Information Security Management                | 3            |
| CSE 5643    | Digital Forensics and Cybercrime Investigation | 3            |
| CSE 5644    | Ethical Hacking Methodologies                  | 3            |
| CSE 5645    | Advanced Communication Security                | 3            |
| CSE 5646    | Security Testing                               | 3            |
| CSE 5647    | Information Assurance                          | 3            |
| CSE 5648    | Machine Learning for Cyber Security            | 3            |
| CSE 5649    | Vulnerability Assessment & Reverse Engineering | 3            |
| CSE 5601    | Advanced Digital Image Processing              | 3            |
| CSE 5603    | Computer Vision                                | 3            |
| CSE 5666    | Advanced Embedded Systems Design               | 3            |
| CSE 6609    | Advanced Digital Design                        | 3            |

## INFORMATION SECURITY

|                                                                                                                                                 |                               |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---|
| CSE 5664                                                                                                                                        | Computational Bioinformatics  | 3 |
| CSE 5665                                                                                                                                        | Parallel Processing           | 3 |
| CSE 5667                                                                                                                                        | High Performance Computing    | 3 |
| CSE 5632                                                                                                                                        | Mobile Communication Systems  | 3 |
| CSE 5633                                                                                                                                        | Wireless Networks             | 3 |
| CSE 5634                                                                                                                                        | Internet-of-Things            | 3 |
| CSE 5663                                                                                                                                        | Artificial Intelligence       | 3 |
| CSE 5682                                                                                                                                        | Advanced Software Testing     | 3 |
| CSE 6614                                                                                                                                        | Information Theory and Coding | 3 |
| CSE 5650                                                                                                                                        | Special Topics                | 3 |
| A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD |                               |   |

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| CSE 5691    | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CSE 5699    | Master Thesis | 6            |
| CSE 6699    | Ph.D. Thesis  | 36           |

# MACHINE LEARNING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                      | Credit Hours |
|-------------|-----------------------------------|--------------|
| CSE 5661    | Machine Learning Techniques       | 3            |
| CSE 5663    | Artificial Intelligence           | 3            |
| CSE 6605    | Neural Networks and Deep Learning | 3            |
| CSE 5630    | Cryptography and Network Security | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                      | Credit Hours |
|-------------|-----------------------------------|--------------|
| CSE 5660    | Pattern Recognition               | 3            |
| CSE 5662    | Cloud Computing                   | 3            |
| CSE 5664    | Computational Bioinformatics      | 3            |
| CSE 5665    | Parallel Processing               | 3            |
| CSE 5667    | High Performance Computing        | 3            |
| CSE 5668    | Autonomic Computing               | 3            |
| CSE 6612    | Big Data Analytics                | 3            |
| CSE 5601    | Advanced Digital Image Processing | 3            |
| CSE 5603    | Computer Vision                   | 3            |
| CSE 5666    | Advanced Embedded Systems Design  | 3            |
| CSE 6609    | Advanced Digital Design           | 3            |

# MACHINE LEARNING

|          |                                     |   |
|----------|-------------------------------------|---|
| CSE 5664 | Computational Bioinformatics        | 3 |
| CSE 5665 | Parallel Processing                 | 3 |
| CSE 5667 | High Performance Computing          | 3 |
| CSE 5632 | Mobile Communication Systems        | 3 |
| CSE 5633 | Wireless Networks                   | 3 |
| CSE 5634 | Internet-of-Things                  | 3 |
| CSE 5640 | Security of Web-based Systems       | 3 |
| CSE 5642 | Cybersecurity Principles            | 3 |
| CSE 5648 | Machine Learning for Cyber Security | 3 |
| CSE 5682 | Advanced Software Testing           | 3 |
| CSE 6614 | Information Theory and Coding       | 3 |
| CSE 5669 | Special Topics                      | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

## General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| CSE 5691    | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

## Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CSE 5699    | Master Thesis | 6            |
| CSE 6699    | Ph.D. Thesis  | 36           |

# SOFTWARE ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                      | Credit Hours |
|-------------|-----------------------------------|--------------|
| CSE 5681    | Advanced Requirements Engineering | 3            |
| CSE 5682    | Advanced Software Testing         | 3            |
| CSE 5661    | Machine Learning Techniques       | 3            |
| CSE 5630    | Cryptography and Network Security | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                           | Credit Hours |
|-------------|----------------------------------------|--------------|
| CSE 5680    | Advanced Software Systems Architecture | 3            |
| CSE 5683    | Advanced Software Project Management   | 3            |
| CSE 5684    | Advanced Human Computer Interaction    | 3            |
| CSE 5685    | Advanced Software Quality Assurance    | 3            |
| CSE 5686    | Software Design Patterns               | 3            |
| CSE 5687    | Agile Software Development Methods     | 3            |
| CSE 5688    | Empirical Software Engineering         | 3            |
| CSE 5689    | Component Based Software Engineering   | 3            |
| CSE 5690    | Software Configuration Management      | 3            |
| CSE 5692    | Advanced Formal Methods                | 3            |
| CSE 5693    | Software Measurement and Methods       | 3            |
| CSE 5601    | Advanced Digital Image Processing      | 3            |
| CSE 5603    | Computer Vision                        | 3            |
| CSE 5666    | Advanced Embedded Systems Design       | 3            |
| CSE 6609    | Advanced Digital Design                | 3            |

## SOFTWARE ENGINEERING

|          |                                |   |
|----------|--------------------------------|---|
| CSE 5664 | Computational Bioinformatics   | 3 |
| CSE 5665 | Parallel Processing            | 3 |
| CSE 5667 | High Performance Computing     | 3 |
| CSE 5632 | Mobile Communication Systems   | 3 |
| CSE 5633 | Wireless Networks              | 3 |
| CSE 5634 | Internet-of-Things             | 3 |
| CSE 5663 | Artificial Intelligence        | 3 |
| CSE 5640 | Security of Web-based Systems  | 3 |
| CSE 5642 | Cyber Security Principles      | 3 |
| CSE 6608 | Advanced Computer Architecture | 3 |
| CSE 6614 | Information Theory and Coding  | 3 |
| CSE 5694 | Special Topics                 | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| CSE 5691    | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CSE 5699    | Master Thesis | 6            |
| CSE 6699    | Ph.D. Thesis  | 36           |

# DIGITAL AND EMBEDDED SYSTEMS

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                      | Credit Hours |
|-------------|-----------------------------------|--------------|
| CSE 5666    | Advanced Embedded Systems Design  | 3            |
| CSE 6609    | Advanced Digital Design           | 3            |
| CSE 5661    | Machine Learning Techniques       | 3            |
| CSE 5630    | Cryptography and Network Security | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                  | Credit Hours |
|-------------|-----------------------------------------------|--------------|
| CSE 5606    | Advanced Digital Signal Processing            | 3            |
| CSE 5615    | Sensor Based Systems                          | 3            |
| CSE 5616    | Semiconductor Devices for Integrated Circuits | 3            |
| CSE 5617    | Electronic Systems Design                     | 3            |
| CSE 5664    | Computational Bioinformatics                  | 3            |
| CSE 5665    | Parallel Processing                           | 3            |
| CSE 5667    | High Performance Computing                    | 3            |
| CSE 5620    | PCB Design                                    | 3            |
| CSE 5682    | Advanced Software Testing                     | 3            |
| CSE 6608    | Advanced Computer Architecture                | 3            |
| CSE 6610    | Integrated Electronics/VLSI Design            | 3            |



## DIGITAL AND EMBEDDED SYSTEMS

|          |                                   |   |
|----------|-----------------------------------|---|
| CSE 5601 | Advanced Digital Image Processing | 3 |
| CSE 5603 | Computer Vision                   | 3 |
| CSE 5632 | Mobile Communication Systems      | 3 |
| CSE 5633 | Wireless Networks                 | 3 |
| CSE 5634 | Internet-of-Things                | 3 |
| CSE 5663 | Artificial Intelligence           | 3 |
| CSE 5640 | Security of Web-based Systems     | 3 |
| CSE 5642 | Cybersecurity Principles          | 3 |
| CSE 6614 | Information Theory and Coding     | 3 |
| CSE 5621 | Special Topics                    | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| CSE 5691    | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CSE 5699    | Master Thesis | 6            |
| CSE 6699    | Ph.D. Thesis  | 36           |

# Department of Computer Science

(Peshawar Campus)

Welcome to the Department of Computer Science (CS), a hub of innovation, research, and excellence in higher education. Our department is committed to providing cutting-edge education and fostering a dynamic environment for students to thrive in the ever-evolving field of computer science. We offer a range of advanced programs designed to equip our graduates with the skills and knowledge required to excel in both academia and industry.

## Programs Offered

### Master of Science (MS) in Computer Science

Our MS program in Computer Science offers two specialized streams, allowing students to focus on areas of critical importance in today's digital landscape:

**1. Cyber Security:** As cyber threats become increasingly sophisticated, the demand for professionals with expertise in Cyber Security continues to grow. Our curriculum covers a comprehensive range of topics including network security, cryptography, ethical hacking, and security protocols. Students gain hands-on experience with the latest tools and technologies, preparing them to protect and secure information systems in various organizational settings.

**2. Data Science and Distributed Systems:** This stream focuses on the rapidly growing fields of Data Science and Distributed Systems. It covers advanced topics such as, machine learning, deep learning, data analytics, natural language processing, and computer vision. Students develop skills to gain insights from data and build intelligent systems. The stream emphasizes both theoretical foundations and practical applications of Data Science in Distributed Systems. Graduates are prepared for research, innovation, and professional careers in academia and industry.

### Doctor of Philosophy (Ph.D.) in Computer Science

Our Ph.D. program in Computer Science is designed for those who wish to pursue advanced research and contribute to the body of knowledge in the field. The program offers a rich research environment, access to state-of-the-art facilities, and the opportunity to work alongside distinguished faculty members. Doctoral candidates engage in groundbreaking research, aiming to solve complex problems and push the boundaries of computer science.

## CHAIRMAN



**DR. SYED ADEEL ALI SHAH**  
Ph.D. (Malaysia)

## FACULTY

### Associate Professors

|                         |                  |
|-------------------------|------------------|
| Dr. Iftikhar Ahmad      | Ph.D. (Germany)  |
| Dr. Syed Adeel Ali Shah | Ph.D. (Malaysia) |

### Assistant Professors

|                          |                         |
|--------------------------|-------------------------|
| Dr. Wajeeha Khalil       | Ph.D. (Austria)         |
| Dr. M. Imran Khan Khalil | Ph.D. (Pak)             |
| Dr. Suhail Yousaf        | Ph.D. (The Netherlands) |
| Dr. Izhar Ullah          | Ph.D. (UK)              |
| Dr. M. Naeem Khan        | Ph.D. (Pak)             |
| Mr. Ismat Ullah Khan     | M.Sc. (Pak)             |

### Lecturers

|                     |                  |
|---------------------|------------------|
| Dr. Zakira Inayat   | Ph.D. (Malaysia) |
| Dr. Alauddin        | Ph.D. (Pak)      |
| Dr. Dilawar Khan    | Ph.D. (Pak)      |
| Dr. Muftaba Hassan  | Ph.D. (Belgium)  |
| Mr. Sadiq-ur-Rehman | MS (Pak)         |
| Mr. Amer Taj        | MS (UK)          |
| Ms. Aisha Javed     | MS (Pak)         |
| Mr. Imran Rasheed   | MS (Pak)         |
| Mr. Inayat Ullah    | MS (Pak)         |
| Mr. Mohammad        | MS (Pak)         |
| Mr. Haseeb Shamshad | MS (Pak)         |
| Mr. Ehsan Khalil    | MS (Pak)         |

### Why Choose CS?

**Expert Faculty:** Our department boasts a team of highly qualified and experienced faculty members who are dedicated to teaching and research. They bring a wealth of knowledge from their respective fields and are committed to mentoring students and guiding their academic and professional growth.

**Research Opportunities:** We provide ample opportunities for students to engage in research projects, collaborate with industry partners, and present their findings at national and international conferences. Our research centers and labs are equipped with the latest technology, facilitating innovative and impactful research.

**State-of-the-Art Facilities:** The department is equipped with modern laboratories, advanced computing resources, and a wide array of software tools. These facilities are designed to support both teaching and research activities, ensuring that students have access to the resources they need to succeed.

**Industry Connections:** We maintain strong ties with the industry, offering students opportunities for internships, collaborative

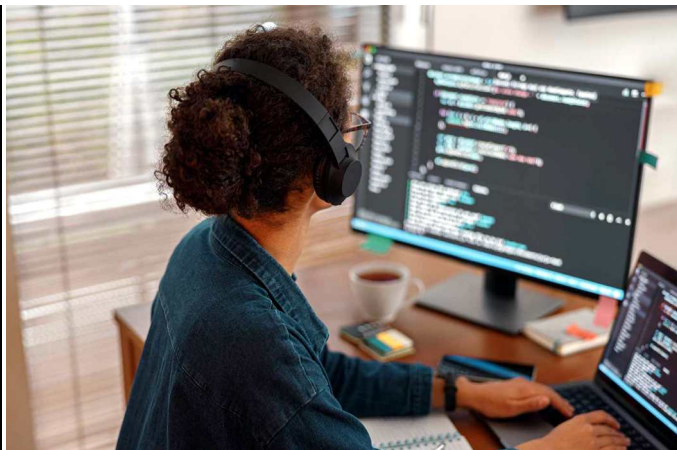
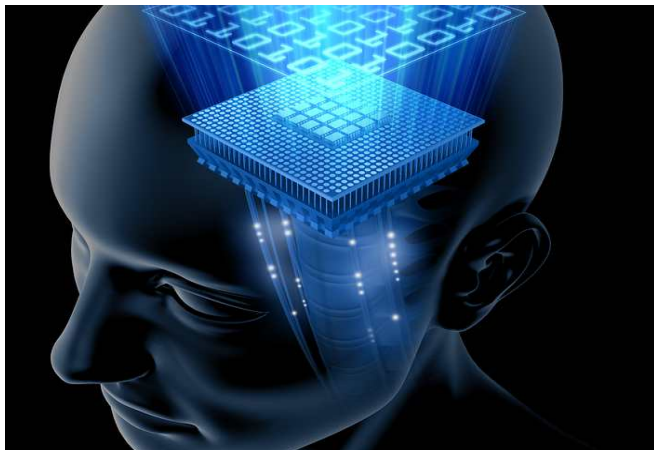
projects, and networking. These connections help bridge the gap between academia and industry, providing our students with practical experience and enhancing their employability.

**Comprehensive Curriculum:** Our curriculum is continuously updated to reflect the latest trends and advancements in the field. We offer a balanced mix of theoretical knowledge and practical skills, ensuring that our graduates are well-prepared to tackle real-world challenges.

### Join Us

At the Department of Computer Science and Information Technology, we are dedicated to shaping the future of computing. Whether you are interested in pursuing a career in cybersecurity, data science, or advanced research, our programs are designed to provide you with the knowledge and skills needed to succeed. Join us and be a part of a vibrant community committed to excellence in education, research, and innovation.

We look forward to welcoming you to our department and supporting you on your academic journey.



# DATA SCIENCE AND DISTRIBUTED SYSTEMS

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                    | Credit Hours |
|-------------|---------------------------------|--------------|
| CS 5501     | Advanced Analysis of Algorithms | 3            |
| CS 5630     | Machine Learning                | 3            |
| CS 5638     | Principles of Data Science      | 3            |
| CS 5571     | Distributed Computing           | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                               | Credit Hours |
|-------------|--------------------------------------------|--------------|
| CS 5639     | Deep Learning                              | 3            |
| CS 5577     | Data Intensive Computing Systems           | 3            |
| CS 5637     | Advanced Topics in AI                      | 3            |
| CS 5573     | Distributed Computing Paradigm             | 3            |
| CS 5574     | Virtual Organizations                      | 3            |
| CS 5634     | Human Computer Interaction                 | 3            |
| CS 5533     | Software Project Management                | 3            |
| CS 5597     | Blockchain Technologies                    | 3            |
| CS 5650     | Online Algorithms and Competitive Analysis | 3            |
| CS 5654     | Algorithmic Game Theory                    | 3            |
| CS 5614     | Data Mining                                | 3            |
| CS 5633     | Natural Language Processing                | 3            |
| CS 5655     | Graph Theory and Social Networks           | 3            |
| CS 5500     | Advanced Theory of Computation             | 3            |

## DATA SCIENCE AND DISTRIBUTED SYSTEMS

|         |                                          |   |
|---------|------------------------------------------|---|
| CS 5502 | Advanced Operating System                | 3 |
| CS 5503 | Advanced Computer Architecture           | 3 |
| CS 5510 | Advanced Operations Research             | 3 |
| CS 5542 | Software Testing                         | 3 |
| CS 5578 | Internet of Things                       | 3 |
| CS 5575 | Grid Computing                           | 3 |
| CS 5572 | Cloud Computing                          | 3 |
| CS 5594 | Wireless Networks                        | 3 |
| CS 5576 | Advanced Topics in Distributed Computing | 3 |
| CS 5586 | Advanced Statistics for Data Science     | 3 |
| CS 5587 | Big Data Analytics                       | 3 |
| CS 5522 | Special Topics                           | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| CS 5504     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CS 5199     | Master Thesis | 6            |
| CS 6199     | Ph.D. Thesis  | 36           |

# CYBER SECURITY

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                    | Credit Hours |
|-------------|---------------------------------|--------------|
| CS 5501     | Advanced Analysis of Algorithms | 3            |
| CS 5630     | Machine Learning                | 3            |
| CS 5550     | Computer Security               | 3            |
| CS 5561     | Web Security                    | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                               | Credit Hours |
|-------------|--------------------------------------------|--------------|
| CS 5551     | Advanced Network Security                  | 3            |
| CS 5552     | Security Management                        | 3            |
| CS 5553     | Security in Mobile and Wireless Networks   | 3            |
| CS 5554     | Applied Cryptography                       | 3            |
| CS 5542     | Software Testing                           | 3            |
| CS 5634     | Human Computer Interaction                 | 3            |
| CS 5555     | Ethical Hacking                            | 3            |
| CS 5597     | Blockchain Technologies                    | 3            |
| CS 5650     | Online Algorithms and Competitive Analysis | 3            |
| CS 5654     | Algorithmic Game Theory                    | 3            |
| CS 5500     | Advanced Theory of Computation             | 3            |
| CS 5502     | Advanced Operating System                  | 3            |
| CS 5503     | Advanced Computer Architecture             | 3            |
| CS 5510     | Advanced Operations Research               | 3            |

## CYBER SECURITY

|         |                                                         |   |
|---------|---------------------------------------------------------|---|
| CS 5533 | Software Project Management                             | 3 |
| CS 5556 | Software Engineering & Security Architecture            | 3 |
| CS 5557 | Database Security                                       | 3 |
| CS 5558 | Digital Forensics                                       | 3 |
| CS 5560 | Advanced Topics in Information & Communication Security | 3 |
| CS 5562 | Information Privacy and Security                        | 3 |
| CS 5522 | Special Topics                                          | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| CS 5504     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| CS 5199     | Master Thesis | 6            |
| CS 6199     | Ph.D. Thesis  | 36           |

# FACULTY OF MECHANICAL, CHEMICAL AND INDUSTRIAL ENGINEERING



## MESSAGE FROM THE DEAN

The Faculty of Mechanical, Chemical and Industrial Engineering (FMCIE) is one of the dynamic faculties of UET Peshawar. FMCIE consists of seven teaching departments, including disciplines of mechanical, industrial, chemical, mechatronics and energy engineering at Main Campus(Peshawar), Nowshera Campus and Hayatabad Campus. The departments are supported with state-of-the-art research centers and laboratories in the fields of energy, robotics, rapid prototyping and gas engineering. FMCIE is equipped with well-trained foreign qualified faculty in their respective areas. The blend of facilities for teaching and research, both for undergraduate and postgraduate programs creates an excellent learning environment for our students.

We consider students as our asset and put concerted efforts to groom them to the best of their potential, and send them to the market/society to contribute towards socio-economic development of Pakistan. All the B.Sc. Engineering Programs in the FMCIE are accredited by PEC under the Washington Accord (Level II), paving way for our graduates to enter global job market with confidence.

Our Alumni are working in their respective professional areas across the globe and providing excellent feedback for Continual Quality Improvement (CQI) of our programs. The excellent integration of alumni, students, faculty members and industry under the Outcome-Based Education (OBE) ensures sustainable CQI of the programs and makes them attractive for prospective students.

I welcome all our prospective students to join us and be part of our family. Give us a chance to get yourselves prepared for challenges ahead, and fulfill your dreams.

**Prof. Dr. Rizwan M. Gul**  
Dean, Faculty of Mechanical, Chemical  
and Industrial Engineering



# Department of Mechanical Engineering

(Peshawar Campus)

Mechanical Engineering encompasses the generation, conversion, transmission, and utilization of mechanical and thermal energy as well as the design, construction, and operation of all kinds of machines. Of all the engineering disciplines, mechanical engineering offers the greatest breadth, flexibility, and individuality. The professions taken up by mechanical engineers are very diverse and touch every walk of life. One usually thinks of mechanical engineers finding employment in traditional industries such as the automotive, power generation and manufacturing, but it must be kept in mind that the high-tech "smart products" combining computer chips into mechanical devices are also designed and manufactured by mechanical engineers.

The mission of the Mechanical Engineering Department is to produce leaders in mechanical engineering for the 21st century by providing each student with a balance of intellectual knowledge and practical experience in order to prepare the graduates to address a variety of societal needs. The program prepares each student with higher competencies as a practicing mechanical engineer, or for higher studies in engineering. With solid grounding in the principles and practice of mechanical engineering, graduates are ready to engage in a lifetime of learning about employing new concepts, technologies, and methodologies.

The Department of Mechanical Engineering was conceived in 1952 as part of the Faculty of Engineering, Peshawar University, which was later upgraded to the status of a full-fledged Engineering University in 1980. The postgraduate program in the department started in 1991 and offers a Masters degree in Mechanical Engineering as well as Ph.D.

## CHAIRMAN



**PROF. DR. HAMID ULLAH**  
Ph.D. (Thailand)

## FACULTY

### Professors

|                            |                  |
|----------------------------|------------------|
| Prof. Dr. Rizwan M. Gul    | Ph.D. (USA)      |
| Prof. Dr. Hamid Ullah      | Ph.D. (Thailand) |
| Prof. Dr. Afzal Khan       | D.Sc (USA)       |
| Prof. Dr. Abdul Shakoor    | Ph.D. (UK)       |
| Prof. Dr. Shaukat Ali Shah | Ph.D. (Thailand) |
| Prof. Dr. Muhammad Sadiq   | Ph.D. (USA)      |

### Associate Professors

|                   |             |
|-------------------|-------------|
| Dr. Feroz Shah    | Ph.D. (Pak) |
| Dr. M. Ali Kamran | Ph.D. (UK)  |
| Dr. Kareem Akhter | Ph.D. (USA) |

### Assistant Professors

|                       |                   |
|-----------------------|-------------------|
| Dr. M. Alam Zaib Khan | Ph.D. (UK)        |
| Dr. Umar Ibrahim      | Ph.D. (USA)       |
| Engr. Ihsan Ullah     | M.Sc. (Pak)       |
| Dr. Naveed Ullah      | Ph.D. (S.Korea)   |
| Dr. Naveed Ahmad      | Ph.D. (France)    |
| Dr. Zeeshan Zahir     | Ph.D. (S.Korea)   |
| Dr. Arshad Mehmood    | Ph.D. (USA)       |
| Dr. Fakhre Alam       | Ph.D. (S.Korea)   |
| Dr. Ahmad Nawaz       | Ph.D. (Hong Kong) |

### Lecturers

|                           |             |
|---------------------------|-------------|
| Dr. Tabassum Yasmin       | Ph.D. (UK)  |
| Dr. Zuhaib Ali Khan       | Ph.D. (UK)  |
| Engr. Fazli Yazdan        | M.Sc. (Pak) |
| Engr. Adnan Rasheed       | M.Sc. (Pak) |
| Engr. Numan Khan          | M.Sc. (Pak) |
| Engr. Awais Ahmad         | M.Sc. (KSA) |
| Engr. Arsalan Khan        | M.Sc. (Pak) |
| Engr. Qazi M. Yaseen      | M.Sc. (Pak) |
| Engr. Shafi-ud-Din        | M.Sc. (Pak) |
| Engr. M. Usman Khan       | M.Sc. (Pak) |
| Engr. Kaleem Ullah Khalil | M.Sc. (Pak) |
| Engr. Ismail Khan         | M.Sc. (Pak) |

### Laboratory Engineers

|                        |             |
|------------------------|-------------|
| Dr. Abid Hussain       | Ph.D. (Pak) |
| Engr. Nadeem ur Rehman | M.Sc. (Pak) |

## RESEARCH AREAS

Current research in the department focuses on die-casting, design of renewable energy systems, implant materials characterization, driving safety issues, and technology management. The department boasts well-qualified permanent faculty with Ph.D. and Master degrees from both USA and UK. Extensive computational and laboratory facilities are available for teaching and research purposes. The laboratories include an Impact Research Lab, a Rapid Prototyping facility, a Metallurgy Lab with a 10-ton computerized Universal Testing Machine, Advanced Manufacturing Lab, Dynamics and Control Lab, etc. A seminar library provides latest books of interest to researchers and postgraduate students. This is in addition to the Central Library, which stocks mostly undergraduate books.

## INDUSTRIAL INTERACTION

The Department maintains regular interaction with the local industry for solving industrial problems. Courses in latest engineering techniques of interest to the industry are offered regularly and can also be arranged on request. Such courses include Finite Element Analysis using ANSYS, Solid modeling using ProE, Condition Monitoring of Rotating Machinery, Experimental Stress Analysis, Computer-Aided-Drafting using AutoCAD, etc. Several research projects sponsored by industry have been undertaken by the faculty.

## POST GRADUATE PROGRAM

The Department offers Master's degree in Mechanical Engineering in the following three specializations:

1. Mechanical Engineering Design
2. Materials Engineering
3. Dynamics and Control

In addition to core courses in each specialization, elective courses must be taken in consultation with advisor from amongst the approved courses. However, a maximum of one course can be taken out of the management related courses.

Doctoral program of studies was started in the department in 2002 and is currently focused on the following areas of specialization:

1. Manufacturing Processes
2. Design optimization
3. Renewable energy systems
4. Advanced materials engineering
5. Design and manufacturing methods
6. Thermal and Fluid Sciences
7. Nano technology

# MECHANICAL ENGINEERING DESIGN

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| ME 5303     | Finite Element Analysis          | 3            |
| ME 5312     | Advanced Stress Analysis         | 3            |
| ME 5375     | Product Design and Development   | 3            |
| ME 5306     | Fatigue of Metals and Structures | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                | Credit Hours |
|-------------|-------------------------------------------------------------|--------------|
| ME 5305     | Experimental Stress Analysis                                | 3            |
| ME 5313     | Continuum Mechanics                                         | 3            |
| ME 5321     | Compressible Flows                                          | 3            |
| ME 5363     | Engineering Design Optimization                             | 3            |
| ME 5371     | Modeling and Simulation                                     | 3            |
| ME 5374     | Problem Solving and Decision Making                         | 3            |
| ME 5383     | Advanced CAD/CAM                                            | 3            |
| ME 5384     | Eco-Design and Manufacturing Systems                        | 3            |
| ME 5385     | Advanced Artificial Intelligence for Mechanical Engineering | 3            |

A student may take maximum one course for Plan-A and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| ME 5398     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| ME 5399     | Master Thesis | 6            |
| ME 6399     | Ph.D. Thesis  | 36           |

# MATERIALS ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                             | Credit Hours |
|-------------|------------------------------------------|--------------|
| ME 5352     | Materials Thermodynamics                 | 3            |
| ME 5365     | Phase Transformation and Microstructures | 3            |
| ME 5392     | Mechanical Behavior of Materials         | 3            |
| ME 5351     | Characterization of Materials            | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                | Credit Hours |
|-------------|-------------------------------------------------------------|--------------|
| ME 5391     | Applications and Selection of Materials                     | 3            |
| ME 5353     | Composite Materials                                         | 3            |
| ME 5308     | Mechanics of Fiber Reinforced Composite Materials           | 3            |
| ME 5314     | Metal Forming                                               | 3            |
| ME 5354     | Heat Treatment of Metals and Alloys                         | 3            |
| ME 5355     | Polymers Science and Engineering                            | 3            |
| ME 5356     | Biomaterials                                                | 3            |
| ME 5385     | Advanced Artificial Intelligence for Mechanical Engineering | 3            |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| ME 5398     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| ME 5399     | Master Thesis | 6            |
| ME 6399     | Ph.D. Thesis  | 36           |

# DYNAMICS AND CONTROL

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                 | Credit Hours |
|-------------|------------------------------|--------------|
| ME 5335     | Design of Mechanisms         | 3            |
| ME 5338     | Modeling of Dynamic Systems  | 3            |
| ME 5339     | Advanced Control Engineering | 3            |
| ME 5336     | Industrial Robotics          | 3            |

### Group-B: Optional Courses (minimum two courses for Research-Based and four courses for Course-Based)

| Course Code                                                                                                                                     | Course Title                                                | Credit Hours |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------|
| ME 5371                                                                                                                                         | Modeling and Simulation                                     | 3            |
| ME 5332                                                                                                                                         | Advanced Mechanical Vibration                               | 3            |
| ME 5331                                                                                                                                         | Dynamics of Mechanisms                                      | 3            |
| ME 5333                                                                                                                                         | Vibration Measurement and Analysis                          | 3            |
| ME 5357                                                                                                                                         | Evaluation Techniques and Instrumentation                   | 3            |
| ME 5361                                                                                                                                         | Numerical Methods for Engineers                             | 3            |
| ME 5364                                                                                                                                         | Conditioning Monitoring of Rotating Machinery               | 3            |
| ME 5369                                                                                                                                         | Digital Control Systems*                                    | 3            |
| ME 5385                                                                                                                                         | Advanced Artificial Intelligence for Mechanical Engineering | 3            |
| A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD |                                                             |              |

\* ME 5339 is pre-requisite for ME 5369;

\*\* ME 5332 is pre-requisite for ME 5372

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| ME 5398     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| ME 5399     | Master Thesis | 6            |
| ME 6399     | Ph.D. Thesis  | 36           |

# NANO SCIENCE AND ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                             | Credit Hours |
|-------------|------------------------------------------|--------------|
| ME 5401     | Essentials of Nano Science & Engineering | 3            |
| ME 5402     | Micro-Nano System                        | 3            |
| ME 5403     | Characterization of Nano materials       | 3            |
| ME 5404     | Nano Sensors                             | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                | Credit Hours |
|-------------|-------------------------------------------------------------|--------------|
| ME 5405     | Mechanical Behavior & Deformation                           | 3            |
| ME 5406     | Advanced Aerosol Science                                    | 3            |
| ME 5407     | Applied Nano Metrology                                      | 3            |
| ME 5408     | Particle Engineering                                        | 3            |
| ME 5409     | Powder Metallurgy                                           | 3            |
| ME 5410     | Nanomaterials & Nanostructures                              | 3            |
| ME 5385     | Advanced Artificial Intelligence for Mechanical Engineering | 3            |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| ME 5398     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| ME 5399     | Master Thesis | 6            |
| ME 6399     | Ph.D. Thesis  | 36           |

# Department of Mechatronics Engineering

(Peshawar Campus)

Mechatronics is a multi-disciplinary field of engineering comprising mechanical, electronic, control, computer, system design and software engineering. The integration of several engineering disciplines and technologies leads to the design of innovative components and systems to produce autonomous and smart products.

The aim of the Postgraduate program at the Department of Mechatronics is to develop expertise in the areas of robotics, bio-Mechatronics, intelligent control systems, smart sensors and actuators, and Micro/Nano Electro-Mechanical Systems (MEMS & NEMS) for automotive, aviation and aerospace, transportation, manufacturing and production engineering, energy, industrial, biomedical and healthcare applications.

## MISSION

The mission of the post graduate program at Department of Mechatronics is to perform leading edge research and to groom quality researchers for the country's needs in the field of education, research and industry. To establish state of the art education and research environment for outstanding graduates, industry and community.

## OBJECTIVES

- To actively participate in providing solutions to the existing and future needs of local, national and international industries.
- To develop research, technical writing and communication skills needed for scientific papers, articles, proposals, reports and presentations in national and international scientific workshops, seminars, conferences and journals.
- To prepare excellent Mechatronics researchers and experts for the national research institutions, universities and industries.

## CHAIRMAN



**PROF. DR. M. TAHIR KHAN**  
Ph.D. (Canada)

## FACULTY

### Professors

|                           |                |
|---------------------------|----------------|
| Prof. Dr. M. Tahir Khan   | Ph.D. (Canada) |
| Prof. Dr. Faridullah Khan | Ph.D. (Canada) |
| Prof. Dr. Izhar-ul-Haq    | Ph.D. (UK)     |

### Associate Professors

|                   |            |
|-------------------|------------|
| Dr. Kamran Shah   | Ph.D. (UK) |
| Dr. Shahzad Anwar | Ph.D. (UK) |

### Assistant Professors

|                     |                  |
|---------------------|------------------|
| Dr. Muhammad Akmal  | Ph.D. (Turkey)   |
| Dr. Sheraz Ali Khan | Ph.D. (S. Korea) |
| Dr. Anam Abid       | Ph.D. (Pak)      |

### Lecturers

|                       |             |
|-----------------------|-------------|
| Dr. Zubair Ahmad      | Ph.D. (Pak) |
| Dr. Gulbadan Sikandar | Ph.D. (Pak) |
| Dr. Hamid Khan        | Ph.D. (Pak) |
| Engr. Nayyar Fazal    | M.Sc. (Pak) |
| Engr. Sadaf Sardar    | M.Sc. (Pak) |



- To establish an effective collaboration with local, national and international research institutions, universities and industries related to Mechatronics.

#### **ELIGIBILITY CRITERIA**

B.Sc./BE and M.Sc./MS/M.Phil. in any of the following disciplines are eligible for admissions in M.Sc. and Ph.D. Mechatronics Engineering subject to the fulfilment of other academic and institutional requirements.

- Mechatronics Engineering
- Mechanical Engineering
- Electrical Engineering
- Electronics Engineering
- Industrial Engineering
- Computer Engineering
- Renewable/Energy Engineering
- Avionics Engineering
- Aeronautical Engineering
- Manufacturing and Process Engineering
- Biomedical Engineering
- Aerospace Engineering
- Telecommunication Engineering

- Computer Software Engineering
- Computer Systems Engineering
- Agricultural Engineering
- Material & Metallurgy Engineering
- Chemical Engineering
- Any other relevant MS/M.Sc./M.Phil. in Engineering

#### **FIELDS OF SPECIALIZATION**

The master's program offers specialization in Automation and Control.

#### **Ph.D. IN MECHATRONICS ENGINEERING**

The research areas available to Ph.D. students include, but are not limited to:

- Intelligent Transportation
- Robotics
- Laser and its applications in industry
- Bio-Mechatronics
- Intelligent control systems
- Smart sensors and actuators
- Micro/Nano Electro-Mechanical Systems (MEMS & NEMS)



# AUTOMATION AND CONTROL

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                      | Credit Hours |
|-------------|-----------------------------------|--------------|
| MtE 5101    | Advanced Manufacturing Automation | 3            |
| MtE 5113    | Advanced Control Engineering      | 3            |
| MtE 5125    | Machine Learning                  | 3            |
| MtE 5108    | Advanced Industrial Control       | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                 | Credit Hours |
|-------------|----------------------------------------------|--------------|
| MtE 5120    | Advanced Robotics                            | 3            |
| MtE 5105    | Drives & Control in Industrial Automation    | 3            |
| MtE 5107    | Advanced Mechatronics Systems Design         | 3            |
| MtE 5130    | Machine Vision                               | 3            |
| MtE 5136    | Fault Detection and Isolation                | 3            |
| MtE 5121    | Multi-Robot Systems                          | 3            |
| MtE 5102    | Engineering Project Management               | 3            |
| MtE 5103    | Reconfigurable Machine Tool Design           | 3            |
| MtE 5104    | Laser Applications in Engineering            | 3            |
| MtE 5106    | Micro-fabrication                            | 3            |
| MtE 5109    | Advanced Micro-Electromechanical Systems     | 3            |
| MtE 5110    | Advanced Micro & Nano Fabrication Technology | 3            |
| MtE 5111    | Microrobotics                                | 3            |
| MtE 5112    | Nanorobotic Systems                          | 3            |
| MtE 5114    | Computer Applications in Robotics            | 3            |
| MtE 5115    | Biomedical Engineering                       | 3            |

|          |                                                   |   |
|----------|---------------------------------------------------|---|
| MtE 5116 | Biomechatronics                                   | 3 |
| MtE 5117 | Multidisciplinary Engineering Design Optimization | 3 |
| MtE 5118 | Genetic Algorithms                                | 3 |
| MtE 5119 | Robotics I                                        | 3 |
| MtE 5112 | Fuzzy Logic Control                               | 3 |
| MtE 5123 | Advanced Digital Systems                          | 3 |
| MtE 5124 | Statistical Signal Processing                     | 3 |
| MtE 5126 | Wearable Robots                                   | 3 |
| MtE 5127 | Industrial Pollution Control                      | 3 |
| MtE 5128 | Advanced Digital Signal Processing                | 3 |
| MtE 5129 | Digital Image Processing                          | 3 |
| MtE 5132 | Pattern Recognition                               | 3 |
| MtE 5133 | Modeling for Manufacturing Automation             | 3 |
| MtE 5134 | Additive Manufacturing                            | 3 |
| MtE 5135 | Intelligent Maintenance Systems                   | 3 |
| MtE 5137 | Medical Image Computation                         | 3 |
| MtE 5138 | Bio-Inspired Computing                            | 3 |
| MtE 5197 | Special Topics                                    | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| MtE 5131    | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| MtE 5198    | Master Thesis | 6            |
| MtE 5199    | Ph.D. Thesis  | 36           |

# Department of Chemical Engineering

(Peshawar Campus)

Chemical Engineering is the branch of engineering, which blends the basic sciences with engineering knowledge and design fundamentals to develop, design, analyze and engineer the industrial processes and plants that turn raw materials into valuable products. These processes must be accomplished in a competitive economy and environmentally safe manner to create products, which are useful and essential to the modern world. Chemical Engineering science is based upon the fundamentals of mass, momentum, and heat transfer, thermodynamics and chemical kinetics. Chemical engineers are extremely versatile and able to handle a wide range of technical problems. They are familiar with the necessary skills that encompass detailed understanding of all aspects of design, testing, scale-up, operation, control, and optimization of different unit operations. They are familiar with many industries such as fuels and petrochemicals, plastics, fibers, paper, foods, building materials, water desalination and pharmaceuticals. A chemical engineering degree is also good preparation for careers in pollution prevention and waste minimization.

## CHAIRMAN



**PROF. DR. M. YOUNAS**  
Ph.D. (France)

## FACULTY

### Professors

|                          |                 |
|--------------------------|-----------------|
| Prof. Dr. Saeed Gul      | Ph.D. (Austria) |
| Prof. Dr. M. Younas      | Ph.D. (France)  |
| Prof. Dr. Muddasar Habib | Ph.D. (UK)      |

### Associate Professors

|                    |                |
|--------------------|----------------|
| Dr. Jamil Ahmad    | Ph.D. (Norway) |
| Dr. Nehar Ullah    | Ph.D. (Canada) |
| Dr. M. Imran Ahmad | Ph.D. (UK)     |
| Dr. Hayat Khan     | Ph.D. (Canada) |
| Dr. Muhammad Daud  | Ph.D. (KSA)    |
| Dr. Asmat Ullah    | Ph.D. (UK)     |

### Assistant Professors

|                            |                   |
|----------------------------|-------------------|
| Dr. Imran Khan Swati       | Ph.D. (Pak)       |
| Engr. Sultan Ali           | M.Sc. (Pak)       |
| Dr. Amad Ullah Khan        | Ph.D. (Pak)       |
| Dr. Muazzam Arshad Paracha | Ph.D. (Austria)   |
| Dr. Irshad Ali             | Ph.D. (Canada)    |
| Dr. S. Naveed-ul-Hassan    | Ph.D. (Australia) |
| Dr. Naseer Ahmad Khan      | Ph.D. (Australia) |

### Lecturers

|                       |                  |
|-----------------------|------------------|
| Dr. Mansoor-ul-Hassan | Ph.D. (Malaysia) |
| Dr. Saira Bano        | Ph.D. (UK)       |
| Engr. Unsia Habib     | M.Sc. (Pak)      |
| Engr. Wajid Ali       | M.Sc. (Pak)      |
| Dr. Mustafa Kamal     | Ph.D. (Malaysia) |

## RESEARCH PROJECTS AND FACILITIES

The mission of the Department of Chemical Engineering at University of Engineering & Technology, Peshawar is to be a national leader in chemical engineering research and to achieve excellence in teaching. Chemical Engineering Department offers state of the art equipment and high-tech laboratories to facilitate the post graduate students in research projects and to acquire the understanding of various chemical processes by providing small-scale units and simulated industrial work environment. Chemical Engineering Department helps students equip with practical knowledge and trouble shooting through its various computer-controlled up to date laboratories such as of Chemical Process Technology, Chemical Reaction Engineering, Chemistry, Environmental Engineering, Fluid Flow, Fuel and Combustion, Heat Transfer, Instrumentation and Control, Mass Transfer, Particle Technology, SHMT, Thermodynamics.

## AREA OF SPECIALIZATION

### M.Sc. Advanced Chemical Engineering

This program is aimed to enhance the technical and communication skills of the chemical engineers. It is built around a core of six chemical engineering courses including advanced mass transfer, advanced chemical reaction engineering, advanced heat transfer and advanced chemical engineering thermodynamics. Electives in other areas to broaden the students' exposure are also offered. Moreover, it includes independent research, and defense of a thesis

based on this research. The results of the thesis must be publishable in a technical refereed journal. The program will prepare chemical engineers for careers in teaching research and development, and management in academia, government, and industry. This program provides a basis for continued study leading to the Ph.D. degree.

## PH.D. IN CHEMICAL ENGINEERING

The Department of Chemical Engineering offers robust doctoral program in Chemical Engineering. The department has eighteen (18) faculty members with Ph.D. degrees and diversified fields. All the doctoral faculty are on "HEC approved Supervisor" List. The interested candidates are offered the admission based on expertise of respective faculty member's following area of specialization:

- ❖ Membrane Separation Processes
- ❖ Bio-Engineering
- ❖ Process intensification
- ❖ Computational Fluid Dynamics
- ❖ Process Modeling and Simulation
- ❖ Resource Conservation and Recycling

# ADVANCED CHEMICAL ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                 | Credit Hours |
|-------------|----------------------------------------------|--------------|
| ChE 5615    | Advanced Mass Transfer                       | 3            |
| ChE 5619    | Advanced Heat Transfer                       | 3            |
| ChE 5616    | Advanced Chemical Reaction Engineering       | 3            |
| ChE 5620    | Advanced Chemical Engineering Thermodynamics | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                               | Credit Hours |
|-------------|------------------------------------------------------------|--------------|
| ChE 5621    | Process Dynamics and Control                               | 3            |
| ChE 5626    | Advanced Transport Phenomena                               | 3            |
| ChE 5607    | Mathematical Methods in Chemical Engineering               | 3            |
| ChE 5618    | Process Simulation and Optimization                        | 3            |
| ChE 5601    | Membrane separation processes                              | 3            |
| ChE 5608    | Polymer Engineering                                        | 3            |
| ChE 5610    | Heat Recovery System Design                                | 3            |
| ChE 5611    | Separation System Design                                   | 3            |
| ChE 5612    | Management in Technical Organizations                      | 3            |
| ChE 5613    | Industrial Waste Management                                | 3            |
| ChE 5614    | Occupational Health and Safety in Process Industries       | 3            |
| ChE 5623    | Computational Fluid Dynamics                               | 3            |
| ChE 5624    | Clean Coal Technology                                      | 3            |
| ChE 5609    | Application of Corrosion Engineering in Process Industries | 3            |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

## ADVANCED CHEMICAL ENGINEERING

### Ph.D. in Chemical Engineering

| Course Code | Course Title                                 | Credit Hours |
|-------------|----------------------------------------------|--------------|
| ChE 6601    | Multi-phase Flow                             | 3            |
| ChE 6603    | Experimental Design and Analysis             | 3            |
| ChE 6604    | Process Intensification Principles           | 3            |
| ChE 6605    | Advanced Coal Processing Technology          | 3            |
| ChE 6607    | Membrane Materials and Synthesis             | 3            |
| ChE 6608    | Process Systems Engineering                  | 3            |
| ChE 6628    | Geo-Polymer Engineering                      | 3            |
| ChE 6629    | Microstructural And Surface Characterization | 3            |
| ChE 6631    | Advanced Particle Processing                 | 3            |
| ChE 6632    | Heterogeneous Catalysis                      | 3            |

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| ChE 5627    | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| ChE 5699    | Master Thesis | 6            |
| ChE 6699    | Ph.D. Thesis  | 36           |

# Department of Industrial Engineering

(Peshawar Campus)

Industrial engineering addresses how systems operate and is concerned with the effective and efficient delivery of quality products and services. The tools applied include analytic modeling, system simulation, queuing systems, work design, project planning, facilities design and quality management and control.

Industrial engineers seek to allocate limited resources in an effective manner. A unifying theme focusing this body of knowledge and methods into a coherent entity is the systems point of view. Industrial engineering encompasses the search for similarity among concepts, laws and models of different disciplines; the emphasis on the adaptation, integration and exploitation of existing techniques in areas other than their fields of origin; and, above all, a unique point of view dealing with relationships rather than with components. Industrial engineers are thus in a strategic position to bring about the best integration of people, materials, machines, time and money in any endeavor. These techniques are applied in a very wide range of organizations. There are industrial engineers in banks, hospitals, government, transportation and communications, construction, social service, facilities design, manufacturing, warehousing and information processing. Many industrial engineers move from analyzing and designing productive systems to managing those systems. While engineering and management are different fields, both require the ability to make decisions based on valid information. Industrial engineers are especially trained to obtain and evaluate such information.

The Department of Industrial Engineering was established in 2006. The Post Graduate program started in Fall-2008, and is currently offering a Master's degree in Manufacturing Systems Engineering which is one of the streams of Industrial Engineering. The Department has also started Ph.D. program.

## POST GRADUATE PROGRAM

The graduate program in Industrial Engineering (IE) offers both Doctor of Philosophy and Master of Science in Industrial Engineering with thesis option only. The program is designed to accommodate the working engineers as well, by offering classes in the evening and on weekends. The curriculum for the thesis option is designed to give students greater breadth and depth of technical and practical IE knowledge. This option allows specialization in Industrial Systems Engineering, Manufacturing Systems Engineering, Operations Research, Quality Engineering, Industrial Management, and Human Factor Engineering areas. These are distinct areas, each tailored to specific IE career needs and characterized by both breadth and depth in its curriculum. Presently, the Department of Industrial Engineering offers master and Ph.D. program in the Manufacturing Systems Engineering and Master degree program in Engineering Management.

## CHAIRMAN



**DR. REHMAN AKHTAR**  
Ph.D. (USA)

## FACULTY

### Professors

|                          |                 |
|--------------------------|-----------------|
| Prof. Dr. Sahar Noor     | Ph.D. (UK)      |
| Prof. Dr. Shahid Maqsood | Ph.D. (UK)      |
| Prof. Dr. Misbah Ullah   | Ph.D. (S.Korea) |

### Associate Professors

|                            |                 |
|----------------------------|-----------------|
| Dr. Rehman Akhtar          | Ph.D. (USA)     |
| Dr. Sikandar Bilal Khattak | Ph.D. (Pak)     |
| Dr. Imran Ahmad            | Ph.D. (S.Korea) |
| Dr. Usman Ghani            | Ph.D. (UK)      |

### Assistant Professors

|                      |             |
|----------------------|-------------|
| Engr. Fawad Haidar   | M.Sc. (UK)  |
| Engr. Khawar Naeem   | M.Sc. (USA) |
| Engr. Aamir Sikandar | M.Sc. (UK)  |
| Dr. Altaf Hussain    | Ph.D. (Pak) |

### Lecturers

|                        |             |
|------------------------|-------------|
| Dr. Muhammad Abas      | Ph.D. (Pak) |
| Dr. Qazi Salman Khalid | Ph.D. (Pak) |
| Dr. Abdur Rehman Babar | Ph.D. (Pak) |
| Engr. Mahawish Mahmood | M.Sc. (Pak) |

### Laboratory Engineers

|                       |             |
|-----------------------|-------------|
| Dr. Qazi M. Usman Jan | Ph.D. (Pak) |
| Engr. Shakir Azim     | M.Sc. (Pak) |
| Engr. Lal Sayd        | M.Sc. (Pak) |



# MANUFACTURING SYSTEMS ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                 | Credit Hours |
|-------------|----------------------------------------------|--------------|
| IE 5710     | Manufacturing Planning and control           | 3            |
| IE 5750     | Facility Analysis and Design                 | 3            |
| IE 5754     | Design and Analysis of Manufacturing Systems | 3            |
| IE 5758     | Advanced Manufacturing Processes             | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                        | Credit Hours |
|-------------|-------------------------------------|--------------|
| IE 5722     | Engineering Experimental Design     | 3            |
| IE 5726     | Engineering Optimization            | 3            |
| IE 5730     | Maintenance & Safety Engineering    | 3            |
| IE 5734     | Quality Engineering                 | 3            |
| IE 5738     | Computer modeling and Simulations   | 3            |
| IE 5701     | Engineering Economics               | 3            |
| IE 5702     | Mathematical Statistics             | 3            |
| IE 5703     | Queuing Theory                      | 3            |
| IE 5704     | Inferential Statistics              | 3            |
| IE 5705     | Finite Element Analysis             | 3            |
| IE 5706     | Organizational Systems              | 3            |
| IE 5707     | Dynamic Programming                 | 3            |
| IE 5708     | Project Management Framework & Tool | 3            |



## MANUFACTURING SYSTEMS ENGINEERING

|         |                                 |   |
|---------|---------------------------------|---|
| IE 5709 | Human Resource Management       | 3 |
| IE 5711 | Game Theory                     | 3 |
| IE 5712 | Concurrent Engineering          | 3 |
| IE 5713 | Benchmarking                    | 3 |
| IE 5714 | Operations Research             | 3 |
| IE 5715 | Network Analysis                | 3 |
| IE 5716 | Reliability Analysis            | 3 |
| IE 5717 | Tool Design                     | 3 |
| IE 5718 | Scheduling                      | 3 |
| IE 5719 | Replacement Models              | 3 |
| IE 5720 | Real Analysis                   | 3 |
| IE 5721 | Ergonomics                      | 3 |
| IE 5723 | Energy Management               | 3 |
| IE 5724 | Organizational Behavior         | 3 |
| IE 5725 | Supply Chain Management         | 3 |
| IE 5727 | Business Process Re-engineering | 3 |
| IE 5728 | Management Information System   | 3 |
| IE 5729 | Combinatorial Optimization      | 3 |
| IE 5731 | Quality Assurance               | 3 |
| IE 5732 | Statistical Quality Control     | 3 |
| IE 5733 | Project Management              | 3 |
| IE 5737 | Six Sigma Methodologies         | 3 |
| IE 5739 | Cost & Management Accounting    | 3 |
| IE 5740 | Total Quality Management        | 3 |

## MANUFACTURING SYSTEMS ENGINEERING

|         |                                           |   |
|---------|-------------------------------------------|---|
| IE 5741 | Project Evaluation & Feasibility Analysis | 3 |
| IE 5742 | CAD/CAM                                   | 3 |
| IE 5743 | Business Forecasting                      | 3 |
| IE 5744 | Operations Management                     | 3 |
| IE 5745 | Environmental Management & Safety         | 3 |
| IE 5747 | Marketing Management                      | 3 |
| IE 5762 | Computer Integrated Manufacturing         | 3 |
| IE 5766 | Artificial Intelligence with applications | 3 |
| IE 5770 | Mathematics                               | 3 |
| IE 5780 | Computer Applications                     | 3 |
| IE 5784 | Deterministic Optimization                | 3 |
| IE 5788 | Stochastic Optimization                   | 3 |
| IE 5790 | Special Topics                            | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| IE 5761     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| IE 5799     | Master Thesis | 6            |
| IE 6799     | Ph.D. Thesis  | 36           |

# ENGINEERING MANAGEMENT

Engineering management program at Department of Industrial Engineering, University of Engineering and Technology, Peshawar, is designed for engineers who seek broad education in modern management techniques and tools for efficient operation of scientific and technical organizations to be ahead of competitors. In addition, this program is an interface between business sectors and engineering.

Management skills are mandatory for engineers to lead organizations effectively and make good technology related investment decisions. The top executives of the world class organizations need to have both technical and management skills for innovating and optimizing their products. Indeed, innovation and optimization of business processes leads to customer retention and satisfaction. In addition, engineering management tools enable engineers in conceiving an idea and shape them into reality by having business and entrepreneurial skills. Engineers with management knowledge also serve a mediator between technical and business people of the organization.

The Engineering management program will enhance the knowledge of those interested in this area and will also provide us with a platform for relevant research in the field of Engineering Management. Furthermore, this program will help students in becoming successful professionals in engineering disciplines and academia by giving the students the opportunity to present the industrial problems and discuss the business challenges.

## **Program Mission Statement:**

“To produce quality graduates who are capable of serving the society through integrity, ethical conduct, creating knowledge, innovation, and excellence”.

## **Program Vision Statement:**

"The Engineering Management program of Department of Industrial Engineering, UET Peshawar will be a world class graduate program where students, faculty, alumni can fulfill their passion for academic excellence and gearing towards nation's benefit".

## **Degree Program**

M.Sc. in Engineering Management

## **Eligibility Criteria**

Students of all engineering disciplines are eligible to take admission in the program.

# ENGINEERING MANAGEMENT

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                 | Credit Hours |
|-------------|------------------------------|--------------|
| IE 5709     | Human Resource Management    | 3            |
| IE 5725     | Supply Chain Management      | 3            |
| IE 5733     | Project Management           | 3            |
| IE 5791     | Risk Analysis and Management | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                          | Credit Hours |
|-------------|---------------------------------------|--------------|
| IE 5744     | Operations Management                 | 3            |
| IE 5793     | Management of Technical Organizations | 3            |
| IE 5794     | Technology Management                 | 3            |
| IE 5792     | Financial Management                  | 3            |
| IE 5701     | Engineering Economics                 | 3            |
| IE 5713     | Benchmarking                          | 3            |
| IE 5714     | Operations Research                   | 3            |
| IE 5735     | Energy Management and Sustainability  | 3            |
| IE 5724     | Organizational Behavior               | 3            |
| IE 5727     | Business Process Re-engineering       | 3            |
| IE 5728     | Management Information System         | 3            |
| IE 5739     | Cost & Management Accounting          | 3            |
| IE 5740     | Total Quality Management              | 3            |

## ENGINEERING MANAGEMENT

|                                                                                                                                                 |                                           |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---|
| IE 5741                                                                                                                                         | Project Evaluation & Feasibility Analysis | 3 |
| IE 5743                                                                                                                                         | Business Forecasting                      | 3 |
| IE 5745                                                                                                                                         | Environmental Management & Safety         | 3 |
| IE 5747                                                                                                                                         | Marketing Management                      | 3 |
| IE 5760                                                                                                                                         | Statistics and its Tools                  | 3 |
| IE 5789                                                                                                                                         | Legal Engineer                            | 3 |
| IE 5795                                                                                                                                         | Systems Engineering and Management        | 3 |
| IE 5796                                                                                                                                         | Knowledge Management                      | 3 |
| IE 5797                                                                                                                                         | Decision making for Engineers             | 3 |
| IE 5798                                                                                                                                         | Conflict Management and Negotiations      | 3 |
| IE 5790                                                                                                                                         | Special Topics                            | 3 |
| A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD |                                           |   |

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| IE 5761     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| IE 5799     | Master Thesis | 6            |

# U.S.-Pakistan Center for Advanced Studies in Energy (USPCAS-E)

Energy is prime mover of the current global societal and industrial developments. With rapid pace of human development and the modern needs, the competence level of the engineers should also be in accordance with the demand of the day. Continuous efforts are made globally to enhance the understanding, and capability of the professionals working in the field of energy generation as well as conservation. The USPCAS-E was founded with the mission to address the energy issues of Pakistan, specifically, and contribute the global efforts on energy in general. The USPCAS-E aims to focus on applied research relevant to Pakistan's energy needs, undertake sustainable policy formulation, and serves as bridge between the government, industry and academia. The USPCAS-E is a partnership between the University of Engineering and Technology, Peshawar (UET); National University of Science and Technology (NUST), Islamabad and U.S. partner, Arizona State University (ASU). At the end of project, the centers at NUST and UET Peshawar will be sustainable hubs to address energy related issues. Collaboration between the partner USPCAS-E universities and the Higher Education Commission will help ensure institutionalization and sustainability of the center. New state of the art M.Sc. programs have been introduced which are enlisted as following:

- M.Sc. Renewable Energy Engineering
- M.Sc. Energy Management and Sustainability
- M.Sc. Thermal System Engineering
- M.Sc. Electrical Energy System Engineering

## Following Ph.D. Degree Programs are also offered at USPCAS-E:

- Ph.D. Renewable Energy Engineering
- Ph.D. Electrical Energy System Engineering

The USPCAS-E, UET Peshawar supports Pakistan's economic development by strengthening relevance and responsiveness of university product including applied and policy research and skilled graduates, to the needs of public and private sectors. The Center encourages and empowers women engineers and researchers, and promotes gender equity.

## DIRECTOR



**PROF. DR. FARIDULLAH KHAN**  
Ph.D. (Canada)

## FACULTY

### Associate Professor

|                     |               |
|---------------------|---------------|
| Dr. Adnan Daud Khan | Ph.D. (Italy) |
|---------------------|---------------|

### Assistant Professors

|                             |                |
|-----------------------------|----------------|
| Dr. Muhammad Noman          | Ph.D. (Italy)  |
| Dr. Khurshid Ahmad          | Ph.D. (China)  |
| Dr. Muhammad Arif           | Ph.D. (France) |
| Dr. Muhammad Hassan         | Ph.D. (China)  |
| Dr. Zohaib ur Rehman Afridi | Ph.D. (China)  |

### Lecturers

|                         |             |
|-------------------------|-------------|
| Dr. Muhammad Aslam      | Ph.D. (Pak) |
| Dr. Kaleem Ullah        | Ph.D. (Pak) |
| Dr. Amir Naveed Khattak | Ph.D. (Pak) |
| Dr. Atif Sardar         | Ph.D. (Pak) |
| Dr. Zafar Ullah Khan    | Ph.D. (Pak) |

### Laboratory Engineers

|                           |             |
|---------------------------|-------------|
| Dr. Kamran Shereen        | Ph.D. (Pak) |
| Engr. Muhammad Saad Rehan | M.Sc. (Pak) |
| Engr. Fahad Ullah Zafar   | B.Sc. (Pak) |
| Engr. Maoz                | M.Sc. (Pak) |

# RENEWABLE ENERGY ENGINEERING

## M.Sc. & Ph.D. in Renewable Energy Engineering

The world is undergoing a smooth but rapid transition from producing power from fossil fuels – which are quickly depleting and pose serious environmental threats – to more abundantly available Renewable Energy resource, to fulfill its ever growing energy demand. These sources are not only interminable, but are also environment friendly. These sources provide opportunity for promoting distributed power generation to avoid power transmission and distribution losses and other associated complexities. Furthermore, these sources are turning out to be more economical, and in many instances the costs of power generation from these sources is cheaper compared to that from the conventional sources. Therefore, it is the need of the hour to develop competent and knowledgeable human resource to take up the transition challenges and fulfill the emerging market demands for skilled workforce in these areas. Pakistan is blessed with abundant solar, wind, hydro and biomass resource, and thus it can easily fulfill its growing energy demands if these sources are properly harnessed. With these objectives in mind, USPCAS-E UET Peshawar would like to commence Master and Ph.D. programs in Renewable Energy Engineering as per the course curriculum below.

### Objectives:

The objectives of the Renewable Energy Engineering program is to develop capacity building in a rapidly developing knowledge bank for addressing the ever rising demand for energy through modern renewable technologies. This objective is to be

achieved through continuously updating the course curriculum of the program to ensure relevance to the latest market demands and generation of new technologies, as well as encouraging professional growth and development of the students and researchers. The program is designed to satisfy the growing market demand for skilled manpower in the new, clean and economical energy sources.

### Outcomes:

1. Graduates will be able to apply the knowledge and principles of renewable energy engineering and use appropriate technologies for the betterment of the society.
2. Recognize international and national issues related to global warming and environmental degradation, in respect of energy generation and consumption.
3. Solve problems by thinking critically, creatively and reflectively and communicate solutions in an effective manner.
4. Apply the science and engineering principles for solving the energy related issues specific to Pakistan and other developing countries.
5. Select and apply appropriate techniques, resources and modern engineering tools, including prediction and modeling, to design, analyze and experimentally verify the renewable energy systems and their components output.
6. Apply international standards, practices and conventions appropriate to energy policies, like Kyoto protocol and Paris agreements.
7. Understand the impact of renewable energy solutions in

societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

**Focus Areas:**

Solar PV, Solar Thermal, Wind, Biomass, Hydro, Geothermal, Renewable Energy Policy, Electrical Systems, Energy Management, Energy Materials, Environmental Impacts, Fuel Cells, Energy Storage.

**Eligibility Criteria and Requirements for M.Sc.**

- B.Sc. in Energy Engineering
- B.Sc. in Mechanical Engineering
- B.Sc. in Chemical Engineering
- B.Sc. in Electrical Engineering
- B.Sc. in Mechatronics Engineering
- B.Sc. in Material Engineering
- B.Sc. in Agricultural Engineering
- Or any other relevant B.SC. Engineering degree

**Eligibility Criteria for Ph.D.**

- M.Sc. in Renewable Energy Engineering
- M.Sc. in Mechanical Engineering
- M.Sc. in Chemical Engineering
- M.Sc. in Electrical Engineering
- M.Sc. in Mechatronics Engineering
- M.Sc. in Material Engineering
- M.Sc. in Agricultural Engineering
- Any other relevant M.S./M.Sc./M.Phil. Engineering degree



# RENEWABLE ENERGY ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                       | Credit Hours |
|-------------|----------------------------------------------------|--------------|
| REE 5101    | Renewable Energy Technologies                      | 3            |
| REE 5115    | Applied Photovoltaics Engineering                  | 3            |
| REE 5129    | Environmental Impact Assessment for Energy Systems | 3            |
| REE 5108    | Wind Energy Engineering                            | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                                  | Credit Hours |
|-------------|---------------------------------------------------------------|--------------|
| REE 5102    | National/Provincial Energy Policies, Supply/Demand & Planning | 3            |
| REE 5103    | Management of Technology & Innovation                         | 3            |
| REE 5104    | Power Electronics and Machines                                | 3            |
| REE 5111    | Biomass Technologies                                          | 3            |
| REE 5118    | Electrical and Optical Properties of Materials                | 3            |
| REE 5131    | Micro hydro power systems                                     | 3            |
| REE 5207    | CFD for Renewable Energy                                      | 3            |
| REE 5209    | Solar Thermal Energy                                          | 3            |
| REE 5210    | Hydro Power Engineering                                       | 3            |
| REE 5212    | Geothermal Engineering                                        | 3            |
| REE 5216    | Renewable Energy Mega Power Plants                            | 3            |
| REE 5218    | Electrical and Optical Properties of Materials                | 3            |
| REE 5219    | Materials Characterization Techniques                         | 3            |
| REE 5220    | Advanced Topics in Energy Storage and Conversion              | 3            |
| REE 5222    | Operation & Maintenance of Renewable Energy Systems           | 3            |
| REE 5226    | Risk and Reliability Engineering                              | 3            |

## RENEWABLE ENERGY ENGINEERING

|                                                                                                                                                 |                                                       |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---|
| REE 5227                                                                                                                                        | Energy Quality Management and Standards               | 3 |
| REE 5228                                                                                                                                        | Energy Audit and Planning                             | 3 |
| REE 5229                                                                                                                                        | Environment Impact assessment for Energy Systems      | 3 |
| REE 5230                                                                                                                                        | Development & Evaluation of Renewable Energy Projects | 3 |
| REE 5232                                                                                                                                        | Artificial Intelligence in Renewable Energy           | 3 |
| REE 5233                                                                                                                                        | Battery Technologies                                  | 3 |
| REE 5234                                                                                                                                        | Recent Advances in Solar Cells                        | 3 |
| A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD |                                                       |   |

### Ph.D. Renewable Energy Engineering

| Course Code | Course Title                            | Credit Hours |
|-------------|-----------------------------------------|--------------|
| REE 6101    | Advanced Materials for Renewable Energy | 3            |
| REE 6201    | Advance Topics in Renewable Energy      | 3            |
| REE 6202    | Advance Solar Energy Technologies       | 3            |

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| EP 5301     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EP 5399     | Master Thesis | 6            |
| EP 6399     | Ph.D. Thesis  | 36           |

# ENERGY MANAGEMENT AND SUSTAINABILITY

The University of Engineering Technology (UET), Peshawar, Khyber Pakhtunkhwa Pakistan pioneers a graduate degree program, namely Master of Science in Energy Management & Sustainability (MSEMS) special emphasis on Sustainability of Energy and Environmental projects. The program is supported with lectures, seminars, case studies, industrial visits, off campus professional on site problem solving activities, and optional thesis in innovative fields of power and energy management. In the MSEM & S program, participants will be given an introduction, as well as in-depth treatment of all essential management concepts, processes, tools and techniques relevant to the Energy & Power sectors, as well as practical knowledge where the best practices in the field of energy were imparted. The scholars shall acquire the capability to break new grounds and produce new knowledge by undertaking research work in the field of Energy management & Sustainability, specifically for Khyber Pakhtunkhwa and generally for Pakistan.

This Masters degree program at USPCAS-E, UET Peshawar mainly comprises of the following three areas.

- **Energy Management:** focusing mainly on framework for optimizing the overall energy system from generation to end-user usage patterns. This includes Energy management system (EnMS), energy auditing, energy modeling, energy optimization, energy efficiency and conservation.
- **Sustainability:** MS-EMS degree focuses on sustainable energy systems aiming to achieve the Sustainable Development Goals (SDGs) such as clean and affordable energy, smart cities, innovation, zero energy poverty etc., through energy innovation. In addition, the climate action

is also addressed by assessing the energy and environmental nexus and waste to energy projects.

- **Energy Policy:** emphasizing on sustainable and implementable energy policies for providing clean and affordable energy. Public Private Partnership (PPP), national and international projects are the main focus areas. Furthermore, faculty and students consistently collaborate with Government bodies such as Planning Commission Islamabad, Pakhtunkhwa Energy Development organization (PEDO) and National /International oil and gas companies for policy matters on energy related issues.

## Focus Areas

Energy Management, Energy Modeling, Climate change mitigation, Waste to energy, Energy Quality Management and Standards, Sustainability of Energy and Environment, Energy and Environmental Policy and Energy Economics.

## Eligibility Criteria for M.Sc. in Energy Management and Sustainability

- B.S./B.Sc. Engineering
- M.Sc. Natural Sciences (Physics, Chemistry, Biology, Computer Science, Earth Sciences etc.)
- M.A. Social Sciences (Economics, Political Science)
- City and Regional Planning
- Architecture, Law, Business, Finance and Management

# ENERGY MANAGEMENT AND SUSTAINABILITY

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                       | Credit Hours |
|-------------|----------------------------------------------------|--------------|
| EMS 5102    | Sustainable Energy Management                      | 3            |
| EMS 5119    | Sustainable Development, Politics and Policies     | 3            |
| EP 5203     | Environmental Impact Assessment for Energy Systems | 3            |
| EMS 5120    | Energy Policy Making and Analysis                  | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                              | Credit Hours |
|-------------|-----------------------------------------------------------|--------------|
| EMS 5105    | Energy Environment and Climate Change Mitigation          | 3            |
| EMS 5104    | Global Sustainability and International Obligations       | 3            |
| EMS 5112    | Energy Modeling, Optimization and Decision Making         | 3            |
| EMS 5117    | Energy Economics                                          | 3            |
| EMS 5118    | Energy and Environmental Ethics                           | 3            |
| EP 5102     | Management of Energy Technology and Innovation            | 3            |
| REE 5127    | Energy Quality Management and Standards                   | 3            |
| EMS 5201    | Strategic Organization Management (Public/Private Sector) | 3            |
| EMS 5205    | World Energy Politics                                     | 3            |
| EMS 5206    | Energy Tariff and Financials Risk Management              | 3            |
| EMS 5207    | Energy Business Models and Marketing Strategies           | 3            |

## ENERGY MANAGEMENT AND SUSTAINABILITY

|          |                                              |   |
|----------|----------------------------------------------|---|
| EMS 5208 | Global & Local Energy Demand Analysis        | 3 |
| EMS 5209 | Energy Service Companies Management          | 3 |
| EMS 5210 | Energy Regulatory Affairs & Business Laws    | 3 |
| EMS 5211 | Energy Project Management (Public & Private) | 3 |
| EMS 5213 | Energy Security Studies                      | 3 |
| EMS 5216 | Energy Business Management                   | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| EP 5301     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EP 5399     | Master Thesis | 6            |

# THERMAL SYSTEM ENGINEERING

## M.Sc. Thermal System Engineering

### Introduction:

The aim of M.Sc. TSE program is train engineers in energy technologies, including a range of thermal-based energy technologies, in order to meet societal and market needs. Efficient use of thermal energy is an increasingly popular area of interest for engineers and technologists. Therefore, this program is aimed at equipping next generation of engineers with the state of the art knowledge of energy conversion, efficiency and conservation. The program will provide students with set of courses that will improve their capacity to analyze and design innovative thermal energy systems. These systems include, but are not limited to, energy conversion systems and their fuels, refrigeration, combustion, and solar energy. The M.Sc. specialization in TSE primarily covers advanced aspects of energy system modeling, heat- and mass transfer, fluid mechanics, thermodynamics, control engineering and experimental work with focus on different components and energy system aspects. The themes for the three semesters are particularly focused on Thermal energy and process engineering and in-depth understanding of the technologies and scientific disciplines involved in energy conversion, utilization and transport.

### Focused Areas:

Thermodynamics, Thermo-Fluid, Power Plants, HVAC & R, Energy Efficiency, Enhanced Heat Transfer, Computational Fluid Dynamics, Micro/NanoFluidics

### Eligibility Criteria:

B.Sc. Engineering in Mechanical, Chemical, Mining, Industrial, Energy, Mechatronics, Aerospace, Petroleum, Any other relevant B.Sc. Engineering degree.

# THERMAL SYSTEM ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                                            | Credit Hours |
|-------------|---------------------------------------------------------|--------------|
| TSE 5101    | Advanced Thermodynamics                                 | 3            |
| TSE 5102    | Thermal Power Plants Design and Operation               | 3            |
| TSE 5103    | Fuels and Combustion                                    | 3            |
| TSE 5106    | Computational Fluid Dynamics for Thermal Energy Systems | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                       | Credit Hours |
|-------------|----------------------------------------------------|--------------|
| TSE 5104    | Advanced Fluid Dynamics                            | 3            |
| EP 5203     | Environmental Impact Assessment for Energy Systems | 3            |
| TSE 5108    | Energy Economics and Policy                        | 3            |
| TSE 5110    | Advance Heat Transfer                              | 3            |
| TSE 5115    | Thermal Characterization Techniques                | 3            |
| TSE 5118    | Energy Audits                                      | 3            |
| TSE 5205    | Clean Coal Technologies                            | 3            |
| TSE 5209    | Rotodynamic Machinery                              | 3            |
| TSE 5207    | Fuel Cell and Hydrogen Technology                  | 3            |
| TSE 5211    | Advanced Topics in Thermal System Engineering      | 3            |

## THERMAL SYSTEM ENGINEERING

|          |                                                   |   |
|----------|---------------------------------------------------|---|
| TSE 5212 | Thermal Desalination Systems                      | 3 |
| REE 5209 | Solar Thermal Energy                              | 3 |
| REE 5211 | Biomass Technologies                              | 3 |
| REE 5212 | Geothermal Engineering                            | 3 |
| TSE 5216 | Advanced Heating Ventilation and Air Conditioning | 3 |
| TSE 5217 | Internal Combustion Engines                       | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| EP 5301     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EP 5399     | Master Thesis | 6            |



# ELECTRICAL ENERGY SYSTEMS ENGINEERING

## **M.Sc. & Ph.D. in Electrical Energy Systems Engineering**

### **Introduction**

Pakistan power system, ranging from generation, transmission, distribution and utilization has many shortcomings. Moreover, less work has been done on integrating renewable energy resources with the conventional system. This specialized energy program will specifically work on the improvement of efficiencies of existing power plants and in helping the integration of various energy sources into and rehabilitation of the present transmission and distribution system. The courses and research will help students in understanding the indigenous problems associated with electrical power system and solutions that will uplift the operations of electrical power system.

### **Focus Areas**

Operation & Control of Power Systems, Power System Stability, Power System Transients Analysis, Power System State Estimation, Renewable Energy System (PV System, Wind Power System etc), HVAC, HVDC, High Voltage Technology, Distributed Generation, System Design and

Regulation, Advanced Power System Protection, Integration of Renewable Energy resources, Power Quality, Smart Grid Technologies (Power and Communication) and Power Electronics.

### **Eligibility Criteria (M.Sc)**

- B.Sc. Electrical Engineering
- B.Sc Energy Engineering

### **Eligibility Criteria (Ph.D)**

- MS/M.Sc. in Electrical Energy System Engineering/ Electrical Engineering/Electronic Engineering/Energy Engineering

# ELECTRICAL ENERGY SYSTEMS ENGINEERING

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                        | Credit Hours |
|-------------|-------------------------------------|--------------|
| EESE 5101   | Transmission and Distribution       | 3            |
| EESE 5102   | Power System Operation and Planning | 3            |
| EESE 5120   | Power System Transformers           | 3            |
| EESE 5110   | Power System Modeling and Analysis  | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                | Credit Hours |
|-------------|---------------------------------------------|--------------|
| EESE 5103   | Power System Stability                      | 3            |
| EESE 5123   | Smart Grid                                  | 3            |
| EESE 5104   | Advance Power Electronics                   | 3            |
| EESE 5106   | Renewable Electrical Energy Systems         | 3            |
| EESE 5112   | Power System Protection and Switchgear      | 3            |
| EESE 5124   | Power Distribution System Design            | 3            |
| EESE 5205   | Electrical Energy Market                    | 3            |
| EESE 5207   | Distributed Generation                      | 3            |
| EESE 5208   | Electrical Energy and Environmental Systems | 3            |
| EESE 5211   | Analysis of Faulted Power System            | 3            |

## ELECTRICAL ENERGY SYSTEMS ENGINEERING

|           |                                                                 |   |
|-----------|-----------------------------------------------------------------|---|
| EESE 5213 | HVDC Transmission Systems                                       | 3 |
| EESE 5214 | HVAC Transmission Systems                                       | 3 |
| EESE 5215 | Over voltages and Transients                                    | 3 |
| EESE 5216 | Power System Reliability                                        | 3 |
| EESE 5217 | Power System Control                                            | 3 |
| EESE 5218 | Electrical Insulation Engineering                               | 3 |
| EESE 5219 | High Voltage Engineering                                        | 3 |
| EESE 5221 | Advanced Electrical Machines                                    | 3 |
| EESE 5222 | Electrical Power Generation                                     | 3 |
| EESE 5225 | Power Quality                                                   | 3 |
| EESE 5226 | Power System Substation                                         | 3 |
| EESE 5227 | Generation and Integration of Renewable Energy                  | 3 |
| EESE 5228 | Computer Modeling of Electrical Power System                    | 3 |
| EESE 5229 | Control of Voltage Source Converter                             | 3 |
| EESE 5230 | Communication and Control in Electrical Power Systems           | 3 |
| EESE 5231 | Advanced Topics in Renewable Energy Integration                 | 3 |
| EESE 5232 | Advanced Topics in Power Electronics                            | 3 |
| EESE 5234 | Network Based Grid System                                       | 3 |
| EESE 5235 | Automated Distributed Power System Using Data Communication     | 3 |
| EESE 5233 | Engineering Economics and Management of Electrical Power System | 3 |
| EP 5102   | Management of Energy Technology and Innovation                  | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

# ELECTRICAL ENERGY SYSTEMS ENGINEERING

## Ph.D. Electrical Energy Systems Engineering

| Course Code | Course Title                                                | Credit Hours |
|-------------|-------------------------------------------------------------|--------------|
| EESE 6201   | Advanced Power System Stability                             | 3            |
| EESE 6202   | Automated Distributed Power System Using Data Communication | 3            |

## General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| EP 5301     | Research Methodology (Research-Based Master's Students only)        | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

## Master & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| EP 5399     | Master Thesis | 6            |
| EP 6399     | Ph.D. Thesis  | 36           |

# FACULTY OF ARCHITECTURE, ALLIED SCIENCES AND HUMANITIES

## MESSAGE FROM THE DEAN



Welcome to the Faculty of Architecture, Allied Sciences, and Humanities (FAASH)!

FAASH is committed to providing quality education, promoting research, and developing graduates who can contribute effectively to society and their respective profession. In line with the vision and mission of UET Peshawar, we strive to create an academic environment that encourages intellectual growth, innovation, critical thinking, and lifelong learning. By bringing together Architecture, Applied Sciences, Mathematics, and the Humanities, we offer a unique platform for interdisciplinary education and research.

FAASH comprises the Department of Architecture and the Department of Basic Sciences & Islamiyat. These departments offer a range of undergraduate and postgraduate programs designed to equip students with the knowledge, skills, and professional values required to meet the challenges of the modern world.

Our dedicated faculty members, modern learning facilities, and research-oriented culture ensure that students receive an education that is both academically rigorous and professionally relevant. We place particular emphasis on creativity, ethical responsibility, and practical problem-solving to prepare our graduates for leadership roles in their fields. As we continue to strengthen our academic and research programs, our goal remains to produce competent professionals, advance knowledge through meaningful research, and contribute to the social and economic development of the nation.

**Prof. Dr. Ali Muhammad**  
Dean, Faculty of Architecture,  
Allied Sciences and Humanities

## Department of Architecture (Abbottabad Campus)

Department of Architecture was established in April 2004 with the commitment to prepare a bunch/team of trained professionals in the field of architecture and planning to meet the challenges of rapidly modernizing contemporary building construction market in a more efficient yet sustainable manner. Department has not only been fulfilling the needs of Khyber Pakhtunkhwa, but also paying its share to the capital city of Pakistan in terms of providing highly trained young professionals in the specialized areas of architectural design, construction management, digital graphical presentations, and urban design. The Department aims at playing a central role in responding to the challenges of contemporary building as well as construction industry in key areas like architecture design, urban landscape planning and design, construction project management and sustainable building services. Equipped with modern computer, GIS and material labs, and, an up-to-date library, the Department offers a Postgraduate Degree Program (M. Arch) in the domain of architecture.

Department of Architecture envisions providing highly trained professionals in the field of architecture who will play their role in the development of the Country in a challenging scenario of climate change and sustainable utilization of material resources without comprising the satisfaction of human needs at an optimum level and relevant interests of various stakeholders such as institutions, educators and students, members of the practicing profession (IAP), regulatory and registration body (PCATP), building industry, and last but not the least, the society at large.

### MASTER OF ARCHITECTURE

#### Program Overview

The program, offering both specialized and general studies options, is a strategic response to the multifaceted needs and aspirations of architecture students and the evolving dynamics of the profession. Both

### ASSISTANT TO DEAN



**AR. SHAHID MANSOOR KHAN**  
M.Sc. (Pak)

### FACULTY

#### Assistant Professors

|                            |             |
|----------------------------|-------------|
| Ar. Shahid Mansoor Khan    | M.Sc. (Pak) |
| Ar. Muhammad Iqbal         | M.Sc. (Pak) |
| Dr. Ghousia Saeed          | Ph.D. (UK)  |
| Engr. Akhtar Munir         | M.Sc. (Pak) |
| Ar. Muhammad Faisal Rehman | M.Sc. (Pak) |

#### Lecturers

|                          |               |
|--------------------------|---------------|
| Engr. Irum Naseem        | M.Sc. (UK)    |
| Ar. Dr. Habib Ullah      | Ph.D. (China) |
| Ar. Syed Mazhar Ali Shah | M.Arch. (Pak) |
| Ar. Iqra Sajjad          | M.Arch. (Pak) |
| Ar. Jalwa Ahmad          | M.Arch. (Pak) |
| Ar. Aasia Rehman         | M.Arch. (Pak) |

# ARCHITECTURE

options are designed to equip graduates with advanced knowledge and research skills in architecture. In the specialized option, the candidates have great flexibility to select the area of their own choice for in-depth studies. This option strengthens the graduates in their chosen architectural careers, while also contributing to the advancement of the architectural discipline in Pakistan and on the global stage. The M.Arch. (General) option covers some important areas but not any specific or specialized area. It provides a broad-based understanding of the field and its connections to other disciplines, enhancing the versatility and adaptability of an evolving professional. In both options, the program structure includes a combination of four core courses and four elective courses with a thesis. In M.Arch. (specialized), the core courses, elective courses, and thesis are aligned with the specialization area. In the general option of M. Arch, the core courses are diversified, and elective courses contribute to these areas. In this option, the thesis must address one of the core areas. Both options are designed for 32 credit hours (CH) and shall be considered equivalent for all practical purposes.

## **M.Arch. (Specialization)**

M.Arch. (specialization) is an option where graduates have an opportunity to excel in a particular area of architecture. In this option, four streams are initially allowed and are in no way restricted. The schools may consider other options considering the availability of faculty and other resources. Students will select a specialized area from the options offered by the department. The total credit hours requirement is 32. The minimum and maximum duration for degree completion are 18 and 48 months. The research tracks/streams are:

1. Architectural Heritage and Conservation (AHC)
2. Responsive Architecture (RA)
3. Energy Efficient Architecture (EEA)
4. Building Technology (BT)

## **Course Requirements and Credit Hours**

- Four (04) core courses of 12 CH related to area of specialization
- Four (04) elective courses of 12 CH from the elective list of respective specialization
- Fehm-e-Quran I & II, two courses of 1 CH each
- A thesis of six (06) credit hours aligned with the area of specialization

## **Core Courses (12 Credits)**

- Students are required to take four (04) core courses offered by the department.
- The department may add a maximum of four (04) more core courses to the list given above according to the specialized area of the faculty.

## **Elective Courses (12 Credits)**

- Four (04) elective courses from the list of the respective specialization. Students can choose four (04) elective courses from a range of elective courses offered by the department.
- The list of the elective courses for each specialization is given below. The list of elective courses may be enhanced according to the availability of faculty.
- Elective courses must be offered according to the expertise available in the department, but these must synchronize with the core courses.

# ARCHITECTURE

## Degree Title

- a) M.Arch. (Specialization)
  - 1. Architectural Heritage and Conservation
  - 2. Responsive Architecture
  - 3. Energy Efficient Architecture
  - 4. Building Technology
- b) M.Arch. (General)

HEC recognized institution, considered equivalent to B. Arch. by PCATP. In case of a foreign degree, the candidate must obtain an equivalence certificate from Higher Education Commission and verify the same from PCATP prior to applying for the admission. A minimum CGPA of 2.0/4.0 (in case of semester system) or 60% marks (in case of annual system) in the relevant bachelor degree is also a pre-requisite for admission. The student must clear the department admission test and interview with 60% and 50% marks respectively.

## Eligibility Criteria for Admission in Master of Architecture

A candidate seeking admission in the M.Arch. program must have at least a bachelor's degree, either in Architecture from a PCATP recognized institution, or in a related discipline from



# M.Arch. (Architectural Heritage and Conservation)

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                              | Credit Hours |
|-------------|-------------------------------------------|--------------|
| ARC 6402    | Architectural Heritage and Conservation   | 3            |
| ARC 6420    | Conservation Theory, History & Technology | 3            |
| ARC 6403    | Heritage Legislation and Policies         | 3            |
| ARC 6004    | Architectural Research Methods            | 3            |

### Group-B: Optional Courses (four courses from the given list)

| Course Code | Course Title                                              | Credit Hours |
|-------------|-----------------------------------------------------------|--------------|
| ARC 6408    | Conservation of Urban Built Heritage                      | 3            |
| ARC 6409    | Advanced Conservation Technology                          | 3            |
| ARC 6410    | Conservation Materials and Techniques                     | 3            |
| ARC 6411    | Art and Architecture of a Core City in Pakistan           | 3            |
| ARC 6412    | Religious Architecture of a Historical Period in Pakistan | 3            |
| ARC 6413    | History and Architecture of Cantonments in Pakistan       | 3            |
| ARC 6414    | Heritage of Forts in Pakistan                             | 3            |
| ARC 6415    | History and Development of Urban Form                     | 3            |
| ARC 6416    | Conservation and Adaptive Reuse                           | 3            |
| ARC 6417    | Colonial Architectural Heritage in Pakistan               | 3            |
| ARC 6418    | Building Technology and Development during British India  | 3            |
| ARC 6419    | Modern Technologies and Conservation                      | 3            |

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| ARC 6005    | Master Thesis (12 contact hours) | 6            |

## M.Arch. (Responsive Architecture)

### LIST OF APPROVED COURSES

#### Group-A: Core Courses

| Course Code | Course Title                          | Credit Hours |
|-------------|---------------------------------------|--------------|
| ARC 6323    | Climate Responsive Architecture       | 3            |
| ARC 6324    | Human Centric Design                  | 3            |
| ARC 6325    | Responsive Design & Built Environment | 3            |
| ARC 6004    | Architectural Research Methods        | 3            |

#### Group-B: Optional Courses (four courses from the given list)

| Course Code | Course Title                                            | Credit Hours |
|-------------|---------------------------------------------------------|--------------|
| ARC 6308    | Disaster Resilience & Risk Assessment Strategies        | 3            |
| ARC 6309    | Dynamic Facades Design in a Specific Climate Zone       | 3            |
| ARC 6310    | Smart Materials and Responsive Structures               | 3            |
| ARC 6311    | Human Centered Design for Responsive Spaces             | 3            |
| ARC 6312    | Responsive Urban Planning and Sustainable Cities        | 3            |
| ARC 6313    | Responsive Interior Architecture                        | 3            |
| ARC 6314    | Day lighting and Natural Ventilation Strategies         | 3            |
| ARC 6315    | Responsive Landscape Architecture                       | 3            |
| ARC 6316    | Acoustic Design for Responsive Environments             | 3            |
| ARC 6317    | Urban Resilience and Climate Adaptation                 | 3            |
| ARC 6318    | Responsive Design for Cultural and Artistic Spaces      | 3            |
| ARC 6319    | Responsive Design for Adaptive Reuses Projects          | 3            |
| ARC 6320    | Responsive Design and Biophilic Architecture            | 3            |
| ARC 6321    | Responsive Architecture Case Studies and Best Practices | 3            |
| ARC 6322    | Responsive Healthcare Facility Design                   | 3            |

#### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

#### Master Thesis

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| ARC 6005    | Master Thesis (12 contact hours) | 6            |

## M.Arch. (Energy Efficient Architecture)

### LIST OF APPROVED COURSES

#### Group-A: Core Courses

| Course Code | Course Title                                            | Credit Hours |
|-------------|---------------------------------------------------------|--------------|
| ARC 6527    | Building Performance Simulation & Monitoring Techniques | 3            |
| ARC 6216    | Sustainable Building Design                             | 3            |
| ARC 6226    | Building and Urban Energy Modeling                      | 3            |
| ARC 6004    | Architectural Research Methods                          | 3            |

#### Group-B: Optional Courses (four courses from the given list)

| Course Code | Course Title                                                | Credit Hours |
|-------------|-------------------------------------------------------------|--------------|
| ARC 6208    | Net-Zero Energy Building Design                             | 3            |
| ARC 6209    | Advanced Building Envelope Technologies                     | 3            |
| ARC 6210    | Energy modeling and Simulation                              | 3            |
| ARC 6211    | Day lighting and Electric Lighting Design                   | 3            |
| ARC 6212    | Building Commissioning for Energy Efficiency                | 3            |
| ARC 6213    | Advanced Thermal Comfort and Indoor Air Quality             | 3            |
| ARC 6214    | Building Energy Auditing and Retrofits                      | 3            |
| ARC 6215    | Renewable Energy Integration in Buildings                   | 3            |
| ARC 6216    | Sustainable Building Design                                 | 3            |
| ARC 6217    | Sustainable Materials and Life Cycle Assessment             | 3            |
| ARC 6218    | Building Resilience and Climate Adaptation                  | 3            |
| ARC 6219    | Advanced Building Controls and Automation                   | 3            |
| ARC 6220    | Sustainable Building Economics and Finance                  | 3            |
| ARC 6221    | High-Performance Energy Efficient Buildings                 | 3            |
| ARC 6222    | Sustainable Urban Planning and High-Performance Communities | 3            |
| ARC 6223    | Low-Income Housing and Energy Efficient Solutions           | 3            |
| ARC 6224    | Building Energy Management Systems                          | 3            |
| ARC 6225    | Circular Economy and Sustainability                         | 3            |

## M.Arch. (Energy Efficient Architecture)

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| ARC 6005    | Master Thesis (12 contact hours) | 6            |

## M.Arch. (Building Technology)

### LIST OF APPROVED COURSES

#### Group-A: Core Courses

| Course Code | Course Title                        | Credit Hours |
|-------------|-------------------------------------|--------------|
| ARC 6529    | Building Information modeling       | 3            |
| ARC 6528    | Advanced Technology in Architecture | 3            |
| ARC 6529    | Building Systems Integration        | 3            |
| ARC 6004    | Architectural Research Methods      | 3            |

#### Group-B: Optional Courses (four courses from the given list)

| Course Code | Course Title                                             | Credit Hours |
|-------------|----------------------------------------------------------|--------------|
| ARC 6508    | Smart Building Systems                                   | 3            |
| ARC 6509    | Building Information Modeling (BIM) and its applications | 3            |
| ARC 6510    | Building Automation & Control Systems                    | 3            |
| ARC 6511    | Smart Materials                                          | 3            |
| ARC 6512    | Accessibility Technologies                               | 3            |
| ARC 6513    | Virtual Reality and Augmented Reality                    | 3            |
| ARC 6514    | Advanced Construction Materials and Techniques           | 3            |
| ARC 6515    | Sustainable Building Technologies                        | 3            |
| ARC 6516    | Digital Tools for Construction & Project Management      | 3            |
| ARC 6517    | Construction Safety and Risk Management                  | 3            |
| ARC 6518    | Green Building Certifications and Sustainability         | 3            |
| ARC 6519    | Innovations in Structural Engineering                    | 3            |
| ARC 6520    | Fire Protection and Life Safety Systems                  | 3            |
| ARC 6521    | Modular and Prefabricated Construction                   | 3            |
| ARC 6522    | Advanced Environmental Technologies                      | 3            |
| ARC 6523    | Building Maintenance and Facility Management             | 3            |
| ARC 6524    | Building Systems Performance Analysis                    | 3            |
| ARC 6525    | Precast and Pre-Stressed Concrete Products for building  | 3            |
| ARC 6526    | Green Materials and Construction                         | 3            |

## M.Arch. (Building Technology)

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| ARC 6005    | Master Thesis (12 contact hours) | 6            |

# M.Arch. (General)

## Master of Architecture (General)

M.Arch. (General) provides a broad understanding of various emerging areas in architecture and focuses on one of the areas in the research thesis. M.Arch. (General) is designed for 32 credit hours with four core, four elective courses, and two courses of Fehm-e-Quran I & II of two credit hours (or 2 CH course for non-Muslim students as substitute for Fehm-e-Quran I & II). The elective courses are required to strengthen the core courses. After the completion of core and elective courses students are required to complete a thesis aligned with one of the core areas.

### COURSE REQUIREMENTS

- Four (04) core courses of 12 CH
- Four (04) elective courses of 12 CH
- Two (02) courses of Fehm-e-Quran I and Fehm-e-Quran II, 02 CH (or 2 CH course for non-Muslim students)
- Master Thesis of six (06) CH

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                            | Credit Hours |
|-------------|-----------------------------------------|--------------|
| ARC 6402    | Architectural Heritage and Conservation | 3            |
| ARC 6015    | Responsive Architecture                 | 3            |
| ARC 6004    | Architectural Research Methods          | 3            |
| ARC 6006    | Energy Efficient Architecture           | 3            |

### Group-B: Optional Courses (four courses from the given list)

| Course Code | Course Title                                              | Credit Hours |
|-------------|-----------------------------------------------------------|--------------|
| ARC 6403    | Heritage Legislation and Policies                         | 3            |
| ARC 6420    | Conservation Theory, History and Technology               | 3            |
| ARC 6323    | Climate Responsive Architecture                           | 3            |
| ARC 6324    | Human Centric Design                                      | 3            |
| ARC 6325    | Responsive Design & Built Environment                     | 3            |
| ARC 6527    | Building Performance Simulation and Monitoring Techniques | 3            |
| ARC 6228    | Sustainable Building, Codes and Certifications            | 3            |

## M.Arch. (General)

|          |                                     |   |
|----------|-------------------------------------|---|
| ARC 6226 | Building and Urban Energy modeling  | 3 |
| ARC 6529 | Building Information modeling       | 3 |
| ARC 6528 | Advanced Technology in Architecture | 3 |

### General Mandatory Requirements

| Course Code | Course Title                                                        | Credit Hours |
|-------------|---------------------------------------------------------------------|--------------|
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all M.Sc. and Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all M.Sc. and Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

### Master Thesis

| Course Code | Course Title                     | Credit Hours |
|-------------|----------------------------------|--------------|
| ARC 6005    | Master Thesis (12 contact hours) | 6            |



## Semester-wise breakup of the courses

| <b>Semester 1: Core Courses M.Arch. (Architectural Heritage and Conservation)</b> |                                              |               |           |              |
|-----------------------------------------------------------------------------------|----------------------------------------------|---------------|-----------|--------------|
| Course Code                                                                       | Course Title                                 | Contact Hours |           | Credit Hours |
|                                                                                   |                                              | Theory        | Practical |              |
| ARC 6402                                                                          | Architectural Heritage and Conservation      | 3             | 0         | 3            |
| ARC 6004                                                                          | Architectural Research Methods               | 3             | 0         | 3            |
| ARC 6403                                                                          | Heritage Legislation and Policies            | 3             | 0         | 3            |
| ARC 6420                                                                          | Conservation Theory, History, and Technology | 3             | 0         | 3            |
| BSI 5101                                                                          | Fehm-e-Quran I* (3 contact hours)            | 1             | 0         | 1            |
| Semester Total C.H.                                                               |                                              | 13            | 0         | 13           |

| <b>Semester 1: Core Courses M.Arch. (Responsive Architecture)</b> |                                       |               |           |              |
|-------------------------------------------------------------------|---------------------------------------|---------------|-----------|--------------|
| Course Code                                                       | Course Title                          | Contact Hours |           | Credit Hours |
|                                                                   |                                       | Theory        | Practical |              |
| ARC 6323                                                          | Climate Responsive Architecture       | 3             | 0         | 3            |
| ARC 6004                                                          | Architectural Research Methods        | 3             | 0         | 3            |
| ARC 6324                                                          | Human Centric Design                  | 3             | 0         | 3            |
| ARC 6325                                                          | Responsive Design & Built Environment | 3             | 0         | 3            |
| BSI 5101                                                          | Fehm-e-Quran I* (3 contact hours)     | 1             | 0         | 1            |
| Semester Total C.H.                                               |                                       | 13            | 0         | 13           |

| <b>Semester 1: Core Courses M.Arch. (Energy Efficient Architecture)</b> |                                                         |               |           |              |
|-------------------------------------------------------------------------|---------------------------------------------------------|---------------|-----------|--------------|
| Course Code                                                             | Course Title                                            | Contact Hours |           | Credit Hours |
|                                                                         |                                                         | Theory        | Practical |              |
| ARC 6527                                                                | Building Performance Simulation & Monitoring Techniques | 3             | 0         | 3            |
| ARC 6004                                                                | Architectural Research Methods                          | 3             | 0         | 3            |
| ARC 6216                                                                | Sustainable Building Design                             | 3             | 0         | 3            |
| ARC 6226                                                                | Building and Urban Energy Modeling                      | 3             | 0         | 3            |
| BSI 5101                                                                | Fehm-e-Quran I* (3 contact hours)                       | 1             | 0         | 1            |
| Semester Total C.H.                                                     |                                                         | 13            | 0         | 13           |

## Semester-wise breakup of the courses

| Semester 1: Core Courses M.Arch. (Building Technology) |                                                          |               |           |              |
|--------------------------------------------------------|----------------------------------------------------------|---------------|-----------|--------------|
| Course Code                                            | Course Title                                             | Contact Hours |           | Credit Hours |
|                                                        |                                                          | Theory        | Practical |              |
| ARC 6509                                               | Building Information modeling (BIM) and its applications | 3             | 0         | 3            |
| ARC 6004                                               | Architectural Research Methods                           | 3             | 0         | 3            |
| ARC 6528                                               | Advanced Technology in Architecture                      | 3             | 0         | 3            |
| ARC 6529                                               | Building Systems Integration                             | 3             | 0         | 3            |
| BSI 5101                                               | Fehm-e-Quran I* (3 contact hours)                        | 1             | 0         | 1            |
| Semester Total C.H.                                    |                                                          | 13            | 0         | 13           |

| Semester 1: Core Courses M.Arch. (General) |                                         |               |           |              |
|--------------------------------------------|-----------------------------------------|---------------|-----------|--------------|
| Course Code                                | Course Title                            | Contact Hours |           | Credit Hours |
|                                            |                                         | Theory        | Practical |              |
| ARC 6402                                   | Architectural Heritage and Conservation | 3             | 0         | 3            |
| ARC 6005                                   | Responsive Architecture                 | 3             | 0         | 3            |
| ARC 6004                                   | Architectural Research Methods          | 3             | 0         | 3            |
| ARC 6006                                   | Energy Efficient Architecture           | 3             | 0         | 3            |
| BSI 5101                                   | Fehm-e-Quran I* (3 contact hours)       | 1             | 0         | 1            |
| Semester Total C.H.                        |                                         | 13            | 0         | 13           |

| Semester 2: Elective Courses M.Arch. (Specialization) & M.Arch. (General) |                                    |               |           |              |
|---------------------------------------------------------------------------|------------------------------------|---------------|-----------|--------------|
| Course Code                                                               | Course Title                       | Contact Hours |           | Credit Hours |
|                                                                           |                                    | Theory        | Practical |              |
| ARC xxx                                                                   | From elective list                 | 3             | 0         | 3            |
| ARC xxx                                                                   | From elective list                 | 3             | 0         | 3            |
| ARC xxx                                                                   | From elective list                 | 3             | 0         | 3            |
| ARC xxx                                                                   | From elective list                 | 3             | 0         | 3            |
| BSI 5102                                                                  | Fehm-e-Quran II* (3 contact hours) | 1             | 0         | 1            |
|                                                                           |                                    | 13            | 0         | 13           |

\* 2 CH course for non-muslims as alternatives to Fehm-e-Quran I & II

## Semester-wise breakup of the courses

| Semester 3: Thesis M.Arch. (Specialization) or M.Arch. (General) |               |               |           |              |
|------------------------------------------------------------------|---------------|---------------|-----------|--------------|
| Course Code                                                      | Course Title  | Contact Hours |           | Credit Hours |
|                                                                  |               | Theory        | Practical |              |
| ARC 6005                                                         | Master Thesis | 0             | 12        | 6            |
| Semester Total C.H.                                              |               | 0             | 12        | 6            |
| Total C.H. for M.Arch. Program                                   |               |               | 32        |              |

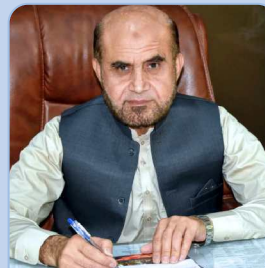
## Department of Basic Sciences and Islamiat (Peshawar Campus)

The Department of Basic Sciences and Islamiat UET, Peshawar is functioning since 1980, teaching basic sciences and humanities courses to the students in various Engineering and Non-Engineering Departments of the University. The Department launched Postgraduate Degree Programs (M.Phil and Ph.D.) in Applied Mathematics in 2009, since then the Department is producing a high quality of scholars meeting national and international standards who are well versed with the needs of the society. Being a degree awarding and a supporting department, it carries a tremendous amount of teaching and research load simultaneously.

In addition to teach foundation courses to undergraduate students, the Department also offers various courses on postgraduate level, like Mathematical Methods, Numerical Linear Algebra, Applied Functional Analysis, Integral Transforms, Mathematical Modeling, Advanced Fluid Dynamics, Partial Differential Equations, Numerical Solutions of PDEs, Advanced Complex Analysis, Meshless Methods, Mathematical Biology, Non-Linear Dynamics and many more. The Department of Basic Sciences and Islamiat provides opportunities for students to carry out research in different areas of Applied Mathematics. Some of them are: Computational Numerical Analysis, General Relativity & Cosmology, Image Processing, Mathematical Biology, Optimization Techniques, Differential Equations, Fluid Dynamics etc.

•The Department of Basic Sciences and Islamiat has highly qualified faculty members, who have got their terminal degrees from national and international prestigious Universities. Mathematical life at the department is very active. It comprises original research, discussions, lectures, and teaching at many levels. Faculty is deeply committed to superior research in mathematics and the scientific excellence of the faculty is well recognized in the mathematical community. Large segments of current mathematical research are represented in the Department by the active research programs and interests of the faculty members. The Department has strengths and pursues original investigations in Computational Mathematics, Numerical

### CHAIRMAN



**PROF. DR. ALI MUHAMMAD**  
Ph.D. Mathematics (Pak)

### FACULTY

#### Meritorious Professor

|                          |                         |
|--------------------------|-------------------------|
| Prof. Dr. Siraj ul Islam | Ph.D. Mathematics (Pak) |
|--------------------------|-------------------------|

#### Professors

|                        |                         |
|------------------------|-------------------------|
| Prof. Dr. Ali Muhammad | Ph.D. Mathematics (Pak) |
|------------------------|-------------------------|

#### Associate Professors

|                      |                         |
|----------------------|-------------------------|
| Dr. Marjan ud Din    | Ph.D. Mathematics (Pak) |
| Dr. Rehan Ali Shah   | Ph.D. Mathematics (Pak) |
| Dr. Noor Badshah     | Ph.D. Mathematics (UK)  |
| Dr. Muhammad Humayun | Ph.D. Chemistry (Pak)   |

#### Assistant Professors

|                         |                             |
|-------------------------|-----------------------------|
| Dr. Iltaf Hussain       | Ph.D. Mathematics (Pak)     |
| Dr. Tufail Ahmad Khan   | Ph.D. Mathematics (Pak)     |
| Dr. Muhammad Aziz Ullah | Ph.D. Islamic Studies (Pak) |

#### Lecturers

|                      |                              |
|----------------------|------------------------------|
| Dr. Qayyum Shah      | Ph.D. Mathematics (Malaysia) |
| Mr. Said Anwar Shah  | MS. Mathematics (Pak)        |
| Mr. Gul Shed         | MS. Mathematics (Pak)        |
| Mr. Atta-ur-Rehman   | MS. Mathematics (Pak)        |
| Mr. Jamal Nasir      | MS. Mathematics (Pak)        |
| Dr. Haseen Ullah Jan | Ph.D. Physics (Pak)          |
| Dr. Ehtiram ul Haq   | Ph.D. Physics (Pak)          |
| Miss. Shaista        | M.Phil English (Pak)         |

Analysis, General Relativity & Cosmology, Image Processing, Mathematical Biology, Modeling and Simulation, Graph Theory, Optimization Techniques, Differential Equations and Fluid Dynamics. The Department has achieved highest productivity in terms of publications in well-reputed international journals, national and international research collaborations, research grants and highest citations among different projects of UET Peshawar. The Department has research collaborations with many national and international Universities and organizations.

The basic motive for the mission of the Department of Basic Sciences and Islamiyat is, “The discovery of wisdom and transmission of learning”.

- The Department aims at providing comprehensive knowledge of basic scientific principles, mathematical tools and developing the personalities of the students in every aspect of life.
- The Department enhances the scientific and critical thinking of the students by providing quality education and making them aware about the fundamental knowledge of core courses of Basic Sciences and humanities.

#### **Academic Programs**

- Master of Philosophy in Mathematics (M.Phil in Mathematics)
- Doctor of Philosophy in Mathematics (Ph.D. in Mathematics)

#### **Laboratories**

- Applied Physics
- Applied Mechanics
- Graduate Computer Laboratory

#### **Research**

Faculty is actively involved in research in the areas of Numerical Analysis, General Relativity & Cosmology, Image Processing, Mathematical Biology, Modeling and Simulation, Fluid Dynamics, Applied Physics and Chemistry.

#### **ELIGIBILITY**

Candidates seeking admission must have M.Sc. in Mathematics (16 years) or BS four years degree from accredited Institutions, securing atleast 60% marks in the annual system or atleast a CGPA 2.5 in the semester system.

#### **PH.D. DEGREE PROGRAM IN MATHEMATICS**

Department of Basic Sciences intends to offer Ph.D. program in the emerging fields of applied/computational mathematics to produce researchers who are competent in terms of research productivity at national and international level.

The general rules and regulations for Ph.D. program in Mathematics will be as per rules mentioned in the Postgraduate Prospectus.

# MATHEMATICS

## LIST OF APPROVED COURSES

### Group-A: Core Courses

| Course Code | Course Title                  | Credit Hours |
|-------------|-------------------------------|--------------|
| BSI 5011    | Partial Differential Equation | 3            |
| BSI 5025    | Mathematical Statistics       | 3            |
| BSI 5034    | Numerical Linear Algebra      | 3            |
| BSI 5028    | Applied Functional Analysis   | 3            |

### Group-B: Optional Courses (Minimum two courses for Research-Based and four courses for Course-Based)

| Course Code | Course Title                                   | Credit Hours |
|-------------|------------------------------------------------|--------------|
| BSI 5017    | Mathematical modeling and Numerical Simulation | 3            |
| BSI 5018    | Mathematical Methods                           | 3            |
| BSI 5679    | Mathematics of Artificial Intelligence         | 3            |
| BSI 5674    | Advanced Fluid Dynamics                        | 3            |
| BSI 5671    | Numerical Methods for PDE                      | 3            |
| BSI 5040    | Integral Transforms and its Applications       | 3            |
| BSI 5560    | Meshless & other Advanced Numerical Methods    | 3            |
| BSI 5030    | Mathematical Biology                           | 3            |
| BSI 5058    | Advanced Complex Analysis                      | 3            |
| BSI 5559    | General Relativity                             | 3            |
| BSI 5673    | Non-linear Dynamics and Chaos                  | 3            |
| BSI 5675    | Advanced Numerical Methods                     | 3            |
| BSI 5676    | Digital Image Processing (Variational)         | 3            |

# MATHEMATICS

|          |                                                       |   |
|----------|-------------------------------------------------------|---|
| BSI 5043 | Theory of Splines and its Applications                | 3 |
| BSI 5677 | Computer Vision                                       | 3 |
| BSI 5092 | Applied Data Analysis Techniques                      | 3 |
| BSI 5678 | Advanced General Relativity                           | 3 |
| BSI 5672 | Numerical Grid Generation and Fluid Flow Computations | 3 |
| BSI 5558 | Differential Geometry                                 | 3 |
| BSI 5029 | Multigrid Methods for Linear and Non-Linear PDES      | 3 |
| BSI 5020 | Statistical Decision Theory                           | 3 |
| BSI 5021 | Parallel Algorithms                                   | 3 |
| BSI 5090 | Special Topics                                        | 3 |

A student may take maximum one course for Research-Based and two courses for Course-Based from other relevant programs with approval of the HoD

## General Mandatory Requirements

| Course Code | Course Title                                                    | Credit Hours |
|-------------|-----------------------------------------------------------------|--------------|
| BSI 5091    | Research Methodology (Research-Based M.Phil Students only)      | 3            |
| BSI 5101    | Fehm-e-Quran I* (3 contact hours for all MPhil/Ph.D. students)  | 1            |
| BSI 5102    | Fehm-e-Quran II* (3 contact hours for all MPhil/Ph.D. students) | 1            |

\* BSI 5103, a 2-credit hour course for non-Muslim students as alternative to BSI 5101 and BSI 5102

## M.Phil & Ph.D. Thesis

| Course Code | Course Title  | Credit Hours |
|-------------|---------------|--------------|
| BSI 5099    | M.Phil Thesis | 6            |
| BSI 6099    | Ph.D. Thesis  | 36           |

# RULES AND REGULATIONS

## BOARD OF ADVANCED STUDIES AND RESEARCH (BOASAR)

The Board of Advanced Studies and Research (BOASAR) was instituted as one of the authorities of the University under section 13(V) of the University Ordinance. Its functions include:

- To advise the authorities on all matters connected with the promotion of advanced studies and research in the University.
- To consider and report to the authorities on the institution of research degrees in the university.
- To propose regulations regarding the award of research degrees.
- To appoint supervisors for research students and to determine the subject of their thesis.
- To receive research projects from university teachers.
- To sanction research grants against specific research projects.
- To coordinate and approve research programs and budgets.
- To monitor faculty research.
- To utilize research results.

Master's and Ph.D. degree programs in selected departments are being run under the umbrella of BOASAR. Funds are provided for both faculty research and student research. Postgraduate Advisors have been appointed for each specialization to provide guidance and assistance to researchers. BOASAR also maintains regular contact with local industry and the government to help solve their technological problems.

### Best Applied Research Project Award

To support and encourage faculty research in the university, an award has been instituted for the best applied research project. Principal Investigators of approved projects may apply for the award, which includes a cash award as well as a certificate and shield. Full details, including eligibility, application procedure, award criteria and details of award are available at the BOASAR office for reference.



# MASTER'S DEGREE PROGRAM

## GENERAL

The Master's degree program shall extend over a period of at least three (03) semesters and a maximum of eight (08) semesters (i.e., maximum four years duration from the date of 1st registration). A total of 32 credit hours are required to complete the Master's Degree Program.

## REGULATIONS

### 1.1 Admission

- a) Master's degree program may commence in Fall and Spring semesters in an Academic Year.
- b) Candidates seeking admission must have a Bachelor's Degree in a relevant Engineering discipline from an institution accredited by the Pakistan Engineering Council or Sixteen (16) years of education for Non-Engineering disciplines from an institution recognized by the HEC/National Computing Education Accreditation Council (NCEAC) or accredited by the Pakistan Council for Architects and Town Planners (PCATP).
- c) University will conduct its own admission test as an eligibility condition for admission to MS/M.Phil./Equivalent programs, with a passing score of 50% OR accept the GRE general/University Appointed Testing Authority (UATA) General/Equivalent tests, with a passing score of 50%.
- d) Application forms available online shall be submitted to the Director Admissions on or before the due date advertised in newspapers, after which no application shall be entertained.
- e) Seats for Pakistani students are given in Table-1 and seats for Afghan Refugees are given in Table-2. Total allocated seats may be filled during the Fall semester, and any remaining shall be filled during the Spring semester.
- f) The final merit list shall be based on 50% BA/BSc or equivalent disciplines marks and 50% on GRE International type test or GAT (General) test organized by UATA marks or test conducted by the University. These test scores will be valid for one academic year. In the event of a tie on merit between two or more candidates, preference will be given to the older candidate in the merit list.
- g) Attested photocopies of the following documents are required to be attached (for 1st semester only) with admission/registration form:
  - i. The B.Sc./M.Sc. degree and transcript on the basis of which admission is sought.
  - ii. PEC Registration (for Engineers only).
  - iii. Domicile certificate.
  - iv. Computerized National Identity Card.
  - v. Undertaking on a non-judicial stamp paper of a minimum value of Rs. 100/-, duly attested by an Oath Commissioner.
  - vi. Recent passport-size color photograph of the candidate.

# MASTER'S DEGREE PROGRAM

Table 1: Open Merit Seats Allocation

| DEPARTMENT                                                         | SEATS |
|--------------------------------------------------------------------|-------|
| <b>Civil Engineering (Peshawar Campus)</b>                         |       |
| i. Water Resources Engineering                                     | 32    |
| ii. Environmental Engineering                                      | 32    |
| iii. Structural Engineering                                        | 35    |
| iv. Geo-Technical Engineering                                      | 33    |
| v. Transportation Engineering                                      | 33    |
| vi. Earthquake Engineering                                         | 30    |
| <b>National Institute of Urban Infrastructure Planning (NIUIP)</b> |       |
| i. Urban Infrastructure Engineering                                | 40    |
| ii. Urban Infrastructure Planning and Management                   | 35    |
| <b>Agricultural Engineering (Peshawar Campus)</b>                  |       |
| i. Soil and Water Engineering                                      | 30    |
| ii. Farm Machinery and Power Engineering                           | 25    |
| <b>Mining Engineering (Peshawar Campus)</b>                        |       |
| Mining Engineering                                                 | 30    |
| <b>Electrical Engineering (Peshawar Campus)</b>                    |       |
| i. Power Engineering                                               | 40    |
| ii. Communication and Electronics Engineering                      | 45    |
| iii. Artificial Intelligence                                       | 80    |
| <b>Electrical Engineering (Nowshera Campus)</b>                    |       |
| Electronics, Communications and Computing                          | 40    |
| <b>Computer Science (Peshawar Campus)</b>                          |       |
| i. Data Science and Distributed Systems                            | 40    |
| ii. Cyber Security                                                 | 40    |
|                                                                    |       |
|                                                                    |       |

| DEPARTMENT                                                            | SEATS |
|-----------------------------------------------------------------------|-------|
| <b>Electronics Engineering (Abbottabad Campus)</b>                    |       |
| Electronics Engineering                                               | 20    |
| <b>Computer Systems Engineering (Peshawar Campus)</b>                 |       |
| i. Information Security                                               | 30    |
| ii. Machine Learning                                                  | 30    |
| iii. Digital and Embedded Systems                                     | 30    |
| iv. Software Engineering                                              | 30    |
| <b>Mechanical Engineering (Peshawar Campus)</b>                       |       |
| i. Mechanical Engineering Design                                      | 40    |
| ii. Dynamics and Control                                              | 35    |
| iii. Materials Engineering                                            | 40    |
| iv. Nano Science and Engineering                                      | 35    |
| <b>Chemical Engineering (Peshawar Campus)</b>                         |       |
| Advanced Chemical Engineering                                         | 35    |
| <b>Mechatronics Engineering (Peshawar Campus)</b>                     |       |
| Automation and Control                                                | 55    |
| <b>Industrial Engineering (Peshawar Campus)</b>                       |       |
| i. Manufacturing Systems Engineering                                  | 45    |
| ii. Engineering Management                                            | 30    |
| <b>U.S.-Pakistan Center for Advanced Studies in Energy (USPCAS-E)</b> |       |
| i. Electrical Energy Systems Engineering                              | 50    |
| ii. Renewable Energy Engineering                                      | 50    |
| iii. Thermal System Engineering                                       | 50    |
| iv. Energy Management and Sustainability                              | 50    |
| <b>Basic Sciences and Islamiat (Peshawar Campus)</b>                  |       |
| Mathematics                                                           | 45    |
| <b>Architecture (Abbottabad Campus)</b>                               |       |
| Architecture                                                          | 20    |

# MASTER'S DEGREE PROGRAM

**Table 2: Postgraduate (Master's Degree Program) Seats for Afghan Refugees**

| S.No. | Department                   | Specialization                            | Seats |
|-------|------------------------------|-------------------------------------------|-------|
| 1.    | Electrical Engineering       | Power Engineering                         | 3     |
|       |                              | Communication and Electronics Engineering | 3     |
| 2.    | Civil Engineering            | Water Resources Engineering               | 1     |
|       |                              | Environmental Engineering                 | 4     |
|       |                              | Structural Engineering                    | 1     |
|       |                              | Geo-Technical Engineering                 | 2     |
|       |                              | Transportation Engineering                | 1     |
|       |                              | Earthquake Engineering                    | 2     |
| 3.    | Mechanical Engineering       | Dynamics and Control                      | 3     |
|       |                              | Mechanical Engineering Design             | 4     |
|       |                              | Materials Engineering                     | 3     |
| 4.    | Computer Systems Engineering | All Streams                               | 3     |
| 5.    | Mining Engineering           | Mining Engineering                        | 6     |
| 6.    | Agricultural Engineering     | Soil and Water Engineering                | 6     |
|       |                              | Farm Machinery and Power Engineering      | 3     |

| S.No.        | Department                                                  | Specialization                               | Seats     |
|--------------|-------------------------------------------------------------|----------------------------------------------|-----------|
| 7.           | Chemical Engineering                                        | Advanced Chemical Engineering                | 3         |
| 8.           | Industrial Engineering                                      | Manufacturing Systems Engineering            | 3         |
|              |                                                             | Engineering Management                       | 3         |
| 9.           | National Institute of Urban Infrastructure Planning (NIUIP) | Urban Infrastructure Engineering             | 3         |
|              |                                                             | Urban Infrastructure Planning and Management | 4         |
| 10.          | Basic Sciences and Islamiat                                 | Mathematics                                  | 4         |
| 11.          | Computer Science                                            | Computer Science                             | 3         |
| 12.          | Mechatronics Engineering                                    | Automation and Control                       | 6         |
| <b>Total</b> |                                                             |                                              | <b>74</b> |

- h) On the recommendations of the Admission Committee, the Vice Chancellor shall approve the names of candidates selected for admission.
- i) A candidate's admission shall be confirmed after he/she has deposited the prescribed fees with the University within the period specified for this purpose.
- j) No student shall be admitted after two weeks of the start of classes.
- k) After securing admission, students will be allotted their registration numbers by the Directorate of Admissions.

- l) Admission of any student is liable to be cancelled if his/her academic progress or conduct at any stage is found unsatisfactory.
- m) Students registered for Master's program shall not be allowed to participate in various students' organizations.
- n) The facility of hostel accommodation for Master's students shall be provided on need basis, subject to availability.
- o) If any of the particulars given by the candidate in his/her application are found incorrect or facts are suppressed, he/she shall be denied admission. If any incorrect or false statement or

# MASTER'S DEGREE PROGRAM

suppression of facts is detected after a candidate has been granted admission, his/her admission shall be cancelled and he/she shall be expelled from the University at any time during the course of his/her studies.

- p) A candidate who is already a Bonafide full-time student of some other institution is ineligible to take admission in this University. He/She will have to cancel admission in the other University before taking admission in UET, Peshawar. A student may take admission in another university subject to cancellation and clearance of his/her dues. If a case is detected where a student enrolled in this University is also a student of some other institution, his/her admission in the University shall be cancelled.
- q) At the time of admission, selected candidates shall submit an undertaking to abide by the Rules and Regulations prevailing in the University. This shall be on a non-judicial stamp paper of a minimum value of Rs. 100/-, duly attested by an Oath Commissioner. The specimen of undertaking is available in the Directorate of Admissions or on its website.

## 1.2 ADMISSION OF FOREIGN STUDENTS

- a) The applications of foreign students must be routed through the Director, Academics, Higher Education Commission, Islamabad ([www.hec.gov.pk](http://www.hec.gov.pk)). All applicants of this category should submit, along with their application forms:

- (i) A certificate showing proficiency in English language, e.g. TOEFL or IELTS with at least a 50% score.
  - (ii) A financial statement confirming the availability of funds for completing the Master's Degree program.
- b) Foreign students seeking residential accommodation at the University Campus may apply to the Provost, University Hostels.
  - c) Foreign students are exempted from entrance test for admission.
  - d) Twenty-Four (24) seats (floating) are reserved for foreign students in the Postgraduate Program.
  - e) Two (02) seats (floating) are reserved for the students of least-developed member countries of the Organization of Islamic Cooperation (OIC) under Higher Education Commission scholarship program: "Academic and Research Linkages Bilateral Agreement".

## 1.3 POSTGRADUATE ADVISORS

Each specialization of the Department concerned will have a Postgraduate Advisor having Ph.D. Degree, who will work under the direct supervision of the HoD. The Postgraduate advisor will monitor the implementation of the postgraduate program in his/her department, and maintain liaison with the BOASAR (Board of Advanced Studies and Research) Secretariat. his/her duties will include:

- a) Providing guidance to students on regulations governing the Master's Degree Program.

## MASTER'S DEGREE PROGRAM

- b) Providing guidance to students on selection of research projects.
- c) Organizing field trips of Master's students.
- d) Promoting links with industries and other outside organizations.
- e) Promoting faculty research.
- f) Organizing extension lectures, seminars, workshops and training courses in the departments.
- g) Supervising the reference library in the department.

# MASTER'S DEGREE PROGRAM

## 1.4 UNIVERSITY FEE

University fee for postgraduate students enrolled on open merit seats is shown in Table 3.

**Table 3: University Fee for Postgraduate Students on Open Merit for Pakistani and Foreign Students**

| S.No | Item                                                | Pakistani Nationals (Rs.) | Foreign Students (US\$) |
|------|-----------------------------------------------------|---------------------------|-------------------------|
| 1    | Registration Fee (per semester)                     | 15000                     | 350                     |
| 2    | Tuition Fee (per credit hour)                       | 6000                      | 180                     |
| 3    | Digital Library Fee (per semester)                  | 1000                      | –                       |
| 4    | Security Fee (on first registration) Refundable     | 4000                      | 400                     |
| 5    | Thesis Evaluation Charges (on submission of thesis) | 4000                      | 550                     |
| 6    | Course Completion Certificate                       | 200                       | 10                      |
| 7    | Interim Transcript                                  | 200                       | 10                      |
| 8    | Final Transcript                                    | 500                       | 20                      |
| 9    | Field Trips (as per trip actual charges)            | –                         | –                       |

\*The fee applicable to Afghan refugee students is the same as for open-merit Pakistani students.

Semester Fees are payable at the start of each semester, on the dates announced for admission/registration. In case of admission cancellation, the following refund policy is applicable:

| Timeline*                                               | Percentage of Tuition Fee |
|---------------------------------------------------------|---------------------------|
| Up to 10 <sup>th</sup> day of commencement of classes   | 100% fee refund           |
| Up to 15 <sup>th</sup> day of commencement of classes   | 80% fee refund            |
| Up to 20 <sup>th</sup> day of commencement of classes   | 60% fee refund            |
| Up to 30 <sup>th</sup> day of commencement of classes   | 50% fee refund            |
| 31 <sup>st</sup> day onwards of commencement of classes | No refund                 |

\* Timeline shall be calculated continuously covering both weekdays and weekends.

Any fee payable for entrance test/admission form is non-refundable under any circumstances.

The fee paid as an admission fee is non-refundable.

A student expelled from the university due to disciplinary misconduct shall not be eligible for any refund, except for the refundable Security Fee.

**Note:** A late fee @ 0.025% will be charged per day from students who fail to deposit the university dues/funds by the due date for any reason.

# MASTER'S DEGREE PROGRAM

## 1.5 REGISTRATION

- a) At the beginning of each semester, students shall register for courses in consultation with the departmental postgraduate advisors.
- b) In every semester only four postgraduate courses (including core and optional) will be offered in each stream of Departments. Engagement of faculty for teaching these courses will be decided by the concerned HoD with the approval of the concerned Dean. However, in specific cases for reasons to be recorded in writing, the Vice Chancellor will have the powers to grant exemption. Courses offered shall be displayed on the postgraduate notice board, one week before registration, to facilitate students in choosing courses.
- c) Minimum number of students to register for a course shall be ten (10) for all the Departments, otherwise, the course shall be dropped for that semester. In case a course is dropped by the department, the fees shall be refunded to the students or adjusted in the coming semesters. However, the departments can offer course(s) to a class having less than ten (10) students in exceptional cases with the approval of Dean. A department can also offer course(s) to students relevant to M.Sc. thesis in the area of research.
- d) Maximum number of students in each Section of Postgraduate course should not be more than forty (40) to ensure quality of teaching. If the number of registered students in any subject

exceeds forty (40), then they shall be accommodated in more than one Section.

- e. Postgraduate students shall pay the registration fee every semester to keep their candidature intact, irrespective of whether they register any credit hour or not in that semester.

## 1.6 WORK-STUDY LOAD

A student shall not be allowed to take more than 12 credit hours per semester. However, in the case of M.Arch. Program, the number of credit hours must not exceed the maximum credit hours allowed as per approved policy.

## 1.7 ADDITION OF COURSES/WITHDRAWAL FROM COURSES

- a) A student may be allowed to add/drop courses within two weeks of the beginning of classes on the prescribed proforma available at DPGS office.
- b) A student may be allowed to withdraw from courses within six weeks of commencement of classes by applying on the prescribed proforma. A grade of 'W' will be reported in that case.
- c) Fees shall not be refunded to a student who withdraws from a course. However, if a course is dropped by UET, fees shall be refunded to student(s).
- d) In case a student fails to apply for withdrawal from a course and remains absent, F Grade will be awarded.

## 1.8 CLASS WORK AND ATTENDANCE

A student shall attend the classes regularly, submit assignments in time, and appear for tests and examinations when announced

# MASTER'S DEGREE PROGRAM

by the teacher. Candidates with less than 75% attendance in a course shall not be allowed to appear in the final examination of the course.

## 1.9 EXAMINATION

### 1.9.1 COURSE WORK

- a) For all taught courses of MS/M.Sc./M.Phil. Program, a final term examination having 50% weightage must be conducted. The remaining 50% marks can be distributed over quizzes, home assignments, a mid-term examination, mini projects etc, or in any other appropriate way, as it suits the requirement of the course. However, such distribution should be clearly spelled out in writing before the commencement of the course and be submitted to the Postgraduate Advisor of the respective departments.

### 1.9.2 RESEARCH WORK

- a) The MS/M.Sc./M.Phil. research proposal (submitted by a student at the end of second semester of his/her Postgraduate Studies) shall be initially vetted by Project Research Evaluation Committee (PREC), formally constituted for each specialization in each discipline before recommending it to the BOASAR office for final approval. The Head of the department concerned will recommend the names of three faculty members (including Postgraduate Advisor) holding a Ph.D. degree for constitution of PREC for approval of the Vice Chancellor through Secretary BOASAR. The Head of the concerned department will act as a convener of the PREC. The PREC will be

reconstituted after a period of two (02) years. The Head of the concerned department may recommend a Ph.D. faculty member, expert in the relevant area, to act as member (co-opted) for the PREC.

- b) Any subsequent changes in the proposal, title or the topic shall also be routed through the same channel.
- c) The candidate may request for change in MS supervisor or a supervisor may opt to withdraw from supervision of a candidate. The candidate or the supervisor shall submit their request to the chairperson concerned. Recommendation for change of supervisor will be made by PREC of the department through Dean concerned for approval by BOASAR. No relaxation in maximum allowable time for completion of MS/M.Sc./M.Phil. degree would be granted to the candidate on the basis that his supervisor has changed.
- d) All MS/M.Sc./M.Phil. students working on their research will give at least one seminar to PREC at the end of each semester.
- e) Before a student is allowed to defend his/her thesis, it will be vetted by the university against plagiarism. For the award of M.Sc./MS/M.Phil. degree, at least one paper should be presented/accepted/published from the M.Sc./MS/M.Phil. research thesis in a refereed national/international conference or journal.
- f) The maximum number of postgraduate students under a Research Supervisor shall be twelve (12)



# MASTER'S DEGREE PROGRAM

which will include maximum five (05) Ph.D. students. The supervisor (expert in the subject) may be from the student's parent or a relevant department within the University subject to approval by PREC of the parent Department.

## 1.9.2.1 EXAMINATION OF RESEARCH WORK

The examination of the research work of the candidate shall be conducted by an Examination Committee comprises of, (1) Internal Examiner, (2) Student's Research Supervisor (3) External Examiner from outside the University. The Examination Committee will be appointed by the Vice Chancellor on the recommendation of the Dean. The Supervisor shall act as the Chairman of the Examination Committee. The examination shall include:

- (i) Evaluation of thesis
- (ii) Viva-voce examination

If the thesis is judged as adequate, the candidate shall appear in the viva-voce examination to be conducted by the Examination Committee on a specific date. The thesis supervisor must inform the Director Postgraduate Studies about the Thesis Defense Examination Result on the official form T-3. If the thesis is found inadequate, it may be referred back for revision and resubmission within a specified period as detailed by the Examination Committee. Only one chance of resubmission shall be allowed to a candidate, and if the revised thesis is not approved under the aforesaid procedure, the thesis shall be rejected. In a case of revised thesis resubmitted for evaluation, the student has to pay thesis evaluation charges again. If in the opinion of the majority of the examiners, the candidate fails in the oral examination, he/she may be permitted to reappear in the viva-voce re-examination within a period of three months. In

such a case the candidate shall be given only one chance to re-appear in the oral examination.

## 1.10 QUALITY OF WORK (GRADES)

- a) To be eligible for graduation, a student must have a CGPA of at least 2.67 (B-) in course work and satisfactory grade (S) in research. Grade Points are assigned as shown in Table 4.

**Table 4: Grade Points**

|    |                                  |
|----|----------------------------------|
| A  | 4.00                             |
| A- | 3.67                             |
| B+ | 3.33                             |
| B  | 3.00                             |
| B- | 2.67                             |
| C+ | 2.33                             |
| C  | 2.00                             |
| C- | 1.67                             |
| D+ | 1.33                             |
| D  | 1.00                             |
| F  | 0.00                             |
| I  | Incomplete                       |
| W  | Withdrawn                        |
| N  | Audit                            |
| S  | Satisfactory (for thesis only)   |
| U  | Unsatisfactory (for thesis only) |

- b) A student who has been awarded "F" grade in a course may be allowed one chance to improve the grade by repeating the course within the prescribed time limit (see clause 1.13(d)). This facility may be availed for a maximum of two courses during the entire Master's program. Only the higher grade will be used in computing the GPA.

# MASTER'S DEGREE PROGRAM

- c) Grade "I" (incomplete) is awarded to a student only if he/she has missed the Final Examination, Project Report, etc. due to genuine reasons, but has completed all the other work of the course successfully. Grade "I" should be converted to an appropriate letter grade within two consecutive semesters, otherwise it would be converted into Grade "F" permanently.
- d) The requirement of an "N" grade would be laid down by the teacher of a course at the beginning of the semester.
- e) The Grade Point Average (GPA) will be calculated as follows:  
$$\text{Quality Points of each course} = \text{Grade Points of grade awarded} \times \text{Course credit hours.}$$
$$\text{GPA} = \frac{\text{Sum of Quality Points of all courses}}{\text{Total credit hours}}$$
- f) Improvement of grade "C" and below:  
Students taking grade "C" or a lower grade than "C" will get only one chance to improve the grade by repeating the course. Tuition fees will be charged for repeating the course. The student will get no additional credit for repeating the course. After repeating the course and fulfilling all its requirements including exams, the instructor concerned will award the student a fresh grade.

## 1.11 MEDIUM OF INSTRUCTION

The medium of instruction in all Postgraduate Courses shall be English. Foreign students will be required to satisfy the concerned department about their proficiency in English before registration.

## 1.12 DURATION OF COURSES

- a) There will be two semesters in an academic year. Each semester will be of eighteen weeks duration, including classes and conduct of examinations.
- b) The Fall semester will start in the first week of September and the Spring semester will begin in the first week of February.

## 1.13 DEGREE REQUIREMENTS

### a) Research-based Master's degree program

A total of 32 credit hours (including 6 credit hours of research) are required to complete the master's degree program. The 26 credit hours of course work shall include at least 12 credit hours from the core area of specialization, six (06) credit hours optional courses from the area of specialization, and three (03) credit hours of the course "Research Methodology" and two (02) credit hours of Fehm-e-Quran I and II. These courses will be registered as a credit courses and are mandatory for all students conducting research. The remaining three (03) credit hours can be registered as an optional course from the area of specialization or any other relevant stream in consultation with PG advisor and permission of HoD.

OR

### b) Course-based Master's degree program

A total of 32 credit hours of course work is required for completion of the Master's degree. The 32 credit hours of course work shall include at least 12 credit hours core courses from area of

## MASTER'S DEGREE PROGRAM

specialization. The remaining twenty (20) credit hours may be taken as follows:

Twelve (12) credit hours optional courses from the same stream and the remaining six (06) credit hours either from the same stream or any other stream/department within the University in consultation with PG advisor and approval of the HoD. Two (2) credit hours of Fehme-Quran I and II. Research Methodology course can be registered as an optional course.

- b) On the completion of course and research work, the student shall apply for defense of thesis on a prescribed proforma available from the Directorate of Postgraduate Studies/Departmental Postgraduate Advisor and University website ([www.uetpeshawar.edu.pk](http://www.uetpeshawar.edu.pk)). The final script of the thesis must be certified against plagiarism by the Quality Enhancement Cell (QEC) of the University before the thesis defense.
- c) After successful defense of research work, the student shall submit two hard-bound copies of the final script of thesis to the Director Postgraduate Studies within fifteen days of defense as per format approved by the statutory bodies of the University. The format of the thesis will be checked by Supervisor. The copies shall be kept in the Central Library of the University and the Directorate of Postgraduate Studies.
- d) The student must complete all the degree requirements of MS/M.Sc./M.Phil. within a minimum of one and a half (1.5) years or three (03) regular semesters and within a maximum of

four (4) years or eight (08) regular semesters after the first registration for a program with exceptions mentioned at clause 1.13(e).

- e) In case a student is unable to secure an MS/M.Phil. within the prescribed time frame and claims for extension in duration, the Departmental Project Research Evaluation Committee (PREC) shall determine the causes of delay. In the event of force majeure (i.e., delay on account of circumstances beyond the control of the student), the PREC shall recommend an extension to the Hon. Vice Chancellor through the office of DPGS for the final decision in the period of award of MS/M.Sc./M.Phil. degree in accordance with the duration limiting factor(s). The university shall also take corrective measures in case the delay is caused by process or administrative reasons.
- f) The student shall apply for the award of M.Sc./MS/M.Phil. degree on a prescribed proforma available from Directorate of Postgraduate studies/Departmental Postgraduate Advisor and University website ([www.uetpeshawar.edu.pk](http://www.uetpeshawar.edu.pk)). The proforma shall be used to verify all the requirements of the degree, i.e. passing of core courses, total courses and thesis defense examination.
- g) The admission of the student will be cancelled if he/she remains absent continuously for two semesters without freezing the semester. The student will be issued an interim transcript for the semesters attended.

# MASTER'S DEGREE PROGRAM

## 1.14 RESIDENCY REQUIREMENTS

- a) The student shall earn all the credits of course work and complete the research at the University.
- b) In special circumstances, the BOASAR may permit the research to be carried out in another organization/institution. In such an event the student will be assigned a co-supervisor with at least MS/M.Sc./M.Phil. qualification working in that institution, who will be paid honorarium equal to half of honorarium paid to the main supervisor. However, the student shall maintain a supervisor from parent department or relevant department of the University with consent of the chairman of parent department in consultation with PREC members.

## 1.15 TRANSFER OF CREDITS

In case of change of MS/M.Sc./M.Phil. stream/admission in another stream of engineering or readmission, a maximum of six (06) credit hours of the previous stream/admission or from another university may also be allowed if approved by the concerned PREC. The credit transfer is subject to the following conditions:

- a) The course(s) has been studied at an HEC recognized institution.
- b) The course(s) under consideration has not been given credit for the award of a degree.
- c) The course(s) must correspond to a course(s) currently offered by the concerned department or be deemed equivalent in depth and intensity to a current course(s).
- d) The student must have earned a minimum 3.0 out

of 4.0 GPA in a semester system similar to the one in this University for determining transfer of MS/M.Sc./M.Phil. courses.

## 1.16 SCHOLASTIC RECORD

The scholastic record of graduate students shall be maintained by the Controller of Examinations. Departments offering Postgraduate courses shall send award list of grades to the Controller of Examinations, within one week of final examination. The students shall be notified about their final grades by the Postgraduate Advisor of the department.

## 1.17 DISCIPLINE

Students enrolled in the Postgraduate Program shall observe the rules and regulations of the University. Any infringement shall be dealt with under the University Discipline Rules.

## 1.18 ASSISTANTSHIPS AND FREESHIPS

Subject to the availability of funds in the budget, a limited number of teaching assistantships and tuition freeships are granted to Postgraduate students who are willing to perform academic duties during working hours of the University.

- a) Teaching Assistantship: teaching undergraduates. Rs. 5000/- per month with tuition free ship.
- b) Research Assistantship: assignment on project work. Rs. 5,000/- per month with tuition free ship
- c) Other fellowship/financial assistance shall be announced when available.

## 1.19 COURSES OFFERED WITHOUT ADMISSION

A private student who wishes to take a course without taking admission in the Master's Program should formally submit an application to the Chairman of the Department concerned. After

# MASTER'S DEGREE PROGRAM

permission of the Chairman concerned, he/she will be allowed to enroll subject to the availability of space after payment of Rs. 30,000/- per course. Further he/she will not be allowed to take more than two courses without taking admission in Master's Program. He/she will be awarded a Certificate by the Chairman of the Department concerned for attending the course(s) without claiming any credit.

## 1.20 SPECIAL PROVISIONS

- a) In all cases where regulations are silent, the decisions of the Vice Chancellor shall be final.
- b) All other regulations and instructions relating to Master's Engineering courses issued heretofore stand repealed.
- c) The University authorities reserve the right to make any change in the rules, regulations, fees structure and courses of study that may be considered necessary at any time without prior notice.
- d) Interpretation of these regulations by the Vice Chancellor of the University shall be final.

## 1.21 FREEZING OF SEMESTER(S)

A student can freeze one or two semesters subject to the following conditions.

- a) Freezing of the first semester is not allowed. Under special hardship circumstances freezing of first semester can be considered after the approval of concerned dean.
- b) The student shall apply for freezing a semester two weeks before commencement of the semester. Freezing during the semester is not allowed.

- c) The maximum duration of freezing is two semesters where the maximum duration of the degree program shall remain the same.
- d) A student who wants to freeze a semester shall deposit freezing semester fee of Rs. 15,000/- per semester.
- e) If a student is not enrolled in any course in a semester, he/she shall not be considered a regular student at university in that period.
- f) A student is allowed to unfreeze a semester within two weeks of commencement of classes if he/she desires after freezing a semester. The fee deposited for freezing will be adjusted in tuition fee.

## 1.22 CANCELLATION OF ADMISSION

- a) A bonafide student at this University may apply for cancellation of admission on a non-judicial stamp paper of a minimum value of Rs. 100/-, duly attested by an Oath Commissioner. Cancellation of admission shall be done by head of the department concerned.
- b) The student can appeal for re-admission which may be considered and approved by the Committee constituted for this purpose. The re-admission request can be entertained if it is within a period of one Academic year after the admission cancellation. The recommendations of the committee shall be considered by the Admission Committee for final decision.

## MASTER'S DEGREE PROGRAM

- c) Cancellation of admission in case of students admitted in other campuses of the University shall be done by the senior-most Dean, Faculty of Engineering through Directorate of Admissions on the recommendations of the Chairman of Department concerned.
- d) In case the admission of 1st semester student is cancelled due to any reason, the rules regarding university fee/dues chargeable/refundable mentioned in clause 1.4 will be applicable.

Whereas in all other cases the University fees/dues will be charged up to the last semester attended.

- e) Students seeking cancellation of admission shall have to submit Clearance Certificate along with other required documents.

# PH.D. DEGREE PROGRAM

## 1. GENERAL

These rules shall apply to all Ph.D. programs offered by UET Peshawar. The Ph.D. program shall have a minimum duration of three (03) years from the date of first registration for a full-time student and four (04) years for a part-time student. The Ph.D. program shall be task-oriented rather than merely time-oriented. A candidate shall be considered to have completed the Ph.D. program only upon satisfactory completion of all prescribed coursework, research, thesis and examination requirements, and upon the satisfaction of the Supervisor and the Research Evaluation Committee (REC) in accordance with the University's applicable rules and procedures.

The student must register for at least 56 credit hours. While undertaking research work, the candidate shall be encouraged to attend seminars, conferences, symposia and publish papers in journals of national or international repute. Upon recommendation of the Supervisor, BOASAR will provide funding to the candidate for presenting a paper at a relevant Seminar/Conference/Symposium at least once every year during his/her research.

All research work will be carried out at UET, Peshawar, unless otherwise advised by the Supervisor. Part-time students must also fulfill the residency requirement by registering as full-time students for at least two years. In case of joint research proposal with industry or another university, residency requirement will be established by the supervisor and the co-supervisor (member from Industry/another university).

## 2. REGULATIONS

### 2.1 ADMISSION

- a) Ph.D. program shall be open to applicants who have Master/M.Phil. degree (research-based and course-based) with a minimum CGPA of 3.0 in a relevant discipline recognized by the University. For details on area of specialization, the HoD of respective department should be contacted.
- b) The Director of Admissions in consultation with the heads of departments will invite applications for admission to the Ph.D. Program at the same time as Master's admissions. The application should include a brief proposal of research to be carried out by the applicant, along with CV and a list of any previous research publications.
- c) The HoD, in consultation with the Departmental Project Research Evaluation Committee (PREC) will scrutinize the applications and forward them to the Director Postgraduate Studies with his recommendations (including the name of the proposed Supervisor).
- d) The Director Postgraduate Studies will present the credentials to the University Admission Committee for recommendation and to the Vice Chancellor for final approval.
- e) Applicants selected for admission will be so informed by the Head of the Department concerned and their names shall also be notified on the Notice Board of the Department and of the Directorate of Postgraduate Studies.

## PH.D. DEGREE PROGRAM

- f) The applicant will have to register within one month of the notification or the beginning of the forthcoming semester, whichever is later, by paying the prescribed fees for the first semester.
- g) Further, no Supervisor shall have more than five (05) candidates for Ph.D. simultaneously, unless authorized by a committee comprising the Dean of relevant faculty, the Head of relevant Department, and the Secretary BOASAR of the University.
- h) The candidates seeking admission in Ph.D. Program must have:
  - (i) A Masters/M.Phil./equivalent degree in the related field with minimum CGPA 3.0 out of 4.0 or 3.75 out of 5.0 or First Division in annual system. The percentage will be valid only if the CGPA is not mentioned in the degree/transcript.
  - (ii) 18 years of education with MS/M.Sc./M.Phil. or equivalent degree from Pakistani or Foreign Universities.
  - (iii) University will conduct its own admission test as an eligibility condition for admission to Ph.D. programs, with a passing score of 60% OR accept the GRE general/UATA General/Equivalent tests, with a passing score of 60%.
- i) The students having strong demonstrated interest in obtaining Ph.D. degree, but their CGPA is below 3.00 (out of 4.0 in the semester system) or 60% marks (in the annual system) in the most recent degree obtained, may be admitted to a Ph.D. program after fulfilling the following requirements:
  - i. Shall study 9-12 CH additional MS/MSc level courses taking a zero semester at university and score minimum 3.00 out of 4.00 GPA, and
  - ii. The admission committee is satisfied that the applicant's knowledge of primary area has sufficiently prepared him or her to undertake the course of studies of the doctoral program.
  - iii. These requirements are in addition to any other requirements set for admission to a Ph.D. program.
- j) Admission of the student shall be considered cancelled if he/she remains absent continuously for two semesters without freezing the semester.
- k) A student can freeze his/her semester as per the policy in section 1.21 of the Master's Degree Program.
- l) Interpretation of these regulations by the Vice Chancellor of the University shall be final.

### 2.2 PH.D. DEGREE REQUIREMENTS

- a) A Ph.D. candidate must complete at least 20 credit hours Ph.D. level course work with a minimum CGPA of 3.0, followed by a comprehensive examination along with thesis defense, which will be essential for the award of Ph.D. degree.
- b) The student must register for a minimum total of 56 credit hours (20 credit hours of course work and 36 credit hours of research work).



# PH.D. DEGREE PROGRAM

- c) A Ph.D. student may be allowed to register in an advanced Postgraduate course as a single participant in his core area of research with the approval of the Dean. However, he/she can only take maximum one course as a single participant.
- d) For students who have been awarded an “F”(Fail) grade or “I” (Incomplete) grade, or who wish to improve their grades, the rules applicable to the Master’s Degree Program under Clauses 1.10(b), (c), and (f) shall apply.

## 2.3 PH.D. CANDIDATURE

- a) The student will become a candidate for Ph.D. degree after passing the Qualifying Examination and on the recommendation of the Supervisor concerned.
- b) Within two months of passing the Qualifying Examination, the Supervisor, with the approval of the Head of the Department, shall constitute an REC for each candidate, comprising qualified persons and shall send it to the office of BOASAR for approval. All committee members must have Ph.D. degree except possibly No. (v).
  - (i) The HEC/University approved Supervisor (expert in the subject) from the department concerned or a relevant department within the university subject to approval by PREC of parent Department.
  - (ii) One member from the department concerned.
  - (iii) One member from a department other than the concerned department.
  - (iv) One member from a university other than UET, Peshawar.

- (v) One member from a Research Institute/Industry.  
Any member from the above may be appointed as a Co-Supervisor for the candidate, if required. The names shall be submitted for approval of the Vice Chancellor through Director Postgraduate Studies. The Supervisor shall act as the Chairman of the REC.

- c) In the Ph.D. degree Program, a minimum of three REC meetings shall be conducted. The REC shall meet once a year (i.e., Fall to Fall or Spring to Spring) and monitor the research work of the candidate. There shall be a gap of one year between two consecutive REC meetings. The supervisor shall submit the yearly progress report of the student to the Director Postgraduate studies.
- d) If Supervisor is unable to continue, the Head of Department in consultation with REC shall appoint a new Supervisor (preferably a REC member) of the student’s research. The new Supervisor may associate a Co-supervisor from the faculty available within the University or outside the University.
- e) The REC shall also act as an Examination Committee. The quorum for the REC shall be at least three members and for Examination Committee at least four members including at least one member from outside the University. The Supervisor shall act as the head of the committee. The REC may advise the student to go ahead if it is satisfied with the annual progress of the work or to continue on the improving of his/her research findings if it is not satisfied.

## 2.4 EXAMINATION

### 2.4.1 PH.D. QUALIFYING EXAMINATION

- a) Each department shall conduct Ph.D. qualifying

# PH.D. DEGREE PROGRAM

examination once each semester. It will be a written exam on a pass/fail basis with a minimum passing score of 60% in each subject. The qualifying examination shall consist of three question papers from the courses studied by the students in their Ph.D. Each paper shall be of at least three (03) hours and 100 marks with a minimum of five comprehensive questions. MCQs are not allowed. Each question paper must be designed to ascertain in-depth knowledge, analytical abilities and aptitude of the student in his area of Ph.D. research. Each question paper will include two parts: a general section and a specialized section. The general section will assess students on the core areas of the discipline (as notified by the Department), whereas the specialized section may assess the student on the area of his/her research interest.

- b) A Ph.D. student must appear in the qualifying examination within six months of the date of his course completion. Students who fail will be allowed to repeat the examination once only within six months of the declaration of qualifying examination result.
- c) Students who fail the Qualifying examination twice will not be allowed to continue their Ph.D.
- d) The Qualifying Examination Committee shall comprise of three members, including the Ph.D. Supervisor concerned. The members of Qualifying Examination Committee will be nominated by the concerned supervisor and

appointed by the Chairman of the respective department by taking into consideration the core areas of the research. All the members will assess and evaluate the potential of the student independently with regard to the initiative of Ph.D. research in the relevant field. The Qualifying Examination Committee shall declare the result of the student on pass/fail.

## 2.4.2 PH.D. PRELIMINARY (OR PROPOSAL DEFENSE) EXAMINATION

- a) Within six months of passing the qualifying Examination, candidate should appear in a preliminary examination conducted by the REC. The candidate will submit his/her research proposal on the approved format along with literature survey and research plan in written form to the REC at least two weeks prior to the examination. In this examination, the candidate will make an oral presentation and defend his/her proposal in front of the REC. The candidate will incorporate necessary changes if suggested by the REC in the proposal and submit to the office of BOASAR through his/her supervisor for approval of the Board. Any subsequent changes to the proposal, title or the topic shall also be routed through the same channel.
- b) The purpose of preliminary examination is to confirm that the candidate understands the problem, is aware of the associated literature, has a realistic research plan and schedule, and

# PH.D. DEGREE PROGRAM

the research problem is of Ph.D. standard. If the REC is satisfied, the candidate will be allowed to proceed. If not, he/she may be given one more chance to pass the preliminary examination.

- c) The required coursework, comprehensive exam, and defense of synopsis/research proposals should be completed within the 1st six (06) semesters of the registration into a Ph.D. program. The responsibility in this regard rests collectively with the Ph.D. student and the supervisor. In case of noncompliance, the registration shall be cancelled and transcripts for completion of coursework may be issued to the student. In the event of force majeure (i.e., non-compliance on account) of circumstances beyond the control of student, the university may consider the matter in accordance with the procedure prescribed at 2.4.5(c).

## 2.4.3 EXTERNAL THESIS EVALUATORS

The Ph.D. dissertation must be evaluated by:

- a) Atleast two external experts who shall be:
  - i. Ph.D. faculty member from the world top 500 universities ranked by the Times Higher Education or QS World Ranking in the year corresponding to dissertation evaluation year OR
  - ii. Pakistan-based Distinguished National Professors, Meritorious Professors from any national university; or professors from top universities ranked by HEC; or professors from any Pakistani University having a minimum

H-index of 30 for Sciences, 15 for Social Sciences or 8 for Art and Humanities as determined by Web of Science. OR

- b) At least one external expert qualifying any one of the conditions mentioned at (a) above if the Ph.D. candidate publishes dissertation research in a peer-reviewed journal that is classified by the HEC in category W for Sciences and X or above for Social Sciences.
- c) External Thesis Evaluator(s) will be nominated by the supervisor concerned for a Ph.D. student after passing his/her 2<sup>nd</sup> REC meeting. The Supervisor will submit nomination(s) to the Director Postgraduate Studies who will recommend the nominations to the relevant Dean of faculty for final approval of the Vice Chancellor.

## 2.4.4 EVALUATION OF THESIS

The foreign evaluators and REC shall first evaluate the thesis to ascertain that:

The thesis makes a distinct contribution to the area of specialization of the candidate, and it shows the ability of the candidate for original investigation and for understanding the relationship of his/her research with a wider field of knowledge.

Thesis evaluation by the external evaluator(s) and REC will be on following basis:

- a) Each member shall submit his report independently to the Director Postgraduate Studies on prescribed Proforma recommending:
  - (i) That the thesis is satisfactory and a viva-voce examination may be held to enable

## PH.D. DEGREE PROGRAM

the candidate to defend it (no correction required);

OR

- (ii) That the thesis may be resubmitted by the candidate after revision on the proposals suggested by the members, OR
  - (iii) That the thesis be rejected as it is not of merit and candidate be declared ineligible.
- b) Evaluation report by the one or two external evaluators has to be positive before the student can be asked to carry out final defense.
  - c) The recommendations made by a majority of the members of the REC shall be implemented. In case of a tie or a difference of opinion, BOASAR shall recommend to the Vice Chancellor for appointing a neutral examiner whose opinion shall be final.
  - d) Re-submission of thesis shall be allowed only once. In case the resubmitted thesis is not of merit, the candidate shall be declared ineligible for the Ph.D. degree.

### 2.4.5 PH.D. THESIS DEFENSE EXAMINATION

- a) A candidate ready for Ph.D. thesis defense examination shall apply to the Director Postgraduate Studies on the prescribed proforma along with six copies of his/her hard-bound thesis and a certificate from his/her Supervisor duly countersigned by the Head of Department about the satisfactory completion of his/her research and thesis in accordance with the prescribed format of thesis.

In addition, the final script of the thesis must be certified against plagiarism by the Quality Enhancement Cell (QEC) of the university before the thesis defense.

- b) To ensure that Ph.D. defense is conducted fairly and in accordance with the rules and regulations, the presence of a neutral chair shall be ensured. The PREC shall recommend three Professors of other faculties of UET, Peshawar to the concerned Dean, who shall nominate one of the three as the neutral chair for the Ph.D. defense. The neutral chair shall ensure that Ph.D. defense is conducted fairly and in accordance with the rules and regulations and convey the fairness confirmation to DPGS in the form of a written report.
- c) The maximum duration of Ph.D. shall not exceed eight (08) years, from the 1st date of registration of a student in his/her Ph.D. program. In case a student is unable to secure a Ph.D. degree within the prescribed time frame and claims for extension in duration, the Departmental PREC shall determine the causes for delay. In event of force majeure i.e., delay on account of circumstance beyond the control of student, the PREC shall recommend an extension to the Hon. Vice Chancellor through the office of DPGS for final decision in the period of award of Ph.D. degree in accordance with the duration limiting factor(s). In any case the extension should be for a maximum of two years. The university shall also take corrective measures in case the delay is

## PH.D. DEGREE PROGRAM

caused due to process or administrative reasons.

- d) After the expiry of duration mentioned above, the candidate may be allowed to register as a fresh candidate, if he/she so desires.

### 2.4.6 VIVA-VOCE

- a) After the thesis has been evaluated as satisfactory, Viva-Voce Examination shall be held at a place and date as may be determined by the Dean on the recommendations of the Director Postgraduate Studies.
- b) Such places and dates shall be made public by the Director Postgraduate Studies through publishing on the University's website and any official social media accounts of the university; and also by invitation to such other institutions of learning and research as may be related to the area of specialization of the candidate.
- c) The Viva-Voce Exam shall be conducted by the Examination Committee.
- d) Each member shall submit his report recommending:
  - (i) That the candidate be declared to have passed the examination, OR
  - (ii) That the candidate should appear for viva-voce, after a period stipulated by the Examination Committee, OR
  - (iii) That the candidate be declared to have failed and ineligible for the award of the Ph.D. degree.
  - (iv) The recommendation made by the

majority of the examiners shall be implemented. In case of a tie, the BOASAR shall recommend to the Vice Chancellor for appointing a neutral examiner whose opinion shall be final.

- e) The publication requirements are:
  - i. At least one (01) research article in W category journal or two (02) research articles in X category journals, for Science disciplines.
  - ii. At least one (01) research article in X category journal or two (02) research articles in Y category journals, for Social Science disciplines.
  - iii. The Ph.D. researcher shall be the first author of these publications.
  - iv. The research article(s) shall be relevant to the Ph.D. research work of the Ph.D. researcher and published in an HEC-recognized journal.
  - v. The article shall be published after approval of the research synopsis /proposal.
- (f) The candidate shall be admitted to a Ph.D. degree in the relevant branch, provided that he/she has been declared to have passed the viva-voce examination in accordance with these regulations.
- g) A student who successfully completes coursework and passes the comprehensive examination but is unable to defend a Ph.D. synopsis/research proposal shall be awarded a

# PH.D. DEGREE PROGRAM

Certificate and transcript for the completed courses. A student who successfully defends a Ph.D. synopsis/research proposal but fails to complete the required research for the award of the Ph.D. degree within the prescribed timeframe, he/she shall be awarded a Graduate-Level Diploma, along with a transcript, subject to fulfillment of the requirements prescribed by HEC and the university's rules and regulations.

## 2.5 FUNDING

- a) All students must be available for a minimum period of two years as full-time regular students taking leave from their jobs, if necessary. In case of financial need, a student may be awarded a teaching assistantship of up to Rs. 8000/- per month on the recommendation of the supervisor concerned.
- b) The matter of study leave and scholarship (for paying fees) of faculty members getting admission in Ph.D. will be decided as per existing rules of the University for leave and scholarship.
- c) Students funded by the University should give an undertaking to pay back the University all expenses incurred on their Ph.D. in case of willful abandoning of the Ph.D. Program as ascertained/notified by the Supervisor.
- d) Funding for each Ph.D. student will be released annually by BOASAR on the recommendation of the REC. However, funds for the first year will be released upon first registration of the student, since REC is not yet constituted.

## 2.6 UNIVERSITY FEE

University fee will be charged at rates prescribed in Table-3 (Page-126) for Open Merit Master's students.

## 2.7 CHANGE OF SUPERVISOR

The candidate may request for change in Ph.D. supervisor or a supervisor may opt to withdraw from supervision of a candidate. The candidate or the supervisor shall submit their request to the chairperson concerned. Recommendation for change of supervisor will be made by PREC of the department through Dean concerned for approval by BOASAR. No relaxation in maximum allowable time for completion of Ph.D. degree would be granted to the candidate on the basis that his supervisor has changed.

## 2.8 CHANGE OF REC MEMBER

If an REC member is no longer available or does not want to continue as a member, the supervisor will send a requested for a change of REC member to the Secretary, BOASAR through relevant Dean of faculty for approval by the Vice Chancellor.

## 2.9 TRANSFER OF CREDITS

In the case of change of Ph.D. stream/admission in another stream of engineering, readmission or transfer from another university, a maximum of six (06) credit hours of the previous stream/admission or university will be allowed. Initial recommendation of the credit transfer will be initiated through the PREC of parent department/stream in which admission will be requested. The case will then be sent to the concerned dean for approval. The credit transfer is proposed subject to the following conditions:

- a) The subject has been studied at an HEC recognized institution.

## PH.D. DEGREE PROGRAM

- b) The subject under consideration has not been given credit for the award of a degree.
- c) The subject must correspond to a subject currently offered by the concerned department or be deemed equivalent in depth and intensity to a current subject.
- d) The student must have earned a minimum GPA of 3.0 out of 4.0 in those subjects deemed to be transferred in a semester system similar to the one in this University.

### 2.10 CANCELLATION OF ADMISSION

- a) A Bonafide student at this University may apply in person, or through parents/guardian, for cancellation of admission on a non-judicial stamp paper of a minimum value of Rs. 100/-, duly attested by an Oath Commissioner along with submitting Clearance Certificate. The Chairman of the concerned department shall cancel the admission of the student.
- b) Cancellation of admission in case of students admitted in other campuses of the University shall be done by the senior-most Dean through the Directorate of Admissions on the recommendations of the Chairman of Department concerned.
- c) In the case of Admission Cancellation under clauses (a) and (b), a student may appeal for re-admission, to be considered by the Committee constituted for this purpose, within a period of one Academic year after the cancellation of admission. The recommendations of the committee shall be considered by the Admission Committee for final decision.
- d) In case the admission of 1st semester student is cancelled due to any reason, the rules regarding University fee/dues chargeable/refundable mentioned in clause 1.4 of MS/M.Phil. Program will be applicable. Whereas in all other cases the University fees/dues will be charged up to the last semester attended.
- e) Students seeking cancellation of admission will have to submit Clearance Certificate along with other documents.

# CONDUCT AND DISCIPLINE REGULATIONS

These regulations are framed under "University of Engineering and Technology, Peshawar Constitution, Functions and Powers of Authorities of the University Statutes, 2016".

The University discipline Committee constituted under Clause-22.13 of "UET Peshawar Constitution, Functions and Powers of Authorities of the University Statutes, 2016" shall have the authority and jurisdiction to deal with and decide all cases of indiscipline, in accordance with University Students Conduct and Discipline Regulations.

## 1. **APPLICABILITY AND COMMENCEMENT**

These regulations shall apply to all students on the rolls of the University and the affiliated Colleges of the University.

## 2. **STUDENTS' CODE OF HONOR**

Every student shall observe the following code of conduct:

- (a) Faithfulness in his religious duties, and respect for convictions of others in matters of religion, conscience and customs.
- (b) Loyalty to Pakistan, and refraining from doing anything which might lower its honor and prestige in any way.
- (c) Truthfulness and honesty in dealing with others.
- (d) Respect for elders, and politeness to all, especially to women, children, and persons with disabilities.
- (e) Respect for teachers and others in authority in the University.

- (f) Cleanliness of body, mind, speech and habits.
- (g) Helpfulness to fellow-beings.
- (h) Devotion to studies and sports.
- (i) Protection of Government property.

## 3.

### **PROHIBITED ACTS**

The students should refrain from:-

- (a) Smoking in class-rooms, laboratories, workshops, examination halls, or Convocation Hall, and during study or academic functions.
- (b) Using or carrying of alcoholic drinks or other intoxicating drugs, within the University Campus or University Hostels or during instruction, sports or cultural tours or survey camps or entering such places or attending any such tour or camp while under the influence of such intoxicants, or any other University/College functions outside the Campus.
- (c) Organizing or taking part in any function within the University campus or hostel, or organizing any club or society of students or students associations, unions and federations, except in accordance with the prescribed rules and regulations.
- (d) Collecting any money, receiving funds or pecuniary assistance for, or on behalf of the University, except with the written permission of the Vice Chancellor/Principal.



## Conduct and Discipline Regulations

- (e) Staging, inciting or participating in any walk-out, strike, or other form of agitation against the University or its teachers or officers, inciting anyone to violence, disruption of the peaceful atmosphere of the University in any way, making provocative speeches or gestures which may cause resentment, issuing of pamphlets or cartoons casting aspersions on the teachers or staff of the University or the University bodies, or doing anything in any way likely to promote rift and hatred among the various groups or castes of the students community, issuing statements in the press making false accusations or lowering the prestige of the University or writing and pasting posters on the walls.
  - (f) Bringing, carrying and keeping of firearms or any other weapon (of any nature/type) forbidden by law, within the University Campus, class-rooms, hostels and offices.
  - (g) Causing damage to University property or government public property.
  - (h) Use of loud speakers, mega-phones, “decks” in the University hostels and on campus.
- 4. ACTS OF INDISCIPLINE**  
A student will be deemed to have committed an act of indiscipline if he/she:
- (a) Commits a breach of rules of conduct specified 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 his class without valid reason; or
  - (d) Wilfully damages University (or) public property or the property of a fellow student or any teacher or any employee of the University or
  - (e) Does not pay the fees, fines, or, other dues payable, under the University Regulations and Rules; or
  - (f) Does not comply with the rules relating to residence in hostels, or uses indecent language, wears immodest clothes, makes indecent remarks or gestures, or behaves in a disorderly manner, or commits any criminal, immoral or dishonorable act (whether committed within the University Campus or outside) or any act which is detrimental to the interest of the University, gives false information or willfully suppresses the facts or information that leads to harm the University.
  - (g) Forging, mutilating, altering erasing or otherwise tampering with any document connected with examination, receipt of University fees/dues or making undue use of such documents.
- 5. PROCEDURE IN CASE OF BREACH OF DISCIPLINE**  
The Vice Chancellor, if in his opinion an act of indiscipline

## Conduct and Discipline Regulations

can more appropriately be dealt with by the University Discipline Committee, may refer it to the University Discipline Committee for necessary action under the Rules/Regulations.

### 6. RUSTICATION AND EXPULSION

#### (i) Rustication

- (a) Rustication, whenever imposed on a College/University student, shall always mean the loss of one semester or one academic year in so far his/her appearance in a University examination is concerned. The rusticated student may be admitted in the University on the expiry of the rustication period.
- (b) No fee will be charged from a rusticated student for the month or months during which his name is struck off the rolls.

#### (ii) Expulsion

- (a) The period of expulsion will be counted from the date of issue of such a notice by the University. Expulsion period can vary.
- (b) Name of the expelled student will immediately be removed from the Department's rolls, and no fee will be charged from him/her for subsequent months.

- (c) A student expelled from a Department may be re-admitted into that Department or another affiliated College after the expiry of the period of expulsion.

- (d) Cases of expulsion will be registered in the University and notified to all Departments and Universities.

### 7. GENERAL

- (i) The authority, which has the power to rusticate could also withdraw the same order before the expiry of the period.
- (ii) No student shall be rusticated/expelled from the University unless he has been served with the Show Cause Notice, and allowed a reasonable time for explanation and replying to the charges framed against him.
- (iii) When in the opinion of the Discipline Committee the rustication or expulsion is not called for in a case referred to it, it may impose any other penalty or penalties mentioned in the above Regulations.

### 8. DEPARTMENTAL/CAMPUS/HOSTEL DISCIPLINE COMMITTEE (DDC/CDC/HDC)

- i. Each Department/Campus/Section shall have a Discipline Committee (DDC/CDC/HDC) to address discipline-related matters of students at the grass-root level.

## Conduct and Discipline Regulations

- ii. The Chief Proctor/Proctor/Complainant shall report all cases pertaining to students' discipline to the concerned Head of Department (HOD)/Section Head for necessary action.
- iii. The DDC/CDC/HDC shall hear discipline cases and take decisions as per the University Rules and Regulations.
- iv. The decisions taken at DDC/CDC/HDC level shall be documented and communicated to the concerned students and relevant authorities.
- iii. The UDC shall review the case and give final decision.
- iv. The appeal against the decision of the UDC shall be submitted to the University Appellate Committee through the Director Undergraduate Studies within 15 days after issuance of Notification by the UDC.
- v. This code of conduct will repeal all previous Regulations relating to Expulsion and Rustication or any other instructions relating to the maintenance of discipline among the students.

### 9. RIGHT TO APPEAL

- i. A student dissatisfied with the decision of the DDC/CDC/HDC may appeal to the University Discipline Committee (UDC) through the Secretary of UDC (Director Undergraduate Studies at Students Service Center, Main Campus Peshawar).
- ii. The appeal must be submitted within 15 days after issuance of Notification by the DDC/CDC/HDC.

### 10. ENVIRONMENTAL HEALTH AND SAFETY POLICY

UET Peshawar is committed to providing a safe and healthy environment for all employees, students and visitors. The Environmental Health and Safety (EHS) Policy is designed to protect people, property, and the environment from harm. For details related to this policy, please visit: [www.uetpeshawar.edu.pk](http://www.uetpeshawar.edu.pk)

## Conduct and Discipline Regulations

### UNIVERSITY CONDUCT and DISCIPLINE REGULATIONS 2002 (Amended in 2006)

Penalties which may be imposed by the University authorities  
for various offenses committed are given below:

| S.No | OFFENSE                                                                                                                                                                                                                                                                                                                                                                            | PENALTY                                                                                                                                                                    |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | Using/carrying of alcoholic drinks or other intoxicating drugs within the University Campus or University Hostels or during Study Tour or Cultural Tours or Survey Camps, any such tours or any other University/College or outside the campus under the influence of such intoxicants or misbehaving with others, especially females, during tours etc.                           | Debarment from classes for one week or fine not exceeding Rs. 10,000/-<br>OR<br>Expulsion from the University.                                                             |
| 2.   | Organizing or taking part in any function within the University Campus or hostel or organizing any club or society of students or students' association, unions or federations, except in accordance with the prescribed rules and regulations.                                                                                                                                    | Stern warning and/or<br>Fine not exceeding Rs. 20,000/-,<br>AND/OR<br>Expulsion from hostel accommodation, if relevant.                                                    |
| 3.   | Collecting any money or receiving funds or pecuniary assistance for or on behalf of the University, except with the written permission of the Vice Chancellor .                                                                                                                                                                                                                    | All money supposed to have been collected shall be confiscated in favor of the University.<br>AND/OR<br>Fine not exceeding Rs. 10,000/-                                    |
| 4.   | Staging or inciting or forcing fellow students to a walkout from classes or examination halls or organizing, conducting or participating in strikes or agitation or violence against the University authorities or members of teaching or administrative staff or disrupting the classes or any other academic activity of the University being held inside or outside the campus. | Expulsion from the University for one to four semesters/two academic years, depending on the nature and gravity of the crime.<br>AND/OR<br>Fine not exceeding Rs. 20,000/- |

## Conduct and Discipline Regulations

|    |                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                    |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. | Casting aspersions or using abusive and derogatory language in speeches, pamphlets or posters against the University authorities or members of teaching or administrative staff of the University or physically manhandling, beating or disgracing the University authorities or members of the teaching or administrative staff of the University or committing an act of moral turpitude against fellow students. | Expulsion from the University for one to six semesters/three years, depending on the nature and gravity of the crime.<br>AND/OR<br>Fine not exceeding Rs. 30,000/- |
| 6. | Conducting or inciting or participating in a violent attack on the offices of the University authorities, Chairmen, faculty members or other officers of the University.                                                                                                                                                                                                                                            | Permanent expulsion from the University.<br>AND/OR<br>Fine not exceeding Rs. 50,000/-                                                                              |
| 7. | Damaging/destroying or trying to damage/destroy the property (movable or immovable) of the University or University employees or Government or any other Public Organization or stealing or taking away by force any item of University property.                                                                                                                                                                   | Recovery of the amount equal to the value of the damage caused; and/or fine not exceeding Rs. 20,000/-<br>AND/OR<br>Rustication from the University.               |
| 8. | Bringing, carrying or keeping or firing of arms or any other weapon (of any nature/type) within the University campus or class rooms or hostels or examination halls or offices of the University.                                                                                                                                                                                                                  | Fine not exceeding Rs. 20,000/-<br>AND/OR<br>Expulsion from the hostel. Expulsion from the University for a maximum period of two semesters/one year.              |

## Conduct and Discipline Regulations

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                      |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Using loudspeakers or mega-phones in the University hostels or on the University campus or making provocative speeches or gestures which may cause resentment or doing anything in anyway which is likely to promote rift and hatred among various groups or castes of students community or issuing statements in the press, making false accusations against the University or University Authorities or members of teaching staff. | Fine not exceeding Rs. 20,000/-; expulsion from the hostel.<br>AND/OR<br>Expulsion from the University for maximum period of two semesters/one year. |
| 10. | Misbehaving and not cooperating with faculty members, University proctors, Hostel Wardens, and other authorities.                                                                                                                                                                                                                                                                                                                     | Fine not exceeding Rs. 20,000/-; expulsion from the hostel. AND/OR<br>Expulsion from the University for maximum period of two semesters/one year.    |
| 11. | Forming a political wing of any political party, student union, student federation, or associations based on linguistic, ethnic, territorial or religious affiliation, or any other platform.                                                                                                                                                                                                                                         | Fine not less than Rs. 5,000/- AND/OR<br>Stern warning. AND/OR<br>Rustication/expulsion from University.                                             |
| 12. | Holding “Dars” or “Waaz-o-Naseehat” and collection of funds for political, religious party or group within the campus without permission of the University authorities.                                                                                                                                                                                                                                                               | Rustication/expulsion from University.<br>AND/OR<br>Fine not exceeding Rs. 30,000/-                                                                  |
| 13. | Carrying out any activity of whatsoever nature that does not come under the definition of curricular and co-curricular activities that is not allowed and organized by the University authorities.                                                                                                                                                                                                                                    | Rustication/expulsion from University.<br>AND/OR<br>Fine not exceeding Rs. 20,000/-                                                                  |

Where acts of indiscipline need a prompt resolution or are minor in nature, the Chief Proctor may impose a fine not exceeding Rupees one thousand (Rs. 1000/-) and the proctors may impose a fine not exceeding Rupees five hundred (Rs. 500/-), whereas students will have the right to appeal against the fine to the University Discipline Committee.

# HOSTEL REGULATIONS



# Hostel Regulations

## GENERAL

Accommodation in hostels is a privilege and cannot be claimed as a matter of right. Accommodation being limited in hostels may not be provided to all the applicants and will be provided only on the availability of seats in Researchers Hostel. The residential accommodation is an equal, and merit-based opportunity and preference is given only to those applicants who hail from far-off places.

### **Researchers Hostel Hayatabad**

45 Rooms, 90 Seats (2-Seater)

The hostel is looked after by a resident warden, who is responsible for the implementation of hostel rules, maintenance of order and discipline in the hostel. The Resident Warden is the first point of contact between the Resident students and university administration.

All complaints regarding any student or member of hostel staff, any queries and any problems relating to hostel shall be brought forth before the Resident Warden. Students must never take matters into their own hands. Bearers and other

staff have been provided in the hostel to facilitate resident students. The Provost serves as the overall in charge of the hostels and sets policy guidelines for the hostel administration.

Security officer will supervise a team of highly trained security guards recruited from retired Pakistan Army personnel. Security guards will be posted at the hostel gates and will admit lawful residents only. The Security Officer will be overall in charge of hostel security. He can pay surprise visits to rooms of the hostel at any time for check of any weapon, drugs, intoxicant, rods, daggers and harmful materials etc. The residents of hostel are required to abide by the rules and regulations of the university hostel as laid down in this prospectus and notified from time to time by the hostel and university administration. Misconduct by any resident student may be punished directly by the Resident warden with a fine of up to Rs. 10,000/- or it may be reported by the Resident Warden to the Convener Hostel Disciplinary Committee through the Warden for further action. The Hostel Discipline Committee may forward any case to University Discipline Committee (UDC), if it deems fit.



# Hostel Regulations

## 1 ADMISSION

- 1.1 Hostel admission will be granted only to those students who are on regular rolls of the University. The facility of hostel accommodation to full time postgraduate students may be provided subject to availability.
- 1.2 Students desirous of hostel accommodation are required to apply on the prescribed hostel admission form on or before the last date announced for the purpose. Students shall submit duly completed forms, along with five passport-size photographs duly attested by the head of the concerned department, to the office of the Head of their respective department. The forms after necessary scrutiny will then be forwarded to office of the Provost.
- 1.3 Seats in the hostel will be allocated on first-come, first-serve basis while preference will be given to those students who belong to far-flung areas. Seniority will be maintained from the date of application for hostel accommodation. Local students (Peshawar district) will not be provided hostel facility in any case.
- 1.4 The hostel authority has the right to refuse/cancel hostel admission of students who misuse their privilege.
- 1.5 A student can request the cancellation of his/her hostel admission and is eligible to receive a refund of hostel charges as under:
  - a. Full charges will be refundable up to 15 days of the allotment of hostel accommodation after necessary adjustments if any.

- b. 50% hostel charges along with the refundable amount i.e. Hostel and Mess Security, will be refundable till one month of the allotment of hostel accommodation after necessary deduction if any.
- c. No refund will be entertained after one month of hostel allotment except refundable/adjustable hostel charges i.e. Hostel and Mess Security.

- 1.6 A student whose admission is cancelled by the hostel authorities on disciplinary grounds shall not be entitled to receive his hostel security.

## 2 ALLOTMENT

The warden of a hostel shall provide room/seat to a student within three days of the submission of his/her hostel card. However, handing over/possession may take longer depending upon the time required to complete the process of shifting by ex-room holders.

## 3 HOSTEL DISCIPLINE and ORDER

- 3.1 The resident students must submit an undertaking of good conduct as provided by the university on non-judicial stamp paper before they can be issued hostel admission cards. The Undertakings must be duly signed by the parent/guardian of the concerned student. A student, who fails to submit the duly filled Undertaking, shall not be allowed to enter the hostel. The following must also be ensured with regards to the guardian of a student:
  - (a) A guardian can only be a blood relative, e.g.,

## Hostel Regulations

- an elder sibling or a paternal or maternal uncle.
- (b) The parent/guardian must accompany the student to the hostel and he/she would be required to submit a copy of his/her CNIC along with the Undertaking.
  - (c) Any student, who fails to furnish the above, shall not be allowed to enter the hostel premises.
  - (d) Every resident student shall be issued a boarder card, after due verification and collection of duly filled Undertakings. The students must keep these cards at all times with them and they will be allowed entry into their hostels only after presenting this card to the security guard.
  - (e) Residents shall abide by hostel rules and regulations in letter and spirit. Violation of hostel rules and regulations or any order issued by the hostel administration shall render a resident liable for imposition of fine and/or expulsion from the hostel and to such other actions as deemed fit by the University authorities.
- 3.2 Anybody (be it a student of the university) who is not a resident of the hostel is not allowed to enter or stay in the hostel premises.
- 3.3 Resident students can entertain their guests within the prescribed visiting hours only in the guest rooms prescribed for the said purpose in each hostel. No resident can entertain a guest in his room.
- 3.4 Residents are strictly forbidden from keeping any arms, intoxicants, drugs, rods or daggers, and harmful materials etc in the hostel. Any violation of this rule will result in serious disciplinary action against the violator and may lead to imposition of heavy fines and expulsion from the hostel. The hostel administration may initiate criminal proceedings against the violator and refer the matter to the police.
- 3.5 Every Resident student is responsible for the peace and tranquility of hostel environment. Resident students are not allowed to play music or any instrument loudly.
- 3.6 Residents are not allowed to participate in any political activity.
- 3.7 Residents are not allowed to invite any political figure, scholar or any individual for any speech, lecture or sermon or to circulate any unpublished or published material for this purpose.
- 3.8 Residents are not allowed to assemble crowds or congregations within the hostel premises for any purpose, e.g., lunch, dinner, iftaar or political gatherings.
- 3.9 Entry of females into boys' hostels is strictly prohibited and vice versa.
- 3.10 Residents shall keep their rooms clean and tidy. They shall also be responsible to keep their rooms

# Hostel Regulations

properly locked in case they leave the room. Residents shall not keep expensive items (cost of which exceeds Rs. 1000/-) or cash in their rooms. The hostel authorities will not be responsible for any loss.

- 3.11 Residents are not allowed to park bicycles, motorcycles or cars within the hostel premises. The hostel authorities would not be responsible for any loss or damage incurred by the student.
- 3.12 Residents are not allowed to ride bicycles or motorbikes inside the hostel premises. Any violation will be dealt with seriously.
- 3.13 Resident students shall not use and shall not allow the use of their accommodation for any purpose other than that prescribed and allowed by the hostel administration.
- 3.14 Resident students who in the view of the hostel authorities are not residing in their rooms shall have their hostel admissions cancelled.
- 3.15 Any complaints against the hostel staff may be brought to the notice of the hostel Warden or the Provost. Residents are not allowed to deal with the hostel staff directly on their own.
- 3.16 Resident students shall not insist on the hostel bearers to bring contraband goods for them. Residents shall not insist on the hostel staff to indulge in activities other than their prescribed job responsibilities.
- 3.17 The Warden of the hostel may impose a fine of up to Rs. 10,000/- on any resident student who

violates the hostel rules and regulations or orders of the hostel authorities. Prior to imposing any penalty on the Resident Student the Warden may serve him with a show cause notice to which student must respond in writing within the specified time frame. The Warden may decide to do away with any penalty if he finds the response of the student satisfactory or may decide otherwise. The Warden may forward the case to the Hostel Discipline Committee through the Senior Warden for further action. The Hostel Discipline Committee can report a case of indiscipline to the University Discipline Committee if it deems fit.

## 3.18 APPEAL

An appeal against the punishment awarded by the Resident Warden shall be forwarded to the Hostel Discipline Committee within fifteen days.

## 4

## HOSTEL DISCIPLINE COMMITTEE

- 4.1 The Hostel Discipline Committee (HDC) will be formed by the Provost under clause 8 of the Khyber Pakhtunkhwa UET Ordinance No. XIII of 1980 and (amended) Ordinance No. IX of 1981.
- 4.2 Cases of indiscipline by the resident students may be forwarded to the Hostel Discipline Committee by the Resident Warden. The Convener of HDC in consultation with the Provost will call a meeting of HDC, at a place and time convenient to the committee members, to conduct hearings in the case.
- 4.3 The Hostel Discipline Committee will decide the

## Hostel Regulations

cases according to hostel conduct and discipline regulations.

- 4.4 The Hostel Discipline Committee may forward the cases needing severe penalties (such as imposition of a fine of more than Rs. 40,000/- and or expulsion/rustications from the university) to the University Discipline Committee.
- 4.5 The decision of the HDC will be communicated in writing and will be duly signed by all members. The Assistant Provost will be responsible for recording the minutes and decisions of the committee, keeping proper record of all cases, and communication of decisions to all members, concerned students and wardens.

### 5 APPEAL

- 5.1 An appeal against the punishment awarded by the Hostel Discipline Committee shall be forwarded to the University Discipline Committee.
- 5.2 No appeal by student against the decision of the Hostel Discipline Committee shall be entertained unless it is presented within 15 days of the date on which the decision is communicated to him/her.

### 6. HOSTEL CHARGES

Hostel charges can be changed from time to time by the University authorities. Hostel charges are as follows:

| S.No. | Description of Charges                           | Amount (Rs.)     |
|-------|--------------------------------------------------|------------------|
| 1.    | University Funds (Non-Refundable/Non-Adjustable) | 45,000.00        |
| 2.    | Hostel Funds (Non-Refundable/Non-Adjustable)     | 20,000.00        |
| 3.    | Hostel Security (Refundable/Adjustable)          | 10,000.00        |
|       | <b>Total</b>                                     | <b>75,000.00</b> |

# Hostel Regulations

## 7 HOSTEL GATES TIMINGS

- 7.1 The following timings will be observed for the boys hostels.

| Season | Opening gate Time | Closing gate Time |
|--------|-------------------|-------------------|
| Winter | 7:00 a.m.         | 10:00 p.m.        |
| Summer | 6:00 a.m.         | 11:00 p.m.        |

- 7.2 A boarder card will be issued by the Provost's office to the residents. All students are required to keep the boarder card with them in the hostel and university premises. This card will serve as a proof of a student's identity as a boarder. No student will be allowed entry into the hostel without his boarder card.

## 8 NOTICES and WALL CHALKING

No resident will be allowed to paste or exhibit any notice printed/hand written or other material, in writing anywhere in the hostel except those duly signed by the hostel warden; no resident student is allowed to engage in wall chalking inside the hostel premises. Any violation of this rule is subject to strict disciplinary action.

## 9 COMPLAINTS

All complaints about matters relating to the hostel shall be reported to the warden. Students must never take matters into their own hands, otherwise they will be held liable for strict disciplinary action.

## 10 UTENSILS, FURNITURE AND ELECTRIC INSTALLATIONS.

- 10.1 Residents are not allowed to take utensils from

the dining hall/hostel mess and furniture from common room to their rooms or other hostels. Residents are not allowed to move any hostel furniture or other items from their designated places. Any violation will be subject to strict disciplinary action.

- 10.2 Every Resident of the hostel will be provided with a bed. A table and a chair will be provided on room basis. He/she will be responsible for any loss or breakage thereof. Residents who willfully destroy or damage any hostel property shall pay for damages and will be heavily fined.

- 10.3 All rooms of hostels have necessary electric fittings. Student/s residing in these rooms shall be responsible for the proper use and safety of these fittings.

## 11 COMMON ROOM

- 11.1 The hostel shall have a Common Room Committee comprising three to five resident students of the hostel and shall be appointed by the concerned Warden. The Committee will look after the affairs of the Common Room under the supervision of the hostel warden.

- 11.2 The Resident Warden shall take actions to provide residents with newspapers, magazines, material for indoor games and fulfill other maintenance requirements of the hostel. These needs shall be met through the contingency fund

# Hostel Regulations

of the hostel. The Resident Warden shall determine the appropriation of contingency funds for these purposes.

11.3 Film shows are not allowed inside the hostels. Special permission of the Provost must be sought for the arrangement and use of microphones in any function whatsoever inside the hostel premises. Non residents shall not be allowed to enter and participate in any activity inside the hostel premises without the prior permission of the warden. No professional artist shall be invited to perform inside the hostel premises.

11.4 Social and cultural activities like indoor games, dramas, debates etc. can be arranged by resident students in the hostel from time to time with the permission of the Resident Warden. The Resident Warden shall decide the fate of such requests through consultation with the Senior Warden and the Provost.

## 12 HOSTEL STAFF

12.1 Private/personal servants are not allowed in hostel. The hostel is staffed with designated personnel to look after the needs of resident students e.g. bearers, water carriers, sweepers and gardeners etc. The hostel staff is answerable to the warden of the hostel. Any complaint against the staff should be communicated to the warden of the hostel in writing. Staff is required to serve the resident students inside the hostel

premises according to the duties assigned to them by the hostel administration.

12.2 Misbehavior by the resident students with the hostel staff is subject to strict disciplinary action against the perpetrators.

## 13 PROHIBITION OF VALUABLES

13.1 The resident students are not allowed to keep valuable items like car, motorcycle, VCR, VCP, Video Camera, T.V Set, gold, expensive mobile phones, large sum of money etc. The hostel administration shall bear no responsibility in case of any loss or theft.

13.2 Resident students are allowed to keep computers and laptops without external speakers/woofers in their rooms at their own risk for educational purposes only. The hostel administration shall bear no responsibility in case of any loss or theft.

## 14 REGULATIONS FOR POSTGRADUATE STUDENTS

M.Sc. students may avail hostel boarding for a maximum of three (03) years from the date of admission to the University or completion of degree whichever is earlier.

Ph.D. students can avail hostel boarding facility for maximum period of four (04) years from date of admission in University or completion of degree whichever is earlier.

## Hostel Regulations

### 15 CLOSURE OF HOSTELS

The university hostels shall remain closed during the vacations. All resident students shall be required to vacate the hostels except those who are in examination or have enrolled in summer semester. The administration may provide an alternate arrangement for those who are in examination or enrolled in summer semester. Foreign students may be allowed to stay in their hostel during vacations.

### 16 GUESTS

Boarder students will not be allowed to invite female guests for casual meals or for night stay without the prior permission of the hostel warden/Provost.

#### A: REGULATIONS FOR HOSTEL WARDEN

|    |                                                                                                             |                                                                                                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Violation of Hostel Rules or Disobeying the orders of Hostel Administration                                 | First time: Fine upto a maximum of Rs. 5000/-<br>Second time: Cancellation of Hostel Privilege for next sessions and/or expulsion from hostel.                                                                                        |
| 2. | Using Electric Heaters/Air Conditioners                                                                     | First time: Fine upto a maximum of Rs. 5000/- and recovery of estimated electricity charges alongwith confiscation of the appliances<br>Second time: Cancellation of Hostel Privilege for next sessions and/or expulsion from hostel. |
| 3. | Installing internal locks in the allotted rooms                                                             | Fine upto a maximum of Rs. 5000/-                                                                                                                                                                                                     |
| 4. | Playing games in hostel lawns or corridors                                                                  | Fine upto a maximum of Rs. 5000/-                                                                                                                                                                                                     |
| 5. | Smoking in hostel premises, sleeping in prayer hall or common room/study room and any matter of this nature | Fine upto a maximum of Rs. 5000/-                                                                                                                                                                                                     |
| 6. | Keeping non-residents in the room                                                                           | Fine upto a maximum of Rs. 5000/-and cancellation of hostel privilege for next sessions and/or expulsion from hostel.                                                                                                                 |

# Hostel Regulations

## B: REGULATIONS FOR HOSTEL DISCIPLINE COMMITTEE

|    |                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                    |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Keeping non-residents in hostel room                                                                                                                                                                                                                                                                                                     | First time: Fine upto a maximum of Rs. 40,000/-<br>Second time: Cancellation of Hostel Privilege for next sessions and/or expulsion from Hostel.   |
| 2. | Keeping arms, explosives, intoxicants, and drugs or anything alike.                                                                                                                                                                                                                                                                      | Fine upto a maximum of Rs.40,000/- and cancellation of hostel privilege for next session and/or expulsion from hostel.                             |
| 3. | Playing games in hostel lawns and corridors.                                                                                                                                                                                                                                                                                             | Fine upto a maximum of Rs. 20,000/-                                                                                                                |
| 4. | Misbehavior with Hostel Staff or Administration or fellow students.                                                                                                                                                                                                                                                                      | Fine upto a maximum of Rs. 40,000/- and/or expulsion from Hostel and/or cancellation of hostel privilege for next sessions.                        |
| 5. | Invitation to any political figures, scholar or any individual for any speech, lecture, sermon or to circulate any unpublished or published material for this purpose inside or outside the hostel. Pasting posters/notices etc. without the written permission of hostel administration and/or wall chalking and such other activities. | Fine upto a maximum of Rs. 40,000/- and/or expulsion from hostel and/or cancellation of hostel privilege for next sessions.                        |
| 6. | Damaging/theft or misuse of hostel property and hostel card                                                                                                                                                                                                                                                                              | Recovery of loss and Fine upto a maximum of Rs. 40,000/- and/or expulsion from hostel and/or cancellation of hostel privilege for next sessions.   |
| 7. | Subletting of one seat or room to outsiders                                                                                                                                                                                                                                                                                              | Cancellation of Hostel seat and fine of Rs. 10,000/- to 20,000/- for subletting a seat and fine of Rs. 20,000/- to 40,000/- for subletting a room. |
| 8. | Willful absence from HDC meeting by a Student                                                                                                                                                                                                                                                                                            | A fine of upto Rs. 10,000/- for the first time and cancellation of hostel seat and exparte action.                                                 |

## HOSTEL ADMINISTRATION – CONTACTS

| S.No. | Designation                                          | Name                  | Contact      |
|-------|------------------------------------------------------|-----------------------|--------------|
| 1     | Provost, University Hostels                          | Dr. Imran Khan Swati  | 091-9222223  |
| 2     | Deputy Provost, University Hostels                   | Mr. Azeem Khan        | 0333-5987156 |
| 3     | <b><u>Researchers Hostel Hayatabad</u></b><br>Warden | Dr. Zubair Ahmad Khan | 0345-9370602 |



# CONTACTS

University of Engineering and Technology,  
Peshawar (Operator)  
Ph: (+92-91) 9216796-98

Prof. Dr. Sadiq Khattak  
Vice Chancellor  
Ph: (+92-91) 9222212-3  
E-mail: vc@uetpeshawar.edu.pk

Prof. Dr. Qaisar Ali  
Pro-Vice Chancellor  
Ph: (+92-91) 9222183  
E-mail: drqaisarali@uetpeshawar.edu.pk

Prof. Dr. Rizwan Mahmood Gul  
Acting Dean, Faculty of Civil, Agricultural and  
Mining Engineering  
Ph: (+92-91) 9222183  
E-mail: deancam@uetpeshawar.edu.pk

Prof. Dr. Syed Waqar Shah  
Dean, Faculty of Electrical and Computer  
Engineering  
Ph: (+92-91) 9222214  
E-mail: dean@uetpeshawar.edu.pk

Prof. Dr. Rizwan Mahmood Gul  
Dean, Faculty of Mechanical, Chemical  
and Industrial Engineering  
Ph: (+92-91) 9222103  
E-mail: deanmci@uetpeshawar.edu.pk

Prof. Dr. Ali Muhammad  
Dean, Faculty of Architecture, Allied Sciences  
and Humanities  
Ph: (+92-91) 9222017  
E-mail: deanaash@uetpeshawar.edu.pk

Dr. Khizar Azam  
Registrar  
Ph: (+92-91) 9222215  
E-mail: registrar@uetpeshawar.edu.pk

Mr. Muhammad Zubair  
Treasurer  
Ph: (+92-91) 9222216  
E-mail: df@uetpeshawar.edu.pk

Prof. Dr. Farid Ullah Khan  
Secretary BOASAR  
Ph: (+92-91) 9216791  
E-mail: secretaryboasar@uetpeshawar.edu.pk

Dr. Imran Khan Swati  
Provost  
Ph: (+92-91) 9222223  
E-mail: provost@uetpeshawar.edu.pk

Mr. Haroon Khan  
Controller of Examinations  
Ph: (+92-91) 9216989  
E-mail: examination@uetpeshawar.edu.pk

Dr. Muhammad Ajmal  
Director Postgraduate Studies  
Ph: (+92-91) 9222151  
dpgs@uetpeshawar.edu.pk

Prof. Dr. Muhammad Shahzad Khan  
Director Undergraduate Studies  
Ph: (+92-91) 9222260  
E-mail: dugs@uetpeshawar.edu.pk

Dr. Safdar Nawaz Khan Marwat  
Director Quality Enhancement Cell  
Ph: (+92-91) 9222128  
E-mail: dirqec@uetpeshawar.edu.pk

Dr. Khurram Sheraz  
Director Admissions  
Ph: (+92-91) 9216784  
E-mail: admission@uetpeshawar.edu.pk

Dr. Shamaila Farooq  
Director Media and Publications  
Ph: (+92-91) 9222147  
E-mail: dirmedia@uetpeshawar.edu.pk

Mr. Sohail Sarwar  
Manager, IT Center  
Ph: (+92-91) 9222284  
E-mail: sohail.sarwar@uetpeshawar.edu.pk

Dr. Amad Ullah Khan  
Chief Proctor  
Ph: (+92-91) 9216796-8  
E-mail: amadullah@uetpeshawar.edu.pk

Prof. Dr. Zia Ul Haq  
Chief Editor, Journal of Engineering and Applied  
Sciences (JEAS), Ph: (+92-91) 9222218  
E-mail: chiefeditor@uetpeshawar.edu.pk

Dr. Fayyaz Ahmad Khan  
Director CEEC  
Ph: (+92-91) 9217096, 9217088  
E-mail: dirceec@uetpeshawar.edu.pk

Dr. Muhammad Arif Khattak  
Director ORIC  
Ph: (+92-91) 9222132  
E-mail: diroric@uetpeshawar.edu.pk

Dr. Rashid Rehan  
Director NIUIP  
Ph: (+92-91) 9217166  
E-mail: dirniuiip@uetpeshawar.edu.pk

Dr. Habib Ur Rehman  
Director Gems and Jewelry Center of Excellence  
Ph: (+92-91) 9222071  
E-mail: gdc@uetpeshawar.edu.pk

Prof. Dr. Khan Shahzada  
Director Earthquake Engineering Center  
Ph: (+92-91) 9222287  
E-mail: direec@uetpeshawar.edu.pk

Dr. Fawad Haider  
Director Career Development Center  
Ph: (+92-91) 9216796-8  
E-mail: cdc@uetpeshawar.edu.pk

Dr. Samad Baseer  
Director Clubs and Societies  
Ph: (+92-91) 9222124  
E-mail: drsamadbaser@uetpeshawar.edu.pk

Prof. Dr. Faridullah Khan  
Director U.S.-Pakistan Center for Advanced  
Studies in Energy (USPCAS-E)  
Ph: (+92-91) 9217480  
E-mail: director.uspcase@uetpeshawar.edu.pk

**Chairmen**  
Prof. Dr. Zia Ul Haq  
Department of Agricultural Engineering  
Ph: (+92-91) 9222218  
E-mail: chairagri@uetpeshawar.edu.pk

Prof. Dr. Muhammad Younas  
Department of Chemical Engineering  
Ph: (+92-91) 9222256  
E-mail: chairchem@uetpeshawar.edu.pk

Prof. Dr. Amjad Naseer  
Department of Civil Engineering  
Ph: (+92-91) 9216775  
E-mail: chairciv@uetpeshawar.edu.pk

Prof. Dr. Sadeeq Jan  
Department of Computer Systems Engineering  
Ph: (+92-91) 9222233  
E-mail: chaircse@uetpeshawar.edu.pk

Dr. Syed Adeel Ali Shah  
Department of Computer Science  
Ph: (+92-91) 9222276  
E-mail: chaircsit@uetpeshawar.edu.pk

Prof. Dr. Amjad Ullah  
Department of Electrical Engineering  
Ph: (+92-91) 9216498  
E-mail: chairlect@uetpeshawar.edu.pk

Dr. Rehman Akhtar  
Department of Industrial Engineering  
Ph: (+92-91) 9222221  
E-mail: chairind@uetpeshawar.edu.pk

Prof. Dr. Hamidullah  
Department of Mechanical Engineering  
Ph: (+92-91) 9222161  
E-mail: chairmech@uetpeshawar.edu.pk

Prof. Dr. M. Tahir Khan  
Department of Mechatronics Engineering  
Ph: (+92-91) 9217032  
E-mail: tahir@uetpeshawar.edu.pk

Prof. Dr. Ishaq Ahmad  
Department of Mining Engineering  
Ph: (+92-91) 9222219  
E-mail: chair\_min@uetpeshawar.edu.pk

Prof. Dr. Ali Muhammad  
Department of Basic Sciences and Islamiat  
Ph: (+92-91) 9222220  
E-mail: chairbs@uetpeshawar.edu.pk

Dr. Adam Khan  
Department of Electronics Engineering  
Abbottabad Campus  
Ph: (+92-992) 920074  
E-mail: adamkhan@uetpeshawar.edu.pk

Ar. Shahid Mansoor Khan  
Department of Architecture,  
Abbottabad Campus  
Ph: (+92-992) 920077  
E-mail: smkb72@uetpeshawar.edu.pk

**Disability Coordinators**  
Dr. Amad Ullah Khan  
0333-9109483

Dr. Saira Sherin  
0333-9243760

## Satellite Campuses

Prof. Dr. Shaukat Ali Shah  
Coordinator Nowshera Campus  
Ph: (+92-923) 577350  
Fax: (+92-923) 577351  
E-mail: coordinatorjz@uetpeshawar.edu.pk

Engr. Akhter Munir  
Coordinator Abbottabad Campus  
Ph: (+92-992) 9311071  
E-mail: coordinator\_abbottabad@uetpeshawar.edu.pk

Engr. Abdul Salam  
Coordinator Bannu Campus  
Ph: (+92-928) 610 804, 610636  
E-mail: coordinator.bannu@uetpeshawar.edu.pk

**Produced by:**

Directorate of Media & Publications  
University of Engineering & Technology,  
Peshawar-Pakistan  
Tel: (+92-91) 9222147  
Email: [dirmedia@uetpeshawar.edu.pk](mailto:dirmedia@uetpeshawar.edu.pk)

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## MISSION

To produce highly qualified, well-rounded professionals through education who play a leading role in the society by powering and driving knowledge-based economy and offer research services and innovation for sustainable development.

**For further details please contact**

Directorate of Admissions, University of Engineering & Technology, Peshawar  
Tel: (+92-91) 9216784, E-mail: [admission@uetpeshawar.edu.pk](mailto:admission@uetpeshawar.edu.pk)  
Website: [www.uetpeshawar.edu.pk](http://www.uetpeshawar.edu.pk)