UNDERGRADUATE
PROSPECTUS
2024

UNIVERSITY OF ENGINEERING AND TECHNOLOGY, TAXILA

Disclaimer

This prospectus is informational and should not be taken as binding on the University. Each aspect of the educational setup, from the admission procedure or criteria to the examination regulations or discipline, requires continuing review by the competent authorities. The university therefore reserves the right to change any rules and regulations applicable to students whenever it is deemed appropriate or necessary.

Vision

To be a quality conscious institution of international standing imparting knowledge in the field of engineering and applied technologies in a caring environment for the socioeconomic development of the country.

Mission

To fulfill the needs of the country by producing responsible graduates equipped with sound knowledge and skills along with highest moral values through conducive learning environment.

Core Values

i. Merit
ii. Honesty
iii. Justice
iv. Fair Play
v. Teamwork
vi. Transparency
vii. Accountability
viii. Implementation of Rule of Law

IN THE NAME OF ALLAH, THE BENEFICENT, THE MERCIFUL

ORGANIZATIONAL SETUP

Chancellor
Sardar Saleem Haider Khan
(Governor of the Punjab)

Vice Chancellor
Prof. Dr. Qaiser uz Zaman Khan

Pro-Vice Chancellor
Prof. Dr. Qaiser uz Zaman Khan

Dean Faculty of Civil and Environmental Engineering
Prof. Dr. Qaiser uz Zaman Khan

Dean Faculty of Telecommunication and Information Engineering
Prof. Dr. Hafiz Adnan Habib

Dean Faculty of Industrial Engineering
Prof. Dr. Mirza Jahanzaib

Registrar
Dr. Jawad Hussain

Treasurer
Prof. Dr. Hafiz Adnan Habib

Controller of Examination
Dr. Shaikh Saaqib Haroon

Chancellor

Sardar Saleem Haider Khan

(Governor of the Punjab)

Vice Chancellor's Message

Dear Prospective Students,

Welcome to the University of Engineering & Technology, Taxila. On behalf of faculty, officers and staff of the University, I thank you for having chosen University of Engineering & Technology, Taxila as your next home. We further extend our gratitude to parents and guardians for having entrusted us with the education of their children and wards.

The University since its inception has continued to provide quality education in various fields of Engineering & Technology to enable students to meet the increasingly complex needs of the future with great emphasis placed on developing and sharpening their analytical & creative, thinking, problem solving abilities and presentation skills. In order to equip our graduates with required skills with specific reference to the required defined graduate attributes, we offer ICT and Entrepreneurship based courses together with sufficient opportunities for Industrial Training, as part of our academic programs, which make our graduates relevant in today's global market. As part of the Vision of the University, we continue to strive for excellence in three key domains namely research, teaching & learning and community service for socioeconomic development of the country that the core values of merit, honesty, fair play, teamwork, transparency and implementation of rule of law remain our hallmark.

At UET Taxila, we have zero-tolerance policy for politics on campus. Please understand that any violation in this respect will automatically lead to initiation of disciplinary action as per university rules. I invite you to explore outstanding opportunities in various academic related domains including teaching, research, health based facilities, financial aid services, campus environment, and student societies & clubs for extracurricular activities.

Dear students, you will find a supportive environment that encourages critical thinking, creativity, and leadership skills. You will be part of a dynamic academic journey that prepares you for success in your chosen field and beyond.

I look forward to the many new milestones that we will reach together in the coming years. ALLAH blesses you all.

Prof. Dr. Qaiser uz Zaman Khan

CONTENTS

ABOUT THE UNIVERSITY

Introduction

The antique name 'Takshasila' means the city of cut stones. Taxila has gained worldwide eminence for its archaeological sites. Once a province of the powerful Achaemenian empire, Taxila was conquered by Alexander in 327 BC. It later came under the Mauryan dynasty and attained a remarkably mature level of development under the great Ashoka. Then appeared the Indo- Greek descendants of Alexander's warriors and finally came the most creative period of Gandhara. The great Kushan dynasty was established somewhere near 50 AD. During the next 200 years Taxila became a renowned center of learning, philosophy, art and religion, Jaulian being a center of excellence or a university of that age. Pilgrims and travelers were attracted to it from as far away as China and Greece. History took a new turn around 1950 when Ordnance Factories were founded at Wah, adjacent to Taxila. The country's largest Mechanical Complex and Foundry were established at Taxila in mid-sixties. In early seventies, the industrial progress attained a new dimension when Taxila was chosen to have Heavy Industries Taxila near its world-famous museum. At the same time Pakistan's largest Aeronautical Complex was established at Kamra which is about 45 km from Taxila. In mid-seventies, government of the Punjab found the city ideally suitable for establishing the constituent college of University of Engineering and Technology, Lahore. Industrial progress in and around Taxila is gaining a newer pace. The neighboring industrial organizations are in the process of rapid expansion. A new industrial zone has emerged in Hattar area, which is about 20 km away from Taxila. Taxila is emerging as a leading industrial region at the national level. The strategic location is paving way for the city to act as a gateway to historical "Silk Route".

The University

With phenomenal increase in students' enrollment in 1970's, a plan to establish additional campuses of the University of Engineering and Technology Lahore was conceived. As a result of that, the University College of Engineering Taxila was established in 1975. For three years it functioned at Sahiwal. In 1978, it was shifted to its permanent location at Taxila. The College

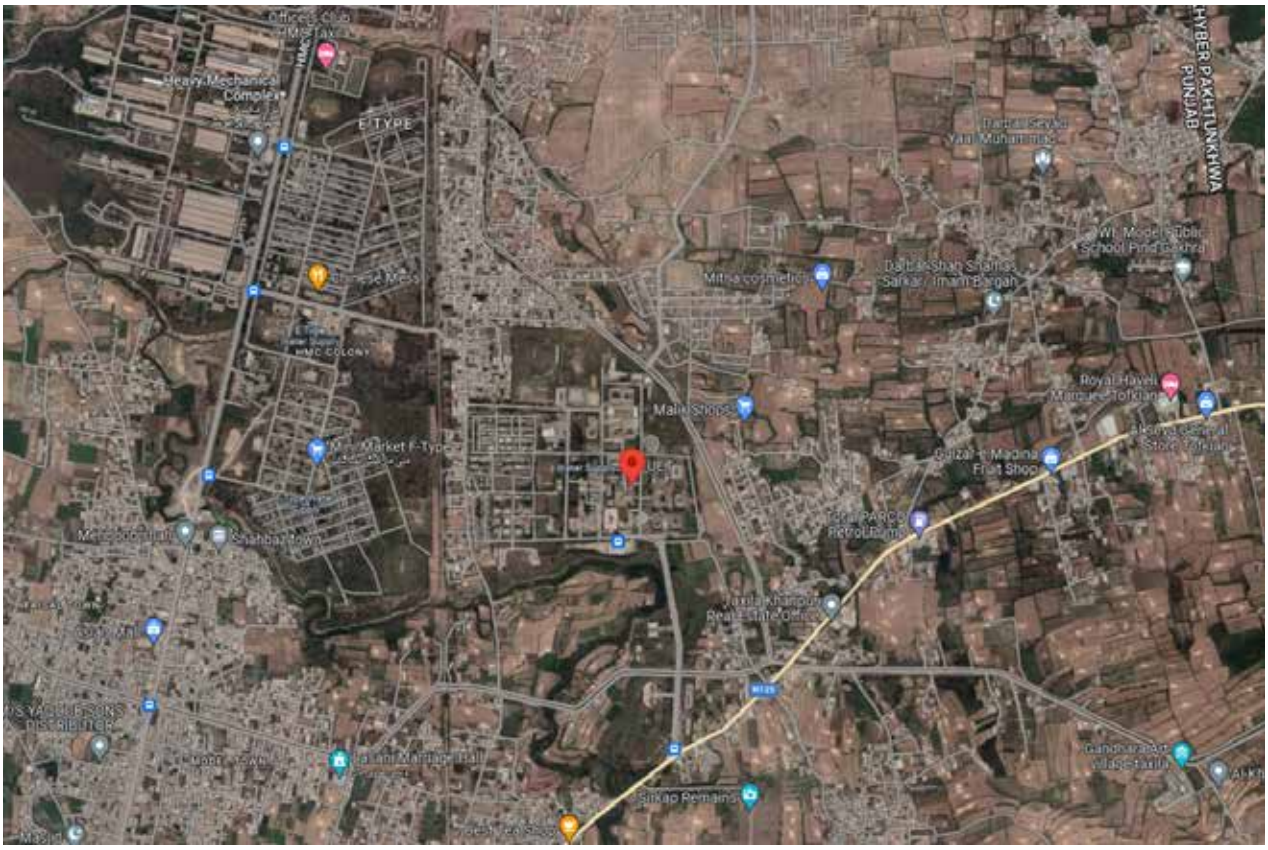
continued its working under the administrative control of the University of Engineering and Technology, Lahore till October 1993.
During this month it received its charter as an independent university under the University of Engineering and Technology Taxila Ordinance 1993. At present total enrollment of undergraduate and postgraduate students is above 5500.

Administration

The Governor of Punjab is the Chancellor and the Minister of Higher Education of Punjab is the Pro-Chancellor of the University. The Syndicate is the governing/legislative body and the Academic Council is the highest academic body of the University. The Vice-Chancellor is the Chief Executive and Academic Officer of the University. He is assisted by Deans of Faculties, Chairmen of Departments, Directors and Principal Officers of the University – the Registrar, the Treasurer, the Controller of Examinations and the Project Director, to ensure that the provisions of the University Act, the Statutes and the Regulations are faithfully observed and implemented.

Location

The University campus is located on the outskirts of Taxila at a distance of 5 km from the city. It is situated near railway station Mohra Shahwali Shah on Taxila-Havelian branch line. The city of Taxila is 35 km from the twin cities of Islamabad and Rawalpindi on the main Rawalpindi-Peshawar highway. The University buses commute daily between the campus and the cities of Islamabad, Rawalpindi and Wah Cantt. The campus covers an area of 163 acres. All the teaching departments, residential colony for teachers/ employees, student hostels, guest house, post office and bank are housed on campus.



International University Rankings

By the infinite grace of Allah Almighty, the University of Engineering and Technology, Taxila, has secured its maiden position in several prestigious global academic rankings publicized by Times Higher Education® (THE) for the year 2023. Among global institutions, UET Taxila earned a place in the top 601 to 800 in THE® World University Rankings for the year 2023, distinguishing itself as the top-ranked university in Pakistan for Engineering and Technology.

In the THE® Asia University Rankings 2023, UET Taxila climbed to the 142nd spot, asserting its preeminent position among engineering and technology universities within Pakistan. This achievement highlights its growing prominence within the dynamic Asian academic landscape.

UET Taxila also demonstrated exceptional growth among young institutions, securing a position in the top 151 to 200 in THE® Young University Rankings 2023, an accolade reserved for universities aged 50 or below, showcasing its potential for transformative innovation and impact.

In the THE® subject-specific rankings, UET Taxila featured among the top 500 universities globally for Engineering. Additionally, the institution secured a place in the top 400 universities for natural sciences and computer science, further consolidating its academic strengths.

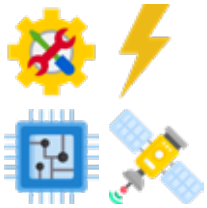
The University of Engineering and Technology, Taxila, has made notable strides in the UI GreenMetric World University Rankings. In 2021, the university was placed 735th globally, showcasing its commitment to sustainable practices. Further reinforcing this trajectory, the institution improved its standing in 2022, securing the 695th position worldwide.

This rise in ranking indicates the continuous and determined efforts by the university towards environmental conservation and sustainability. The upward movement underscores the institution's growing global stature and underlines its commitment to maintaining world-class standards in eco-friendly, sustainable operations. These achievements reflect UET Taxila's commitment to cultivating excellence across a diverse array of engineering, computer science and natural science disciplines, and underscore its rising influence in the global academic sphere – all praise be to Allah Almighty.

UNIVERSITY RANKING
BY SUBJECT

THE WORLD UNIVERSITY RANKINGS

SUBJECT 2023



401-500

ENGINEERING

301-400

NATURAL SCIENCE

301-400

COMPUTER SCIENCE

UNIVERSITY RANKING
IN ASIA

THE WORLD UNIVERSITY RANKINGS

ASIA 2023

142

UNIVERSITY RANKING
YOUNG VARSITIES

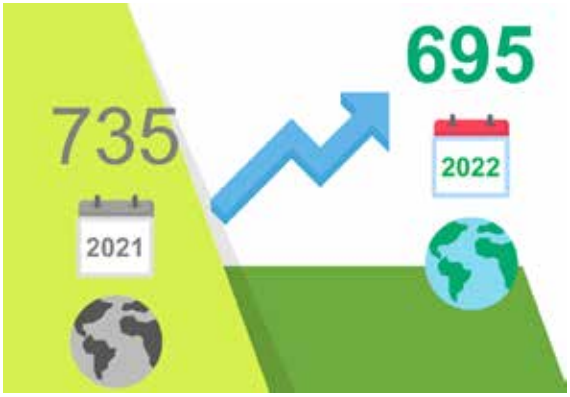
THE WORLD UNIVERSITY RANKINGS

YOUNG 2023

151-200

UNIVERSITY RANKING
SUSTAINABILITY

UI GreenMetric World University Ranking



ACADEMIC AND ADMINISTRATIVE DEPARTMENTS

Chairmen Academic Departments

Department of Civil Engineering:
Prof. Dr. Qaiser uz Zaman Khan

Department of Environmental Engineering:
Prof. Dr. Faisal Shabbir

Department of Electrical Engineering:
Prof. Dr. Muhammad Iram Baig

Department of Electronics Engineering:
Prof. Dr. Yaseer Arafat Durrani

Department of Mechanical Engineering:
Prof. Dr. Riffat Asim Pasha

Department of Mechatronics Engineering:
Prof. Dr. Riffat Asim Pasha

Department of Computer Engineering:
Prof. Dr. Muhammad Haroon Yousaf

Department of Software Engineering:
Prof. Dr. Tabassam Nawaz

Department of Telecommunication Engineering:
Prof. Dr. Hafiz Adnan Habib

Department of Computer Science:
Dr. Syed Aun Irtaza

Department of Industrial Engineering:
Prof. Dr. Waseem Ahmad

Department of Mathematical Sciences:
Dr. Nasir Siddique

Department of Physical Sciences:
Dr. Malik Sajjad Mehmood

Department of Humanities and Social Sciences:
Dr. Nasir Siddique

Establishment

Deputy Registrars

A & R:
Mr. Abid Mehmoood Qureshi

Transport:
Mr. Basharat Abbas Shah

Procurement:
Mr. Asif Ali

Assistant Registrars

Establishment:
Mr. Ehsan Ahmad
Mr. Farhat Iqbal Malik

Vice-Chancellor's Office

Secretary to VC:

Deputy Registrar

Syed Basharat Abbas Shah

Legal Cell

Legal Advisor:
Adv. Mr. Farhat Abbas Ch.

Accounts Branch

Additional Treasurer

Mr. Muhammad Nawaz

Dues & Financial Aid Services:
Mr. Muhammad Farooq

Deputy Treasurers

Accounts:
Mr. Shahid Saleem

Resident Auditor

Mr. Khalid Mehmood Qureshi

Examination Branch

Deputy Controller

Dr. Zakaullah

Assistant Controller

Mr. Hassan Ahmad Khan
Mr. Muhammad Azam

Building and Works

Project Director

Engr. Muhammad Tahir Ali

Executive Engineer

Engr. Nasreen Ali

Assistant Engineers
Engr. Muhammad Tauseef
Engr. Farsan Ali Qureshi
Engr. Hafiz Aubaid Asad (SDO)

Estate Office
Resident Officer:
Mr. Ghulam Abbas Hussain

Health Clinic
SMO (Male)
Dr. M. Arif Nadeem

SMO (Female)
Dr. Sabahat Quddus

Dental Surgeon
Dr. Uzma Masood

Library
Deputy Chief Librarian
Dr. Muhammad Bashir

Network Administration & Research Center (NARC)
Director
Mr. Khuram Mahmood

Network Administrators
Mr. Muhammad Iqbal
Mr. Amjad Ismail

Web Manager
Engr. Ulfat Hussain

Manager Software Development
Mr. Huzaifa

Technical Journal
Chief Editor:
Prof. Dr. Hafiz Adnan Habib
Assistant Registrar:
Mr. Usama Khalid

Security Directorate
Director Security:
Mr. Muhammad Akmal Hussain

Security Officer:
Mr. Ghulam Abbas Hussain

Directors
Student Affairs:
Prof. Dr. Tabassam Nawaz

Academics:
Prof. Dr. Muhammad Iram Baig
Sports:
Mr. Muhammad Akmal Hussain
Digital Library:
Dr. Muhammad Bashir
ORIC:
Prof. Dr. Muhammad Haroon Yousaf
Telephone Exchange:
Dr. Abdul Basit
Quality Enhancement Cell:
Dr. Humayun Shahid
Mr. Khalid Mehmood (Addl. Registrar)
Planning & Development:
Prof. Dr. Muhammad Ali Nasir
Advance Studies Research & Technological Development:
Prof. Dr. Gulistan Raja

Deputy Director
P&D:
Mrs. Amna Arshad
QEC:
Mr. Faisal Shahzad

Assistant Directors
Placement:
Mr. Tauqeer Ahmed

Chairmen/Conveners of Committees

Discipline:
Prof. Dr. Tahir Mahmood

Library:
Prof. Dr. Shabbir Majeed Ch.

Sports:
Prof. Dr. Adnan Habib

Transport:
Prof. Dr. Ayub Elahi

Masjid:
Prof. Dr. Tabassam Nawaz

Health:
Prof. Dr. Riffat Asim Pasha
Admission:
Prof. Dr. Muhammad Iram Baig
Affiliation:
Prof. Dr. Mirza Jahanzaib

Central Purchase:
Prof. Dr. Muhammad Obaidullah
Shops/Cafeteria/Messes:
Prof. Dr. Faisal Shabbir

Hostel Administration

Senior Warden
Prof. Dr. Hafiz Adnan Habib

Warden (Male)
Prof. Dr. Muhammad Obaidullah
Engr. Muhammad Asjad Saleem Raja
Mr. Ghulam Abbas Hussain

Warden (Female)
Ms. Mariam Batool (Ayesha-Hall)

Resident Tutors
Quaid-e-Azam (Q) Hall:
Engr. Hammad Haider

Iqbal (I) Hall:
Engr. Muhammad Usman Rashid
Umar Hall & Usman Hall:
Engr. Muhammad Tausif
Ali Hall:
Engr. Hammad Haider
Abu Bakar (AB) Hall:
Engr. Sullah ud Din
Jabir Bin Hayan (JBH) Hall:
Engr. Muhammad Usman Rashid
Incharge Foreign Faculty Hostel:
Prof. Dr. Hafiz Adnan Habib
Incharge Day Care Center:
Dr. Syeda Iffat Naqvi

IMPORTANT TELEPHONE NUMBERS

The Intercom extensions (ddd) are configured as Rawalpindi/Islamabad local numbers with prefix 051-9047 ddd, Fax No: 051-9047420

Description	Intercom Ext. (ddd)	Description	Intercom Ext. (ddd)
Vice-Chancellor	401	Dy. Treasurer (Accounts)	418
Secretary to the Vice-Chancellor	403, 404	Dy. Treasurer (Audit)	425
Deans of Faculties		Accounts Branch	417
Electronics & Electrical Engineering	533	Dues and Financial Aid Services	421, 422
Civil & Environmental Engineering	633	Resident Auditor	423
Mechanical & Aeronautical Engineering	666	Controller of Examinations	428
Telecom. & Information Engineering	566	Examination Branch	432, 433
Industrial Engineering	825	Project Director (Building & Works)	434
Chairmen of Academic Departments		Director QEC	492
Electrical Engineering	535	Deputy Director QEC	493
Electronics Engineering	720	Director Physical Education	473
Civil Engineering	640	Director P&D	442
Environmental Engineering	795	Deputy Director Placement	444
Mechanical Engineering	668	Legal Advisor	445
Computer Engineering	568	Library	455
Software Engineering	735	Health Clinic	461
Telecommunication Engineering	918	Network Centre	468
Computer Science	845	Transport Office	470
Industrial Engineering	827	Directorate of Students Affairs	472
Mathametical Sciences	870	Post Office	474
Physical Sciences	870	Habib Bank Ltd.	475
Humanities & Social Sciences	870	Senior Warden	568
Other Establishments		Quaid-e-Azam Hall	264, 269
Registrar	405	Iqbal Hall	266, 271
Additional Registrar (Establishment)	407	Ali Hall	267, 272
Assistant Registrar (Establishment)	408	Abubakar Hall	265, 270
Establishment Branch	409	Usman Hall	273, 277
Additional Reg. Academic & Regulation	410	Bilal Hall	275, 276
Academic & Regulation Branch	411	Ayesha Hall	268, 274
Admissions Office (Undergraduate)	412, 427	Telephone Exchange (Operator)	400, 500
Treasurer	413	Security Control Room	803




PROFILE OF UNIVERSITY FACULTIES

1 Faculty of Civil and Environmental Engineering

Dean:
Prof. Dr. Qaiser uz Zaman Khan

This faculty consists of two degree awarding departments:

- Department of Civil Engineering
- Department of Environmental Engineering

DEPARTMENT OF CIVIL ENGINEERING

Chairman
Prof. Dr. Qaiser uz Zaman Khan

Professors

Dr. Qaiser uz Zaman Khan
BSc Eng. (Hons., Gold Medalist, UET, Lahore)
MSc Eng. (University of Leeds, UK)
PhD (Saitama University, Japan)

Dr. Muhammad Yaqub
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Uni. of Manchester, UK)

Dr. Ayub Elahi
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Taxila & Queen's Univ., UK)
Post Doc. (Queen's Univ. of Belfast, UK)

Dr. Imran Hafeez
BSc Eng. (UET, Lahore)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)
Post Doc. (USA)

Dr. Usman Ghani
BSc Eng. (Hons., Gold Medalist, UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila & Queen Mery Univ., UK)
Post Doc (Univ. of Birmingham, UK)

Dr. Naeem Ejaz
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Lahore)
PhD (UET, Taxila)

Dr. Naveed Ahmad
BSc Eng. (Hons., UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Univ. of Nottingham, UK)
Post Doc. (Univ. of Nottingham, UK)
(on leave abroad)

Dr. Faisal Shabbir
BSc Eng. (Hons., UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (The Univ. of Auckland, NZ)

Dr. Muhammad Fiaz Tahir
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Lahore)
PhD (UET, Taxila)
Post Doc. (UK)

Associate Professors

Dr. Usman Ali Naeem
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Dr. Jawad Hussain
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Univ. of Auckland, NZ)

Dr. Afaq Ahmad
BSc Eng. (Hons., UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Heriot-watt University UK)
Post Doc. (University of Memphis, TN, USA)

Dr. Syed Bilal Ahmed Zaidi
BSc Eng.(Hons., UET, Taxila)
MSc Eng.(UET, Taxila)
PhD (Uni. of Nottingham,UK)

Assistant Professors

Engr. Muhammad Salman
BSc Eng. (UET, Taxila)
MSc Eng. (NUST)

Dr. Faheem Butt
BSc Eng. (UET, Lahore)
MSc Eng. (UET, Taxila)
PhD (Univ. of Auckland, NZ)

Dr. Shahzad Saleem
BSc Eng. (Hons., UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Thammasat Univ., Thailand)
(On Post Doc. Leave, Thailand)

Dr. Muhammad Usman Arshid
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Dr. Naveed Ahmad
BSc Eng. (Hons., UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Tokyo University, Japan)

Dr. Saqib Mehboob
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Engr. Muhammad Saad
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)

Dr. Irshad Qureshi
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
M. Eng. (AIT, Thailand)
PhD (AIT, Thailand)
Post Doc. (USA)

Dr. Ghufran Ahmad Pasha
BSc Eng. (Hons., UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Saitama University, Japan)

Lecturers

Dr. Afzal Ahmed
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Engr. Muhammad Rameez Sohail
BSc Eng. (MP Risalpur)
MSc Eng. (NUST, Islamabad)

Engr. Zulfiqar Ali
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
(On higher studies abroad)

Dr. Kashif Riaz
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Dr. Rana Muhammad Waqas
BSc Eng. (Hons., UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Dr. Jamal Ahmed Khan
BSc Eng. (CECOS, Peshawar)
MSc Eng. (NUST, Islamabad)
PhD (NUST, Islamabad)

Engr. Hammad Raza
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)

Engr. Ali Raza
BSc Eng. (BZU, Multan)
MSc Eng. (UET,Taxila)

Engr. Usman Rashid
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)

Engr. Mujahid Iqbal
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)

Engr. Muhammad Arshad
BSc Eng. (NUST, Islamabad)
MSc Eng. (NUST, Islamabad)

Engr. Abdul Qadeer
BSc Eng. (UET, Taxila)
MSc Eng. (NUST, Islamabad)

Lab Engineers

Engr. Hammad Haider
BSc Eng. (UET, Lahore)
MSc Eng. (UET, Taxila)

The Department

Department of Civil Engineering is actively engaged in disseminating civil engineering education for the last forty years. The Department has produced several eminent engineers who have made significant contributions in the planning and execution of Civil Engineering projects in Pakistan as well as abroad. The Department of Civil Engineering has an approved faculty strength of 52 (including lab engineers), nearly 50% of whom contribute to postgraduate teaching and are involved in PhD research work. Approximately 736 undergraduate and 209 postgraduate students are registered in the department. Civil engineers cater to the national needs for buildings, highways, dams, bridges, irrigation network & water supply systems, and are the world's largest users of building materials.

Outcome Based Education (OBE)

The department felt the need for adoption of outcome based education (OBE) system as it is significant both for the graduating engineers and the university. Consequently, it was planned to adopt OBE system during 2014, hence after, courses were reviewed through statutory bodies and trainings for faculty members were arranged.

Further, the student awareness seminars on OBE systems were also conducted. The department completely switched over to OBE in Fall-2017. Implementing this system will enable the program to impart an education compatible to the international standards and to enable students to compete in international market.

PEC has already granted accreditation for the BSc Civil Engineering degree program under the Outcome-Based Education (OBE) system, starting from the 2014 batch, and accreditation has been extended up to the 2020 session following the fulfillment of all necessary requirements by the department.

Program Educational Objectives (PEOs)

BSc Civil Engineering graduates will demonstrate the;

PEO-1: Sound technical knowledge and skills towards Civil Engineering profession.

PEO-2: Planning, design, and management of civil engineering projects through professional growth and development activities.

PEO-3: Effective communication skills and teamwork to contribute in multi-disciplinary projects.

PEO-4: Zeal for continuous learning and societal services in context of social, environmental, and ethical aspects.

Courses of Study

The Department offers full-time course of four years duration leading to the Bachelors' Degree in Civil Engineering. The department also offers graduate courses of study leading to MSc and PhD degrees in Civil Engineering.

In the bachelor's course, emphasis is laid on the fundamental concepts and principles, which inbuilt the basis of civil engineering practice. To foster their creative abilities, the students are assigned projects on design, construction, or laboratory investigation for self-directed execution. The classroom and laboratory work are supplemented by the instructional tours to acquaint students with civil engineering projects of national importance. Survey camp is held to impart intensive field training, where the students plan and execute survey of large areas, independently.

Adaptation of HEC Undergraduate Education Policy (UEP) of 2023

Committed to provide a modern and relevant education, the Civil Engineering Department has implemented the Higher Education Commission's (HEC) Undergraduate Education Policy (UGEP) 2023 since Fall-2023. This framework, aligned with national standards set by the HEC and conveyed through PEC Letter No. PEC/EAD/P&C/UEP/2023, ensures our program equips students with the necessary competencies to excel in their chosen field. The changes in regard to the implementation of the policy are recommended in the 54th meeting of the Academic Council held on December 08, 2023.

Laboratories

The department has the following well-equipped laboratories to meet the academic requirements of students and teachers as well as the professional needs of the government and private organizations:

1. Soil Mechanics and Foundation Engineering
2. Concrete Technology
3. Strength of Materials
4. Transportation Engineering
5. Hydraulics and Irrigation Engineering
6. Structural Engineering
7. Surveying Lab
8. Environmental Analytical Techniques
9. CAD Lab
10. Postgraduate Research Laboratory

Department upgrades the laboratories from time to time through the funds provided by the Higher Education Commission (HEC) and its own resources. Hydraulics/Fluid Mechanics Laboratory is working in new building and installed with latest research equipment.

Department is also equipped with Postgraduate Research Laboratory which has latest ample units of computers along with civil engineering software and research tools.

Taxila Institute of Transportation Engineering (TITE)

Department of Civil Engineering has established a new institute by the name of "Taxila Institute of Transportation Engineering (TITE)". It is a unique institute of its own kind in Pakistan and has proved to be a focal point for providing education and research facilities in the field of Transportation Engineering.

The institute provides facilities like research laboratories, lecture rooms for postgraduate students, conference room, computer laboratory and a library. A wide range of state-of-the-art equipment had been procured to facilitate high tech research work. The mission of the institute is to develop and implement innovative methods, materials, and the technologies for improving transportation efficiency, safety and reliability as well as improving the learning and innovative environment for students, faculty, and staff in transportation related areas.

Postgraduate Studies & Research

To satisfy the increasing demand for relevant advanced technological education, the department offers MSc degree courses in Structural Engineering, Water Resources & Irrigation Engineering, Transportation Engineering, and Geo Tech Engineering covering the most recent developments. The courses contain a balance of analytical and professional aspects and are designed to suit the needs of fresh graduates and those with professional experience.

The faculty has completed several research projects funded by HEC through the Directorate of Advanced Studies, Research and Technological Development. Research papers addressing applied research have been published in journals and conferences of national and international repute.

Most of the postgraduate students belong to the construction industry and act as a bridge for university-industry linkage that makes research in the department to be practical and useful for the country. The introduction of PhD program has further enriched the research activities in the department. 52 students have been awarded PhD degrees in various fields of Civil Engineering. Presently about 84 PhD scholars are pursuing their PhD research work. Research is being carried out in the following areas:

a. Structural Engineering
b. Geo Technical Engineering
c. Transportation Engineering
d. Water Resources and Irrigation Engineering

Numerical modeling and computer-application in all the research activities are being given special attention. The courses of studies have been designed based on present needs of the Industry. The students are also trained to work independently for solving complex real-world problems.

Courses Under Semester System
BSc Civil Engineering

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-101	Engineering Drawing	1	2
NS-102	Applied Mechanics	2	1
MD-103	Applied Geology	2	0
CE-104	Engineering Surveying	2	1
NS-105	Applied Calculus	3	0
HU-106	Islamic Studies/Ethics	2	0
	Total	**12**	**4**
	Semester Total	**16**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-107	Advanced Engineering Surveying	2	1
CE-108	Civil Engineering Materials	2	1
HU-109	Professional Ethics and Humanities	2	0
NS-110	Differential Equations	3	0
HU-111	Ideology and Constitution of Pakistan	2	0
HU-112	Functional English	3	0
	Total	**14**	**2**
	Semester Total	**16**	
	Total for First Year	**32**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-201	Fluid Mechanics	2	1
CE-202	Properties of Concrete	2	1
NS-203	Numerical Analysis	3	0
HU-204	Computer Programming	1	1
HU-205	Hazards and Disaster Management	2	0
CE-206	Geoinformatics	3	0
MS-207	Entrepreneurship and Leadership	2	0
	Total	**15**	**3**
	Semester Total	**18**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-208	Structural Analysis-I	3	0
CE-209	Mechanics of Solids-I	2	1
MD-210	Architecture and Town Planning	3	0
CE-211	Drawing, Estimation and Cost Analysis	2	1
NS-212	Probability and Statistics	3	0
HU-213	Expository Writing	3	0
	Total	**16**	**2**
	Semester Total	**18**	
	Total for Second Year	**36**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-301	Structural Analysis-II	3	0
CE-302	Mechanics of Solids-II	2	1
MS-303	Construction Project Management	2	0
CE-304	Engineering Hydrology	2	1
CE-305	AI and Data Science	3	0
CE-306	Soil Mechanics	2	1
	Total	**14**	**3**
	Semester Total	**17**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-307	Reinforced Concrete Design-I	3	0
CE-308	Design of Steel Structures	2	0
CE-309	Advanced Fluid Mechanics	2	1
CE-310	Highway and Traffic Engineering	2	0
HU-311	Modelling and Simulation	2	1
CE-312	Geotechnical Engineering	3	1
	Total	**14**	**3**
	Semester Total	**17**	
	Total for Third Year	**34**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-401	Environmental Engineering-I	2	0
CE-402	Reinforced Concrete Design-II	3	1
CE-403	Hydraulic Engineering	2	1
CE-404	Pavement Analysis and Design	2	1
CE-405	Foundation Engineering	2	1
CE-406(A)	Project	0	3
	Total	**11**	**7**
	Semester Total	**18**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-407	Irrigation Engineering	2	0
CE-408	Analysis and Design of Structures	2	1
CE-409	Environmental Engineering-II	2	1
CE-410	Structural Engineering	2	0
MD-411	Occupational Health and Safety	1	0
CE-4XX	Depth Elective	2	0
CE-406(B)	Project	0	3
	Total	11	5
	Semester Total	**16**	
	Total for Final Year	**34**	
	Grand Total for Four Years	**136**	

List of Depth Elective Courses*:

Course Code	Course Title
CE-412	Masonry Structures
CE-413	Water Resource Management
CE-414	Geotechnical Earthquake Engineering
CE-415	Runway and Railway Engineering
CE-416	Construction Contracts Management
CE-417	Ground Improvement Techniques
CE-418	Water Supply and Sanitation

Notes:

1. Theory and Lab courses are treated as separate courses.
2. * Minimum 10 students must be registered to offer an elective course.

DEPARTMENT OF ENVIRONMENTAL ENGINEERING

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Prof. Dr. Faisal Shabbir

Associate Professor
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MSc (FJWU, Rwp)
M. Phil (CIIT, Abbotabad)
PhD (China University of Geo-sciences, Wuhan, China)

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MSc Eng. (UET, Lahore)

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MSc Eng. (UET, Lahore)
(on higher studies abroad)

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MSc Eng. (NUST, Islamabad)

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MSc Eng. (UET, Lahore)

Engr. Muhammad Usman Saleem
BSc Eng. (UET, Taxila)
MS Eng. (NUST, Islamabad)

The Department

The Department of Environmental Engineering was established in 2010. The department is working under the faculty of Civil & Environmental Engineering. Considering the overall environmental crises and issues throughout the country, it has been decided to produce well trained professionals in the field of Environmental Engineering.

The graduates will be highly motivated and trained to undertake the environmental issues like water and wastewater treatment, air and noise pollution, river, and land pollution etc.

Outcome Based Education (OBE)

- Knowing the need of technical educational program and to exercise quality assessment of the offered program(s), the department has adopted outcome-based education (OBE) system since 2017.
- To implement OBE system effectively the faculty members and staff are trained. The importance of OBE System is also introduced to students through awareness seminars. Through implementation of this system, graduated students will be able to compete in International market by meeting its standards.
- Pakistan Engineering Council (PEC) has also granted accreditation to 2014-2020 sessions on OBE system.

Program Vision

To promote sustainable solutions by implementing the knowledge of engineering for environmental impact reduction.

Program Mission

To create, disseminate and integrate knowledge of environmental engineering for sustainable use and management of environmental resources.

Program Educational Objectives (PEOs)

PEO-1 Apply the acquired knowledge for design, operation and development of sustainable solutions related to environmental systems.

PEO-2 Exercise ethical, social and professional practices while making engineering-based decisions to communicate in cross-functional teams.

PEO-3 Pursue continual learning through knowledge acquisition, investigation, value addition and research for development.

Laboratories

The department has following state of the art laboratories equipped with advance instruments:

- Environmental Analytical Techniques
- Environmental Microbiology
- Water Treatment Technology
- Air & Noise Pollution Control
- Environmental Chemistry
- Advanced Analytical
- Waste Analysis Lab
- Computer Lab

Courses of Study

The Department of Environmental Engineering offers full time course of four years duration, leading to the bachelor's degree in Environmental Engineering. The courses are built on a strong foundation of mathematical, physical, computing sciences and civil engineering.

Emphasis is laid on the fundamental concepts and principles, which constitute the basis of environmental engineering practice. The curriculum is designed to cover a broad range of areas. The department offers a series of courses in the following areas:

- Health Safety and Environment
- Environmental Engineering Lab. Techniques
- Geo-Graphical information Systems
- Water Supply and Sewerage Network Design
- Environmental Management Systems
- Membrane Based Treatment Technologies
- Solid & Hazardous Waste Management
- Industrial Waste Management
- Environmental Laws and Policies

- Air & Noise Pollution Control
- Environmental Impact Assessment and Management
- Water & Wastewater Treatment and Design

The provided course contents are up to date and well arranged. The designed course contents will support the graduates to enhance their knowledge up to the international standards.

Future Plans

The Department will offer Master and Doctoral Programs in the field of Environmental Engineering in near future.

Courses Under Semester System
BSc Environmental Engineering

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-111	Introduction to Environmental Engineering	3	0
NS-112	Environmental Chemistry	2	1
MA-113	Engineering Calculus	3	0
CE-114	Engineering Drawing	1	2
HU-115	Applications of Information and Communications Technology	2	1
HU-116	Islamic Studies/ *Ethics	2	0
	Total	**13**	**4**
	Semester Total	**17**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-121	Introduction to Microbiology	3	0
CE-122	Engineering Mechanics	2	1
CE-123	Surveying and Leveling	2	1
MA-124	Linear Algebra and Differential Equations	3	0
HU-125	Functional English	3	0
EE-126	Electrical Technology	2	1
	Total	**15**	**3**
	Semester Total	**18**	
	Total for First Year	**35**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-211	Environmental Microbiology	2	1
CE-212	Hydrology and Water Resource Management	3	0
CE-213	Soil Mechanics	2	1
HU-214	Environment and Human Interaction	2	0
MA-215	Numerical Analysis	3	0
HU-216	Ideology and Constitution of Pakistan	2	0
	Total	**14**	**2**
	Semester Total	**16**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-221	Environmental Engineering Lab. Techniques	1	2
EN-222	Environmental Laws and Policies	3	0
HU-223	Expository Writing	3	0
MD-224	Thermodynamics	2	1
MA-225	Probability and Statistics	3	0
CS-226	Introduction to Geographical Information Systems and Remote Sensing	2	1
	Total	**14**	**4**
	Semester Total	**18**	
	Total for Second Year	**34**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-311	Water Treatment and Design	3	1
EN-312	Cleaner Production Techniques	3	0
HU-313	Comparative Religions	2	0
CE-314	Fluid Mechanics	2	1
CS-315	Applied Geographical Information Systems and Remote Sensing	2	1
MS-316	Project Planning and Management	2	0
	Total	**14**	**3**
	Semester Total	**17**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-321	Water Supply and Sewerage Network Design	2	2
EN-322	Environmental Impact Assessment and Management	3	0
EN-323	Solid and Hazardous Waste Management	3	0
EN-324	Environmental Impact of Transportation Systems	2	0
HU-325	Engineering Economics	2	0
MS-326	Entrepreneurship	2	0
	Total	**14**	**2**
	Semester Total	**16**	
	Total for Third Year	**33**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-411	Environmental Modeling	3	0
EN-412	Wastewater Treatment and Design	3	1
EN-413	Climate Change Adaptation and Mitigation	3	0
MD-414	Occupational Health and Safety	3	0
HU-415	Civics and Community Engagement	2	0
EN-416	Final Year Design Project-I	0	3
	Total	**14**	**4**
	Semester Total	**18**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-421	Industrial Waste Management	3	0
EN-422	Air and Noise Pollution Control	3	1
EN-XXX	Depth Elective	2	0
ME-423	Renewable Energy Resources	2	0
HU-425	Professional Ethics	2	0
EN-426	Final Year Design Project-II	0	3
	Total	**12**	**4**
	Semester Total	**16**	
	Total for Final Year	**34**	
	Grand Total for Four Years	**136**	

Note:
Theory and Lab courses are treated as separate courses.

Elective Courses

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-XXX	Marine Pollution and Control	2	0
EN-XXX	Membrane Based Water and Wastewater Treatment	2	0
EN-XXX	Environmental Nanotechnology	2	0

* For Non-Muslim Students

2 Faculty of Electronics and Electrical Engineering

This faculty consists of following two degree awarding departments:

- Department of Electrical Engineering
- Department of Electronics Engineering

DEPARTMENT OF ELECTRICAL ENGINEERING

Chairman

Prof. Dr. Muhammad Iram Baig

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Engr. Shuja Irfan
BSc Eng. (UET, Taxila)

Engr. Aleem Zahid
BSc Eng. (CASE, Islamabad)
MSc Eng. (UET, Taxila)
(on Higher Studies Abroad)

The Department

The Department of Electrical Engineering was established in 1975 with creation of University College of Engineering & Technology, Taxila at Sahiwal. In 1978, the college was shifted to its permanent location at Taxila. The Electrical Engineering program provides basic preparation for a career in the discipline of Electrical Engineering. The department aims to develop abilities in the students for the application of the knowledge of Electrical Engineering. The students are provided with an educational foundation that prepares them for leadership roles along diverse career paths in the fields concerned with Electronics, Communications, Energy & Power Systems, and Industrial IT: Control & Automation. Presently, 200 undergraduate students are enrolled annually. The department has produced more than 3500 graduate students so far.

Program Mission

Learning and research with values to address the socio-economic challenges

Program Educational Objectives (PEOs)

The graduates will;
PEO-1: Possess knowledge and skills to address complex engineering problems in an optimized manner.

PEO-2: Serve as a valuable member in industry and research organization for socio-economic uplift while ensuring high moral values.

PEO-3: Demonstrate quest for continuous professional development through effective communication, teamwork, lifelong learning and sharing.

The undergraduate program offers degree in "Bachelor of Science in Electrical Engineering" with following streams:

- **Power**

- **Communication**
- **Electronics**

An independent and spacious building with a covered area of 70,600 sq. ft. is available for the department. The department has three blocks namely: Main Block, Extension Block and Laboratory Block.

Laboratories and other Facilities

The Electrical Engineering Department has following well equipped laboratories. The detail of labs are as follows:

1. Basic Electrical Engineering

In this lab, the freshmen use appropriate lab tools for measurement of basic electrical quantities. They reproduce theoretical results of basic electrical laws and theorems by constructing the basic electrical circuits. The sophomores investigate and simulate RLC networks in time and frequency domain to perform various analysis in the network theory. They also use oscilloscopes, function generators, digital multimeters, and state of art circuit trainers.

2. Computer Simulation

The Computer Simulation Lab comprises 46 core I-7 computers to help students in completing course work. The computers are installed with a variety of software like MATLAB, Dev C++, Packet Tracer and MS Office for students of various subject covers in the Department of Electrical Engineering. The subjects covered during BSc Electrical Engineering in lab are Programming Fundamentals, Signal and Systems, Computer Communication Networks, Digital Image processing and Digital Signal processing.

3. Digital Systems

The Digital Systems Lab is one of the basic labs of Electrical Engineering Department. It's KL-31001 series Digital Logic Lab kits and ETS-5000 Digital Training Systems facilitate hands-on analysis of different combinational and sequential logic circuits by utilizing. Its key strength lies in the collection of microprocessors and microcontroller based trainers that empowers the development of concepts and design of embedded systems.

4. Electrical Machines

The electrical machines lab comprises of a variety of AC as well DC machines and transformers to educate the undergraduate students about the practical aspects related to their construction and working. This lab is also equipped with workstations to demonstrate the basic concepts related to power distribution and its utilization.

5. Electronics

The Electronics Lab comprises 5 workstations and a project area, where each workstation is equipped with essential tools such as a CRO (Cathode Ray Oscilloscope), a function generator, DMM, as well as Electronics Lab Trainer Kits and regulated DC power supply. These resources allow students to carry out practical experiments in both basic and advanced electronics courses. One of the main strengths of this lab is its emphasis on hands-on learning, enabling students to develop practical skills and knowledge that will help them excel in their future careers. Additionally, the lab's experienced instructors are dedicated to supporting students in achieving their academic goals.

6. High Voltage

The high voltage lab of electrical engineering department is purposely built lab for conducting undergraduate level experiments, projects and postgraduate and doctorate level research in area of high voltage and dielectrics and electrical insulation. The lab is equipped with state of the art equipment. The lab was established is equipped with 140kV energization facility which can generate AC, DC and Impulse Voltages. The lab also has a state of the art Partial Discharge Measuring Facility which is an advanced tool for Postgraduate and doctorate level research. The lab is frequently used for commercial activities other than teaching and research. This lab has developed a lot of activities and facilities for learning of students and industrial liaison. The lab is managed by well trained staff and supervised by a Director having excellent specialty in High Voltage Field.

7. Instrumentation and Measurements

The electrical instrumentation & measurements lab is a state-of-the-art

facility equipped with a wide range of high-quality electrical measuring instruments. Its key strengths lie in its advanced collection of digital multimeters, True RMS meters, oscilloscopes, energy meters, and various DC and AC bridges. Additionally, the lab offers a diverse range of instrument transformers, resistive, capacitive, and inductive loads, and sensor module kits from renowned manufacturers like National Instruments. These tools enable cutting-edge research and experimentation in the field of electrical engineering, making the lab an invaluable asset for academic, research, and industry professionals.

8. Photonics and Communications

Photonics and communications lab is a research facility in the Electrical Engineering department that is currently at its initial stage of development. It is focused on the study of light and its applications in communication systems. The lab is dedicated to advancing the field of photonics and developing new and innovative communication systems The lab's research has important applications in telecommunications, healthcare, and environmental monitoring, among other fields. The lab aims to use cutting-edge technologies to develop new and advanced systems for transmitting and receiving information using light waves. Some key strengths of the Photonics and communications lab include expertise in Photonics, Advanced equipment, Interdisciplinary research, collaborative research, and innovation.

9. Power Systems

Power Systems Lab provides facility to conduct experiments related to different courses offered in power systems specialization at undergraduate level. Lab is equipped with state-of-the-art power transmission, protection and electrical machines training systems. This lab also provides facilities to test cables, conductors. earthing rods etc.

10. Power Electronics

The power electronics lab is an invaluable resource for the Electrical Engineering Department of our university. Equipped with a variety of advanced tools and technologies, such as Industrial Electronic Trainer sets KL-500, National Instrument Power Electronics Trainers and Accessories, DSP Board R&D Controller Kits, 4 channel Oscilloscopes, different types of Motor sets, National Instrument Virtual Benches, a LPKF S63 ProtoMat PCB milling machine and accessories, the lab provides students with hands-on experience in the field of power electronics. By utilizing this equipment, we can create a comprehensive and immersive learning environment, equipping students with the skills and knowledge necessary to pursue a career in the power electronics industry. Additionally, the lab's research and development work support the teaching curriculum, ensuring that it remains current and relevant

11. Power Systems Simulation

This Lab comprised of 50 state of the art computing machines. The computers are installed with different power system computation software i.e., MATLAB, PSSE, ETAP. This Lab covers different power systems stream courses for lab conduction. In addition to these, the lab also facilitates the postgraduate students to complete their research work.

12. Workshop and Projects

The workshop Lab of electrical engineering department is purposely built lab for conducting undergraduate level experiments regarding learning of basic skills related to electrical engineering including but not limited to cabling, wiring, lighting, metering, testing and other hands on work related to basic traits necessary for an electrical engineer working in the field. The lab is equipped with all necessary equipment including meters, meggars, Earth Testers, Workshop equipment, measuring tools, wiring mental, lighting sources, meters and other necessary equipment for performing all the required tasks in lab. This lab is managed by a well trained staff and supervised by a director.

13. Basic Control

The Basic Control Lab has been furnished with equipment to create basic understanding of control systems. There are multiple servo-control units to carry out experiments along with associated computers and peripherals.

14. Advance Control

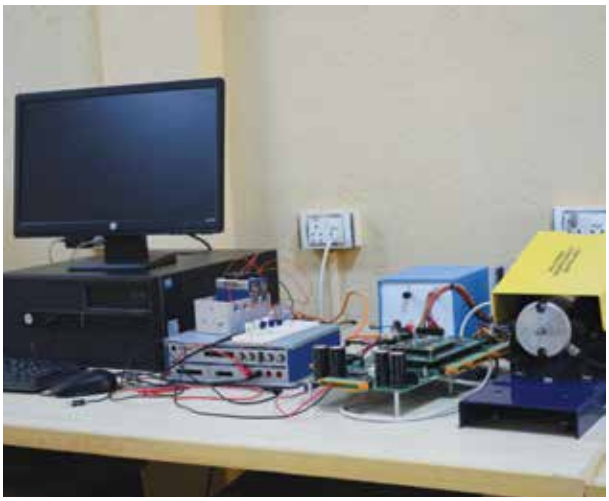
The Advance Control lab has been established with the vision to conduct post grad research of international level in the area of control systems. There are many specialized kits such as three wheeled robot, twin rotor aerodynamic system, inverted pendulum, ball in gravitational field, gyroscope, electrohydraulic system, air ship etc.

These laboratories are regularly upgraded as and when required.

Courses of Study

The Electrical Engineering curriculum develops a thorough understanding of the physical and mathematical principles underlying basic electrical processes and devices. Curriculum also provides students with a foundation in basic science, mathematics and the humanities. Written and oral communication skills are also emphasized and developed. The computers as a tool for mathematical analysis, design, data analysis and instrumentation are extensively used. Most of the courses have an integrated lab component which is supported by modern laboratories and state-of-the-art equipment and computers. Strong emphasis is placed on "hands-on" experience.

Laboratory projects are encouraged in second and third years, whereas final year projects are assigned keeping in view the industrial problems and, in most of the cases, in consultation with industrial experts.



The campus is located in an industrial environment and the students have a fair chance of industrial visits.

The curriculum of Electrical Engineering includes core and elective courses. The Elective Courses are included in the program to provide more breadth to the knowledge. In 3rd and 4th years, the students must register for Elective Courses according to their interests. Our degree is highly regarded by industry and independent assessors. The program is accredited by the Pakistan Engineering Council Under Level-II as satisfying the academic requirements for Registered Engineer (RE) status.

Postgraduate Studies & Research

The department started its postgraduate program in 1984 and doctoral study program in 2001. Until now 578 MSc and 46 PhDs have been produced. The post-graduate program offers a degree in "Master of Science in Electrical Engineering" with specializations in:

- **Electronics**
- **Communication & Signal Processing**
- **Control & Automation**
- **Power**

The master's degree courses are aimed at bringing the students abreast with the most recent developments in their fields of specialization. Most of the Postgraduate students are working with major engineering organizations of the country.

The faculty members and postgraduate students are actively involved in research. Currently, the department has 24 PhD and 16 MSc faculty members. The Department regularly arranges conferences, seminars, and workshop in various areas of electrical engineering. The faculty members, postgraduate students and prominent researchers from Pakistan and abroad participate in these seminars. The department has a well-stocked and up to date library for use of teachers and postgraduate students.

Courses Under Semester System
BSc Electrical Engineering

Semester - I

Course Code	Course Title	Credit Hours	Pre-Requisites
EE-111	Linear Circuit Analysis	3	Freshman Standing
EE-111-L	Linear Circuit Analysis Lab	1	Co-requisite: Linear Circuit Analysis
EE-112-L	Workshop Practice Lab	1	Freshman Standing
NS-113	Applied Physics	3	Freshman Standing
NS-114	Calculus & Analytical Geometry	3	Freshman Standing
HU-115	Functional English	3	Freshman Standing
HU-116	Islamic Studies	2	Freshman Standing
	Semester Total	**16**	

Semester - II

Course Code	Course Title	Credit Hours	Pre-Requisites
EE-121	Electronic Devices & Circuits	3	Freshman Standing
EE-121-L	Electronic Devices & Circuits Lab	1	Co-requisite: Electronic Devices & Circuits
CS-122	Object Oriented Programming	3	Freshman Standing
CS-122-L	Object Oriented Programming Lab	1	Co-requisite: Programming Fundamentals
NS-123	Differential Equations	3	Freshman Standing
HU-124	Ideology and Constitution of Pakistan	2	Freshman Standing
MDE-125	Occupational Health & Safety	1	Freshman Standing
MDE-126	MDE Elective-I	2	Mentioned against the list of multi-disciplinary electives
MDE-126-L	MDE Elective I Lab	1	Co-requisite: Same multi-disciplinary elective
	Semester Total	**17**	
	Total for First Year	**33**	

Semester - III

Course Code	Course Title	Credit Hours	Pre-Requisites
EE-211	Electrical Machines	3	Linear Circuit Analysis
EE-211-L	Electrical Machines Lab	1	Co-requisite: Electrical Machines
EE-212	Digital Logic Design	3	Sophomore Standing
EE-212-L	Digital Logic Design Lab	1	Co-requisite: Digital Logic Design
EE-213-L	Engineering Drawing Lab	1	Freshman Standing
NS-214	Complex Variables & Transforms	3	Sophomore Standing
HU-215	Civics and Community Engagement	2	Sophomore Standing
MDE-216	MDE Elective-II	2	Mentioned against the list of multi-disciplinary electives
	Semester Total	**16**	

Semester - IV

Course Code	Course Title	Credit Hours	Pre-Requisites
EE-221	Electrical Network Analysis	3	Linear Circuit Analysis
EE-221-L	Electrical Network Analysis Lab	1	Co-requisite: Electrical Network Analysis
EE-222	Microprocessors & Microcontrollers	3	Digital Logic Design
EE-222-L	Microprocessors & Microcontrollers Lab	1	Co-requisite: Microprocessors & Microcontrollers
EE-223	Signals & Systems	3	Sophomore Standing
EE-223-L	Signals & Systems Lab	1	Co-requisite: Signals & Systems
EE-224	Probability Methods in Engineering	2	Sophomore Standing
NS-225	Linear Algebra	3	Sophomore Standing
	Semester Total	**17**	
	Total for Second Year	**33**	

Semester - V

Course Code	Course Title	Credit Hours	Pre-Requisites
EE-311	Power Transmission & Distribution	3	Junior Standing
EE-311-L	Power Transmission & Distribution Lab	1	Co-requisite: Power Transmission & Distribution
EE-312	Digital Signal Processing	3	Signals & Systems
EE-312-L	Digital Signal Processing Lab	1	Co-requisite: Digital Signal Processing
EE-313	Electromagnetic Field Theory	3	Complex Variables & Transforms
CS-314	Computing Elective I	3	Mentioned against the list of Computing Electives (If any)
CS-314-L	Computing Elective I Lab	1	Mentioned against the list of Computing Electives (If any)
NS-315	Natural Science Elective	3	Mentioned against the list of natural science electives
	Semester Total	**18**	

Semester - VI

Course Code	Course Title	Credit Hours	Pre-Requisites
EE-321	Linear Control Systems	3	Junior Standing
EE-321-L	Linear Control Systems Lab	1	Co-requisite: Linear Control Systems
MS-322	Project Management	2	Freshman Standing
HU-323	Expository Writing	3	Functional English
HU-324	Social Science Elective	2	Mentioned against the list of social science electives
EE-32##	Depth Elective (Core) I	3	Mentioned against list of specialization electives
EE-32##-L	Depth Elective (Core) I Lab	1	Co-requisite: Same Depth Elective (Core) I
EE-32##	Depth Elective (Core) II	3	Mentioned against list of specialization electives
	Semester Total	**18**	
	Total for Third Year	**36**	

Semester - VII

Course Code	Course Title	Credit Hours	Pre-Requisites
EE-411-L	Final Year Design Project I	2	Senior Standing
MS-412	Entrepreneurship	2	Senior Standing
HU-413	Applications of ICT	2	Senior Standing
HU-413-L	Applications of ICT Lab	1	Co-requisite: Applications of ICT
CS-414	Computing Elective II	2	Mentioned against the list of Computing Electives (If any)
EE-41##	Depth Elective III	3	Mentioned against list of specialization electives
EE-41##-L	Depth Elective III Lab	1	Co-requisite: Same Depth Elective III
EE-41##	Depth Elective IV	2	Mentioned against list of specialization electives
EE-41##-L	Depth Elective IV Lab	1	Co-requisite: Same Depth Elective IV
	Semester Total	**16**	

Semester - VIII

Course Code	Course Title	Credit Hours	Pre-Requisites
EE-421-L	Final Year Design Project II	4	Senior Standing
CS-422	Language Elective	2	Mentioned against list of Humanities Electives (If any)
EE-42##	Depth Elective V	3	Mentioned against list of specialization electives
EE-42##-L	Depth Elective V Lab	1	Co-requisite: Same Depth Elective V
EE-42##	Open EE Elective I	3	Mentioned against list of specialization electives
EE-42##-L	Open EE Elective I Lab	1	Co-requisite: Same Open Elective I
EE-42##	Open EE Elective II	3	Mentioned against list of specialization electives
EE-42##-L	Open EE Elective II Lab	1	Co-requisite: Same Open Elective II
	Semester Total	**18**	
	Total for Fourth Year	**34**	
	Total Credit Hours of 4 Years	**136**	

Social Science Electives

Course Title
Professional Ethics
Sociology for Engineers
Critical Thinking
Organizational Behavior
Professional Psychology

Computing Electives

Course Title
Cyber Security
Machine Learning
Software Engineering
Data Science
Artificial Intelligence
Mobile Application Development
Web Application Development
Network Security

Management Science Electives

Course Title
Economics and Management
Project Management
Entrepreneurship
Principles of Management
Leadership and Personal Grooming

Language Electives

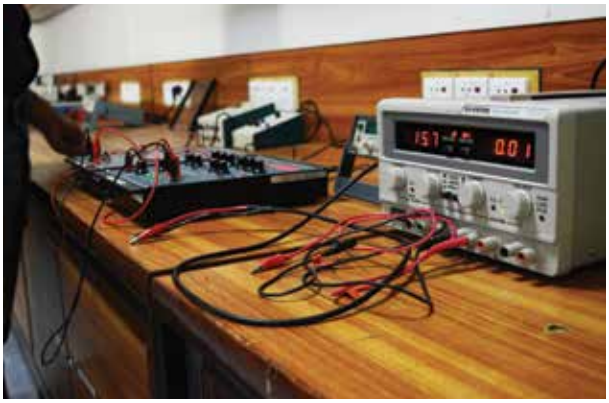
Course Title
Arabic
Chinese
Any other

Natural Science Electives

Course Title
Numerical Analysis
Multivariable Calculus
Discrete Mathematics
Chemistry
Biology

Multi-Disciplinary Electives

Course Title
Basic Mechanical Engineering
Basic Civil Engineering
Any other



SPECIALIZATION (DEPTH) ELECTIVES

Power

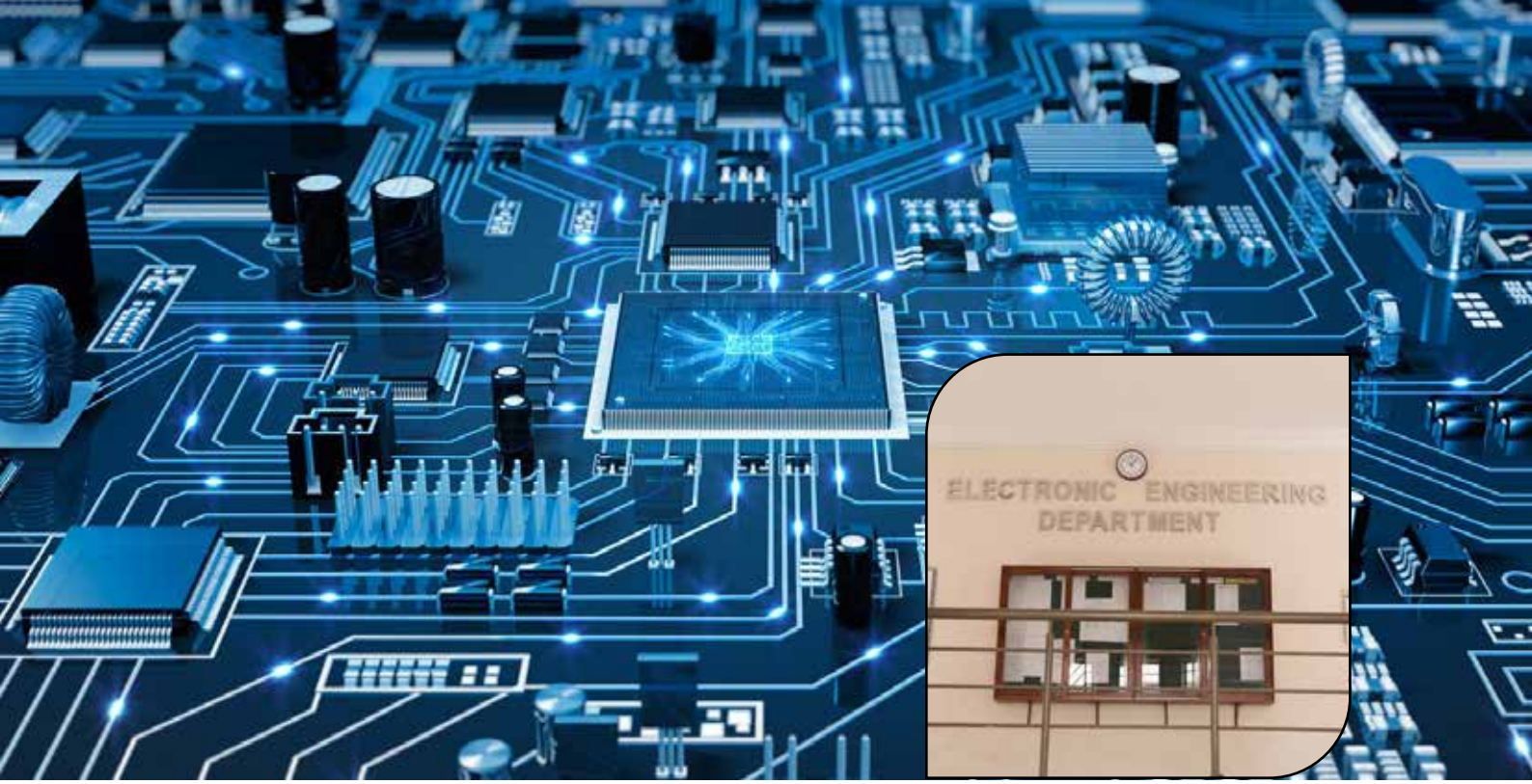
Course Code	Course Title
9A	**Power System Analysis (Core I)**
9B	**Power Generation (Core II)**
9C	Instrumentation and Measurements
9D	Power Electronics
9E	Power System Protection
9F	Power System Operation and Control
9G	Renewable Energy Systems
9H	High Voltage Engineering
9I	Industrial Automation
9J	Smart Grid
9K	Electrical Machine Design
9M	Industrial Drives
9N	Advanced Electrical Machines
9P	FACTS and HVDC Transmission
9Q	Electrical Estimation Installation and Planning

Communication

Course Code	Course Title
8A	**Electronic Circuit Design (Core I)**
8B	**Computer Communication Networks (Core II)**
8C	Instrumentation and Measurements
8D	Power Electronics
8E	RF and Microwave Engineering
8F	Digital Image Processing
8G	Antenna and Wave Propagation
8H	Digital Communication
8I	Optical Communication
8J	Industrial Automation
8K	Wireless and Mobile Communication
8M	Communication Electronics
8N	Satellite Communication
8P	Navigation and Radar Systems
8Q	Microelectronics

Notes:

1. Theory and Lab courses are treated as separate courses.
2. Choice of Electives in 7th and 8th semesters will depend on Elective chosen in 6th semester. No student can change the specialization area after choosing any of three areas above in his 6th Semester.
3. The Elective courses offered by the Department in a semester can be changed depending on the availability of teachers and related facilities and will be notified one week before the start of the semester.
4. Before registering courses in a semester, it is necessary that the relevant pre-requisite courses have been studied by the student in earlier semesters.



DEPARTMENT OF ELECTRONICS ENGINEERING

Chairman

Prof. Dr. Yaseer Arafat Durrani

Professor

Dr. Yaseer Arafat Durrani
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PhD (SKKU, South Korea)

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PhD (UET, Lahore)

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MSc Eng. (UET ,Taxila)

Engr. Muhammad Atif Imtiaz
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MSc Eng. (UET ,Taxila) (on study leave)

Engr. Qammar Zaman
BSc Eng. (IIU, Islamabd)
MSc Eng. (UET, Taxila) (on study leave)

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BSc Eng. (UET, Taxila)
MSc Engg. (NUST, Islamabad)

Engr. Sumair Aziz
BS Eng. (IIU, Islamabad)
MSc Engg. (COMSATS, Islamabad)

Engr. Muhammad Umar Khan
BSc Eng. (COMSATS, Abbottabad)

Engr. Shujaat Hussain Shah
BSc Eng. (UET Peshawar)

Engr. Tahir Khan
BSc Eng. (IIUI, Islamabad)
MSc Eng. (HITEC Uni, Taxila)

The Department

The Department of Electronics Engineering was established in 2010 to fulfill the needs of the country by producing responsible graduates equipped with sound knowledge and skills along with highest moral values through conducive, learning environment. The department offers Electronics Engineering degree programs at undergraduate and graduate level. Currently, undergraduate program in "Bachelor of Science in Electronics Engineering" is accredited with Pakistan Engineering Council at Level-II (i.e. OBE based) and postgraduate program is approved and registered with Higher Education Commission Pakistan.

The current enrollment of undergraduate students is 50 per year. The students are provided with an educational foundation that prepares them to choose their carrier in Academic, Industrial or other areas. Students of the department often participate and win multiple national competitions related to technical and co-curricular activities that depict the strength of our program.

Program Mission

Provide quality education in Electronics Engineering imparting sound engineering knowledge and skills in order to fulfill the demands of industry and service sector.

Program Educational Objectives (PEO's)

The broad objectives of the undergraduate Electronics Engineering Program are as follows:

PEO-1: Proficiency in engineering knowledge and tools for the design, analysis and evaluation of complex engineering problems.

PEO-2: Enhance their knowledge and skills while providing effective solutions keeping in view the environmental and societal aspects.

PEO-3: Contribute as a team member or manager, demonstrating professionalism.

Laboratories and other Facilities

Lab is an integrated part of most of the theory courses. The laboratories in the Department

have state-of-the-art equipment for fulfilling the needs of the modern era. The lab sessions are designed in order to enhance the concepts studied in the theoretical session, to gain hands-on experience and to explore the practical applications of the subject. The Electronics Engineering Department has following state-of-the-art laboratories::

1. Basic Electronics Lab
2. Digital Electronics Lab
3. VLSI Design Lab
4. Embedded Systems Lab
5. Instrumentation Lab
6. Control Systems Lab
7. DSP & Communication Lab
8. Computer Lab
9. Project Lab

Post Graduate Studies

The department has been mandated by the university to start its postgraduate program since 2014. It has an academic staff of 14, among those 17 faculty members are involved in postgraduate teaching and are involved in PhD research work. The department offers both MSc. and PhD. Postgraduate programs recognized by the HEC with the following specializations:

- Electronics System Design
- Microelectronic Materials & Devices
- Biomedical Electronics

The courses contain a balance of professional and analytical aspects and are designed to suit the needs of fresh graduates and those with professional career development. The faculty of Electronics Engineering Department is highly qualified and holds diverse research interests in the above-mentioned areas. In addition to their academic responsibilities, the faculty is involved in conducting quality research in their respective fields of investigation.

Courses of Study

The Department has taken the initiatives for implementing the Outcome-based Education (OBE) system effectively in 2015. In this regard, the department defined its broad objectives about the Engineering, leadership, and continuous professional development skills for BSc Electronics Engineering program. The courses offered by the department prepares the students to achieve these skills and are built on the strong foundation on the basic principles of the electronic devices, circuits, systems, and technology including mathematics, basic sciences, and humanities. The written and oral communication skills are being developed among students.

The undergraduate curriculum is carefully designed to cover different areas of the Electronics Engineering. The department offers following areas of courses:

- Electronics
- Computer
- Robotics
- Telecommunication
- Embedded and Control Systems

Courses Under Semester System
BSc Electronics Engineering

Semester - I

Course Code	Course Title	Credit Hours	Pre-Requisites
BH-111	Functional English	3	
BH-112	Calculus-I	3	
BH-113	Applied Physics	3	
BH-113-L	Applied Physics	1	
CS-114	Computer Fundamentals & Programming	2	
CS-114-L	Computer Fundamentals & Programming	1	
BH-115	Islamic Studies/Ethics	2	
EN-116-L	Workshop Practice	1	
	Semester Total	**16**	

Semester - II

Course Code	Course Title	Credit Hours	Pre-Requisites
CS-121	Object Oriented Programming	2	Computer Fund. & Prog.
CS-121-L	Object Oriented Programming	1	
BH-122	Differential Equations	3	Calculus-I
BH-123	Calculus-II	3	Calculus-I
EN-124	Circuit Analysis-I	3	
EN-124-L	Circuit Analysis-I	1	
EN-125	Solid-State Electronics	3	
BH-126	Civics and Community Engagement	2	
	Semester Total	**18**	
	Total for First Year	**34**	

Semester - III

Course Code	Course Title	Credit Hours	Pre-Requisites
BH-211	Linear Algebra	3	
BH-212	Expository Writing	3	
EN-213	Digital Logic Design	3	
EN-213-L	Digital Logic Design	1	
EN-214	Circuit Analysis-II	3	Circuit Analysis-I
EN-214-L	Circuit Analysis-II	1	
EN-215	Electronic Devices & Circuits	3	Solid State Electronics
EN-215-L	Electronic Devices & Circuits	1	
	Semester Total	**18**	

Semester - IV

Course Code	Course Title	Credit Hours	Pre-Requisites
BH-221	Complex Variables & Transforms	3	Differential Equations
EN-222	Probability & Random Variables	3	
EN-223	Microprocessors & Micro controllers	3	Digital Logic Design
EN-223-L	Microprocessors & Micro controllers	1	
EN-224	Electrical Machines	3	Circuit Analysis-II
EN-224-L	Electrical Machines	1	
EN-225	Electronic Circuit Design	3	Electronic Devices & Circuits
EN-225-L	Electronic Circuit Design	1	
	Semester Total	**18**	
	Total for Second Year	**36**	

Semester - V

Course Code	Course Title	Credit Hours	Pre-Requisites
BH-311	Social Sciences Elective	2	
EN-312	Integrated Electronics	3	Electronic Circuit Design
EN-312-L	Integrated Electronics	1	
EN-313	Signals Processing	3	Complex Variables & Transforms
EN-313-L	Signals Processing	1	
EN-314	Electromagnetic Field Theory	3	Calculus-II
EN-315	Instrumentation & Measurements	3	
EN-315-L	Instrumentation & Measurements	1	
EN-316	Occupational Health and Safety	1	
	Semester Total	**18**	

Semester - VI

Course Code	Course Title	Credit Hours	Pre-Requisites
BH-321	Applications of ICT	2	
BH-321-L	Applications of ICT	1	
EN-322	Analog & Digital Communication	2	Signals & Systems
EN-322-L	Analog & Digital Communication	1	
EN-323	Control Systems	3	Complex Variables & Transform
EN-323-L	Control Systems	1	
EN-324	Power Electronics	3	Circuit Analysis-II
EN-324-L	Power Electronics	1	
BH-325	Ideology and Constitution of Pakistan	2	
	Semester Total	**16**	
	Total for Third Year	**34**	

Semester - VII

Course Code	Course Title	Credit Hours	Pre-Requisites
MS-411	Project Management	2	
EN-412	VLSI Design	3	Integrated Electronics
EN-412-L	VLSI Design	1	
EN-4XX	Elective-I	3	
EN-4XX-L	Elective-I	1	
XX-4XX	Elective-II	2	See list of Elective Courses
XX-4XX-L	Elective-II	0/1	
EN-499A-L	Electronics Engineering Project	3	
	Semester Total	**15/16**	

Semester - VIII

Course Code	Course Title	Credit Hours	Pre-Requisites
MS-421	Entrepreneurship	2	
BH-422	Language-Elective	2	
EN-4XX	Elective-III	3	See list of Elective Courses
EN-4XX-L	Elective-III	0/1	
EN-4XX	Elective-IV	3	See list of Elective Courses
EN-4XX-L	Elective-IV	0/1	
EN-499B-L	Electronics Engineering Project	3	
	Semester Total	**13/15**	
	Total for Final Year	**28/31**	
	Grand Total for Four Years	**132/135**	

List of Engineering Elective Courses

Course Code	Course Title	Th.	Lab	Pre-Requisites
EN-413	FPGA-based System Design	3	1	Digital Logic Design
EN-414	Embedded Systems Design	3	1	Microprocessors & Microcontrollers
EN-415	Microelectronics Technology	3	0	
EN-416	Microprocessor-based System Design	3	1	Microprocessors & Microcontrollers
EN-417	Digital System Design	3	1	Integrated Electronics
EN-418	Opto-Electronic Devices	3	0	Applied Physics
EN-419	Analog & Mixed Signal Design	3	1	Integrated Electronics
EN-420	IC Testing and Verification	3	0	
EN-421	Computer Architecture	3	1	Microprocessors and Microcontrollers
EN-422	Industrial Electronics	3	1	Power Electronics
EN-423	Industrial Automation	3	1	Instrumentation & Measurements
EN-424	Digital Control Systems	3	1	Control Systems
EN-425	State-Space Control Design	3	1	Control Systems
EN-426	Microwave Engineering	3	0	Electromagnetic Field Theory
EN-427	RF Electronics	3	0	Electromagnetic Field Theory
EN-428	Laser and Fiber Optics	3	0	Applied Physics
EN-429	Advanced Signal Processing	3	1	Signal Processing
EN-430	Wireless Communications	3	0	Analog and Digital Communications
EN-431	Wave Propagation and Antennas	3	1	Electromagnetic Field Theory
EN-432	Artificial Intelligence	3	0	Object Oriented Programming
EN-433	Machine Learning	3	0	Object Oriented Programming
EN-434	Operating Systems	3	0	Computer Fundamentals & Programming
EN-435	Introduction to Nanotechnology	3	0	Solid-State Electronics
EN-436	Biomedical Instrumentation	3	1	Instrumentation & Measurements

List of Multidisciplinary Electives Courses

Course Code	Course Title	Th.	Lab	Pre-Requisites
CS-437	Computer Communication Networks	2	1	Analog and Digital Communications
CS-438	Telecommunication & Networks	2	0	Analog and Digital Communications
CS-439	Digital Image Processing	2	1	Digital Signal Processing
CS-440	Introduction to Neural Networks	2	0	
CS-441	Fuzzy Logic	2	0	
MT-442	Introduction to Robotics	2	0	Linear Algebra
BH-443	Numerical Methods	2	0	
BH-444	Statistical Methods	2	0	

Notes:

All the above mentioned Elective courses are either 2+0 credit hours or 2+1 credit hours. The Elective courses (either 2+0 or 2+1) offered by the department in a semester can be changed depending on the availability of teachers and related Lab facility and will be notified before the start of the semester.

List of Social Sciences Elective Courses

Course Title
Professional and Social Ethics
Sociology and Development
Social Anthropology
Understanding Psychology and Human Behavior
Applied Psychology
Organizational Behavior
Introduction to Sociology
Critical Thinking
Introduction to Philosophy

List of Language Electives Courses

Course Title
National Languages
International Languages

3 Faculty of Mechanical and Aeronautical Engineering

This faculty has two degree awarding department:

- Department of Mechanical Engineering
- Department of Mechatronics Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

Chairman

Prof. Dr. Riffat Asim Pasha

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PhD (UET, Taxila)

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PhD (UET, Taxila)
(on leave abroad)

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PhD (UET, Taxila)

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PhD (Uni. of Malaya, Malaysia)

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MSc. Eng. (Brunel University, UK)

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Engr. Abdul Rehman
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MSc Eng. (UET, Taxila)
(on leave abroad)

Engr. Muhammad Naeem Zafar
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Lahore)

The Department

Program Mission

To produce competent Mechanical Engineers who possess professional ethics.

Program Educational Objectives (PEOs)

The program educational objectives for the Mechanical Engineering program are to educate graduates who will be ethical, productive, and contributing members of society.

Our objectives are that the graduate;
PEO-1: Apply knowledge and skills to solve engineering problems effectively.

PEO-2: Demonstrate management skills and professional ethics for productive team work.

PEO-3: Exhibit quest for continual learning to provide socio-technical solutions.

Courses of Study

The Mechanical Engineering courses are built on a strong foundation of mathematical, physical, and computing sciences. Emphasis is laid on the fundamental concepts and principles, which constitute the basis of mechanical engineering practice. The curriculum is designed to cover a broad range of areas. The department offers a series of courses in the following areas:

- Thermo Fluids
- Applied Mechanics and Design
- Manufacturing Processes
- Engineering Management
- Natural Sciences and Humanities

The courses in Thermo-Fluid Engineering include applied Thermodynamics, Refrigeration and Air conditioning, Heat and Mass Transfer, Power Plant, Fluid Mechanics and Gas Dynamics. The department offers a wide range of courses in Applied Mechanics and Design. Starting from a basic course in Engineering Statics, a series of courses are offered in Mechanics of Materials and Mechanics of Machines. These theoretical concepts are fostered in a series of Machine Design courses enabling the students to try their skills and design small mechanical equipment. Product design is of no use without product development studies. Manufacturing Processes Engineering deals with the smart and economical product development methodologies. Students start with Workshop Technology in this area. Successive courses in Engineering Materials, Manufacturing Processes and Production Automation provide the students further insight to this area. Additional courses like Engineering Management and Economics in senior year introduce students to the efficient management of the productive resources. Computer based mechanical engineering concepts have been embedded in various courses like Computer Programming, Machine Design, CAD and Thermo-Fluids Engineering etc.

The University has a rich industrial neighborhood. The students can make maximum use of this industrial environment by engaging themselves in short term as well as long term training. These industries include HIT, HMC, POF, PAF complex at Kamra, HEC, KSB, TIP, CTI, ARL, OGTI, Railway Carriage Factory, Research Establishments of PAEC, NESCOM and many units in the Hattar area. The students pick real world problems either for their semester papers or as final year project from these organizations and brush their skills.

Postgraduate Studies & Research

The department is offering master's degree program since 1983. Many engineering graduates have made use of this program in a variety of areas. The program involves two years of part time as well as full time study and consists of lectures, design, office work, laboratory investigation, software usage and application of computational methods and research. The emphasis is on introducing students to modern trends and techniques and advanced knowledge in their fields of specialization. The department has adequate research facilities including licensed software, state of the art laboratories and access to published literature to meet the needs of postgraduate students to do their master's program. The department is also offering PhD Program since 2001. Up till now 40 students have completed their PhD degrees. Presently, 41 students are enrolled in PhD program and 61 students are enrolled in MSc program.

Laboratories & other Facilities

The department has the following well-equipped laboratories to meet the academic requirements of students and teachers as well as the professional needs of the government and private organizations:

1. Applied Thermodynamics
2. Mechanics of Materials
3. Refrigeration & Air Conditioning
4. Fluid Mechanics
5. Heat and Mass Transfer
6. Mechanics of Machines
7. Power Plants Lab
8. Internal combustion Engines
9. Engineering Materials
10. Modelling and Simulation
11. Engineering Mechanics
12. Drawing Hall
13. Control/M&I
14. Mechanical Vibrations
15. Fracture Mechanics & Fatigue
16. Fluid Structure Interaction
17. Machine Tool
18. Advanced Microscopy & Imaging
19. Workshops
20. Renewable Energy Research & Development Center (RERDC)
21. Composite Materials and Smart Structures

Mechanical Engineering Department (MED) is continuously upgrading and strengthening its laboratories in terms of modern research equipment at both undergraduate and postgraduate levels. The strengthening of the laboratories in the Mechanical Engineering Department is being carried out through the grant of Rs. 74.9 M received from the planning commission under the central project of UET, Taxila titled "Strengthening and Upgradation (SAUG)" of Labs. In this project the equipment includes the wide range of design and thermal fields of mechanical engineering such as supersonic wind tunnel, advanced spectrum analyzer, tribo tester, thermal chamber for thermal analysis, scanning electron microscope (SEM), buckling tester, gyroscope apparatus etc. The bulk of the equipment is already installed and under operation in various relevant labs of MED i.e. Mechanics of Machines, Mechanics of Materials, Fracture Mechanics and Fatigue, Thermodynamics, Fluid Mechanics and Fluid Structure Interaction Labs.

The scope of research in the field of material science remains always a challenging job. The testing of materials: their analysis is always helpful for the new researcher to explore the various properties and characteristics of materials. The Fracture Mechanics & Fatigue laboratory is established in the extension block of Mechanical Engineering Department at ground floor comprising a covered area of 3500 sqft. The idea to establish this advance laboratory was to enhance the research and development activities in the field of fatigue and fracture. The laboratory is equipped with many state-of-the-art highly precise testing equipment along with related specimen preparation facility. The laboratory is equipped with experimental facilities capable to satisfy the needs of postgraduate and undergraduate studies as well as industry R&D. Furthermore, this laboratory is potentially able to produce internationally scaled research work in the field of fracture mechanics, fatigue of engineering materials and structures and

failure analysis of engineering components and related equipment, particularly defense organizations. Scanning Electron Microscope is an addition to the Fracture Mechanics and Fatigue Lab. It can deliver micrographs at 1-million-time magnification, principally used to see material phases, fracture morphology and other properties of materials.

The Composite Materials and Smart Structures laboratory is a state-of-the-art lab which constitutes latest manufacturing techniques for Advanced Composite Materials, Nanocomposites, and Smart Structures. It has diversified facility of synthesis of different Nanomaterials like Graphene Nanoplatelets, Silver Nanoparticles, Gold Nanoparticles, Carbon Nanotubes, and Polymer based Composites. These sensors developed here are being used for different mechanical applications like structural health monitoring of composite structures and mechanical characterization of advanced materials. Fiber Metal Laminates (FMLs) like ARALL, CARALL, GLARE, and Hybrid Al-Fabric composites are also developed and characterized.

Fluid Structure Interaction is a newly established lab comprising of Supersonic Wind Tunnel, a Subsonic Wind Tunnel and a FIV Monitoring Test Rig. This lab will provide an opportunity to the graduate/ undergraduate students to perform wind tunnel experiments over a wide range of wind velocities ranging from low subsonic to supersonic i.e. Mach No. of 1.8.

The Fluid Mechanics lab in the department was renovated and brought up to the state of the art under the "strengthening of labs project" of HEC. A considerable amount was spent under the project to procure new experimental equipment. The Fluid Mechanics Lab today boosts twelve state of the art experimental equipment, including sub-sonic wind tunnel, forced and free vortex generator and parallel and series pump test bed.

A Modelling and Simulation Laboratory has been established to provide facilities for 2D/3D automated drafting, C++ programming and Digital Simulation. Computer based design and optimization techniques are being employed for teaching various courses in the networking environment and considerable number of modern computers are available in the Department.

The Department shares AMS Lab with Department of Industrial Engineering, which include the state-of-the-art manufacturing facilities with CNC (M100), computer Integrated manufacturing with AGVs/ASRS and virtual prototyping models.

The department has also established a new Renewable Energy Research & Development Center (RERDC). The purpose of the RERDC is to reduce the existing deficiency in research facilities in the Pakistani universities especially in energy sector to support the Pakistani energy policy and departmental priorities for increasing the viability and deployment of renewable energy through system design and prototype development and optimization that enhance domestic benefit from renewable energy development.

Courses Under Semester System
BSc Mechanical Engineering

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-101	Functional English	3	0
NS-102	Applied Chemistry	2	0
NS-101	Calculus & Analytical Geometry	3	0
CS-101	Programming Fundamentals	2	1
ME-111	Engineering Drawing & Graphics	2	1
ME-131	Workshop Practice	1	1
MS-101	Occupational Health and Safety	1	0
	Total	**14**	**3**
	Semester Total	**17**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
NS-103	Applied Physics	2	0
NS-104	Linear Algebra & Ordinary Differential Equations	3	0
ME-112	Engineering Mechanics-I: Statics	2	0
ME-113	Engineering Materials	2	0
ME-114	Computer Aided Engineering Lab	0	1
ME-121	Fluid Mechanics-I	3	0
EE-102	Electrical Engineering	2	0
HU-102	Civics & Community Engagement	2	0
	Total	**16**	**1**
	Semester Total	**17**	
	Total for First Year	**34**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
NS-205	Complex Variables & Transforms	3	0
ME-211	Engineering Mechanics-II: Dynamics	2	0
ME-212	Engineering Mechanics Lab	0	1
ME-213	Mechanics of Materials-I	3	0
ME-223	Thermodynamics-I	3	0
ME-231	Manufacturing Processes	3	0
ME-221	Fluid Mechanics-II	2	0
ME-222	Fluid Mechanics Lab	0	1
	Total	**16**	**2**
	Semester Total	**18**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
NS-206	Numerical Analysis	3	0
ME-216	Machine Design-I	2	0
ME-224	Thermodynamics-II	2	0
ME-214	Mechanics of Materials-II	3	0
ME-232	Manufacturing Processes Lab	0	1
ME-225	Thermodynamics Lab	0	1
ME-215	Mechanics of Materials Lab	0	1
HU-203	Ideology & Constitution of Pakistan	2	0
HU-204	Islamic Studies	2	0
	Total	**14**	**3**
	Semester Total	**17**	
	Total for Second Year	**35**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-30X	Arts & Humanities Elective	2	0
NS-30X	Math Elective	2	0
ME-331	Measurement & Instrumentation	2	0
ME-312	Computer Aided Engineering Lab	0	1
ME-311	Machine Design-II	2	0
ME-321	Heat & Mass Transfer	3	0
EE-303	Electronics Engineering	2	0
EE-304	Electrical & Electronics Engineering Lab	0	1
HU-307	Applications of ICT	2	1
	Total	**15**	**3**
	Semester Total	**18**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-308	Expository Writing	3	0
CS-302	Applied AI & Machine Learning	2	1
ME-313	Mechanics of Machines	3	0
ME-332	Control Engineering	2	0
ME-333	M&I and Control Lab	0	1
ME-323	Heat Transfer & R&A/C Lab	0	1
ME-322	Refrigeration & Air Conditioning	3	0
ME-324	Power Plants	2	0
	Total	**15**	**3**
	Semester Total	**18**	
	Total for Third Year	**36**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MS-402	Project Management	2	0
ME-421	Internal Combustion Engines	2	0
ME-411	Mechanical Vibrations	3	0
ME-412	Mechanisms & Mechanical Vibrations Lab	0	1
ME-422	Power Plants & IC Engine Lab	0	1
ME-4XY	Technical Elective-I	2	1
ME-499-A	Design Project-I	0	3
	Total	**9**	**6**
	Semester Total	**15**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-40X	Social Sciences Elective	2	0
MS-403	Entrepreneurship	2	0
ME-4XY	Technical Elective-II	2	1
ME-4XY	Technical Elective-III	2	1
ME-499-B	Design Project-II	0	3
ME-413	Finite Element Methods	2	1
	Total:	**10**	**6**
	Semester Total	**16**	
	Total for Final Year	**31**	
	Grand Total for Four Years	**136**	

Technical Electives

Course Code	Course Title
ME-414	Tribology
ME-415	Mechanical Engineering Design Analysis
ME-416	Stress Analysis
ME-417	Composite Materials
ME-423	Renewable Energy Technology
ME-424	Gas Dynamics
ME-425	Aerodynamics
ME-426	Computational Fluid Dynamics
ME-427	Nuclear Engineering
ME-428	Automotive Engineering
ME-431	Advanced Manufacturing Systems
ME-432	Introduction to Mechatronics
ME-433	Robotics
ME-434	Maintenance Engineering
ME-435	Microelectromechanical Systems (MEMS)
ME-419	Reverse Engineering and Inspection Techniques
ME--436	Product Design and Development

Math Electives

Course Code	Course Title
NS-307	Applied Statistics
NS-308	Probability and Stochastic
NS- 309	Multivariable Calculus

Arts & Humanities Electives

Course Code	Course Title
HU-305	Foreign Languages
HU-306	Professional Ethics

Social Sciences Electives

Course Code	Course Title
HU-409	Economics
HU-410	Psychology
HU-411	Critical Thinking

Note:
Theory and Lab courses are treated as separate courses.

DEPARTMENT OF MECHATRONICS ENGINEERING

Chairman
Prof. Dr. Riffat Asim Pasha

Assistant Professors

Dr. Muhammad Khurram Saleem
PhD. Engg. (Turkey)
MSc. Engg. (UET Lahore)
BSc. Engg. (UET Lahore)

Dr. Ahmed Nouman
PhD. Engg. (Turkey)
MSc. Engg. (UET Lahore)
BSc. Engg. (UET Lahore)
(on-post doc abroad)

Lecturers

Engr. Muhammad Asif
BSc Engg. (UET Taxila)
MSc Engg. (UET Lahore)

Engr. Shahbaz Ahmad
BSc Engg. (UET Taxila)
MSc Engg. (UET Taxila)

Engr. Zubair Butt
BSc Engg. (UET Taxila)
MSc Engg. (UET Taxila)

Lab Engineers

Engr. Muhammad Naeem Zafar
BSc Engg. (UET Taxila)
MSc Engg. (UET, Lahore)

Engr. Tahir Khan
BSc Engg. (UET Taxila)
MSc Engg. (UET, Taxila)

The Department

Mechatronics is the synergistic combination of precision mechanical engineering, electronic control, and systems thinking in the design of products and manufacturing processes. To meet the quality and productivity demands, industries are compelled to use sophisticated electromechanical systems. Mechatronics Engineering caters to the national needs of industries in the fields of Robotics, Automated Manufacturing Equipment, Automobiles, Security Systems, Treatment Plants Medical Equipment, etc.

Program Mission

To fulfill the needs of the country by producing responsible graduates equipped with sound knowledge and skills along with highest moral values through conducive learning environment.

Program Educational Objectives (PEOs)

The Program Educational Objectives are a set of goals that are to be attained after five years of graduation. The department has defined its educational objectives in line with the university's mission and vision. PEOs of the program are as follows:

PEO-1: Mechatronics Engineering Graduates will demonstrate their knowledge and skills to solve industrial problems.

PEO-2: Mechatronics Engineering Graduates will exhibit strong moral values and demonstrate respect towards society.

PEO-3: Mechatronics Engineering Graduates will pursue their professional careers effectively.

Laboratories

CAD and Simulation Lab

Modeling and simulation is an integral part of the mechatronics design approach. This lab offers computer facilities that can be used by students for developing models of real systems and testing these systems by simulation. The laboratory has desktop computers like core i7 along with LED displays to support courses like Computer Programming, Computer Aided Design (CAD), Modeling and Simulation, Artificial Intelligence, and Image Processing.

Electronics and Embedded Systems Lab

Electronics and Embedded Systems Lab, where theory meets practice in an immersive environment equipped with oscilloscopes, function generators, power supplies, sensors, actuators, and an array of ICs and electronic components. In this lab, students will delve into electronic circuit design, digital logic design, and circuit analysis, transforming theoretical concepts into tangible solutions. From crafting circuit diagrams to programming microcontrollers for embedded systems, participants will improve their problem-solving skills and cultivate a deep understanding of electronic systems, bridging the gap between theory and application.

Shared Laboratories

To cater to the requirements of students, the Department of Mechatronics collaboratively shares laboratories with other departments: Workshop Lab (Industrial Engg Dept.), Electrical Machines Lab (Electrical Engg Dept.), Engineering Mechanics Lab (Mechanical Engg Dept.), Materials Lab (Mechanical Engg Dept.), Measurement, Instrumentation, and Control Lab (Mechanical Engg Dept.), etc.

Courses Under Semester System
BSc. Mechatronics Engineering

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
GS-111	Calculus and Analytical Geometry	3	0
ME-112	Engineering Statics	3	0
HS-113	Communication Skills	2	0
ME-114	Workshop Practice	0	2
EE-115	Electric Circuits Analysis	3	1
HS-116	Islamic Studies	2	0
	Total	**13**	**3**
	Semester Total	**16**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
GS-121	ODE & Linear Algebra	3	0
ME-122	Engineering Drawing	0	2
CS-123	Computer Programming	2	1
GS-124	Applied Physics	3	1
HS-125	Technical Report Writing	2	0
HS-126	Pakistan Studies	2	0
HS-127	Social Sciences Electives I	2	0
	Total	**14**	**4**
	Semester Total	**18**	
	Total for First Year	**34**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
GS-211	Vector Calculus	3	0
EE-212	Electronics Devices and Circuits	3	1
ME-213	Engineering Dynamics	3	0
MTE-214	Solid Modelling	0	1
ME-215	Materials and Manufacturing Processes	3	0
CS-216	Data Structures and Object-Oriented Programming	3	1
HS-217	Social Sciences Electives II	2	0
	Total	**17**	**3**
	Semester Total	**20**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
GS-221	Complex Variables and Transform	3	0
EE-222	Electronic Circuits Design	3	1
EE-223	Signals and Systems	2	0
ME-224	Mechanics of Materials	2	1
CS-225	Digital Logic Design	2	1
MTE-226	Actuating Systems	3	1
	Total	**15**	**4**
	Semester Total	**19**	
	Total for Second Year	**39**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
GS-311	Probability and Statistics	3	0
MTE-312	Microcontroller and Embedded Systems	2	2
ME-313	Fluid Mechanics	2	1
MTE-314	Instrumentation and Measurement	3	1
ME-315	Theory of Machines	2	1
HS-316	Management Sciences Elective	3	0
	Total	**15**	**5**
	Semester Total	**20**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
GS-321	Numerical Methods	2	0
MTE-322	Mechatronics Systems Design	2	2
MTE-323	Design of Machine Elements	2	0
MTE-323	Engineering Elective I	3	0
MS-325	Modeling and Simulation	3	0
ME-326	Fundamentals of Thermal Sciences	3	1
	Total	**15**	**3**
	Semester Total	**18**	
	Total for Third Year	**38**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MTE-411	Robotics	3	1
MTE-412	Control Systems	3	1
MTE-413	Engineering Elective II	3	0
MS-414	Engineering Economics	3	0
MTE-415A	Senior Design Project	0	3
	Total	**12**	**5**
	Semester Total	**17**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MTE-421	Engineering Elective III	3	0
MTE-422	Manufacturing Automation	2	1
MTE-415B	Senior Design Project	0	3
	Total	**5**	**4**
	Semester Total	**9**	
	Total for Final Year	**26**	
	Total for Four Years	**137**	

Note:
Theory and Lab courses are treated as separate courses.

List of Elective Courses

Social Sciences Elective

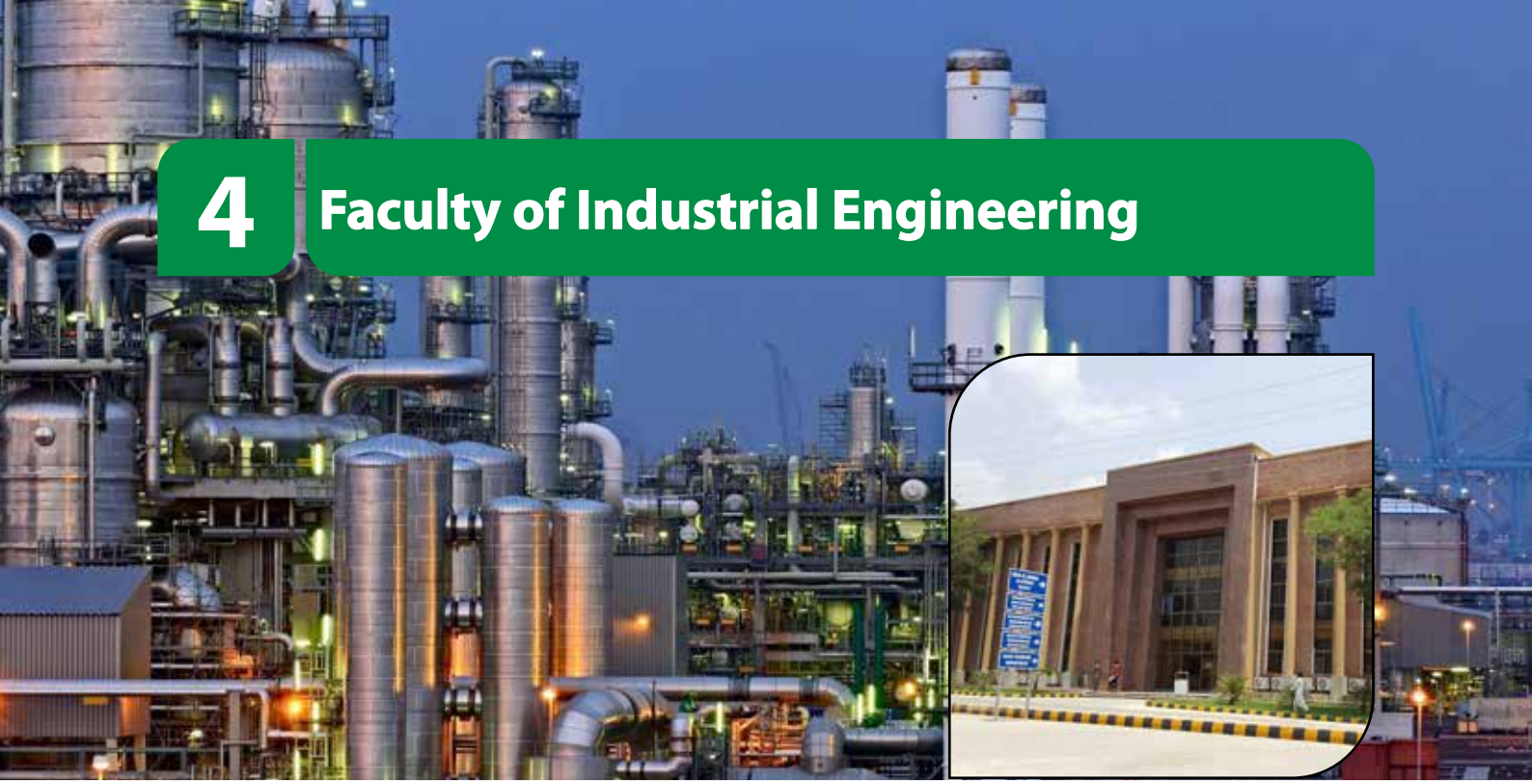
Sr. No.	Course Title
1.	Professional Ethics
2.	Sociology and Development
3.	Organizational Behavior
4.	Introduction to Philosophy
5.	English

Management Sciences Elective

Sr. No.	Course Title
1.	Engineering Management
2.	Total Quality Management (TQM)
3.	Entrepreneurship, Leadership and Team Management
4.	Principles of Management
5.	Research Methodology
6.	Knowledge Management

Engineering Electives

Sr. No.	Course Title	Sr. No.	Course Title
1.	Power Electronics	17.	Mobile Robotics
2.	Mechanical Vibrations	18.	Internal Combustion Engine
3.	Special Topics in Mechatronics	19.	Automotive Technology
4.	Digital Signal Processing	20.	Elect Instrumentation
5.	Digital Control Systems	21.	Laser and its Applications
6.	Digital Image Processing	22.	Condition Monitoring
7.	Power Plant Systems	23.	Bio-Mechatronics
8.	Introduction to Systems Engineering	24.	Data Communications and Networking
9.	Machine Vision	25.	Fuzzy Logic
10.	Artificial Intelligence	26.	Applied Robotics
11.	Precision Manufacturing	27.	Internal Combustion Engines
12.	Energy resources and management	28.	Mechatronics Modeling for Automotive Systems
13.	Intelligent Systems	29.	Power Train Systems
14.	Computer Aided Engineering	30.	Embedded Systems
15.	Digital Filter Design	31.	Computer Integrated Manufacturing
16.	Advanced Control Systems		



4 Faculty of Industrial Engineering

Dean
Prof. Dr. Mirza Jahanzaib

This faculty has following degree awarding departments:

DEPARTMENT OF INDUSTRIAL ENGINEERING

Chairman
Prof. Dr. Wasim Ahmad

Professors

Dr. Mirza Jahanzaib
BSc. Eng. (UET, Lahore)
MSc. Eng. (UET, Taxila)
PhD (Taxila, IRSIP, UK)

Dr. Wasim Ahmad
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (Cranfield Uni. UK)

Associate Professors

Dr. Hafiz M. Khuram Ali
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Dr. Salman Hussain
BSc. Eng. (UET, Taxila)
MSc. Eng. (LSBU, UK)
PhD (LSBU, UK)

Dr. Saif Ullah
BSc. Eng. (UET, Taxila)
MSc. Engg. (HUST China),
PhD (HUST, China)
Post Doc. (HUST, China)

Assistant Professors

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MSc. Eng. (UET, Taxila)
PhD (UET, Taxila)

Lecturers

Dr. Abid Ali
BSc. Eng. (PU, Lahore)
MSc. Eng. (UET, Taxila)
PhD (UET Taxila)

Engr. Haji Bahader Khan
BSc. Eng. (PU, Lahore)
MSc. Engg. (UET, Taxila)
(on higher studies abroad)

Dr. Zaheer Ahmad
BSc. Eng. (UET, Lahore)
MSc. Eng. (UET, Taxila)
PhD (UNIVAQ, Italy)

Engr. Zahid Rashid
BSc. Eng. (PU Lahore)
MSc. Eng. (UET, Taxila)
PhD (Technical University Berlin, Germany) (In Process)

Engr. Irshad Yehya
BSc. Eng. (PU, Lahore)
MSc. Eng. (UET, Taxila)
(on higher studies abroad)

Dr. Aisha Tayyab
BSc. Eng. (UET, Lahore)
MSc. Eng. (UET, Taxila)
PhD (UET, Taxila)

Lab Engineers

Dr. Muhammad Jawad
BSc. Eng. (UET, Lahore)
MSc. Eng. (UET, Taxila)
PhD (UET, Taxila)

Engr. Muhammad Usman
BSc. Eng. (PU, Lahore)
MSc. Eng. (UET, Taxila)

Introduction

Industrial and Manufacturing Engineering involves two main streams: systems engineering and manufacturing engineering. Systems engineering is concerned with the Design, Analysis, Operations, Management and maintenance of systems and processes. These can range from a consumer product or single piece of equipment to large business, social, and environmental systems. The systems engineering is focused on modelling and simulation of systems to identify its best performance through recent digital manufacturing tools and techniques of optimization including digital twins, simulation based optimization, industry 4.0, smart manufacturing for efficient and effective and operations management.

Manufacturing engineering on the other hand, deals with the design and manufacturing of products by employing conventional, non-conventional and recent smart manufacturing technologies including digital 3D printing, digitalized welding, digitalized injection molding and industry 4.0 etc. Manufacturing engineering tends to choose best materials, technology, efficient workforce, and optimum use of resources to produce quality products.

Industrial engineers determine the most effective and efficient way to utilize the basic factors of production including, man, machines, materials, information, and energy to make a product or provide a service. The graduates of industrial and manufacturing engineering program got unique opportunities to work in national and international manufacturing and service sectors including manufacturing industries (automobile, discrete part manufacturing industries, heavy industries), process industries (textile sector, chemical industries, food processing industries), service industries including (hospitals, airports, banking sector, logistics and distribution, e-business) etc. The employability of graduates is excellent and significant number of graduates got job opportunity within 3 months of graduation.

The Department

Industrial Engineering with Production and Manufacturing major was the first MSc degree program offered at the university way back in 1983. Industrial Engineering had assumed a distinctive place as sub-discipline in Mechanical Engineering Department since then. With the creation of Industrial Engineering Department, this program has been shifted to the department. Department has unique history of getting Accreditation on Washington Accord based on Outcome Based Education (OBE) system by Pakistan Engineering Council (PEC) under Level II from its intake of Year 2014. Recently Industrial and manufacturing engineering program of industrial engineering department has been accredited by Pakistan Engineering Council (PEC) on Outcome Based Education (OBE) program (Level II) for next 5 years and stand best Engineering Program in all over Pakistan by PEC (Intake of 2K21 to 2K-25).

Apart from BSc Engineering program, department is also offering MSc and PhD degree programs in the field of Industrial Engineering and Engineering Management

Program Mission

To produce Industrial Engineers who are prepared to fulfill the needs of manufacturing and service sector.

Program Education Objectives (PEOs)

The program educational objectives are to enable graduates;

PEO-1: To become successful Industrial Engineers in their career.

PEO-2: To practice knowledge, skills and abilities gained for the advancement of society.

PEO-3: To promote professionalism in engineering practice.

Courses of Study

The Industrial and Manufacturing Engineering courses are built on fundamentals of Mathematical, Physical and Computing Sciences. The curriculum is designed to educate students in diverse areas of theory and practices in engineering and management domains. The following areas are specifically enriched for disseminating state-of-the-art knowledge to future builders of the nation.

1. Computational Industrial Engineering
2. Human Resource's Skill Development
3. Managerial Capabilities Inculcation
4. High-tech Manufacturing Technology & Management
5. Quality, Productivity and Cost Effectiveness

On the core technology side, BSc in Industrial and Manufacturing Engineering offers a unique opportunity for students to learn classical production technologies in courses like Workshop Technology, Manufacturing Processes, Metrology and Metal Forming & Cutting Analysis. The high-tech courses embed the capabilities in students to learn and acquire modern production systems in courses like CAD/CAM,

Innovative Manufacturing Systems, Industrial Automation, Robotics and Computer Integrated Manufacturing. Soft technologies encompassing Statistical Analysis, Economics, Optimization and Simulation Modelling courses prepare students to design and build large and complex systems for efficiency and effectiveness. Moreover, strong emphasis has been ensured to inculcate managerial capabilities in industrial engineering students by including a host of courses in management electives.

Rich industrial neighbourhood around the University offers prospective industrial engineering students an ideal environment to groom their professional skills. These industries include HMC, HIT, POF, KSB, TIP, PAF complex at Kamra, BESTWAY Cement and a host of SME's in nearby Hattar Industrial Estate.

Laboratories and Other Facilities

The department has seven laboratories and a fully functional workshop.

1. Industrial Automation and Control
2. Computer Integrated Manufacturing
3. Human Factors and Safety
4. Management System Modeling and Simulation
5. Machining Precision and Metrology
6. Machine Tool and Machining
7. Management System Planning & Design
8. Workshops

Industrial Automation and Control Lab is equipped with industrial process fault finder, data acquisition and micro-controllers. Computer integrated manufacturing lab is equipped with state-of-the-art CIM (Intellitek) equipment. Human Factors and Occupational Safety lab consisting of treadmill, weighing scale, pin boards, sound meters, light meter, spectra light meter and various analysis tools with RULA software. Management System, Modeling and Simulation lab is equipped with modern software like TORA, LINGO, SIMU, ARENA (Student version), Expert Choice, Primavera, Pro Engineering, Minitab, CATIA, Python and other related software.

The Machining Precision and Metrology lab is equipped with basic to intermediate level equipment to teach the students. Machine Tool and Machining Laboratory consists of Denford machining suit, Boxford, Intellitek milling centers, ZCorp Rapid Prototyping and automation modules.

Courses Under Semester System
BSc Industrial & Manufacturing Engineering

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-101	English I (Communication skills/Business skills)	2	1
IE-111	Data Analytics	1	1
IE-112	Workshop Practice	1	1
IE-113	Engineering Drawing and Graphics	2	1
NS-101	Probability and Statistics	3	0
NS-102	Calculus	3	0
	Total	**12**	**4**
	Semester Total	**16**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-102	Logic and Critical Thinking	2	0
NS-103	Differential Equations	3	0
IE-114	Mechanical Technology	2	1
HU-103	Islamic Studies/Ethics	2	0
CS-101	Introduction to Computing	2	1
CS-102	Computer Aided Design and Modeling	2	1
	Total	**13**	**3**
	Semester Total	**16**	
	Total for First Year	**32**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-202	Pakistan Studies	2	0
HU-201	Technical writing skills	2	1
IE-211	Engineering Mechanics	2	1
NS-201	Applied Physics	2	1
IE-212	Materials Engineering	2	1
NS-202	Applied Linear Algebra	3	1
	Total	**13**	**5**
	Semester Total	**18**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
NS-203	Numerical Analysis	3	0
IE-213	Operations Research	3	1
IE-214	Manufacturing Processes	3	1
IE-215	Mechanics of Materials	2	1
NS-204	Industrial Electronics	2	1
	Total	**13**	**4**
	Semester Total	**17**	
	Total for Second Year	**35**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
IE-311	Operations of Manufacturing Systems	2	1
IE-312	Applied Machine Design & FEM	2	1
IE-313	Metrology & Statistical Quality Control	3	1
IE-314	Optimization Techniques	2	1
IE-315	Work Study & Methods Engineering	3	1
	Total	**12**	**5**
	Semester Total	**17**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
IE-301	Industrial Simulation	2	1
IE-316	Human Factors Engineering	2	1
IE-321	Management of Engineering Projects	2	1
HU-301	Engineering Economics	3	0
IE-317	Planning and Scheduling in Manufacturing	2	0
IE-318	Industrial Automation and Control	2	1
	Total	**13**	**4**
	Semester Total	**17**	
	Total for Third Year	**34**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
IE-411	Design of Experiments	3	1
IE-412	Industrial Facilities Design	2	1
IE-XXX	Elective I*	3	1
IE-XXX	Elective II**	3	0
IE-491	Project Phase I	0	3
	Total	**11**	**6**
	Semester Total	**17**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
IE-436	Supply Chain and Logistics Management	3	0
IE-XXX	Elective II**	2	1
IE-XXX	Elective I*	2	1
IE-XXX	Elective II**	3	0
IE-492	Project Phase II	0	3
	Total	**10**	**5**
	Semester Total	**15**	
	Total for Fourth Year	**32**	
	Total for Third Year	**133**	

*Manufacturing Track

** Systems Engineering/Management Track

Electives (Manufacturing Track)

Course Code	Course Title	Credit Hours	
		Theory	Lab.
IE-413	CAD/CAM	2	1
IE-414	Process planning and Lean Systems	3	0
IE-415	Smart Manufacturing	2	1
IE-416	Metal Forming & Cutting Analysis	3	1
IE-417	Tool & Die Design	2	1
IE-418	Feed Back & Control	2	1
IE-419	Total Quality Management	2	1
IE-420	Optimization via Simulation	2	1
IE-421	Maintenance & reliability Analysis	3	0
IE-422	Lean Manufacturing	3	0
IE-423	Productivity Improvement Tools & Techniques	3	0
IE-424	Product Development & Concurrent Engineering	3	0
IE-425	Modeling & Analysis of Manufacturing Systems	3	0
IE-426	Contemporary issues in Industrial Manufacturing Engineering	3	0
IE-429	Special Topics	3	0

Electives (Systems Engineering/Management Track)

Course Code	Course Title	Credit Hours	
		Theory	Lab.
IE-417	Marketing Management	3	0
IE-428	Human Resource Management	3	0
IE-429A	Financial Management	2	1
IE-430	Quantitative & Qualitative Decision Making	3	0
IE-431	Knowledge management	3	0
IE-432	Management Information System	2	1
IE-433	Organizational Behavior	3	0
IE-434	Soft Computing & Data Mining	2	1
IE-435	Production & Operation Management	3	0
IE-437	Special Topics	3	0
IE-438	Expert System Applications	3	0
IE-439	Occupational Health & Safety	2	1
IE-440	Professional Engineering practices	3	0
IE-441	Artificial Intelligence	3	0
IE-442	Industrial Ecology and Sustainable Engineering	2	0
IE-443	Responsibilities of Engineers in society	2	0
IE-444	International Management Systems and Standards	2	0
IE-445	Risk Management	2	0

Note:
Theory and Lab courses are treated as separate courses.

5 Faculty of Telecommunication and Information Engineering

Dean
Prof. Dr. Hafiz Adnan Habib

This faculty consists of four degree awarding departments:

- Department of Computer Engineering
- Department of Software Engineering
- Department of Telecommunication Engineering
- Department of Computer Science

DEPARTMENT OF COMPUTER ENGINEERING

Chairman
Prof. Dr. Muhammad Haroon Yousaf

Professors

Dr. Hafiz Adnan Habib
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Dr. Muhammad Haroon Yousaf
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Associate Professors

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BSc Eng. (UET, Taxila)
MSc Eng. (Sheffield, UK)
PhD (Sheffield, UK)

Dr. Farhan Qamar
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Assistant Professors

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BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
(on higher studies abroad)

Dr. Fawad Hussain
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Engr. Sana Ziafat
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)

Dr. Afshan Jamil
BSc Eng. (UET, Taxila) (Gold Medalist)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)
(on leave abroad)

Dr. Naveed Khan Baloch
BSc Eng. (UET, Taxila)
MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

Dr. Waqar Ahmad
BSc Eng. (CIIT, Abbottabad)
MSc Eng. (UET, Taxila)
PhD (POLITO, Italy)

Dr. Abdul Rehman Chaudhry
BSc Eng. (UET, Taxila)
MSc Eng. (LUMS, Lahore)
PhD (LUMS, Lahore)

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PhD (UET, Taxila)

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PhD (Petronas, Malaysia)

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MSc Eng. (UET, Taxila)
PhD (UET, Taxila)

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MSc Eng. (UET, Taxila)

Engr. Muhammad Tariq Javed
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MSc Eng. (UET, Taxila)

Dr. Zahid Mehmood
BSc Eng. (COMSATS, Islamabad)
MSc Eng. (IIU, Islamabad)
PhD (UET, Taxila)

Lab Engineers

Engr. Usman Rauf
BSc Eng. (CIIT, Wah)
MSc Eng. (Sweden)

Introduction

Undergraduate Degree Programs

This department offers two BS degree programs:

1. BSc Computer Engineering
2. BS Artificial Intelligence

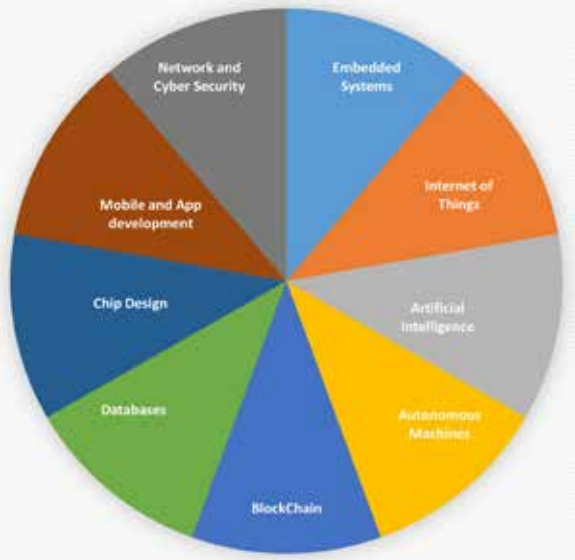
BSc Computer Engineering

Computer Engineering refers to the development of hardware and software needed for functional computers. These computer systems may vary in physical size, capabilities, computational powers, and interfaces, depending upon the application or service they are involved in. These computing systems are now serving in homes, offices, industries, banks, and everywhere as embedded systems, internet of things, cloud computing systems, workstations, etc. Computer Engineers are playing important role in the advancements in the fields of autonomous driving, home automation, industry 4.0, environment monitoring, health care, robotics, etc. Computer engineers are expected to have tremendous job opportunities in Pakistan as well as international jobs market as hardware engineers, software engineers, embedded system engineers, artificial intelligence engineers, IOT engineers, robotics, etc. The department offers training that prepares students for the international job market. Students are given technical knowledge to practice as a computer engineers. The department also focuses on the development of soft skills among students for success in their carrier. Entrepreneurship and business skills are also developed among students enabling them to have their startups and businesses.

Computer engineering degree program was started in year 2001 with an intake of fifty students. Initially, it was setup in the building of Electrical Engineering Department and classes were conducted in evening session only. In the meantime, construction of a separate building for the department worth Rs. 40 million with funding from HEC (Higher Education Commission) was started, which completed in year 2006. Building comprises of two floors out of which ground floor is for Computer Engineering Department. This floor has four class rooms, five labs, one examination hall, twenty five offices and other utility rooms. Department has five laboratories with sufficient hardware and computing facilities for practical work. All labs are provided with high speed network and the department also has Wi-Fi coverage for internet connectivity in general. Computer engineering department also arranges various events in order to encourage students to take part in those events and groom their technical as well as social skills.

Intensive hands-on experience:

Intensive hands or experience is offered to students to master the skills taught during this degree program. Students are required to develop projects in almost every technical course. On average students will be developing 30 projects during this degree program. Students will further develop one final year project to solve some bigger problem based-on technical skills acquired by these development projects. Students will be offered latest development tools to work on these projects for four years. The experience of using the latest development tools prepares students for the international jobs market.



Additionally, the department has adopted industry-developed curriculums for lab work subjects. Intel, NVIDIA, AND XILINX have developed a curriculum for the lab work of university students.

They give development tools to the universities. The students get experience with these tools, and it helps our students to get jobs in the international market.

Program Educational Objectives (PEOs)

Graduates of the Computer Engineering Program are expected to have following PEOs:

PEO-1: Demonstrate growth in careers related to Computer Engineering through in-depth knowledge and skills.

PEO-2: Collaborate and communicate within a team to solve real-world problems.

PEO-3: Maintain professional integrity and dedication to social and ethical responsibilities.

PEO-4: Engage in continuous learning, innovation and entrepreneurship.

Laboratories

The department has the following Labs;

1- SWARM Robotics
2- Electronic Systems
3- Data Communication & Networking
4- Computing
5- Digital Systems
6- Video and Image Processing

Swarm Robotics lab:

The Swarm Robotics Lab (SRL) is a prominent research facility operating under the auspices of the National Center of Robotics and Automation (NCRA) since its establishment in 2018. Located within the Department of Computer Engineering at the University of Engineering and Technology Taxila, SRL is spearheaded by Prof. Dr. Muhammad Haroon Yousaf. The lab's primary objective revolves around the development of innovative solutions using swarm intelligence principles applied to Unmanned Aerial Vehicles (UAVs), Unmanned Ground Vehicles (UGVs), and Autonomous Underwater Vehicles (AUVs). These solutions are geared towards applications such as video surveillance, disaster management, and other related fields.

Key focus areas of research within SRL encompass swarm intelligence, computer vision and AI, and decentralized communication systems. The lab boasts a dedicated team of young researchers who actively engage in various project domains. Over the past four years, SRL has made significant contributions to the academic community through the publication of numerous research papers and active participation in national and international conferences, expos, and events.

Collaboration is at the heart of SRL's ethos, with active partnerships established with both academic researchers and industrial entities. Moreover, the lab has developed several prototypes aimed at STEM education,

poised for commercialization. Infrastructure-wise, SRL is equipped with cutting-edge technology, including unmanned aerial vehicles, marine robots, and unmanned ground vehicles, all equipped with advanced computing capabilities, sensors, and GPS technology.

Notably, SRL's expertise extends to graphical processing units (GPUs), facilitating tasks such as computer vision, machine learning, and intelligent data acquisition and processing. Collaborative ventures with organizations like NECOP, RADWI, and Aquatic Drones/C4Micro further bolster the lab's hardware design and embedded systems capabilities. SRL's successful execution of proof of concepts using UAVs and UGVs underscores its commitment to innovation and technological advancement in the realm of swarm robotics.

Electronic system:

The electronic system lab contains specialized hardware in electrical and electronics engineering which comprises twenty workstations. Lab offers services in the courses of electronic circuit, circuit analysis, and digital logic design. It also helps to understand the core concepts of electronics used for robotics design and development. All sessions can access the resources in the lab for the term project and final year projects.

Data communication and networking:

Data Communication and networking lab is equipped with CISCO-sponsored network-related hardware along with 40 Dell-760 computing machines. The lab is also providing vibrant services as CISCO local academy. Lab offers services in the areas of computer communication and networks. This lab prepares the students for future cyber security challenges and jobs.

Computing Lab:

The computing lab is equipped with the latest forty HP Prodesk-400 Computing machines. Lab offers services for core computing areas e.g., computer fundamentals programming database management systems, OOP and data structures, and algorithms and planning to offer advanced courses like Blockchain technologies.

Digital systems Lab:

The digital system lab contains specialized hardware in the domain of digital system design. The lab is equipped with microcontroller kits (80C51, PIC-18, and AVR series) and FPGA Kits. This lab is also equipped with twenty Dell Optiplex-790 machines. Digital Systems Lab offers courses in microprocessor & interfacing, microcomputer systems, VLSI systems, and digital systems design. Hardware equipment can be utilized for edge computing, IoT, mapping of machine learning and AI algorithms into the hardware and utilizing the TinyML with ESP-32 microcontrollers.

Video and image processing Lab:

The video and image processing lab was

established as a project funded by Higher Education Commission Pakistan. The lab is equipped with state-of-the-art equipment for video and image processing. This lab offers services in the areas of signals and image processing and computer vision. This Lab is dedicated to final year projects.

Technical Societies in the Department

Technical societies are established in the department that serves guidelines for the students to choose their profession after completion of their degree. Students entering the first semester are given orientation about these societies so that they can later join these societies to have technical grooming. The major objective of these technical societies is to develop strong interaction among the students and faculty in their corresponding areas of interest. Computer Engineering students have been divided into three categories for this reason. Scholars from undergraduate and postgraduate programs and members of the faculty share their work. Each society is headed by specialists in the respective area from the faculty. Other faculty members also coordinate. One student is also selected as the student chair for each society.

Taxalian Robotics & Automation Club (TRAC)

Society Counselor:
Dr. Naveed Khan Baloch

Through the primary research, it was established that the Industrial Robotics Market was valued approximately **USD 41.7 Billion** in **2021** and is projected to reach to roughly **USD 81.4 Billion** by **2028**. Taxilian Robotics and Automation Club is also known as TRAC is a technical society working purely in the domain of **Robotics**, **IoT, Automation**, **Software**, and **interpersonal development**. We aim to empower our students, provide them with a proper platform and resources and guide them so they can practice and polish their skills. TRAC has its own Women Empowerment Wing known as ***WEW*** for female students. The purpose of this wing is to let the female students have comfortable learning and work environment.

Our goal is to make our students able to learn a diverse skill set and to enable them to support themselves financially in their academic as well as a professional career. TRAC has developed many collaborations with national industries and other academic institutes to spread the knowledge and transform the people.

Elance Phantom

Society Counselor:
Dr. Fawad Hussain

The global e-commerce market size was valued at USD 9.09 trillion in 2019 and is expected to grow at a compound annual growth rate (CAGR) of 14.7% from 2020 to 2027. Elance Phantoms aim to provide students with an opportunity to learn various web skills and gain high-level expertise to be self-employed and boss. We aspire to become the university's learning-intensive society/ platform and evolve as the leading community for students' betterment by making them skillful. Keeping in view the high demand for various web skills (e.g., e-commerce, graphics designing, web development, digital marketing, etc.), the Department of Computer Engineering took the initiative to start the society, named "ELANCE PHANTOMS," on campus to provide awareness as well as training to students on various web skills on demand. Following are the further details regarding the upcoming event.

The society is collaborating with eCommerce Success Pakistan (ESP) for future endeavors, and this is one of the well-known groups of Pakistan working in the domain of Ecommerce on Amazon. They are the pioneers in introducing the wholesale business model on Amazon in Pakistan. In addition to wholesale, they are also working on other variations of the Amazon eCommerce businesses like Etsy, drop shipping, etc. They are training

thousands of students all around Pakistan, and we are proud to collaborate with them.

Artificial Intelligence R&D

Society Counselor:
Dr. Afshan Jamil

The global Artificial Intelligence (AI) market size was valued at **USD 328.34 billion** in **2021**. The market is projected to grow from **USD 387.45 billion** in **2022** to **USD 1,394.30 billion** by **2029**, exhibiting a **CAGR of 20.1%** during the forecast period. Artificial Intelligence (AI) today is a huge benefit to humanity because it boosts our efficiency and throughput, while creating new prospects for income generation, cost savings and job creation. Innovations in AI have opened new prospects for progress in critical areas such as health, finance, national security, education, energy, and the environment. In recent years, machines outperformed humans in performing certain specialized tasks, such as some aspects of image recognition. It is predicted by experts that rapid progress in the field of artificial intelligence will continue. Though it is very implausible that machines will exhibit broadly applicable intelligence comparable to or beyond that of humans in the next 20 years, yet it is to be expected that machines will reach and surpass human performance on more and more tasks.

AIRD society will enable students to rethink how we integrate information, analyze data, and use the resulting insights to improve decision making, survey the current state of AI and its existing and potential applications. Students will get more opportunities to learn, experiment and explore. Surely the future of higher education is inherently linked with developments on new technologies.

Entrepreneurship:

The students are taught entrepreneurship and leadership. The department promotes students for entrepreneurship, provides guidance, and plans opportunities to pitch their startup ideas. University has set up a technology incubation center in collaboration with the Plan-9 program of the Punjab Information Technology Board. Two students' projects have been selected from Computer Engineering Department for incubation in this Plan-9 center at UET, Taxila.

Directorate of Undergraduate Studies

To manage academic activities in Computer Engineering Department UGS office works under supervision of the chairman. Scheduling of all academic and support activities such as registration, attendance records, placement of students in different industries for internship, examination, student study trips etc. are managed by this office. UGS office also arranges onsite job interviews to facilitate various employers, like IBM Pakistan, Arbisoft, AWC, PMO and PAEC etc. Industrial liaison and industry-academia collaboration at university level is also a function of UGS office.

Courses Under Semester System
BSc Computer Engineering

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-101	Information and Communication Technologies (ICT)	2	1
CP-102	Circuit Analysis	3	1
NS-103	Applied Physics	3	1
MA-104	Calculus & Analytical Geometry	3	0
HU-105	Functional English	3	0
	Total	14	3
	Semester Total	**17**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-106	Digital Logic Design	3	1
CP-107	Programming Fundamentals	3	1
CP-108	Electronic Devices and Circuits	3	1
MA-109	Differential Equations	3	0
HU-110	Islamic Studies	2	0
MD-111	Occupational Health and Safety	1	0
	Total	**15**	**3**
	Semester Total	**18**	
	Total for First Year	**35**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-201	Computer Organization and Architecture	3	1
MA-202	Discrete Structures	3	0
HU-203	Business Communication and Expository Writing	3	0
CP-204	Workshop and Tools	0	1
MA-205	Complex Variable and Transform	3	0
CP-206	Object Oriented Programming	3	1
	Total	**15**	**3**
	Semester Total	**18**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-207	Data Structures and Algorithms	3	1
CP-208	Operating Systems	3	1
CP-209	Microprocessor and Interfacing	3	1
CP-210	Signals & Systems	3	0
HU-211	Ideology & Constitution of Pakistan	2	0
	Total	**14**	**3**
	Semester Total	**17**	
	Total for Second Year	**35**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MA-301	Linear Algebra	2	0
CP-302	Computer Communication & Networks	3	1
CP-303	Digital Signal Processing	3	1
MA-304	Probability and Statistics	2	0
HU-305	Project Management	2	0
CP-306	Database Management Systems	3	1
	Total	**15**	**3**
	Semester Total	**18**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-307	Digital System Design	3	1
CP-308	Software Engineering	3	0
HU-309	Entrepreneurship	2	0
CP-310	CEDE-I	3	1
CP-311	CEDE-II	3	1
	Total	**14**	**3**
	Semester Total	**17**	
	Total for Third Year	**35**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-401	FYDP-I	0	2
CP-402	Control Systems	3	1
HU-403	Economics for Engineers	2	0
HU-404	Professional Practices	1	0
CP-405	CEDE-III	3	1
MD-406	MDEE-I	3	0
	Total	**12**	**4**
	Semester Total	**16**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-407	FYDP-II	0	4
HU-408	Language – Elective	2	0
HU-409	Civics & Community Engagement	2	0
CP-410	CEDE-IV	3	1
MD-411	MDEE-II	3	0
	Total	**10**	**5**
	Semester Total	**15**	
	Total for Final Year	**31**	
	Grand Total for Four Years	**136**	

List of Electives for BS/BSc/BE COMPUTER (SYSTEMS) ENGINEERING PROGRAM

Computer Engineering Depth Electives (CEDE)

Course Title	Credit Hours	
	Theory	Lab.
Algorithm Analysis and Design	3	1
Cloud and Distributed Computing	3	1
Internet of Things	3	1
Embedded System Design	3	1
High Performance Computing	3	1
Machine Learning and Artificial intelligence	3	1
Image Processing and Analysis	3	1
System and Network Security	3	1
Systems Programming	3	1
Hardware Design for DSP and ML	3	1
Web Engineering	3	1
Mobile Application Development	3	1
Autonomous Machines	3	1

Multi-Disciplinary Engineering Electives (MDEE)

Course Title	Credit Hours	
	Theory	Lab.
Human Computer Interaction	3	0
Blockchain Technologies and Applications	3	0
Deep Learning	3	0
Robotics and Automation	3	0
Virtual Reality	3	0
Software Quality Assurance	3	0
Instrumentation and Controls	3	0
VLSI System Design	3	0
Data Warehousing and Big Data	3	0
GIS and Remote Sensing	3	0
Health, Safety and Environment (HSE)	3	0
Biomedical Engineering	3	0
Business Process Re-engineering	3	0
Wireless and Mobile Networks	3	0
Natural Language Processing	3	0
Applied Mathematics	3	0

*MDEE courses may be offered by the department as (3+0) or (2+1) subject to the availability of faculty, resources, and lab facility.

Note: Theory and Lab courses are treated as separate courses.

Bachelors of Science in Artificial Intelligence (Future Program)

Introduction

This Program has been approved by the Academic Council of UET Taxila in its 55/2024 meeting. After necessary arrangement and approval from the NCEAC, this program will be offered next year inshallah.

The Bachelor of Science in Artificial Intelligence (AI) degree program will be offered at the Department of Computer Engineering, Faculty of Telecommunication and Information Engineering, University of Engineering and Technology Taxila. The BS AI program will be initially started for the intake of 50 students. This program will enable the students to capitalize on the broad spectrum of career opportunities provided by AI, preparing them to work in industry, take an entrepreneurial route, or pursue further research. By producing AI experts, the program will contribute to the growth of the local and regional economy by addressing industry needs and attracting investment.

This BS AI degree program will be aligned with the latest trends and demands of the local and international markets, and the department aims to produce highly skilled researchers in the field to meet our country's current and future demands for AI employment in government, industries, businesses, applied sciences, research, health, and security. This program will provide students with a solid theoretical foundation as well as practical experience to apply AI techniques to real-world problems.

The primary aim of a BS AI program is to produce highly skilled professionals capable of addressing complex challenges and advancing the frontiers of AI technologies.

Program Educational Objectives (PEOs)

Graduates of the BS Artificial Intelligence Program are expected to have following PEOs:

PEO-1: Demonstrate acquired knowledge of computing and AI in professional roles.

PEO-2: Skilled in leading teams or in entrepreneurial settings.

PEO-3: Prioritize ethical and societal considerations, particularly in AI contexts.

PEO-4: Explore new computing and AI realms for organizational or academic advancement.

Eligibility Criteria, Duration of the Program and Award of Degree

Following is the eligibility criteria, duration and requirements for the award of the BS AI degree. These requirements are in line with the requirements of NCEAC requirements.

- Minimum 50% marks in Intermediate/12 years schooling/A- Level (HSSC) or Equivalent with Mathematics are required for admission in BS AI program
- Equivalency certificate by IBCC will be required in case of education from some other country or system.
- The students who have not studied Mathematics at intermediate level have to pass deficiency courses of Mathematics (06 credits) in first two semesters.
- At minimum 130 credit hours are required for award of BS AI degree
- The minimum duration for completion of BS AI degree is four years
- The HEC allows maximum period of seven years to complete BS degree requirements.
- A minimum 2.0 CGPA (Cumulative Grade Point Average) on a scale of 4.0 is required for award of BS AI Degree.
- The students after successful completion of 04 semesters in BS AI Program may exit with Associate Degree in Computing subject to completion of all requirements for the award of associate degree, i.e., Credit Hours, CGPA, and compulsory courses.

Courses Under Semester System
BS AI Semester-wise Program Structure

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CS-101	Programming Fundamentals	3	0
CS-101L	Programming Fundamentals (Lab)	0	1
GE-102	Information and Communication Technologies (ICT)	2	0
GE-102L	Information and Communication Technologies (ICT) (Lab)	0	1
GE-103	Discrete Structures	3	0
GE-104	Calculus & Analytical Geometry	3	0
GE-105	Functional English	3	0
	Total	14	2
	Semester Total	**16**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CS-106	Object Oriented Programming	3	0
CS-106L	Object Oriented Programming (Lab)	0	1
CS-107	Digital Logic Design	2	0
CS-107L	Digital Logic Design (Lab)	0	1
GE-108	Applied Physics	2	0
GE-108L	Applied Physics (Lab)	0	1
MT-109	Multivariable Calculus	3	0
MT-110	Linear Algebra	3	0
GE-111	Islamic Studies	2	0
	Total	**15**	**3**
	Semester Total	**18**	
	Total for First Year	**34**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CS-201	Computer Organization and Assembly Language	2	0
CS-201L	Computer Organization and Assembly Language (Lab)	0	1
CS-202	Data Structures	3	0
CS-202L	Data Structures (Lab)	0	1
CS-203	Database Systems	3	0
CS-203L	Database Systems (Lab)	0	1
MT-204	Probability and Statistics	3	0
GE-205	Expository Writing	3	0

	Total	**14**	**3**
	Semester Total	**17**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	**Lab.**
CS-206	Artificial Intelligence	2	0
CS-206L	Artificial Intelligence (Lab)	0	1
CS-207	Computer Networks	2	0
CS-207L	Computer Networks (Lab)	0	1
CS-208	Programming for AI	2	0
CS-208L	Programming for AI (Lab)	0	1
CS-209	Machine Learning	2	0
CS-209L	Machine Learning (Lab)	0	1
CS-210	Software Engineering	3	0
GE-211	Introduction to Management	2	0
	Total	**13**	**4**
	Semester Total	**17**	
	Total for Second Year	**34**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	**Lab.**
CS-301	Information Security	2	0
CS-301L	Information Security (Lab)	0	1
CS-302	Operating Systems	2	0
CS-302L	Operating Systems (Lab)	0	1
CS-303	Artificial Neural Networks & Deep Learning	2	0
CS-303L	Artificial Neural Networks & Deep Learning (Lab)	0	1
CS-304	Knowledge Representation & Reasoning	2	0
CS-304L	Knowledge Representation & Reasoning (Lab)	0	1
GE-305	Communication & Presentation Skills	3	0
GE-306	Ideology & Constitution of Pakistan	2	0
	Total	**14**	**3**
	Semester Total	**17**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	**Lab.**
CS-307	Computer Vision	2	0
CS-307L	Computer Vision (Lab)	0	1
CS-308	Parallel & Distributed Computing	2	0
CS-308L	Parallel & Distributed Computing (Lab)	0	1
GE-309	Entrepreneurship	2	0

EN-310	Technical and Business Writing	3	0
CS-311	AI Elective-I	2	0
CS-311L	AI Elective -I (Lab)	0	1
CS-312	AI Elective -II	2	0
CS-312L	AI Elective -II (Lab)	0	1
	Total	**13**	**4**
	Semester Total	**17**	
	Total for Third Year	**34**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CS-401	FYP-I	0	2
CS-402	Analysis of Algorithms	3	0
CS-403	AI Elective-III	2	0
CS-403L	AI Elective -III (Lab)	0	1
CS-404	AI Elective -IV	2	0
CS-404L	AI Elective -IV (Lab)	0	1
CS-405	AI Elective -V	3	0
GE-406	Professional Practices	2	0
	Total	**12**	**4**
	Semester Total	**16**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CS-407	FYP-II	0	4
SS-408	Social Science Elective	3	0
GE-409	Civics & Community Engagement	2	0
CS-410	AI Elective -VI	2	0
CS-410L	AI Elective -VI (Lab)	0	1
CS-411	AI Elective -VII	3	0
	Total	**10**	**5**
	Semester Total	**15**	
	Total for Final Year	**31**	
	Total for four Years	**133**	

*AI Elective courses may be offered by the department as (3+0) or (2+1) subject to the availability of faculty, resources, and lab facility. The course outlines will be followed as per HEC/NCEAC latest guidelines.

DEPARTMENT OF SOFTWARE ENGINEERING

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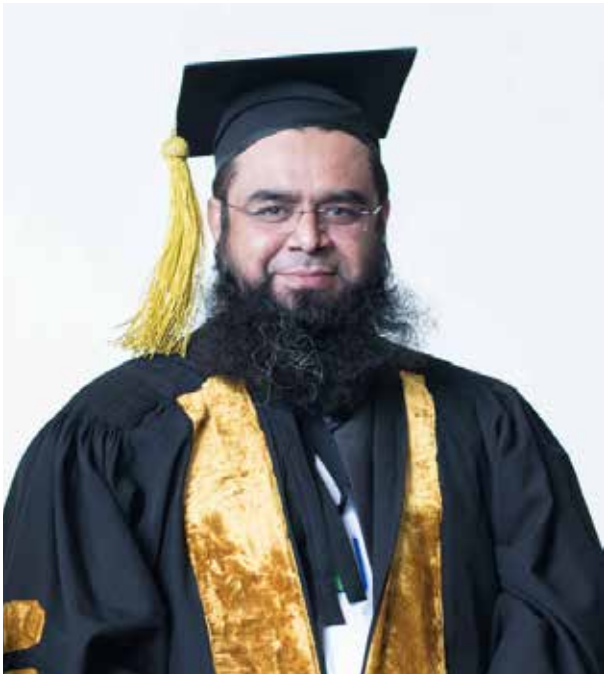

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The Department

Software Engineering degree Program was started in 2002. Initially, it was setup in Electrical Engineering Department and classes were conducted in evening session only. In the meantime, the construction of separate building for department worth Rs. 40 million with funding from HEC (Higher Education Commission) was completed in year 2006. Department is housed on first floor of the building which comprises of five classrooms, five labs, one girl's common room, one examination hall and fifteen offices. Department has laboratories with enough hardware and software facilities. Each lab is equipped with thirty PCs. These labs are networked, and the department has wireless network coverage as well.

Software engineering department organizes

different events to encourage student's participation and to groom their technical as well as non-technical skills. The events that have been arranged so far are programming exhibition (Term projects exhibition in JAVA, C# etc.), Database exhibitions, annual students' day, seminars, and workshops related to Software Engineering topics.

Program Mission

Delivering state-of-the-art knowledge and skills of Software Engineering to improve society.

Program Educational Objectives (PEOs)

The program aims to;
PEO 1. Train students to proficiently apply their knowledge and skills in diverse organizations.
PEO 2. Develop responsible and ethical professionals having strong interpersonal skills.
PEO 3. Enable students to become entrepreneurs, managers, and life-long learners.

Laboratories

There are following Labs in the department;
1. Software Engineering
2. Computer Graphics
3. DOT IT
4. Elementary Computer
5. Multimedia Signal Processing Research Lab

Software Engineering Laboratory provides general purpose computing facilities to the students of Software Engineering discipline. The lab is equipped with thirty computers with latest specifications and the state-of-the-art software tools and applications. This lab is fulfilling the requirements of courses related to software technologies, computer networks and internet technologies.

Computer Graphics Lab provides students a facility to conduct experiments related to Computer Graphics and visual programming courses of Software Engineering.

DOT IT Lab was solely constructed for research and development in the field of Databases, Web Engineering, Artificial Intelligence and Data mining.

Elementary Computer Lab is used for introductory courses including basic programming and computing. The lab is equipped with latest equipment and software to facilitate students.

Multimedia Signal Processing (MSP) Research Lab focuses on generating cutting-edge research results in the field of multimedia signal processing. The research at MSP group focuses on extracting useful information from the multimedia content to design various state-of-the-art computer vision, image and audio processing based mobile, web and desktop applications. The members at MSP research lab including both the postgraduate and undergraduate students also design various quality engineering frameworks to evaluate the performance of multimedia applications.

Placement Bureau & Industrial Liaison Office

A placement bureau has been established by the department to facilitate the placement of students in the industry. The Bureau communicates with public and private sector organizations and broadcast opportunities among the students. Interview arrangements are also made to facilitate employers. Industrial liaison officer has been designated at

departmental level who co-ordinates the process of internships for students and hence serves the purpose of industry-university linkage.

Societies

Societies are developed to bring out potential qualities of students and enhance their skills. The major objective of these societies is to develop strong interaction among the students and faculty in their corresponding field of interests.

1) Soft Desk
Advisor:
Dr. Ali Javed
Domain of software development is touching new heights for the past few years and software technologies are rapidly being developed and become obsolete within months. There is every need to keep an eye on changing trends in the field. For the above stated purpose, a society has been established in the Department of Software engineering named SOFT- DESK. The major achievement of SOFTDESK is to organize UET, Taxila Olympiad at National level where universities from all over Pakistan participate every year.

2) Software Technologies Incubation Centre (STIC)
Due to technological advancements in Software industry and to reduce the gap between academia and industry, Department of Software Engineering, UET, Taxila established Software Technologies Incubation Centre (STIC). STIC offered different workshops in networking field like Microsoft Certified System Engineer (MCSE-Microsoft Windows Server 2003), Microsoft Certified Information Technology Professional (MCITP-Microsoft Windows Server 2008), Microsoft Certified Solutions Associate (MCSA-Microsoft Windows Server 2012), LINUX Redhat Certified Engineer (RHCE), Cloud Computing/ Virtualization, Cisco Certified Network Associate (CCNA) and workshops in Software field like PHP, Wordpress, joomla, Magento, Andriod and Search Engine Optimization (SEO). After successful completion of these workshops, students can get best jobs either in Software field or in networking field.

3) Microsoft Learn Student Ambassadors-UET, Taxila
Advisor: Dr. Kanwal Yousaf
The Microsoft Learn Student Ambassadors (MLSA) is a program that aims to enhance students' awareness of Microsoft technologies. At UET Taxila, the MLSA initiative is not only fostering a vibrant community of technology enthusiasts but also mentoring them to become Microsoft Ambassadors. Under the hood of MLSA, the student ambassadors are given access to the latest Microsoft software, development tools, reference material, industry events, and training opportunities. Some student ambassadors (based on selection criteria) are provided peer mentorship with Microsoft employees. Key achievements of MLSA-UET Taxila include the successful organization of diverse events such as Hacktoberfest, Machine Learning Workshops led by experts from Microsoft, Women in Tech series, Quantum Technology, and Cloud Computing.

4) Google Developer Student Club- UET Taxila
Advisor: Dr. Kanwal Yousaf
Google Developer Student Club (GDSC) is a community group for students interested in Google technologies and programming. GDSC-UET Taxila empowers students to hone their knowledge and skills through dynamic workshops, hands-on training, and project activities. Joining GDSC allows students to immerse themselves in a diverse, peer-to-peer learning environment, fostering growth and innovation. They also contribute to creating impactful solutions for community challenges. GDSC members teach about Machine Learning, Android app development, Google Cloud, Flutter, and other exciting technologies. Main events organized under the umbrella of GDSC-UET Taxila are Google Solution Challenge, Game Jam Mastery, Web Development Bootcamps, Content Writing Bootcamps, Android Training Workshops, Flutter Training Workshops and Info Sessions for fresh entrants.

Courses Under Semester System
BSc Software Engineering

Semester - I

Course Code	Course Title	CREDIT HOURS	
		Theory	Lab.
SE-101	Information and Communication Technologies	3	1
SE-102	Introduction to Software Engineering	3	0
MA-103	Calculus and Analytical Geometry	3	0
HU-104	Functional English	3	0
HU-105	Pakistan Studies	2	0
MDE-106	Occupational Health and Safety	1	0
	Total	**15**	**1**
	Semester Total	**16**	

Semester - II

Course Code	Course Title	CREDIT HOURS	
		Theory	Lab.
MA-107	Applied Physics	3	0
SE-108	Discrete Structures	3	0
SE-109	Software Requirements Engineering	2	1
SE-110	Computer Programming	3	1
MA-111	Linear Algebra and Differential Equations	3	0
HU-112	Communication Skills	2	0
	Total	**16**	**2**
	Semester Total	**18**	
	Total for First Year	**34**	

Semester - III

Course Code	Course Title	CREDIT HOURS	
		Theory	Lab.
HU-201	Islamic Studies/Ethics	2	0
SE-202	Data Structures and Algorithm	3	1
MA-203	Numeric and Symbolic Computing	3	0
HU-204	Technical Writing and Presentation Skills	3	0
SE-205	Object Oriented Programming	3	1
	Total	**14**	**2**
	Semester Total	**16**	

Semester - IV

Course Code	Course Title	CREDIT HOURS	
		Theory	Lab.
MA-206	Probability and Statistics	3	0
SE-207	Software Design and Architecture	3	1
SE-208	Database Systems	3	1
SS-209	Engineering Economics	3	0
SE-210	Operating Systems	3	1
	Total	**15**	**3**
	Semester Total	**18**	
	Total for Second Year	**34**	

Semester - V

Course Code	Course Title	CREDIT HOURS	
		Theory	Lab.
SE-301	Software Quality Engineering	3	1
MG-302	Entrepreneurship	2	0
SE-303	Formal Methods in Software Engineering	3	0
SE-304	Computer Networks	3	1
SE-305	Web Engineering	3	1
	Total	**14**	**3**
	Semester Total	**17**	

Semester - VI

Course Code	Course Title	CREDIT HOURS	
		Theory	Lab.
SE-306	Design and Analysis of Algorithms	3	0
SE-307	Software Construction and Development	2	1
SE-308	Digital Image Processing	3	1
MDE-309	Embedded Systems	3	0
SE-xxx	SE Elective I	3	0
	Total	**14**	**2**
	Semester Total	**16**	
	Total for Third Year	**33**	

Semester - VII

Course Code	Course Title	CREDIT HOURS	
		Theory	Lab.
SE-401	Software Project Management	2	1
SE-402	Final Year Project-I	0	2
SE-403	Information Security	3	0
MG-404	Management and Marketing	2	0
SE-xxx	SE Elective II	3	0
SE-xxx	SE Elective III	3	0
	Total	**13**	**3**
	Semester Total	**16**	

Semester - VIII

Course Code	Course Title	CREDIT HOURS	
		Theory	Lab.
SE-405	Human Computer Interaction	3	0
SE-406	Final Year Project II	0	4
SS-407	Civics and Community Engagement	0	2
MDE-408	Internet of Things	3	0
HU-409	Foreign Language	2	0
SE-xxx	SE Elective IV	3	0
	Total	**11**	**6**
	Semester Total	**17**	
	Total for Final Year	**33**	
	Grand Total for Four Years	**134**	

SOFTWARE ENGINEERING (SE) ELECTIVE COURSES

Course Code	Course Title	Course Code	Course Title
SE-X11	Software Testing	SE-X33	Data Warehousing & Data Mining
SE-X12	Real Time Systems	SE-X34	Introduction to Bioinformatics
SE-X13	Machine Learning	SE-X35	Agent Based Software Engineering
SE-X14	Computer Vision	SE-X36	Big Data Analytics
SE-X15	Wireless Networks	SE-X37	Computer Graphics
SE-X16	Advance Database Management System	SE-X38	E-Commerce
SE-X17	Enterprise System Engineering	SE-X39	Game Application Development
SE-X18	Data Security and Encryption	SE-X40	Global Software Development
SE-X19	Design Patterns	SE-X41	Information Systems Audit
SE-X20	Artificial Neural Networks	SE-X42	Management Information Systems
SE-X21	Software Metrics	SE-X43	Mobile Application Development
SE-X22	Robotic Process Automation	SE-X44	Multimedia Communication
SE-X23	Advance Software Technologies	SE-X45	Natural Language Processing
SE-X24	Automata Theory & Formal Languages	SE-X46	Systems Programming
SE-X25	Fault Tolerant and Survivable Systems	SE-X47	Advanced Topics in Software Engineering
SE-X26	Financial and E-Commerce Systems	SE-X48	Deep Learning
SE-X27	Multimedia Forensics	SE-X49	High Performance Computing
SE-X28	Semantic Web	SE-X50	Artificial Intelligence
SE-X29	Visual Programming	SE-X51	Social Network Analysis
SE-X30	Multimedia Systems	SE-X52	Data visualization
SE-X31	Compiler Construction	SE-X53	Distributed and Cloud Computing
SE-X32	Advance Operating Systems	SE-X54	Blockchain Technologies and Applications

X denotes 3 or 4

Note:

Theory and Lab courses are treated as separate courses.

DEPARTMENT OF TELECOMMUNICATION ENGINEERING

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Lab Engineers

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Introduction

After the successful implementation of globalization, privatization and liberalization, the importance of telecommunication has increased significantly. Telecommunication services have emerged as central issue. Digital technology that integrates transmission, switching, processing, and retrieval of information provides opportunities to merge various service modes into an integrated unit. Satellites and optical fibers, among other technologies, contribute significantly to the globalization of telecommunications services. Standardization and interoperability of system have become global issues, as have compatibility of regulatory measures that ensure free trade in telecommunication products and services.

The Department

Established in 2007, Telecommunication Engineering department is concerned with the theory, development and application of telecommunication systems, their design and integration. The objective of

the program is to provide students with a strong theoretical and practical background in the field of telecommunication along with the engineering analysis, design, and implementation skills necessary to work between the two. The department offers 4 years degree program of BSc Telecommunication Engineering.

Program Vision

To foster innovation, excellence, and access at different levels of education for the telecommunication engineering profession.

Program Mission

To cultivate industry focused human resource that benefits the global demand of Telecommunication industry by:

- Providing value-added education through driven and qualified faculty
- Upholding a supportive environment for imparting affordable education
- Stimulating industry-academia linkage by industry involvement and entrepreneurial activities.

Program Educational Objectives (PEOs)

PEO-1: Our engineers will pursue professions in public or private sector industry, R&D organizations or initiate their own business. Some of them may opt to seek higher professional education.

PEO-2: They will exhibit the capability to remain abreast of recent development in Telecommunication Engineering.

PEO-3: Their dealings and behavior will reflect sound morals and sensitivity towards socio-environmental concerns.

PEO-4: They will have the capacity to be leaders in their respective organizations.

Laboratories

At present, Department of Telecommunication Engineering has six laboratories for practical demonstration and research work graduates. The semester projects associated with courses taught are carried out in the same laboratories. These laboratories are equipped with high quality equipment to provide students with hands-on training. There are following labs in the department;

1. Electronics & Communication Systems
2. Antenna and Microwave
3. Redio Frequency (RF)
4. DSP and Microprocessor
5. Virtual Reality & Simulation Systems
6. Telecommunication Innovation Center
7. Embedded Systems Research & Development Center

Electronics and Communication Systems Lab is basically developed for experiment of subjects like Electronic devices and circuits, digital logic design, circuit analysis and amplifiers and oscillators etc. This lab is equipped with latest equipment and all required software packages for simulation process.

Antenna and Microwave lab is basically developed for the subjects like Antennas & Wave propagation and Microwave Engineering. The lab is equipped with latest equipment and all required software packages used for simulation purposes.

The purpose of RF lab is conducting the practical work subject like RF planning. The lab also provides the fabrication and testing facility for Antennas and RFID tags. This lab is equipped with all the necessary hardware and software facilities.

The purpose of DSP and Microprocessor lab is to conduct lab experiments for Digital Signal Processing and Micro- processors and Interfacing techniques. This lab is equipped with all the necessary hardware and software facilities.

The Virtual Reality Simulation Laboratory (VRS Lab) is a research laboratory of the Department of Telecommunication Engineering. The research activities are mainly focused on Virtual and Augmented Reality Technologies in Automotive, Behavioral sciences and education. The VRS Lab is also engaged in the design and development of advanced human machine interface.

Telecommunication Innovation Center has been established with collaboration of Telecom industry to equip the TED with state-of-the-art equipment and infrastructure. The equipment donated by industry is in practice and functional. Transmission & Switching Systems Lab is conducted over here.

Embedded Systems Research & Development Center has been developed to carryout design and synthesis of VLSI systems and advanced level packaging. The lab also hosts a broad spectrum of engineering simulation and scientific computing software. The labs that are conducted here are optical fiber communication, Operating Systems, Introduction to Computing, VLSI Systems, Object Oriented Programming, Control Systems, Computer Aided Engineering Drawing, Next Generation Networks and Radar Systems Engineering.

Courses Under Semester System
BSc Telecommunication Engineering

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-101	Functional English	3	0
MA-103	Calculus and Analytic Geometry	3	0
EE-104	Circuit Analysis	3	1
MA-105	Applied Physics	3	1
EE-106	Electric Workshop	0	1
	Total	**12**	**3**
	Semester Total	**15**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-107	Applications of ICT	3	0
CS-108	Object Oriented Programming	3	1
EE-109	Electrical Network Analysis	3	1
MA-205	Multivariable Calculus	3	0
IE-122	Computer Aided Engineering Design	0	1
HU-112	Islamic Studies and Ethics	2	0
	Total	**14**	**3**
	Semester Total	**17**	
	Total for First Year	**32**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EE-203	Electronic Devices and Circuits	3	1
MA-192	Differential Equations	3	0
HU-205	Ideology and Constitution of Pakistan	2	0
	MDE-Elective I	2	0
	MDE-Elective I	0	1
HU-405	Civics and Community Engagement	2	0
MA-206	Linear Algebra	3	0
HS-111	Occupational Health and Safety	1	0
	Total	**16**	**2**
	Semester Total	**18**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-207	Probability and Statistics	3	0
EE-208	Amplifiers and Oscillators	3	1
EE-209	Signals and Systems	3	1
EE-210	Digital Logic Design	3	1
HU-305	Expository Writing	3	0
	Total	**15**	**3**
	Semester Total	**18**	
	Total for Second Year	**36**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-301	Electromagnetic Theory	3	0
TE-303	Communication Systems	3	1
EE-302	Control Systems	2	1
CS-304	Computer Communication Networks	3	1
TE-309	Microprocessors and Microcontrollers	3	1
	Total	**14**	**4**
	Semester Total	**18**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-306	Digital Communications	3	1
TE-307	Antennas and Wave Propagation	3	1
TE-308	Wireless and Mobile Communications	3	0
TE-304	Digital Signal Processing	3	1
	MDE-II	3	0
	Total	**15**	**3**
	Semester Total	**18**	
	Total for Third Year	**36**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-401	Microwave Engineering	3	1
TE-402	Optical Fiber Communications	3	1
	MBC Depth Elective I	3	0
TE-403	Final Year Design Project I	3	0
MG-407	Entrepreneurship	2	0
	Total	**14**	**2**
	Semester Total	**16**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-405	Transmission and Switching Systems	3	1
TE-406	Final Year Design Project II	3	0
HU-404	Project Management	2	0
	Social Science Elective	2	0
	MBC Depth Elective II	3	0
	Languages (Elective)	2	0
	Total	**15**	**1**
	Semester Total	**16**	
	Total for Fourth Year	**32**	

Major Based Core (MBC) Depth Electives

Course Code	Course Title
TE-408	Multimedia Systems
TE-409	Digital Electronics
TE-410	Digital Image Processing
TE-411	Satellite Communications
TE-412	Telecommunication Standards and Regulations
TE-413	Telecommunication Traffic Engineering
TE-414	Spread Spectrum Communications
TE-415	Speech Processing
TE-416	Next Generation Networks
TE-417	Network Security
TE-418	Broadband Communication Networks
TE-419	Radar Systems and Remote Sensing
TE-420	Telecommunication Network Management
TE-421	Compression Techniques
TE-422	Telecommunication Systems
TE-423	Machine Learning for Communication Systems
TE-424	Emerging Wireless Technologies and RF Planning

Note:
Theory and Lab courses are treated as separate courses.

Multi-Disciplinary Electives (MDE)

Course Code	Course Title
EE-211	Numerical Methods in Engineering
CS-212	Operating Systems
CS-213	Data Structures and Algorithms
CS-214	Database Management Systems
EE-422	Embedded Systems
CS-423	Artificial Intelligence
TE-424	Reliability, Modelling and Simulation of Telecommunication Systems
EE-425	VLSI Systems
CS-425	Data Science
CS-427	Cyber Security
CS-428	Cloud Computing
CS-429	Internet of Things

Social Science Electives

Course Code	Course Title
MG-422	Organization Behavior
HU-423	Psychology
HU-424	Public Policy
HU-425	Sociology
HU-426	Political Science
HU-427	Pakistani Culture and Society
HU-428	Sociology/ Community Service
HU-429	Languages

DEPARTMENT OF COMPUTER SCIENCE

Chairman

Dr. Syed Aun Irtaza

Associate Professors

Dr. Syed Aun Irtaza
BSCS (AIOU Islamabad)
MSCS (FAST-NU, Islamabad)
PhD (FAST-NU, Islamabad)
Post Doc (Univ. of Michigan, USA)

Assistant Professors

Dr. Muhammad Munawar Iqbal
BSc (IU Bahawalpur)
MSc (PU Lahore), MSCS (COMSATS Islamabad)
PhD (UET, Lahore)

Dr. Farrukh Zeeshan Khan
B.Com (PU Lahore), MCS (IU Bahawalpur)
PhD (Vienna Univ. of Tech., Austria)

Dr. Zeeshan Iqbal
BSc (IU Bahawalpur)
MSc (PU Lahore), MSCS (COMSATS, Islamabad)
PhD (UET, Taxila)

Dr. Syed Muhammad Adnan Shah
BSc (PU Lahore)
MSc Computer Eng. (CASE Islamabad)
PhD (UET, Taxila)

Dr. Muhammad Javed Iqbal
BSCS (BZU Multan)
MSCS (UA Faisalabad)
PhD (UTP, Malaysia)

Dr. Qamas Gul
BSCS (AIOU, Islamabad)
MSc Eng. (UET, Taxila)
PhD (BIT, China)

Lecturers

Dr. Rao Wakeel Ahmad
BCS (PU Lahore)
MCS (UO Sargodha)
MSIT (NUST SEECS, Islamabad)
PhD (UET, Taxila)

Dr. Abid Rauf
BSc Math (PU Lahore)
MS Info. Security (SU, Chengdu, China)
PhD (NUST, Islamabad)

Dr. Rashid Amin
BSc Math (BZU, Multan)
MCS (IIU, Islamabad)
PhD (COMSATS, Wah Cantt.)

Mr. Mehmoon Anwar
BSc Math (PU, Lahore)
MS Info. Tech. (QU, Islamabad)
MSCS (IIU, Islamabad)

Ms. Rabia Mahum
MSCS (UET, Taxila)

Mr. Hasnat Ahmed
MSCS (IIU, Islamabad)

Ms. Asmia Asmial
MSCS (IIU, Islamabad)

The Department

The Department of Computer Science is offering BS Computer Science, MS Computer Science, MS Data Science, and PhD Computer Science programs.

Computer science is a field that combines scientific principles and practical applications to solve computational problems. Computer scientists specialize in designing and developing computational systems, as well as studying the theory of computation. Pursuing a degree in computer science offers a wide range of career opportunities with competitive salaries worldwide.

The impact of computer science has been felt across all aspects of human life, from personal to business. With the evolution of computing, new mechanisms and services have been created, providing numerous job opportunities for computer scientists. Top careers in this field include Software Development, Data Science, Data Engineering, Cloud Computing Experts, Database Administration, Business Intelligence, Android/IOS Application Development, Game Programming, Artificial Intelligence Engineers, and Cyber Security.

To ensure that students are prepared for the demands of the international job market, computer science department in UET Taxila has focused on the latest job trends in the field. The primary objective is to equip students with high-demand skills required to persue the career in the field of Computer Science.

The department also collaborates with leading companies in the computer science industry, such as Cloudera, Oracle, VMWare, Huawei, Amazon Web Services, SAP, and Microsoft. These partnerships provide students with an industry-developed curriculum and exposure to software being used in the industry, enhancing their job readiness upon graduation. The department's academic partnerships reflect its commitment to staying current with industry standards and equipping its students with the skills needed to excel in their future careers.

Program Mission

Imparting up-to-date knowledge and skills of Computer Science to achieve the socio-economic goals for the betterment of society.

Program Educational Objectives (POEs)

The Program aims:

PEO-1: To produce competent computer scientists that can apply the knowledge and skills of computer science in diverse fields.

PEO-2: To prepare students to demonstrate professional and ethical practices and a responsible behavior in their respective organization.

PEO-3: To inculcate a zest to enhance their professional development by pursuing advance degrees in their fields.

PEO-4: To impart interpersonal skills so that they can become successful managers, entrepreneurs, and leaders.

Laboratories

There are following labs in the department:

1. General Computing
2. Cloud Computing
3. Digital Logic Design
4. Final Year Project

The General Computing lab serves as a multipurpose facility for students to conduct experiments in computer programming, web development, and mobile application development.

In contrast, Cloud computing provides on-demand access to shared computer processing resources and data via the Internet, reducing the need to store data locally and potentially cutting costs.

The Digital Logic Design Lab features top-of-the-line hardware and software to enable students to perform necessary experiments.

Similarly, the Final Year Project Lab is a dedicated space that supports students in designing, developing, completing, and testing their final year projects.

COMPTECH (Society of Computer Technology)

Advisor:
Dr. Muhammad Munwar Iqbal (Assistant Professor)
Patron:
Dr. Syed Aun Irtiza

Society Mission & Objectives

- To invite the speakers from all over Pakistan, so they can guide the students in their respective fields.
- To provide the chance to collaborate with international computing and scientific societies.
- To able participation in the competitions being held by other institutions, and international hackathons.
- To organize Extra Curricular activities and events for the Students to foster their intellectual, and literary potentials.

Events Organized

1. Web Programming
2. Poster Design
3. Crypto Challenge/Cryptography
4. UNO Card Game
5. Rubik's Cube
6. Minute to Win it
7. Quick Coding

Courses of Study

To complete the BS Computer Science degree:

1) The minimum credit hours shall be 134 including computing related courses.
2) The program shall comprise 8 semesters spread over 4 year with two semesters a year.

In all matters regarding courses of study and others, the department strictly follows the policies and guidelines of Higher Education Commission. The following are the relevant details of courses offered:

Courses Under Semester System
BSc Computer Science

Semester - I

Course Code	Course Title	Theory	Lab
CS-101	Introduction to Information and Communication Technologies	3	1
CS-102	Programming Fundamentals	3	1
MT-101	Calculus and Analytical Geometry	3	0
HU-101	English Composition & Comprehension	3	0
NS-101	Applied Physics	3	0
	Total	**15**	**2**
	Semester Total	**17**	

Semester - II

Course Code	Course Title	Theory	Lab
CS-103	Object Oriented Programming	3	1
CS-104	Discrete Structure	3	0
HU-102	Communication & Presentation Skills	3	0
MT-102	Probability & Statistics	3	0
HU-103	Pak Studies	2	0
HU-104	Islamic Studies	2	0
	Total	**16**	**1**
	Semester Total	**17**	
	Total for First Year	**34**	

Semester - III

Course Code	Course Title	Theory	Lab
CS-201	Data Structures and Algorithms	3	1
CS-202	Digital Logic Design	3	1
HU-201	Technical and Business Writing	3	0
MT-202	Liner Algebra and Differential Equations	3	0
CS-203	Operating Systems	3	1
	Total	**15**	**3**
	Semester Total	**18**	

Semester - IV

Course Code	Course Title	Theory	Lab
CS-204	Introduction to Software Engineering	3	0
CS-205	Computer Organization and Architecture	3	1
CS-207	Introduction to Database Systems	3	1
MT-203	Numerical Computing	3	0
UE-201	University Elective – I	3	0
	Total	15	2
	Semester Total	**17**	
	Total for Second Year	**35**	

Semester - V

Course Code	Course Title	Theory	Lab
CS-301	Theory of Programming Languages	3	0
CS-302	Theory of Automata & Formal Languages	3	0
UE-301	University Elective –II	3	0
MT-301	Multi Variable Calculus	3	0
CS-305	Parallel & Distributed Computing	3	0
CS-306	Design and Analysis of Algorithms	3	0
	Total	**18**	**0**
	Semester Total	**18**	

Semester - VI

Course Code	Course Title	Theory	Lab
CS-307	CS Elective – I	3	0
CS-308	CS Elective - II	3	0
UE-302	University Elective –III	3	0
CS-309	Computer Networks	3	1
CS-310	CS Elective - III	3	0
	Total	15	1
	Semester Total	**16**	
	Total for Third Year	**34**	

Semester - VII

Course Code	Course Title	Theory	Lab
CS-400	Final Year Project - I	0	3
CS-401	CS Elective – IV	3	0
CS-402	Compiler Construction	3	0
CS-403	CS Elective – V	3	0
CS-404	Artificial Intelligence	3	0
CS-405	CS Elective – VI	3	1
	Total	**15**	**4**
	Semester Total	**19**	

Semester - VIII

Course Code	Course Title	Theory	Lab
CS-406	Final Year Project - II	0	3
HU-401	Professional Practices	3	0
CS-408	Information Security	3	0
UE-401	University Elective – IV	3	0
	Total	9	3
	Semester Total	**12**	
	Total for Final Year	**31**	
	Grand Total for Four Years	**134**	

Computer Science (CS) Elective Courses

Course Title	Credit Hours
Operations Research	3+0
Simulation and Modeling	3+0
Computer Graphics	3+0
Digital Image Processing	3+0
Digital Signal Processing	3+0
Computer Vision	3+0
Advance Software Engineering	3+0
Principles of Programming Languages	3+0
Data Communication	3+0
Distributed Computing	3+0
Data and Network Security	3+0
Wireless Networks	3+0
Telecommunication Systems	3+0
Microprocessor Interfacing	3+0
Web Engineering	3+0
System Programming	3+0
Distributed Database Systems	3+0
Data Warehousing	3+0
Expert Systems	3+0
Artificial Neural Network	3+0
Fuzzy Logic	3+0
Software Quality Assurance	3+0

Course Title	Credit Hours
Advance Object-Oriented Programming	3+0
Network Analysis and Design	3+0
Network Management	3+0
Game Programming	3+0
Cryptography	3+0
Network Programming	3+0
Cloud Computing	3+0
Visual Programming	3+0
Object Oriented Software Engineering	3+0
Computer Law	3+0
Computer Animation	3+0
Modern Programming Language	3+0
Data and Network Security	3+0
Advanced Topics in Computer Science	3+0
Financial Analytics	3+0
Natural Language Processing	3+0
Data Analytics Representations	3+0
Computational Finance	3+0
Data Science Tools and Techniques	3+0
Big Data and Hadoop Essentials	3+0
Internet of Things	3+0

University Elective Courses

Course Title	Credit Hours
Financial Accounting	3+0
Financial Management	3+0
Human Resource Management	3+0
Marketing	3+0
Economics	3+0
Psychology	3+0
International Relations	3+0
Foreign/Regional Language (French, German, Sindhi, Punjabi, Urdu etc.)	3+0
Philosophy	3+0

Course Title	Credit Hours
Introduction to Management	3+0
Quality Control & Engineering Standards	3+0
Quality Assurance and Management System	3+0
Quality Improvement tools & Methods	3+0
Entrepreneurship	3+0
E-Commerce	3+0
Social Media Marketing	3+0
Social Service	3+0

Note:
Theory and Lab courses are treated as separate courses.

E-ROZGAAR PROGRAM PARTNERSHIP

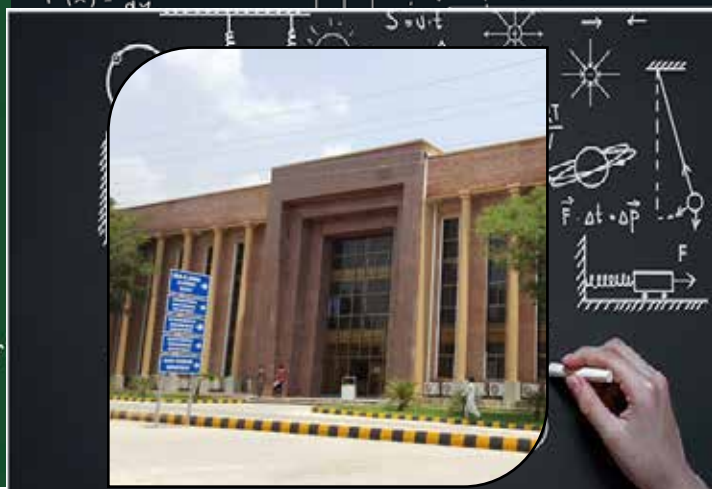
PITB under the Chief Minister E-Rozgaar Training Program in collaboration with Computer Science department UET, Taxila started the 3rd E-Rozgaar training center. This partnership provides the training and career development opportunities to young professionals of the province to help the counter, the menace of unemployment and provide them with the necessary means to earn an honorable living. Three main tracks are offered:

1. Technical
2. Non-technical
3. Creative Designing

The main objectives of this initiative are as follows:

- To provide training opportunities to youth for self-employment using internet-based freelancing
- Provision of career growth for young degree holders.
- Development of soft critical skills to enhance the employability of our youth.
- To ensure that our youth can earn a sustainable income.
- Empower youth by giving them an opportunity to not only work on their own but also to contribute positively to Pakistan by bringing in much needed foreign exchange for themselves and the country.
- To give an international face to Freelancing in Pakistan – Ultimately have a group of premium, top-notch Freelancers housed at the same place to work on international projects.
- To provide young individuals with opportunities for upward economic and social mobility.
- To provide exposure to unexplored yet lucrative career opportunities for our youth.
- Empower and alleviate the status of women by giving them the opportunity to earn an honorable living while working from home.

6 Faculty of Basic Sciences and Humanities



This faculty consists of three academic departments:

- Department of Mathematical Sciences
- Department of Physical Sciences
- Department of Humanities and Social Sciences

DEPARTMENT OF MATHEMATICAL SCIENCES

Chairman

Dr. Nasir Siddiqui

Associate Professors

Dr. Muhammad Muddassar
PhD (UET, Lahore)

Dr. Nasir Siddiqui
PhD (QAU, Islamabad)

Dr. Azeem Shahzad
PhD (QAU, Islamabad)

Assistant Professors

Dr. Safeera Batool
PhD (CUI, Islamabad)

Dr. Zaffer Elahi
PhD (PU, Lahore)

Dr. Muhammad Altaf
PhD (USTC, China)

Dr. Muhammad Touqeer
PhD (PU, Lahore)

Lecturers

Dr. Syed Sabyel Haider
PhD (NUST, Islamabad)

Dr. Jawad Ahmad
PhD (QAU, Islamabad)
(on leave)

Ms. Andleeb Abbasi
M.Phil (QAU, Islamabad)

Ms. Sumaira Rashid
M. Phil (QAU, Islamabad)

Mr. Syed Zulqarnain Haider
M. Phil (QAU, Islamabad)

Ms. Haleema Sadia
M. Phil (QAU, Islamabad)

The Department

The Department of Mathematical Sciences is a vital component of any academic institution, encompassing a broad range of mathematical and statistical disciplines and research areas. Its primary goal is to advance understanding and knowledge in mathematics through teaching, research, and outreach activities.

Within a university setting, the Department of Mathematical Sciences typically offers undergraduate and graduate programs, providing students with foundational knowledge in mathematical theory, problem-solving skills, and applications across various fields such as science, engineering, data analysis, and computer science.

The faculty within the department are often engaged in cutting-edge research, exploring topics ranging from pure mathematics, like algebra, analysis, and geometry, to applied mathematics, including mathematical modeling, computational mathematics, and mathematical physics.

In addition, the department is also responsible for teaching mathematics and statistics courses to all undergraduate programs in each Engineering Programs of the University.

Programs

In the ever-evolving landscape of knowledge and technology, the importance of mathematics as a foundational discipline cannot be overstated. Recognizing the critical role that mathematics plays in shaping various fields, we take pride in introducing our Bachelor of Science (BS) program in Mathematics.

The distinguished faculty members, who are experts in various branches of mathematics, will guide students through a curriculum that encompasses both theoretical and practical aspects of the discipline. The program offers a blend of core courses, electives, and hands-on projects to ensure that students not only grasp the fundamental concepts but also apply them in real-world scenarios.

Moreover, the BS Mathematics program encourages interdisciplinary collaboration, allowing students to explore the intersections between mathematics and other fields. This interdisciplinary approach enhances students' ability to address complex challenges and contribute meaningfully to the advancement of knowledge.

At UET Taxila, we are committed to fostering a supportive learning environment that encourages curiosity, creativity, and innovation. The BS Mathematics program is designed to nurture the next generation of mathematicians and professionals who will play a pivotal role in shaping the future. Embark on a transformative academic journey with us as we delve into the exciting world of mathematics, unraveling its mysteries and unlocking its immense potential. Join us in paving the way for a future where mathematical prowess is not only valued but serves as a catalyst for positive change.

Welcome to the BS Mathematics program at UET Taxila, where the power of mathematics meets limitless possibilities. BS Mathematics is a four-year degree program comprising of eight regular semesters.

The Department of Mathematical Sciences has well equipped Computational LAB. Combined with cutting-edge computational techniques with domain-specific expertise to address complex problems and drive innovation in our field.

Courses Under Semester System
BS Mathematics

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
PS-111	Ideology and Constitution of Pakistan	2	0
ENG-111	Functional English	3	0
ICT-111	Applications of Information and Communication Technologies (ICT)	2	1
MTH-111	Calculus and Analytic Geometry	3	0
PHY-111	Physics-I (Basic Mechanics)	2	1
MTH-112	Foundation of Mathematics	3	0
Qur'an	Qur'an Translation-I (Imaniyat) (Non-Credit)	1	0
	Total	**16**	**2**
	Total Credit Hours	**18**	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
ISL-121	Islamic Studies / Ethics	2	0
PHY-121	Physics–II (Electricity and Magnetism)	3	1
ENG-121	Expository Writing	3	0
CP-107	Programming Fundamentals	3	1
MTH-121	Linear Algebra–I	3	0
	Total	**14**	**2**
	Total Credit Hours	**16**	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
STA-211	Probability & Statistics	3	0
PHY-211	Physics-III (Heat and Thermodynamics)	3	1
MTH-211	Multivariable Calculus	3	0
QR-211	Quantitative Reasoning-I	3	0
SOC-211	Professional Ethics	2	0
Qur'an	Qur'an Translation-II (Ibadaat) (Non-Credit)	1	0
	Total	**15**	**1**
	Total Credit Hours	**16**	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MTH-221	Vector and Tensor Analysis	3	0
MGT-221	Entrepreneurship	2	0
SOC-221	Civics and Community Engagement	2	0
MTH-222	Differential Equations	3	0
QR-221	Quantitative Reasoning-II	3	0
SOC-222	Social Psychology	2	0
	Total	**15**	**0**
	Total Credit Hours	**15**	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MTH-311	Real Analysis-I	3	0
MTH-312	Numerical Methods with Programming	3	1
MTH-313	Group Theory	3	0
MTH-314	Complex Analysis	3	0
MTH-315	Metrics and Topology	3	0
Qur'an	Qur'an Translation-III (Muamlaat) (Non-Credit)	1	0
	Total	**16**	**1**
	Total Credit Hours	**17**	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MTH-321	Mathematical Methods of Physics	3	0
MTH-322	Differential Geometry	3	0
MTH-323	Functional Analysis-I	3	0
MTH-324	Discrete Mathematics	3	0
MTH-325	Operations Research-I	3	0
	Total	**15**	**0**
	Total Credit Hours	**15**	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MTH-411	Abstract Algebra-I	3	0
MTH-412	Introduction to Mathematical Modeling	3	0
MTH-XXX	Distribution Course-I	3	0
MTH-XXX	Distribution Course-II	3	0
MTH-400	Field Experience/Internship	3	0
Qur'an	Qur'an Translation-IV (Akhlaqiyat) (Non-Credit)	1	0
	Total	**16**	**0**
	Total Credit Hours	**16**	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MTH-421	Number Theory	3	0
MTH-422	Numerical Linear Algebra	3	0
MTH-XXX	Distribution Course –III	3	0
MTH-XXX	Distribution Course –IV	3	0
MTH-410	Capstone Project	3	0
	Total	**15**	**0**
	Total Credit Hours	**15**	

General Education Courses

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SOC-211	Professional Ethics	2	0
PHY-111	Physics-I (Basic Mechanics)	2	1
SOC-222	Social Psychology	2	0
ENG-111	Functional English	3	0
ENG-121	Expository Writing	3	0
QR-211	Quantitative Reasoning-I	3	0
QR-221	Quantitative Reasoning-II	3	0
ISL-121	Islamic Studies / Ethics	2	0
PS-111	Ideology and Constitution of Pakistan	2	0
ICT-211	Applications of Information and Communication Technologies (ICT)	2	1
MGT-221	Entrepreneurship	2	0
SOC-221	Civics and Community Engagement	2	0
Qur'an	Holy Qur'an Translation-I (Imaniaat)	1	0
Qur'an	Holy Qur'an Translation-II (Ibadaat)	1	0

Qur'an	Holy Qur'an Translation-III (Mua'amlaat)	1	0
Qur'an	Holy Qur'an Translation-IV (Ikhlaqiaat)	1	0
	Total	**28**	**2**
	Total Credit Hours	**30**	

Interdisciplinary Courses

Course Code	Course Title	Credit Hours	
		Theory	Lab.
PHY-121	Physics-II (Electricity & Magnetism)	3	1
PHY-211	Physics-III (Heat and Thermodynamics)	3	1
CP-107	Programming Fundamentals	3	1
STA-211	Probability and Statistics	3	0
	Total	**12**	**3**
	Total Credit Hours	**15**	

Math-Core Requirements

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MTH-111	Calculus and Analytic Geometry	3	0
MTH-112	Foundation of Mathematics	3	0
MTH-211	Multivariable Calculus	3	0
MTH-121	Linear Algebra-I	3	0
MTH-222	Differential Equations	3	0
MTH-221	Vector and Tensor Analysis	3	0
MTH-312	Numerical Methods with Programming	3	1
MTH-314	Complex Analysis	3	0
MTH-322	Differential Geometry	3	0
MTH-311	Real Analysis-I	3	0
MTH-315	Metrics and Topology	3	0
MTH-324	Discrete Mathematics	3	0
MTH-313	Group Theory	3	0
MTH-323	Functional Analysis-I	3	0
MTH-325	Operations Research-I	3	0
MTH-421	Number Theory	3	0
MTH-411	Abstract Algebra-I	3	0
MTH-321	Mathematical Methods of Physics	3	0
MTH-422	Numerical Linear Algebra	3	0
MTH-412	Introduction to Mathematical Modeling	3	0
	Total	**60**	**1**
	Total Credit Hours	**61**	

Specialization (Distribution Courses)

Course Code	Course Title	Credit Hours
MTH-400	Field Experience/Internship	3
MTH-410	Capstone Project	3
XXX	Distribution Course-I	3
XXX	Distribution Course-II	3
XXX	Distribution Course-III	3
XXX	Distribution Course-IV	3
	Total credit hours	**18**

List of Distribution Courses*

Course Code	Course Title	Credit Hours
MTH-401	Real analysis-II	3
MTH-402	Advanced Group Theory	3
MTH-403	Fuzzy Set Theory	3
MTH-404	Introduction to Graph Theory	3
MTH-405	Measure Theory and Lebesgue Integration	3
MTH-406	Fixed Point Theory and Applications	3
MTH-407	Functional Analysis-II	3
MTH-408	Combinatorial Mathematics	3
MTH-409	Theory of Partial Differential Equations	3
MTH-411	Nonlinear Waves	3
MTH-412	Dynamical Systems	3
MTH-413	Special Theory of Relativity	3
MTH-414	Waves and Oscillations	3
MTH-415	Fluid Mechanics-I	3
MTH-416	Computational Physics	3
MTH-417	Computer Graphics	3
MTH-418	Theory of Automata	3
MTH-419	Theory of Splines	3
MTH-420	Optimizations	3

* The distribution courses will be offered from the above list of courses subject to the availability of concerned teacher.

DEPARTMENT OF PHYSICAL SCIENCES

Chairman

Dr. Malik Sajjad Mehmood

Associate Professor

Dr. Malik Sajjad Mehmood
PhD (PIEAS, Islamabad)

Assistant Professors

Dr. Muhammad Sultan
PhD (QAU, Islamabad)
Post Doc. (Loughborough University UK)

Dr. Muhammad Nadeem Badani
PhD (Universiti Teknologi Malaysia)

Lecturers

Dr. Kulsoom Rahim
Ph.D. (QAU, Islamabad)

Dr. Muhammad Tariq
PhD (MLU Halle-Wittenberg, Germany)
Post Doc. (MLU Halle-Wittenberg, Germany)

The Department

The Department of Physical Sciences is a teaching and research Department of the University of Engineering and Technology, Taxila.

At the Department of Physical Sciences, the aim is to take pride in fostering a dynamic learning environment, where students can explore the wonders of Physics and allied Sciences while engage themselves in cutting-edge research. The dedicated faculty of the Department is here to guide and inspire student's academic journey.

Vision

To be a leading center of academic and research excellence in the field of Physical Sciences, fostering innovation, knowledge, & technological development.

Mission

To impart quality education, cutting-edge research, and contribute to the advancement of knowledge in the physical sciences while nurturing a learning environment that promotes critical thinking, creativity, and the holistic development of individuals.

Courses of Study

The Department of Physical Sciences currently offers two comprehensive degree programs:

Undergraduate Program (BS Physics): A four-year program designed to provide students with a solid foundation in Physics.

Postgraduate Program (MS Physics): A two-year program offering advanced studies in Physics.

While MS Physics program is running since 2014, the BS Physics is newly introduced by the Department at the University. The first intake of students in BS Physics is started in the Fall-2023 session.

In addition to our degree programs, the Department of Physical Sciences also provides their instructors to various Engineering Departments for teaching the Applied Physics and Chemistry courses.

Laboratories

The Hands-on exploration of theoretical concepts is extremely important in any degree program. The state-of-the-art laboratories of the Department provide an immersive learning experience. Equipped with all necessary instruments and guided by experienced faculty, these laboratories are the heart of our commitment to empowering students with real-world applications of theoretical knowledge. The Department of Physical Sciences have the following three major labs for undergraduate students.

- Optics and Mechanics Lab
- Electromagnetism and Thermodynamics Lab
- Modern Physics and Material Lab

Department also has Postgraduate Research facilities for various kind of sample preparation.

BS Physics Programs

The BS Physics is a full–time 4 years (8 semesters) degree program. Various core Physics courses along with interdisciplinary as well as general education courses, as per guideline of HEC are offered to the students of BS Physics degree program. Briefly, the students will study the 135 credit hours in total. In 7th semester, each student will attend a 3 credit hours internship, in which they are required to gain the field experience of six to eight weeks (preferably undertaken during semester or summer break). The students are required to submit their report at the end of the semester. The internship must be graded by a faculty member in collaboration with the field supervisor. In 8th semester, the students are required to write a project of 3 credit hours on a topic approved by the Chairman of the Department along with the theory courses. There will be viva-voce examination of the project.

Courses Under Semester System
BS Physics
Semester - I

Category	Course Code	Course Name	Credit Hrs.
Gen.Edu	GE-111	Ideology and Constitution of Pakistan	2
Gen.Edu	GE-112	Functional English	3
Gen.Edu	GE-113	Natural Sciences (Applied Chemistry)	2
Gen.Edu	GE-113L	Natural Sciences (Applied Chemistry (Lab))	1
Gen.Edu	GE-114	Application of Information & Communication Technologies	2
Gen.Edu	GE-114L	Application of Information & Communication Technologies (Lab)	1
Interdisciplinary	MTH-111	Calculus and Analytical Geometry	3
Core	PHY-111	Mechanics	3
Core	PHY-111L	Lab I – Mechanics	1
		Basic Mathematics (Non-Credit)*	3
	Qur'an	Qur'an Translation I (Imaniaat) (Non-Credit)	1
		Total	**18**

* The Basic Mathematics (Non-Credit) is a "crash course" of the FA/F.Sc level only for those students of BS Physics, who did not study Mathematics in their Intermediate/HSSC degree. Passing the course is compulsory.

Semester - II

Category	Course Code	Course Name	Credit Hrs.
Gen.Edu	GE-121	Islamic Studies/Ethics	2
Gen.Edu	GE-122	Expository Writing	3
Gen.Edu	GE-123	Social Sciences (Social Psychology)	2
Interdisciplinary	CP-107	Computer Programming	3
Interdisciplinary	CP-107L	Computer Programming (Lab)	1
Interdisciplinary	MTH-121	Linear Algebra	3
Core	PHY-121	Electricity and Magnetism	3
Core	PHY-121L	Lab II - Electricity and Magnetism	1
		Total	**18**
		Total for First Year	**36**

Semester - III

Category	Course Code	Course Name	Credit Hrs.
Gen.Edu	GE-211	Arts & Humanities (Professional Practices)	2
Gen.Edu	GE-212	Civics and Community Engagement	2
Gen.Edu	GE-213	Probability and Statistics (QR-1)	3
Interdisciplinary	MTH-211	Multivariable Calculus	3
Core	PHY-211	Heat and Thermodynamics	3
Core	PHY-212	Waves and oscillations	3
Core	PHY-212L	Lab III - Heat, Waves and Oscillations	1
	Qur'an	Qur'an Translation II (Ibadaat) (Non-Credit)	1
		Total	**17**

Semester - IV

Category	Course Code	Course Name	Credit Hrs.
Gen.Edu	GE-221	Entrepreneurship	2
Gen.Edu	GE-222	Data Science (QR-2)	3
Interdisciplinary	MTH-221	Differential Equations	3
Core	PHY-221	Modern Physics	3
Core	PHY-222	Optics	3
Core	PHY-222L	Lab IV – Optics	2
		Total	**16**
		Total for First Year	**33**

Semester - V

Category	Course Code	Course Name	Credit Hrs.
Core	PHY-311	Research Methodology	3
Core	PHY-312	Electrodynamics-I	3
Core	PHY-313	Classical Mechanics	3
Core	PHY-314	Mathematical Methods of Physics-I	3
Core	PHY-315	Electronics-I	3
Core	PHY-315L	Lab V – Electronics	2
	Qur'an	Qur'an Translation III (Mua'amlaat)(Non-Credit)	1
		Total	**17**

Semester - VI

Category	Course Code	Course Name	Credit Hrs.
Core	PHY-321	Nuclear Physics	3
Core	PHY-322	Electrodynamics-II	3
Core	PHY-323	Quantum Mechanics-I	3
Core	PHY-324	Mathematical Methods of Physics-II	3
Core	PHY-325	Electronics-II	3
Core	PHY-325L	Lab VI – Modern physics, Spectroscopy	2
		Total	**17**
		Total for First Year	**34**

Semester - VII

Category	Course Code	Course Name	Credit Hrs.
Core	PHY-411	Statistical Physics	3
Core	PHY-412	Atomic and Molecular Physics	3
Core	PHY-413	Quantum Mechanics-II	3
Core	PHY-414	Solid State Physics-I	3
Core	PHY-414L	Lab VII – Atomic physics, Solid State Physics	2
Core	PHY-410	Internship	3
	Qur'an	Qur'an Translation-IV (Ikhlaqiaat)(Non-Credit)	1
		Total	**17**

Semester - VIII

Category	Course Code	Course Name	Credit Hrs.
Core	PHY-421	Solid State Physics-II	3
Core	XXX	Elective-I	3
Core	XXX	Elective-II	3
Core	XXX	Elective-III	3
Core	PHY-420	FYP	3
		Total	**15**
		Total for Fourth Year	**32**
		Grand Total for Four Years	**135**

Note: Theory and Lab courses are treated as separated courses.

List of Elective Courses

Code	Course Title	Credit Hours	Specialization
PHY-422	Techniques of Experimental Physics	3	Experimental Physics
PHY-423	Introduction to Photonics	3	Experimental and theoretical Physics
PHY-424	Introduction to Material Science	3	Experimental and theoretical Physics
PHY-425	Radiation Physics	3	Experimental and theoretical Physics
PHY-426	Nanoscience and Nanotechnology	3	Experimental and theoretical Physics
PHY-427	Laser Physics	3	Experimental and theoretical Physics
PHY-428	Biophysics	3	Experimental and theoretical Physics
PHY-429	Plasma Physics	3	Experimental and theoretical Physics
PHY-430	Condensed Matter Physics	3	Experimental and theoretical Physics
PHY-431	Particle Physics	3	Experimental and theoretical Physics
PHY-432	Introduction to Quantum Information and Computation	3	Theoretical Physics
PHY-433	Computational Physics	3	Theoretical Physics
PHY-434	Polymer Physics	3	Experimental Physics
PHY-435	Environmental Physics	3	Experimental Physics

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

Chairman
Dr. Nasir Siddiqui

Assistant Professors

Dr. Naila Maqsood
PhD (NDU, Islamabad)
M.Phil (QAU, Islamabad)

Dr. Sumaira Nawaz
PhD (AIOU)

Fareeha Zaheer
PhD (NUML University, Islamabad)
M.Phil (AU, Islamabad)

Lecturers

Dr. Syed Muhammad Abdul Rehman Shah
PhD (IIUI)
MS (IIUI)
MSc (QAU)
MA (UOS)

Mariam Batool
M.Phil (AU, Islamabad)
MA (PU, Lahore)

Tehmina Farrukh
PhD (Air University, Islamabad)
M.Phil (AU, Islamabad)
MA (NUML, Islamabad)

Dr. Sabahat Jaleel
PhD (QAU)
M.Phil (QAU)

Muhammad Irfan
MS (IIUI)

Ms. Rabia Ramzan
M.Phil (FJWU)

The Department

The Humanities & Social Sciences Department (HSSD) was established independently under the auspices of the Faculty of Basic Sciences and Humanities in 2023, and entrusted with the responsibility of providing instructors to various engineering departments. Presently, the HSSD has expanded its academic purview to encompass a range of subjects including Quran Translation Modules, Islamic Studies, Pakistan Studies, English, Social Sciences, Professional & Social Ethics, Economics, and Management. This evolution reflects the department's commitment to providing a comprehensive and interdisciplinary education, aligning with the evolving needs and demands of contemporary academia and society at large.

The curricular contents of our courses undergo regular scrutiny to ensure alignment with the rapid advancements observed across diverse engineering faculties. Specialized courses in Islamic Studies have been meticulously crafted to cater the intellectually spiritual development of Muslim students across all engineering disciplines, with overarching aim to cultivate a profound understanding of Islamic principles, equipping students with the moral compass necessary for discharging their future societal duties with utmost integrity and diligence. Furthermore, non-Muslim students are afforded the opportunity to engage with courses centered on ethics, fostering a holistic educational experience that transcends cultural and religious boundaries. The introduction of Pakistan Studies as mandatory course, is meticulously structured to explore multifaceted dimensions, encompassing the historical and ideological underpinnings of Pakistan, the intricacies of governance, national development paradigms, and contemporary challenges confronting the nation.

It is widely acknowledged that proficiency in the English language is indispensable for effective participation in the global arena. Consequently, various departments offer a spectrum of courses meticulously designed to enhance students' English language proficiency tailored for professional contexts. Through these courses, students are afforded the opportunity to refine their communication acumen, thereby fostering greater efficacy in interpersonal and professional interactions. Complementing these initiatives, an English Language Lab has been established within the department, leveraging cutting-edge technology and interactive pedagogical methods to facilitate immersive language learning experiences. Equipped with state-of-the-art computing resources, audio-visual aids, and interactive tools, the lab serves as a nurturing environment for students to hone their English language skills in a supportive and conducive setting.

Moreover, faculty members within the department are actively engaged in scholarly pursuits, yielding a rich repository of research publications showcased in esteemed scientific journals and presented at both national and international conferences and seminars. These contributions span an array of disciplines, including Seerah Studies, Political Theory, Governance, Gender Studies, Environmental Ethnicism Islam, Economics, Monetary Policy, Islamic Banking and Finance, Islamic Studies, Islamic Law, English Linguistics and Literature, Public Economy, Politics, Management, Iqbaliat, and Ethics, reflecting the department's commitment to advancing knowledge and scholarship across multifarious domains.

SERVICES AND COMMON FACILITIES

7 Library

7.1 Main Library

The Central Library of the University plays a vital role in dissemination of knowledge, teaching, research, and extension services. It has a seating capacity for about 400 readers at its different halls, which provide congenial conditions for study. The Library is stocked with encyclopedias, dictionaries, handbooks, standard specifications, yearbooks, almanacs, abstracts, indexes and a big reference collection of text and general technical books.

Library Timings
Monday – Friday: 08:00 am - 09:00 pm

7.2 Library Resources

Library has 69588 books and huge collection of journals pertaining to engineering and applied sciences. The members have open access to library collections arranged at reference and circulation sections.

7.3 Reference Section

Reference resources are located at the ground floor. They include the following:

(a) Reference Books: This section consists of dictionaries, encyclopedias, manuals, technical/ industrial standards, plus one copy of each title pertaining to engineering disciplines etc.

(b) Thesis/ Dissertations: Thesis of MSc. Engineering and PhD students are available in this section.

(c) Periodicals/ Journals: Central Library has a vast variety of research journals, proceedings, magazines and newspapers.

d) Computer Lab: This lab consists of 50 computers with free access to internet and electronic resources.

(e) CD/DVD Burn Facility is also available to library users on providing a writable CD/ DVD.

Readers' advisory service, reference services are provided to students, faculty and research scholars. Library users can contact to the library personnel in the Journal/Periodical Section OR In-charge Evening Shift regarding their queries. Reference resources are not borrowable/ transferable resources to any library user, but one can borrow them conditionally with the permission of Chief Librarian.

7.4 Book Bank

This section consists of textbooks recommended by the faculty. Every faculty member can CHECK OUT (borrow) 10 (ten) books while every undergraduate student can CHECK OUT (borrow) 08 (eight) textbooks for an academic session from this section.

7.5 Circulation Section

This section plays a key role for providing books to readers. The readers may contact at Circulation Desk OR Senior Librarian (Circulation) at the ground floor regarding the matters relating to library membership, fine and clearance etc. This section consists of the following subjects:

- Engineering and allied sciences Social Sciences, Humanities, Literature and Religions
- Basic Sciences like Mathematics, Physics, Chemistry and Computer Sciences etc.

Library users can CHECK OUT (barrow) books under the library rules. Books holding (reservation) facility is also available for library users.

7.6 Central Library Automation System

Central Library has launched its online web OPAC using Koha (an integrated library system). This ILS has been prepared according

to international standards. Library users can check their CHECK OUTS, CHECK INs, borrowing status/history and fines. They also can prepare their private as well shared lists and can upload their own documents and much more through internet from anywhere, any time. To access the database please follow the link bellow:
http://web.uettaxila.edu.pk/uet/Library.asp
OR Main university website >> Life at UET >> Library. Please email us at: central.livrary@gmail.com

7.7 Online Resources: Digital Library

To meet the requirements of students and researchers of UET, Taxila, the provision of quality scholarly information based electronic delivery through Pakistan Educational Research Network (PERN) is available in the Library. HEC has given the online access to online books of almost all major international famous publisher on a large number of subjects, hundreds of thousands of journals, millions of articles, thousands scholarly research thesis and many international databases free of charge through university intranet.

ASTM

The ASTM Standards & Engineering Digital Library is a vast collection of industry-leading standards and technical engineering information. It covers a broad range of engineering disciplines, including aerospace, biomedical, chemical, civil, environmental, geological, health and safety, industrial, materials science, mechanical, nuclear, petroleum, soil science and so-lar engineering.

AMERICAN SOCIETY OF CIVIL ENGINEERING (ASCE)

The ASCE Research Library provides access to more than 18,500 full-text papers from ASCE Journals and Proceedings.

ASSOCIATION OF COMPUTING MACHINERY (ACM)

- The ACM digital library contains full-text from 28 ACM Journals and Transactions, 10 ACM Magazines, over 40 ACM Special Interest News- letters, 15 non-ACM journal and publications and over 100 annual conference proceedings.
- Content strengths include all areas of Information Technology, with full archival content for all ACM publications.

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)

- IEEE database provides access to almost a third of the world's current Electrical Engineering and Computer Science literature.
- IEL provides full-text access to 132 IEEE and 45 IEE journals, magazines, transactions, and conference proceedings as well as active IEEE standards.

AMERICAN PHYSICAL SOCIETY (APS)

- APS database provides access to 9 prestigious research publications
- Includes the five-specialist Physical Review Publications, and the PROLA archive.

AMERICAN ASSOCIATION OF PHYSICS TEACHERS (AAPT)

- Two AAPT publications provide up to date physics knowledge, at a level comprehensible for many users.
- AAPT publications assist in the learning of new and traditional teaching methodologies and the use of modern

technology in Physics.

AMERICAN INSTITUTE OF PHYSICS (AIP)

- AIP database provides access to the full collection of highly rated of 11 Journals and conference proceedings.
- Covers developments in Physics, Industrial Ap- plications (Applied Physics), and advances in Scientific Computing.

OPTICAL SOCIETY OF AMERICA (OSA)

- OSA database provides access to 8 peer-reviewed journals that set the publications standard for advanced optics research within each major sector of the field.
- OSA journals cover the full spectrum of optics research, including the fields of Physics, Materials Research, Atmospheric Studies, Visual Psychology, Biomedical Optics, Physiology, and Ophthalmology, as well as Mechanical, Computer, Electrical and Optical Engineering.

JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA (JASA)

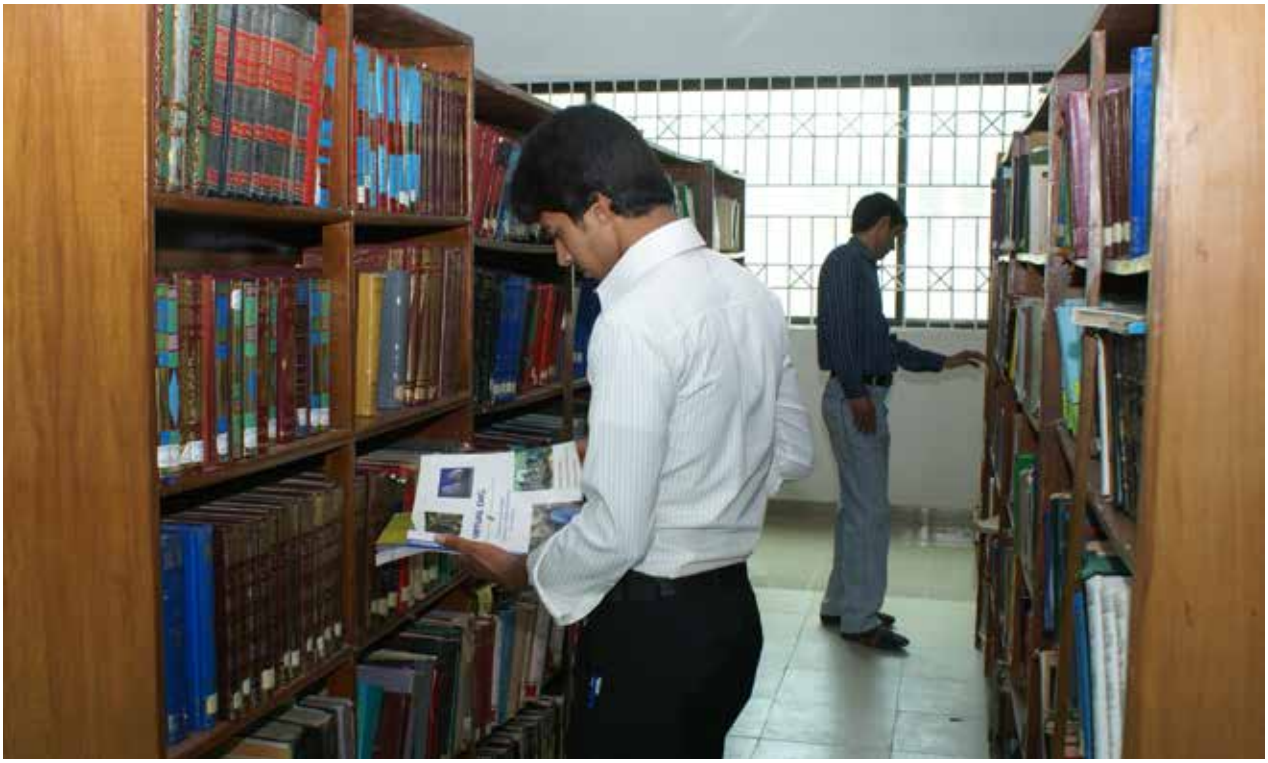
- Since 1929 The Journal of the Acoustical Society of America has been the leading source of theoretical and experimental research results in the broad interdisciplinary subject of sound.
- The Journal serves physical scientists, life scientists, engineers, psychologists, physiologists, architects, musicians, and speech communication specialists.

ELSEVIER (Science Direct)

- Science Direct is the world's leading electronic collection of scientific journals.
- Renowned for the high-quality of its content in all branches of science, technology, and medicine. Subscribed subject Areas are:
- Energy
- Engineering
- Computer Science
- Materials Science

ESDU - Engineering Solutions for Academia

- ESDU collection is based on industry standard tools and software as part of teaching and research projects.
- ESDU provide validated design guides, introductions, methods, data, and software used in Industry and suitable for simple, rapid inclusion in these engineering programs:
  - Aerospace Engineering
  - Civil Engineering
  - Chemical Engineering



- Material Science
- Mechanical Engineering
- Process Engineering
- Structural Engineering

SPRINGER LINK

- Springer Link provides access to 503 full-text Springer-Verlag Journals and 738 full-text journals formerly published by Kluwer Academic Publishing.
- One of the world's leading information services for Science, Technical and Medical journals.

TAYLOR & FRANCIS JOURNALS

- Taylor & Francis has grown rapidly over the last two decades to become a leading international academic publisher.
- More than 1000 journal titles including over 780 journals are listed in the 2010 Thomson Reuters, Journal Citation Reports® in a full range of disciplines like:
- Engineering, Computing & Technology
- Environment & Agriculture
- Business, Management & Economics
- Chemistry
- Mathematics & Statistics
- Physics
- Library & Information Science
- Media, Cultural & Communication Studies

- Social Sciences and more…

WILEY-BLACKWELL JOURNALS

- Since the Blackwell-Synergy merger with Wiley Interscience, all the journals available to HEC consortium are now available through Wiley Interscience.
- Online database containing over 1,234 journals in science, technology, medicine, humanities, and social sciences.

FREE MEDICAL JOURNALS

47 leading international medical Journals available through "Highwire Press", without any registration.

7.8 Video Conferencing Facility

Video conferencing facility is available in accreditation with HEC. This facility is used to bring people at different sites together for a meeting. This can be as simple as a conversation between two people in private offices (point-to-point) or involve several sites (multi-point) with more than one person in Video conferencing hall at different sites. Besides the audio and visual transmission of meeting activities, video conferencing can be used to share documents, computer-displayed information, and whiteboards.

8 Technical Journal

Technical Journal is a quarterly publication of UET, Taxila recognized by HEC in "X" category.

It is being published regularly with a key objective to provide the visionary wisdom to academia and researchers to disseminate novel knowledge and technology for the benefit of society. Technical Journal is indexed with well recognized following international databases:

- AGRIS DATABASE
- Aluminum Industry Abstracts
- ANTE: Abstracts in New Technology & Engineering
- Ceramic Abstracts
- Civil Engineering Abstracts
- Computer and Information Systems Abstracts (Module)
- Copper Technical Reference Library
- Corrosion Abstracts
- Directory of Research Journals Indexing
- Earthquake Engineering Abstracts
- EBSCO DATABASES
- Electronics & Communications Abstracts
- Engineering Research Database
- Engineered Materials
- Environmental Engineering Abstracts
- Environmental Science and Pollution Management
- Library of Congress, USA
- Materials Research Database
- Mechanical & Transportation Engineering Abstracts
- Metadex
- OCLC World Cat
- ProQuest Products
- PASTIC SCIENCE ABSTRACTS
- Solid State and Super conductivity Abstracts

Submission of paper remains open round the year. Researchers and academia can submit their papers at any time which they deem fit. Presently there are no charges for publication of research paper in Technical Journal.

9 Network Administration & Research Center (NARC)

Network Administration and Research Center (NARC) was founded to provide better support and services to the University. NARC is an outcome of University Computerization and Network Enhancement Pro- gram (UCNEP) project. Under UCNEP project, state of the art equipment was procured, and latest technology was introduced to enhance the quality of communication infrastructure, existing Lab facilities and processes of the University.

NARC is responsible for design and development of networking infrastructure within University campus and sub campuses. It also provides 24-hour internet facilities for the university. Wireless hotspots are available in campus of the university to use internet and Intranet services for students and researchers. NARC staff comprises of highly skilled, well qualified and technically competent workers who perform their tasks as a passion of their life.

NARC is not only limited to provide services to the University and its sub campuses, it also helps in providing technical assistance to other projects of national interest. NARC staff is actively involved in pro- viding consultancy services to other universities and educational institutes, thus contributing towards the development of IT infrastructure of Pakistan.

NARC provides 24 hours research facilities to PhD scholars and researchers. All facilities provided by NARC are available round the clock. This includes Digital Library which provides free access to research papers and technical material from leading international forums and organizations around the world. It also provides High Performance Computing (HPC) facilities for students and researchers.

Necessary equipment required to complete the semester projects and final year projects is provided free of cost to the students. Moreover, technical guidance is also provided to them. NARC hosted the 17th International Conference on Microelectronics (ICM'05) held in December 2005 and ICOCN-07(International Conference on Optical Communication and Networks).

NARC is responsible for planning and management of IT related services of the University. It has successfully implemented Smart University and Safe Campus project, in collaboration with HEC and Huawei. This project provides:

- Wi-Fi blanket coverage
- Intelligent Video Surveillance (IVS) services
- All the departmental buildings, Hostels, Cafes, and Parking Areas are provided Wi-Fi hotspot services.
- Users can enjoy Wireless roaming services throughout the campus.
- UET, Taxila has a total Internet bandwidth of 513 Mbps through PERK and Smart University while an additional 100 Mbps is provided by PTCL as part of their MoU for 4G wireless services.
- All the buildings as well as boundary areas are covered by IP-based video cameras.
- The data generated by cameras will be stored locally at UET, Taxila as well as at HEC Data Center, Islamabad.
- Moreover, EDURoam (Educational Roaming) service is being provided with this project. UET, Taxila (Users can use their local domain username/passwords to connect with IT services at any institute including HEC within Pakistan as well as abroad.

NARC has its own web hosting setup, which enables it to host many web-based applications. These include UET, Taxila Technical Journal, learning management system (LMS), faculty management system, Management Information system (MIS) for alumni, and so on. NARC has also setup its online helpdesk to facilitate the faculty and students. In case of any issue related to IT services, faculty and students may submit their complaints 24/7 to the NARC helpdesk, where they are resolved immediately. NARC datacenter is powered by Genset which ensures 24/7 uninterrupted IT services to the University.

NARC has provided official email accounts to all the undergraduate as well as postgraduate students. Students can use these accounts to coordinate among themselves, use Microsoft Teams to attend online classes during COVID-19 pandemic and access Microsoft cloud storage up to 2TB. It also enables them to access free Microsoft software made available through HEC/Microsoft Education Alliance.

ERP Vision

The use of Enterprise Resource Planning (ERP) to attain the following goals:

- Improve productivity and efficiency of process within the university
- Enhance delivery of services to students, parents, faculty, and staff members

NARC is deploying "Campus Management System" namely (ERP@CLOUD), is a powerful, flexible, comprehensive, and cross platform web-based solution.

ERP@CLOUD comprises following modules:

- Admissions
- Fee Management
- Academics Management
- Outcome Based Education (OBE)
- Examinations (OBE Based & Traditional)
- Students' Feedbacks
- Teachers' Portal
- Student's Portal
- Human Resource Management & Payroll
- Accounting & Finance
- Assets Management
- Students' Help Desk

10 Directorate of Students Affairs

The primary function of the Directorate is to organize extra-curricular activities of the students and to foster their intellectual, literary and artistic potentialities, which remain untapped in the classroom. It functions normally through societies & clubs; each devoted to some sport or cultural and artistic activity. The students join these societies according to their inclinations and aptitudes. Another function of the directorate is to maintain liaison with a wide cross-section of students and to be responsive

to their needs and problems. Following are the societies/clubs functioning at UET, Taxila:

- Quaid-e-Azam Debating Society (QDS)
- UET Media Club
- University Art & Culture Society (UACS)
- UET Adventure Club (UETAC)
- Environmental & Horticultural Society
- Rashid Cheema Health & Blood Donner Society (RCHBDS)
- Al-Mohandis Literary Society
- Character Building Society (CBS)
- National Youth Assembly as student society
- Umeed-e-Subh (Student Welfare Society)
- Green Youth Movement (GYM)
- University Athletics & Sports Club
- Students' Counseling & Guidance Bureau (SCGB)

11 Directorate of Sports

University has focus about the health and wellbeing of students. Both boys and girls students are encouraged to participate in sports activities. University has directorate of sports to plan and manage sports infrastructure and facilities in the university. University has Multipurpose hall that serve as indoor sports facility for Bedminton, Table tennis, Basket ball, Snooker and gym. Female students avail this indoor facility and dedicated time is fixed for female students. Female students residing in hostel also avail this facility. Now university is planning to extend these sports facilities in female hostels so that female students can avail this facility on full time basis.

University has outdoor facilities for cricket , hockey, football volleyball. There are multiple grounds for cricket and football.

Infrastructure for archery and swimming are being planned. Similarly outdoor exercises machine are also planned to be installed in hostel as well as academic areas.

University has dedicated sports weeks in each semester. Tournaments are organized by directorate of spots. Prizes are awarded to winning teams. University also encourage students to participate in inter university competitions and facilitates students for participation in such events.

12 Halls of Residences

The university provides residence facilities to both male and female students. For Pakistani students, university has five halls of residence for male students and two halls of residence for female students. There is one dedicated hall of residence for international male students, while female students reside with Pakistani students. The accommodation is provided on sharing basis. The halls of residence are named as:

- Iqbal hall
- Quaid-e-Azam Hall
- Abu Bakar Hall
- Umer Hall
- Usman Hall
- Ali hall
- Jabber Bin Hayyan hall
- Ayesha Hall (Girls Hostel)
- Fatima Hall (Girls Hostel)

Each hall of residence has multiple allied facilities such as mess, common room/study area, prayer room and laundry areas. Water coolers along water filters are installed in each hall of residence at multiple locations for convenience of students.

The university has dedicated support staff for cleanliness and maintenance of hostels and to resolve the complaints of resident students. Electrician, plumber, carpenter, attendant and janitorial staff is available throughout the day to serve the residents. Likewise, university has dedicated staff for gardening and maintenance of lawns of halls of residences.

The university provides quality mess service in each hall of residence to serve standard food on non-profit basis. Four parameters are considered as quality measure for messes: taste, quantity, quality of ingredients, low cost. The messes had been approved by Punjab food authority and follow the guidelines of Punjab food authority.

The university has planned to provide study areas to students in halls of residences so that they can focus on their studies. Common rooms and messes are also declared as study areas during quite hours. Messes operate for six hours a day, therefore remaining time may be utilized for study purposes.

The university is planning to offer a dedicated workplace to resident students who are involved in online earning activities. Internet and air conditioning facility will be provided so that students can utilize their time efficiently in this productive activity. Self-service kitchens are also being setup so that students can cook at their own to meet their dietary requirements.

Details related to hostel allotment procedure, hostel rules and regulations and hostel

hierarchy have been described in hostel prospectus that can be downloaded from official website at time of allotment.

13 Estate Office

The University Campus spreads over 163 acres of land, and requires considerable efforts to keep the gardens, lawns, roadside rows of trees and flower- beds in good trim. The efforts of this office give the Campus a pleasing look, which attracts many visitors in the mornings and evenings. For the convenience of the students, a shopping center is located near the University hostels. This center has a laundry, a general store, stationery, and fruit shop. The office looks after security, sanitation, maintenance of lawns and gardens, and shopping facilities at the campus. It has a large squad of uniformed watchmen who guard the University buildings and property. Its sanitation staff keeps the buildings, roads, lawns, and other spaces clean and tidy.

14 Transport

Adequate transport facility is provided for students and the buses have routs for Rawalpindi, Islamabad, Hassanabdal, Wah Cantt. This facility is, however, not obligation of the University and it can be reduced or terminated if the policy and/or the financial conditions so demand.

The university has following vehicles:

Type of Vehicle	No. of Vehicles
Buses	22
Faculty Vans	02
Staff Cars	11
Tractor Trolleys	03
Pickup Vans	03
Ambulances	03
Motor Bikes	02
Miscellaneous	04

15 Dues & Financial Aid Services

Focal Person:
Mr. Naeem Yousaf Cheema

Dues and Financial Aid Services section deals with all kinds of fee/dues, scholarships, stipends, loans, and fee concession on kinship basis under the charge of the Treasurer. The University provides generous financial assistance to the meritorious and needy students. At present following scholarships/ stipends are available for the University Students.

List of Scholarships/Stipends

Sr.	Nature of Scholarships / Stipends	Funding Agencies / Departments/ Donors
1	University Merit Scholarship	UET, Taxila
2	University Welfare Scholarship	UET, Taxila
3	Benazir UG Scholarship	HEC, Islamabad.
4	Afghan National Students Scholarship	HEC, Islamabad
5	HEC – Sri Lankan Students Scholarship	HEC, Islamabad
6	Baluchistan & FATA Students Scholarship	HEC, Islamabad
7	OGDCL Need Based Scholarship Program	HEC, Islamabad
8	IOK Students Scholarship	Ministry of Federal Education & Professional Training, Islamabad
9	Stipend to Azad Kashmir Nationals/ J&K Refugees students	Ministry of Kashmir Affairs and Gilgit-Baltistan, Islamabad
10	PEEF Scholarship	The Punjab Educational Endowment Fund (PEEF), Lahore
11	Educational Stipend	Pakistan Bait-Ul-Mal
12	PEF Scholarship	Professional Education Foundation (PEF), Karachi
13	The 66 Foundation Scholarship	The 66 Foundation, Lahore
14	Merit Scholarship/ Stipend	Govt. of Gilgit-Baltistan, Directorate of Education Colleges, GB.
15	IEP-SAC Scholarship	The Institute of Engineers Pakistan-Saudi Arabian Center (IEP-SAC), Riyadh, Saudi Arabia
16	Excellence Award for Higher Professional Courses	Fauji Foundation, Chaklala
17	Foreign (Palestinian) Students Scholarship	Ministry of Economic Affairs (PTAP Section), Islamabad
18	Board Scholarships	FBISE and other BISE boards
19	Graduate/MS Engineering students Scholarship	Pakistan Engineering Congress, Lahore
20	Diya Pakistan Scholarship	Diya Pakistan Foundation
21	FFC Scholarship Scheme for the Wards of Farmers	Fauji Fertilizer Company Limited, Rawalpindi
22	Workers Welfare Fund Scholarship	Punjab Workers Welfare Board, Lahore
23	Bestway Foundation Scholarship	Bestway Foundation, Islamabad
24	BEEF Scholarship	Baluchistan Education Endowment Fund (BEEF), Quetta

16 Health Facilities

The University provides medical facilities to its employees and students. Salient features of the existing health policy for students are listed hereunder:

- Students will be provided free consultation by the Medical Officer.
- Available medicines will be issued to students through authorized prescription only.
- Night dispensary service will be available in emergency only.
- In acute emergency, where a student cannot move, immediate report will be made to RT who will make arrangements for further treatment under rules (i.e. ambulance, consultation, admission etc.). The expenditure shall be borne by the student.
- Boarders will be required to fill in the proforma of previous medical history mentioning the disease he carries.
- Indoor treatment from unauthorized medical attendants is not allowed.
- Pathology Lab has been established by the kind cooperation of the Worthy Vice Chancellor and basic lab test facilities are being offered.
- Three well equipped ambulances are available for 24 hours for emergency cases.

17 Placement and Alumni Office

The Placement Office at UET, Taxila is established to search and develop contacts mainly with the national and multinational industries in public as well as in private sectors and R&D organizations with an aim to identify the prospective employers, jobs, scholarships and industrial training for university students.

Office assist current and potential graduating students and alumni in the overall process of self-evaluation, career assessment and job search. In this regard, our objective is to connect our graduating students with meaningful career prospects by strategically aligning their academic qualifications with their goals and interests.

This office offers our Students, Alumni and Employers the following services:

- Career Advisory Group (CAG)
- Career Counseling (One-to-One/Group)
- Resume and Cover Letter Assistance
- Workshop for Resume writing/skills
- Interviewing Skills
- Internship Guidelines
- Job Search Strategies
- Letter of Recommendations
- Career - Development Seminars

It plays the role of a bridge between university graduates and employers, scholarships donors, and to have financial assistance or loans etc. Hence placement office is committed to provide friendly and proficient services to the university students, graduates, employers and scholarship donors.

Facilitating fresh graduates of all degree programs of the university in finding their dream jobs and helps pursuits for lucrative career opportunities for the alumni. So, it serves as a platform for linkage of academia and industry and bridges the gap, thus making it possible for real-time industrial input in the engineering curricula.

The office matches the great talent coming out of various engineering departments at the university with highly sought-after Global employers. Placement office advertises the university product i.e. graduating engineers in the job market. For this purpose, an annual mega event i.e. Open House and Career Fair is organized in which leading national industries are invited to visit the university to have

- A meeting place to the Institute's senior

students and their prospective employers.
- An effective platform for industry-university interaction.
- An opportunity for the industry representatives to acquaint themselves with the academic environment provided to the students.
- Witness Final Year/Term Projects' exhibition
- Interview/evaluate graduating students for employment
- Visit lab facilities
- Discussion for industrial problems with faculty members of various disciplines
- Right possibilities of industry-academia collaboration

It provides career counseling and placement services and arranges an array of activities such as company profile presentations, on campus recruitment, organizing workshops on effective CV writing and interviewing skills, and job exploration seminars etc. The aim is to help the students/alumni and the corporate sector in choosing from the best available options and making the right match.

It also provides information to the students about the recent jobs and scholarships available by displaying the information on the official notice boards frequently. Students get to know the different areas where they can grow as engineers and enhance their natural and technical skills which they developed during their stay as students in the University. It frequently arranges visits of the prospective employers and their discussion with faculty members and students of relevant departments regarding the emerging need and training of the students in the same direction. The placement office facilitates various organizations in the process of pre-selection of students who are about to complete their studies by arranging tests and interviews of prospecting candidates for placement in the industry. As a result, the Placement Office maintains a mailing list of major companies employing engineers who are constantly informed about the graduating classes at appropriate time.

A short list of industries in which our graduates are regularly employed:

- NESPAK
- PTCL
- Lafarge Cement
- Fauji Cement Limited
- WAPDA Academy
- OGDCL
- Attock Refinery Limited
- Nayatel
- ZTE
- Ufone
- Pakistan Ordinance Factories
- Heavy Mechanical Complex
- Heavy Industries Taxila
- Pakistan Aeronautical Complex Kamra
- KSB Pumps
- K-Electric
- Huawei

Staff of Alumni Office

Ms. Sadia Shahbaz (Deputy Director Alumni)
Ms. Sameera Ambreen (Staff alumni office)

Our university has alumni office which is run for fostering a strong alumni network of UET Taxila. we organize annual reunions and providing a valuable platform for networking among our esteemed alumni. We extend warm invitations to our senior alumni, encouraging them to share their invaluable industry experiences with our current students. Additionally, we have curated a comprehensive contact directory comprising well-established alumni, which serves as a vital resource for liaising and facilitating job placements for our students.

In our pursuit of enhancing career support for our students, we actively engage with companies where our alumni hold senior positions. This proactive approach allows us to create opportunities for our fresh graduates and final-year students by connecting them with suitable employment prospects.

To this end, we have outlined a series of future plans aimed at fortifying our alumni office and enhancing its effectiveness. Some of our key initiatives include:

I. Expansion of Alumni Outreach: We

plan to broaden our outreach efforts, encouraging more alumni to participate actively in alumni office's activities.

II. Professional Development Workshops: We intend to organize workshops and seminars focused on skill development and continuous learning for our alumni.
III. Mentorship Programs: Implementation of mentorship programs to facilitate valuable guidance and support for our students from experienced alumni.
IV. Industry Partnerships: Strengthening ties with industries and corporations to create more avenues for internships, job placements, and collaborative research opportunities.
V. Alumni Fundraising Campaigns: Initiating fundraising campaigns to generate financial support for scholarships, research grants, and infrastructure development.

These initiatives, among others, are part of university's strategic vision to elevate the alumni office of the University to greater heights. We are enthusiastic about the prospects and are committed to fostering a vibrant and engaged alumni community.

International Linkages

UET, Taxila is a multi-disciplinary university involved in internationally relevant engineering developments, and International study is a very significant part of the educational goals and strategic plan of UET, Taxila. Globalization of the campus and the curriculum is specifically part of our core values. Through wide and ambitious portfolio of research capability, UET, Taxila is today connected with research institutions, industry, and businesses around the globe.

The Directorate of International Linkages (IL) expands the international scope of the University by developing official agreements with universities abroad. International linkages build knowledge and shape new schools of thought and discovery. In addition to this we are increasing the number of exchange institutions and expanding into new countries so that opportunities for connections continue to grow to facilitate the exchange of students and faculty.
Internationalization advances through international Linkages at UET, Taxila by:

- Growing the number of UET students to study abroad and international students to study at UET.
- Facilitating faculty exchanges both here and abroad for collaborative research and professional development; and
- Providing weekly opportunities for campus and local community members to learn about the hottest topics on the global stage today.

Taking Benefit of International Linkages

For students, participating in an exchange program is an exciting and challenging way of broadening their horizons. It provides an opportunity to gain experience of living and studying in a new culture and environment. During the program, students are pro- vided a unique chance to:

- Globalize and enhance their educational experience
- Explore career opportunities through networking
- Broaden their personal and educational perspectives
- Explore, appreciate and understand different cultures
- Improve language skills and cultural understanding
- Eliminate fear and prejudice among nations

UET, Taxila currently has signed MOUs with the following universities:

Europe

- Hasselt University, Belgium
- Fachhochschule Dusseldorf (FH-D), University of Applied Sciences, Germany
- Halmstad University, Sweden
- Lecberac, Czech Republic

Africa

- Alexandria University, Egypt

- Egypt-Japan University of Science and Technology, Egypt

Asia and Asia Pacific

- Peking University, China
- Tsinghua University, China
- Wuhan University, China
- Huazhong University of Science and Technology, China
- Islamic University of Technology, Bangladesh
- Institute for Sustainable Energy Policies (ISEP), Japan
- Seoul National University, Korea
- Universiti Teknologi, Malaysia
- Universiti Tunku Abdul Rahman, Malaysia
- Asian Institute of Technology, Thailand

International Alumni

UET, Taxila regularly attracts international students from Middle East and Africa including Palestine, Yemen, Jordan, Afghanistan, Bosnia, Thailand, Syria, India, Sudan, Somalia. Since 2009, about 130+ foreigner students got admission for their bachelor's degree at UET.

18 Planning & Development

The Planning and Development Directorate is the backbone of the University which plays a vital role in its growth and development. The directorate is majorly responsible for arranging funds for the execution to strengthen and promote developmental activities and human resource development at various departments of University.

Our Vision

To make UET Taxila vision a reality by providing and monitoring comprehensive physical planning and development through financial resources in support of teaching, research and services. We promote quality, transparency, efficiency, and merit for our institution.

Key Functions

- Preparation of **Public Sector Development Programs** (Concept Papers, PC-I, PC-II)
- Liaison with HEC for **submission & approval** of newly Proposed Development Schemes
- Arrange/attend in-house review meetings, **CDWP & DDWP** meetings at Planning Commission & HEC Forums
- **Review of PC-IVs** submitted by Project Directors and onward submission to HEC
- **Coordination** with HEC, Monitoring Teams, Planning Commission & other stakeholders

Monitoring Mechanism

Monitoring and follow-up of all development projects are conducted with the collaboration of Monitoring and Evaluation wing of HEC in order to ensure the smooth implementation of the projects through Progress Review meetings, Quarterly Progress Reports, Monthly Financial Reports on PMES, liaison with HEC for fund releases etc.

Infrastructure Development Projects Funded by HEC

i. Ongoing Projects:

Following infrastructure development projects funded by HEC through PSDP are in process at UET Taxila:

1. Strengthening of Lab Facilities in 05 Leading Engineering Universities (UET Peshawar, Taxila, Lahore, Khuzdar & NED Karachi) Admin Approval issued, Funds Awaited
2. Commencement of 4 years undergraduate Program in Water Resource Engineering & Petroleum Engineering at UET Taxila

ii. Project submitted to HEC for Approval:

Following projects have been submitted to HEC/PHEC under PSDP/ADP 2023-24 for approval to strengthen the R&D infrastructure of the university and to promote quality education in various streams.

1. Enhancing The Capacity of Surveying & Testing Labs at Civil Engineering Department UET Taxila
2. Establishment of Centre of Excellence for Advanced Manufacturing,

Automation and Testing at UET Taxila PHASE-I
3. Establishment of Centre of Excellence for Advanced Manufacturing, Automation and Testing at UET Taxila PHASE-II
4. Concept Paper: Establishment of Ghandhara Centre of Cultural Heritage at UET Taxila
5. Boost up the capacity of Transportation Engineering facility at UET Taxila to cater for the industry demands
6. Concept Paper: Establishment of Main Auditorium Complex at UET Taxila
7. Concept Paper: Establishment of Sub Campus of UET Taxila At Pind Dadan Khan, District Jhelum
8. Concept Paper: Establishment of Product Design & Development Centre in Industrial Engg. Department UET, Taxila
9. Concept Paper: Strengthening of Engineering Technology Programs at UET Taxila
10. Establishment of Female Student's Fitness Centre at UET Taxila

19 Quality Enhancement Cell

The Quality Enhancement Cell (QEC) was inaugurated at the University of Engineering and Technology, Taxila, in February 2011. Entrusted with the crucial mission of fostering excellence in educational standards and program management, the QEC plays a pivotal role in shaping the university's commitment to quality.

The QEC is devoted to the development and implementation of robust quality assurance processes and evaluation methods, ensuring the high educational standards that UET Taxila is renowned for are consistently maintained. These practices touch upon every facet of academic life at UET Taxila and span across all program levels.

In addition, the QEC serves as the cornerstone of UET Taxila's continuous improvement strategy. It works in close collaboration with the Quality Assurance Agency (QAA) of the Higher Education Commission (HEC), under whose diligent supervision academic activities at UET Taxila are regularly monitored.

Through the collective efforts of these entities, UET Taxila maintains its relentless pursuit of academic excellence, ensuring its place as a premier educational institution dedicated to producing well-rounded, competent graduates equipped to excel in their respective fields.

Postgraduate Program Review and Institutional Performance Evaluation:

The University of Engineering and Technology, Taxila was chosen by the Higher Education Commission (HEC) of Pakistan for a review of its MS/MPhil & PhD Programs. A meticulous two-day on-site inspection took place on November 3rd and 4th, 2021. The review was conducted by an expert panel, strictly following the criteria and guidelines for MS and PhD level programs. This review, a historical first for the institution, concluded positively, with the panel expressing satisfaction over the quality of teaching and learning at UET Taxila and strongly endorsing the continuation of all postgraduate programs.

In the same year, UET Taxila had the honor of its inaugural Institutional Performance Evaluation (IPE) visit, also facilitated by the HEC. A rigorous three-day on-site review, from December 7th through 9th, 2021, was conducted by an expert panel in adherence to IPE criteria and guidelines. This groundbreaking review left the panel impressed with the institution's performance, leading to valuable suggestions for even further enhancements. Both of these milestone reviews stand as testament to UET Taxila's ongoing commitment to quality education and continuous institutional improvement.

Self-Assessment Reports:

UET Taxila ensures a rigorous evaluation of its postgraduate academic programs through an exhaustive self-assessment process, conducted by a specially nominated Program Team (PT). This group, chosen by the respected head of the academic department, comprises highly skilled professionals responsible for preparing the Self-Assessment Report (SAR) and serving as a focal point during the assessment period. Following this, the Assessment Team (AT) - another group of professionals, including external members from other universities - reviews the SAR and presents its findings in the AT Report.

Accreditation Status and Outcome-Based Education:

UET Taxila strictly adheres to approved guidelines for its B.Sc. Engineering & Technology Programs, which have all received accreditation from their respective councils, including the PEC and NCEAC. The university also embraces an outcome-based learning education system, leading to all undergraduate Engineering programs receiving Level-II OBE accreditation by the PEC.

NOC for MS / PhD Programs:

UET Taxila's MS/PhD programs comply with the guidelines approved by the HEC, and the university holds the necessary NOCs from the HEC for all ongoing programs.

Memberships:

UET Taxila proudly holds memberships with two quality assurance bodies - the Asia Pacific Quality Network (APQN) and the Pakistan Network for Quality Assurance in Higher Education (PNQAHE).

QEC Achievements:

All praise be to Almighty Allah, the Quality Enhancement Cell (QEC) at UET Taxila has been blessed with an opportunity to play a role in the attaining the following milestones over the last three years for the university:

- UET Taxila stands as the top-ranked engineering university in Pakistan according to the Times Higher Education Ranking, and ranks 600-800 globally, reinforcing our status as the nation's premier institution for engineering education.
- In the Young University Ranking 2023 by Times Higher Education, for universities strictly 50 years old or less, UET Taxila achieved a commendable position in the 151-200 range.
- The institution secured 142nd spot in the Asia University Ranking 2023 by Times Higher Education.
- UET Taxila improved its position from 735th in 2021 to 695th in 2022 on UI GreenMetric World University Ranking which is focused on environmental sustainability.
- Based on the Yearly Progress Report (YPR), our QEC ranking improved drastically to the second-highest category, i.e., X-category by QAA HEC.
- QEC of UET Taxila also gained recognition in the annual conference booklet of the Pakistan Network for Quality Assurance in the Higher Education (PNQAHE).

These achievements, drawing heavily from the undeterred support by students, faculty, staff, and top management, underline UET Taxila's unwavering commitment to quality and excellence in higher education.

ADMISSION PROCEDURES

20 General Instructions

20.1 The online application should be submitted as early as possible. Please do not wait for the last date.

20.2 The merit lists will be displayed showing the percentage of the applicants admitted in different disciplines against different categories on the notified date and time.

20.3 All documents to be attached with the Application Form (F-I) should be attested by a class-I gazetted officer of the government or a class-A officer of this University at the time of joining.

20.4 Any information regarding admissions can be obtained during working hours by calling Phone No: (051)9047412.

20.5 Members of the Admission Committee will also be available for consultation, in person, during the admission period.

21 Eligibility for Admission

i. He should be a resident of the area from where he seeks admission.

ii. He should meet standards of physique and eyesight laid down in the medical certificate.

iii. For admission in Engineering programs and BS Computer Science, he should have appeared in the ECAT conducted by UET Lahore or any other designated entry test for engineering programs acceptable to PEC and UET Taxila.

21.1 HSSC Examination

i. An applicant for admission to any of bachelor's degree course offered by the University must fulfil the requirements given in Table 21.1.

ii. He should have passed (or expect to pass) up to the latest annual examination with at least 60% unadjusted marks in the examination based on which he seeks admission. However, for admission in BS Computer Science, Mathematics and Physics the candidate obtained (or expect to obtain) at least 50% unadjusted marks will also be eligible. Marks of NCC and Hifze-Quran, where applicable, shall be added only for determination of merit and not towards eligibility. Rounding off percentage figure to make it 60% (or 50% in case of admission in CS, Mathematics and Physics) will not be considered towards eligibility.

Table 21.1

Sr. #.	Disciplines	HSSC/Equivalent Combination
1	**Engineering Programs:** Civil, Environmental, Electrical, Electronics, Mechanical, Mechatronics, Computer, Software, Telecom	1. Mathematics, Physics and Chemistry/Computer Science 2. DAE in relevent technology from the PBTE Lahore
2	Computer Science	1. Any combination in HSSC with Mathematics 2. HSSC (Pre-Medical) 3. DAE in relevent technology from the PBTE Lahore
3	Mathematics	1. Any combination in HSSC with Mathematics 2. DAE in relevent technology from the PBTE Lahore
4	Physics	1. Any combination in HSSC with Physics 2. DAE in relevent technology from the PBTE Lahore

21.2 Equivalent Examination

The university recognizes the following examinations as equivalent to the Intermediate (Pre-Eng.) Examination with Chemistry, Mathematics and Physics of the Pakistan Boards of Intermediate and Secondary Education:

i. Intermediate (Pre-Eng.) Examination of the Board of Intermediate and

Secondary Education, Azad Kashmir.
ii. Intermediate of the Agha Khan University Examination Board.
iii. Intermediate Examination of an HEC recognized / approved institution.
iv. FSc. (Pre-medical) with Mathematics as an additional subject.
v. *Cambridge Overseas Higher School Certificate of Education (Advanced Level) with Mathematics, Physics & Chemistry.
vi. *British General Certificate of Education (Advanced Level) with Mathematics, Physics, and Chemistry.
vii. *American High School Graduate Diploma (HSG Diploma).
viii. *Any foreign equivalent certificate or diploma accepted by IBCC (Inter Board Chairmen Committee).

***Note:** Applicants (Sr. No. v to viii) are required to attach an equivalence certificate (Pre-Engineering) issued by the IBCC for percentage more than or equal to 60% in A-Level examination with relevant subject combinations, with the application for admission.

The following is the address of the IBCC:
Inter Board Committee of Chairmen, Plot No. 25, Street No. 39, G-10/4, Islamabad, Pakistan.

21.3 Diploma of Associate Engineer (DAE) and B.Tech(Hons)/BS/ BSc/Bachelors, in Engineering Technology

i) (DAE) Diploma holders are eligible to apply on open merit, in any category according to Supreme Court decision on Civil Petition No. 271, 293, 617 dated October 18, 2021. Holders of the Diploma of Associate Engineer should have passed the diploma examination from the Punjab Board of Technical Education, Lahore in the relevant technology, obtaining at least 60% unadjusted marks. Rounding off percentage figure to make it 60% will not be considered towards eligibility.

ii) The candidates having B.Tech(Hons) /BS /BSc /Bachelors, in Engineering Technology are also eligible to apply under admission category 'P'. The further details are provided in section 23.22 of this prospectus.

The relevant technologies are specified against each degree course given below:

Electrical Engineering
i. Automation
ii. Avionics
iii. Computer / CIT
iv. Electrical
v. Electronics
vi. Information
vii. Instrumentation
viii. Instrumentation & Process Control
ix. Mechatronics
x. Precision Mechanical & Instrument
xi. Radar
xii. Radio
xiii. Telecommunication

Electronics Engineering
i. Automation
ii. Avionics
iii. Bio-Medical
iv. Electrical
v. Electronics
vi. Instrumentation
vii. Instrumentation & Process Control
viii. Mechatronics
ix. Radar
x. Radio
xi. Telecommunication

Civil Engineering
i. Architecture
ii. Civil
iii. Civil with any specialization
iv. Environmental
v. Land & Mine Surveying

Mechanical Engineering
i. Aerospace
ii. Auto & Diesel
iii. Automation
iv. Bio-Medical
v. Dies & Mould
vi. Mechanical
vii. Mechanical (Automobile & Diesel)

viii. Mechanical (Construction Machinery)
ix. Mechanical (Foundry & Pattern Making)
x. Mechanical (Metallurgy & Welding)
xi. Mechanical with any specialization
xii. Mechatronics
xiii. Precision Mechanical & Instruments
xiv. Refrigeration & Air Conditioning
xv. Vacuum

Industrial Engineering

i. Auto & Diesel
ii. Automation
iii. Cast Metal & Foundry
iv. Industrial
v. Mechanical
vi. Mechanical (Construction Machinery)
vii. Mechanical (Production)

Computer / Software Engineering/CS

i. Automation
ii. Computer
iii. Computer Information
iv. Electrical
v. Electronics
vi. Instrumentation
vii. Instrumentation & Process Control
viii. Radar
ix. Radio
x. Software
xi. Telecommunication

Telecommunication Engineering

i. Automation
ii. Avionics
iii. Computer
iv. Computer Information
v. Electrical
vi. Electronics
vii. Instrumentation
viii. Instrumentation & Process Control
ix. Radar
x. Radio
xi. Software
xii. Telecommunication

Environmental Engineering

i. Chemical
ii. Civil
iii. Environmental

Note: The above list may be amended from time to time depending on the notification of PEC.

21.4 BSc Degree

i. A person is eligible for admission to the bachelor's degree courses at the University based on a degree of Bachelor of Science.
For admission to the BSc courses in any engineering discipline, an applicant must have passed the BSc Examination with Physics and Mathematics.
ii. A person possessing a BSc degree is NOT eligible for admission to any bachelor's degree course at the university unless he has also passed FSc. Pre-Engineering Examination.
iii. To be eligible for admission on the basis of BSc degree the candidate must have obtained at least 60% marks both in FSc and BSc.

21.5 Gender

Both male and female persons are eligible to apply for seats shown in the Seats Allocation Chart in section 22. The general pronoun "he" and its derivatives imply for either of the sex.

22 Seats Allocation Chart

Number of seats allocated for various categories are tabulated below. Admission is granted in each category on merit, subject to eligibility under relevant Sections

Categories		Civil	Electrical	Mechanical	Computer	Software	Telecom	Electronics	Industrial	Environmental	Mechatronics	Computer Science	BS Physics	BS Math	Total
	Allowed intake	200	200	200	100	100	100	50	50	50	50	150	50	50	1350
A	Punjab	124	124	124	67	67	67	34	34	34	34	90	40	40	879
B	Sind	1	1	1											3
C	Balochistan	2	2	2											6
D	Khyber Pakhtunkhwa	1	1	1											3
	Azad Kashmir, Gilgit Baltistan, Balochistan & FATA														
E1	Azad Kashmir	2	1	2											5
E2	Kel Area	1													1
E3	Gilgit Baltistan	2	2	2	1	2	3		1						13
E4	HEC Nominees from Balochistan & FATA	4	4	4	2	2	2	1	1	1					21
E5	FATA (over & above PEC quota)	2	2	2	1	1	1	1	1	1					12
	Foreign Nationals														
F1	Foreign Countries by EAD	3	3	3											9
F2	Afghan Nominee (Refugee) by EAD	1													1
F3	Bangladesh Nominees by EAD	1	1	1											3
F4	Indian Held Kashmir (over PEC quota) by EAD	3	2	2	1	1									9
F5	Muslim Nominee from Srilanka (Distt. Kandy)		1												1
F6	Afghan Nominee (PM Directive) by HEC	5	5	5	5										20
F7	Gambian Nominees by HEC	1	1	1	2	1		1	1						8
F8	Srilankan Nominees (over PEC quota) by HEC	2	1	1	1										5
	Children of Armed Forces Personnel														
G1	ARMY	1	1	2											4
G2	AIR FORCE			1											1
G3	NAVY		1												1
	Other Categories														
J	Disable Persons					2							2	2	6
*L	Backward Districts of Punjab	1	1												2
M	Children of Univ. Employees	2 per section or 6 per department which ever is greater, except CS													30
N	Children of Graduate Engineers	1	1	1											3
O	Children of University Alumni		1												1
Q1	Tribal Areas of DG Khan		1												1
Q2	Tribal Areas of Rajanpur	1													1
T	Tehsil Taxila		1	1											2
R	Relegious Minorities (over PEC quota)	4	4	4	2	2	2	1	1	1	1				22
S	All Pakistan (Partial-Subsidized)	38	38	38	15	15	20	10	10	10	10	50	6	6	266
X	Overseas Pakistanis (Partial-Subsidized)	5	4	6	5	8	5	3	2	4	4	7			53
	Total	200	200	200	100	100	100	50	50	50	50	150	50	50	1392

*L 1. Attock, 2. Bahawalnagar, 3. Bahawalpur, 4. Bhakkar, 5. Chakwal, 6. D.G. Khan, 7. Jhang, 8. Jhelum, 9. Layyah, 10. Muzaffargarh, 11. Mianwali, 12. Rahim Yar Khan, 13. Rajanpur

Notes:

1. *The number of seats allocated for a program and categories may be revised/modified without prior notification.*

2. *Fees is Subsidized for all categories except **'S'** and **'X'.** Moreover no any relaxation, concession or waiver in fee of 'S' and 'X' categories is available.*
3. *In Computer Science one third of seats of every category are reserved for candidates of HSSC with Pre-Medical combination (Category AM) and remaining seats of every category are reserved for other HSSC combinations. In case seats of either group remains unfilled due to non-availability of candidates the quota will be transferred to other group.*

23 Categories and Symbols

23.1 Category A (Punjab Province)

The applicant should be a resident of the Punjab province. Leftover seats of this category can also be offered to candidates of other provinces (Category A1). The selection and allocation of disciplines are made according to merit.

23.2 Category B (Sindh Province)

The applicant should be a resident of the Sindh province. Applications for civil engineering are to be submitted to the Registrar of the Mehran UET, Jamshoro. For electrical and mechanical engineering apply to the Registrar of N.E.D. UET, Karachi. The last date for receipt of nominations at UET, Taxila (irrespective of the mode of communication or the date of postage) is 7 days before date of closing of admissions. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations. Nominations and allocation of disciplines are made by the Department of Education, Government of Sindh, Karachi.

23.3 Category C (Balochistan Province)

The applicant should be a resident of the Balochistan province. Applications are to be submitted to the Secretary, Department of Education, Government of Balochistan, Quetta. Nominations and allocation of disciplines are made by this Department. The last date for receipt of nominations at UET, Taxila (irrespective of the mode of communication or the date of postage) is 7 days before date of closing of admissions. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations. Diploma holders are not eligible to apply in this category.

23.4 Category D (Khyber Pakhtunkhwa Province)

The applicant should be a resident of the Khyber Pakhtunkhwa Province. Applications are to be submitted to Registrar, UET, Peshawar. Nominations and allocation of disciplines are made by the Department of Education, Government of Khyber Pakhtunkhwa, Peshawar. The last date for receipt of nominations at UET, Taxila (irrespective of the mode of communication or the date of postage) is 7 days before date of closing of admissions. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

23.5 Category E1 and E2 (Azad Kashmir and KEL Area)

The applicant for the Azad Kashmir and Kel Area seats should be a national of Azad Kashmir. For the seats reserved for Azad Kashmir and Kel Area, applications are to be submitted to the Secretary Education, Azad Jammu & Kashmir, Government of Muzaffarabad. Nominations and allocation of disciplines are made by the Nomination Board for the Azad Kashmir. The last date for receipt of nominations at UET, Taxila (irrespective of the mode of communication or the date of postage) is 7 days before date of closing of admissions. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

23.6 Category E3 (Gilgit Baltistan)

The applicant for the Gilgit Baltistan seats should be resident of these areas. For these reserved seats the applications are to be submitted to the Director of Education, Gilgit Baltistan. Nominations and allocation of disciplines are made by the

Nomination Board for the Gilgit Baltistan. The last date for receipt of nominations at UET, Taxila (irrespective of the mode of communication or the date of postage) is 7 days before date of closing of admissions. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

23.7 Category E4 (HEC Nominees from Baluchistan and FATA)

The applicant should be a resident of the Baluchistan province or FATA. Applications are to be submitted to the Higher Education Commission (HEC), Islamabad. Nominations and allocation of disciplines are made by HEC. The last date for receipt of nominations at UET, Taxila (irrespective of the mode of communication or the date of postage) is 7 days before date of closing of admissions. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

23.8 Category E5 (FATA)

The applicant should be a resident of the Federally Administered Tribal Areas (FATA). The applications are to be submitted to the Home and TAs Department, Government of Khyber Pakhtunkhwa, Peshawar. Nominations and allocation of disciplines are also made by this department. The last date for receipt of nominations at UET, Taxila (irrespective of the mode of communication or the date of postage) is 7 days before date of closing of admissions. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

23.9 Category F (Foreign Nationals)

Applicants from category F1 to F5 are required to get their applications sponsored by their government, and sent in triplicate to the Ministry of Finance, Revenue, Economic, Statistics and Privatization (Economic Affairs Division), Government of Pakistan, Islamabad, through the Pakistan's representative accredited to their country. The applications should be accompanied by the following documents:

i. Educational Certificates (attested photocopies) and details of syllabi and courses of study of the examinations passed with English translation if these are in a different language.
ii. Domicile/Nationality Certificate
iii. Passport
iv. Character Certificate
v. Health/Fitness Certificate

Information regarding the class and discipline in which admission is required. Nominations/Allocation of disciplines is made by the Ministry of Finance (Economic Affairs Division) Islamabad. The prescribed application forms may be obtained from the ministry.

The applicants of category F6 to F8 are required to submit their applications through HEC Islamabad, Pakistan.

23.10 Category G (Children of Armed Forces Personnel)

Applications are to be submitted to the Headquarters of the Army, Air Force, or the Navy (depending upon the service to which the parent belongs) in accordance with the procedure notified by them. Diploma holders are not eligible to apply in this category. The last date for receipt of nominations at UET, Taxila (irrespective of the mode of communication or the date of postage) is 7 days before date of closing of admissions. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations. Nominations and allocation of disciplines are made by the respective Headquarters.

23.11 Category J (Disable Persons)

The applicant should be a resident of Punjab Province. The applicants will have to furnish a certificate from Concerned Social Welfare, Women Development and Baitul Maal (Provincial Council for the

Rehabilitation of Disabled Persons), Government of Punjab or Federal Government. Verification of his disability in view of provided certificate in relation to engineering education will be done by the Chief Medical Officer, UET, Taxila. The selections are made by the University according to merit. The blind, deaf and dumb persons are not eligible to apply in this category.

23.12 Category L (Backward Areas of Punjab)

The backward areas of Punjab include districts of Attock, Bhakkar, Bahawalnagar, Bahawalpur, Chakwal, D.G. Khan, Jhang, Jhelum, Layyah, Mianwali, Muzaffargarh, Rahim Yar Khan and Rajanpur. The applicant should be a resident of any of these districts. The selection and allocation of disciplines are made by the university according to merit.

23.13 Category M (Children of University Employees)

Real children of those university employees who have completed five years of service being physically present are eligible to apply as per following details.

i. The first 7 seats are allocated to the wards of employees who were appointed before 1993 (the inception of UET, Taxila) for the programs being offered at that time. If these seats are not filled due to unavailability of wards of such employees, the seats shall be open for admission of the wards of employees who were appointed after the establishment of the university in the year 1993.

ii. The remaining seats of this category shall be open for all the employees of UET, Taxila.

iii. The applicants must furnish with their applications a certificate from the Registrar of the University on Form F-IX (available in Registrar's office).

The selection is made by the university according to merit.

Notes:

1. The children of those university employees are not eligible to apply under this category who have been dismissed/terminated/removed from the university on any ground except medical grounds or have left the university other than the retirement.
2. Candidates once admitted in previous sessions under this category in the university or in its affiliated institutes will only be considered in current session after the exhaustion of fresh candidates, subject to the availability of seats. Admission will be granted on the merit position of candidates without taking care of 1993 bar.

23.14 Category N (Children of Graduate Engineers)

The applicant should be a resident of the Punjab province. The selection and allocation of disciplines are made by the university according to merit. Applicants should furnish with their applications attested photocopies of their parent's Bachelors' Degree in Engineering and renewed PEC Registration card. Other qualifications such as AMIE (Pak) are not recognized for inclusion in this category.

23.15 Category O (Children of University Alumni)

The applicant should be a ward of university alumni. The applicant should furnish with his application an attested photocopy of the Degree/ Provisional Certificate of his parent as an evidence of the fact that he (the parent) is a graduate of this University or its parent institution, that is, the former University College of Engineering Taxila. The selection and allocation of disciplines are made by the University according to merit.

23.16 Category Q1 (Tribal Areas of D.G. Khan)

The applicant should be a resident of the Tribal Areas of D.G. Khan. The selection and allocation of disciplines are made by the University

according to merit. Applicant must furnish a certificate from the District Coordination Officer of DG Khan verifying that he is a resident of the Tribal Areas of D.G. Khan District and his domicile should also depict the same.

23.17 Category Q2 (Tribal Areas of Rajanpur)

The applicant should be a resident of the Tribal Areas of Rajanpur. The selection and allocation of disciplines are made by the University according to merit. Applicant must furnish a certificate from the District Coordination Officer of Rajanpur verifying that he is a resident of the Tribal Areas of Rajanpur District and his domicile should also depict the same.

23.18 Category T (Tehsil Taxila)

The applicant should be a resident of Tehsil Taxila. The selection and allocation of disciplines are made by the university according to merit.

23.19 Category R (Religious Minorities)

The applicant should be a resident of Punjab and having a non-Islamic religion. He must have to provide a valid document stating his religion.

23.20 Category S (Partial Subsidized)

The applicant should be a Pakistan National. However, candidates from Punjab province will be given preference over other provinces. Selection and allocation of disciplines are made according to merit. The fee is partial subsidized for this category.

23.21 Category X (Children of Overseas Pakistanis, Partial Subsidized)

Applicant should be a ward of overseas Pakistani. Selection and allocation of disciplines are made by the University according to merit. The fee is partial subsidized for this category. The applicant is required to submit along with his application:

i. A certificate on Form F-VIII (can be downloaded from the university website) regarding his parent's employment in a foreign country issued by the Pakistani Embassy in that country.
ii. A photocopy of his parent's valid resident visa for that country attested by the Pakistani Embassy.

Notes:

1. Only real children of overseas Pakistanis are eligible to apply. However, in case of an orphan, he may apply on his guardian's documents. Guardian can be real brother, real paternal or maternal uncle. In this case following additional documents are required:
   (i) Father's death certificate issued by NADRA (ii) Proof of relationship with the guardian in the form of CNIC of all family members and NADRA Family Registration Certificate (FRC) highlighting the Tree structure of the applicant (iii) Copy of Nikahnama in case the guardian is the maternal uncle of the applicant.
2. Scanned / photocopied / Faxed documents will not be accepted. Only original attested copies from the concerned Pakistani embassy will be accepted.
3. The residence permit / visa must be valid at least up till the closing date of submission of applications.

23.22 Category P (B.Tech (Hons)/ BS/BSc/ Bachelor of Technology)

The applicant should be resident of the Punjab province. A candidate possessing four years degree/* qualification of B.Tech (Hons)/ BS/BSc/ Bachelors, in Engineering Technology (with relevant discipline) or equivalent qualification duly recognized by HEC/ NTC will be eligible for admission under this category.

* Qualification of BTech (Hons)/BS/BSc/ Bachelors, in Engineering Technology refers to four years technology degree/ program.

24 Determination of Merit

24.1 Examinations Considered for Merit

For admission to all the bachelor's degree courses and determination of merit the following examinations are considered:

i. Higher Secondary School Certificate Examination (HSSC) Pre-Eng. or equivalent.
ii. Bachelor of Science (BSc)/B.Tech (Hons)/ BS/BSc/Bachelors, in Engineering Technology.
iii. Diploma of Associate Engineer.
iv. SSC (Matric)
v. Entry Test.

24.2 Weighted Percentage

The comparative merit of applicants will be determined based on weighted percentage marks obtained by the candidates in these examinations.

a. For Applicants with HSSC (Pre-engineering) or equivalent foreign qualifications (A-Level etc.) as the Highest Qualification:

Entry Test	33%
HSSC (Part-I)	50%
SSC	17%

b. For Applicants with BSc OR BASc as the Highest Qualification:

Entry Test	33%
BSc	30%
HSSC	20%
SSC	17%

c. For applicants having B.Tech (Hons)/ BS/BSc/Bachelors, in Engineering Technology as highest qualification:

Entry Test	33%
B.Tech (Hons)/BS/BSc/Bachelors, in Engineering Technology	30%
HSSC/DAE	20%
SSC	17%

d. For Applicants Having Diploma of Associate Engineer as the Highest Qualification:

Entry Test	33%
DAE 1st & 2nd Year	50%
SSC	17%

e. In case of foreign qualifications (A-Level etc.) :

Entry Test	33%
O level	67%

f. For admission in BS Mathematics and BS Physics

SSC	30%
HSSC (Part-I)	70%

Notes:

1. In case the candidate has already completed his/her intermediate or equivalent qualification, their Part-I result would be used in computation of aggregate.
2. In case of foreign qualification, letter grade will be converted to marks by IBCC formula.
3. Since admission is offered before the declaration of result of HSSC part-II and other equivalent examinations, therefore, admission of candidates, who are unable to earn 60% (in case of engineering programs) and 50% (in case of BS in CS, Mathematic, Physics) in their HSSC or equivalent qualifications or DAE or B.Tech (Hons)/ BS/BSc/Bachelors, in Engineering Technology, will be cancelled and their dues will be reimbursed in full without any deduction.

24.3 Merit of FSc (Pre-medical) with Mathematics

In determining the merit of an applicant having FSc (Pre-medical) with Mathematics as an additional subject, the marks obtained in the subject of Biology are replaced by those obtained in Mathematics.

24.4 Credit for NCC

Twenty marks are added to the marks obtained in the highest examination of an applicant who has successfully completed the NCC training. An applicant gets the benefit only if

he submits with his application an attested photocopy of the original certificate issued by the Director General National Cadet Corps & Women Guard. No substitute for the original certificate is recognized.

24.5 Credit for Hifz-e-Quran

Twenty marks are added to the marks obtained in the highest examination of an applicant who is Hafiz-e-Quran. He gets the benefit only if he:

a. fills in the necessary column provided in the online application Form (F-I)

b. appears before the "Verification Committee" appointed by the Vice-Chancellor and the Committee accepts his claim of being a Hafiz-e-Quran.

The Verification Committee will meet for this purpose in the Jamia Mosque Bilal UET, Taxila on the notified date and time. No separate call letters will be issued in this connection.

24.6 Determination of Merit in case of Equal Percentage of Admission Marks

If two or more applicants have equal percentage of admission marks (up to three decimal places), they shall be treated at par for the purpose of admission. Explanation: In case there is a tie for the last seat in a Discipline/ Category, then all the candidates who have secured equal percentage of Admission Marks (up to three places of decimal) shall be admitted. No transfer or new entry into that Discipline/ Category shall, however, be considered unless the actual number of candidates already admitted falls below the number of allocated seats for the Discipline/ Category.

24.7 Merit Determined Category Wise

The seats for admission to the bachelor's degree courses at the university are distributed over various categories. These categories are discussed in Section 23. The details are available in the Seats Allocation Chart in Section 22. The eligible applicants for each category are grouped separately. Then based on the weighted percentage of marks obtained in the relevant examinations, comparative merit of the applicants comprising the group is prepared. The applicants belonging to a category thus compete for admission amongst themselves for the seats allocated to it.

24.8 Transfer based on given Preferences and Merit

a. **Transfer to higher preferences**

In case a seat in any Discipline/ Category of higher preference given by a candidate falls vacant and he is eligible for transfer to that Discipline/ Category based on his merit, he shall be automatically transferred to that Discipline/Category. He will have no right to retain his admission in the Previous Discipline/Category because the seat vacated by him shall be simultaneously allotted to the next eligible candidate on merit.

b. **Downgrading based on Preferences and Merit:**

If an applicant requests in writing on the prescribed form to downgrade his admission to the lower preference, he will be allowed to avail this facility only once depending on the merit and availability of seats in that department. Further his admission will be frozen simultaneously to the downgraded discipline/ category.

24.9 Freezing in any given Discipline and Category

If an applicant requests in writing to retain the discipline and category in which he has been selected for admission on merit, then he will not have any right to claim his admission in any other discipline and category of higher or lower merit even if a seat falls vacant in any discipline. Applicant desiring to freeze category / discipline must have to apply in person on the prescribed form for this purpose.

24.10 Variation in Seats

a. The university authorities may exercise their right before the closing of the admission cycle to increase or decrease the number of seats allocated to any category and there shall be no appeal against such a decision.

b. All candidates eligible for admission under M-category will be admitted within the prescribed upper limits of M Category in each program. The remaining seats will be made available for open merit admissions.

c. Unfilled seats due to unavailability of applicants in the category 'X' will first be transferred to category 'S'.

d. Unfilled seats due to unavailability of applicants in the categories J, L, M, N, O, P, Q1, Q2, T and S will be transferred to open merit seats (category 'A')

24.11 Typical Examples for the Calculation of Weighted Percentage for Admission

CASE 1:

Applicants having HSSC (F.Sc.) or Equivalent as the highest qualification

Formula:

[33 × (Entry Test marks/Entry Test total marks) + 17 x (SSC Mars / SSC total Marks) + 50 × (HSSC-Part-I marks + NCC + HIFZ-E-QURAN)/ (HSSC Part-I total marks)]

Example

An applicant who has obtained 300/400 in Entry Test, and 700/1100 in SSC, 500/550 in HSSC-Part-I. He has obtained Haifz - E - Quran Certificate as well. % Admission Marks = [33 × (300/400) + 17 × (700/1100) + 50 × (500 +20)/550)] = 82.841

25 Merit Position Entry – 2023

Sr.	Department	A	J	L	N	R	S	T	X
		Open Merit	Disable Persons	Backward Areas	Engineer's Children	Religious Minorities	Partial-Subsidized	Tehsil Taxila	Overseas
1.	Software	78.140	65.465			63.110	74.873		64.482
2.	Computer Sc.	75.677					67.127		
3	Computer	73.277					68.470		
4	Environmental	68.790							
5.	Civil	67.547		70.124	68.043		58.972		67.565
6.	Mechanical	66.090					73.477	71.676	63.341
7.	Electronics	62.387					74.262		
8.	Telecom	58.888					63.957		
9.	Industrial	56.704							
10	Electrical	54.493		69.131		64.512	56.737		
11	Computer Sc. (Pre-Medical)	75.458					58.345		
12	Physics	51.850							
13	Mathematics	49.137							

CASE 2:

Applicants having BSc as the highest qualification

Formula:

[33 × (Entry Test marks/Entry Test total marks) + 17 x (SSC Mars / SSC total Marks) + 20 x (HSSC part-I marks/HSSC Part-I total marks)] + [30 × (BSc marks

+ NCC + HIFZ-E-QURAN)/ (BSc total marks)]

Example:

An applicant who has obtained 700/1100 in SSC, 400/520 marks in HSSC, 624/800 marks BSc and 284/400 marks in Entry Test, having also NCC certificate: % Admission Marks = [33 × (284/400) + 17 × (700/1100) + 20 × (400 /550) + 30 × (624 + 20 + 20)/800)] = 72.94

CASE 3:

Applicants having Diploma of Associate Engineer as the highest qualification.

Formula:

[33 × (Entry Test marks/Entry Test total marks) + 17 x (SSC Mars / SSC total Marks) + 50 × (Diploma 1st and 2nd year marks + NCC + HIFZ-E-QURAN)/ (Diploma total marks)]

Example

An applicant has 800/1100 in SSC, 240/400 marks in Entry Test, and 1700/2000 marks in Diploma. % Admission Marks = [33 × (240/400) + 17 × (900/1100) + 50 × (1700/2000)] =76.209

26 Domicile Requirements

26.1 Domicile Certificates to be submitted by All Applicants

All applicants are required to submit with their applications an attested photocopy of their domicile certificate failing which their applications shall not be considered for admission.

26.2 Applicants Required to Submit Additional Documents

Applicants for categories A, J, L, N, 'G'. Q1, Q2, and T who have passed the Higher Secondary School Examination from any Board of Intermediate and Secondary Education not included in the Punjab Province or Federal Capital Area, Islamabad, will have to submit additional documents described in section 26.3 in support of their domicile.

26.3 Additional Documents Required

The applicants who are required to submit additional documents may fall into the following three categories:

a. Children of Government Servants

If the parent of the applicant is a government servant who belongs to Punjab but is serving in any other province of Pakistan, then the parent should produce a certificate on Form F-II (can be downloaded from admissions. uettaxila.edu.pk) from the head of his department affirming that he is a permanent resident of the Punjab. It shall be necessary in such cases that the period of the applicant's study corresponds with the period of the posting of the parent in that province.

b. Others

Applicants other than those at para must submit the following additional documents in support of their domicile certificate

i. An attested Photocopy of father's/ mother's domicile certificate of the Punjab Province or the Federal Capital Area, Islamabad.

ii. Documentary Proof in the form of a certificate on Form F-III (can be downloaded from university website) from the election officer of concerned area of the Punjab Province/ Federal Capital Area, Islamabad to the effect that name of the father/mother of the applicant appears in the electoral rolls.

iii. An attested Photocopy of the relevant page of the electoral rolls on which the name of the father/ mother of the applicant appears.

iv. An attested Photocopy of the identity card of the applicant's father/mother.

v. An undertaking from the candidate on Form F-IV. (Can be downloaded from admissions. uettaxila.edu.pk)

c. Applicant Whose Father is not Alive

In case the applicant's father is not

alive and the above documents cannot be produced, the applicant should submit

i. Documentary evidence of his father's/ mother's immovable property in Punjab or Federal Capital Area, Islamabad.
ii. Documentary proof of his father's death.

26.4 Domicile Requirements for Children of the Armed Forces Personnel

In addition to the seats reserved for the category 'G', the children of the Armed Forces personnel can apply for admission on basis of merit against seats reserved for their province of domicile or the seats reserved for the province in which their parent (the member of the Armed Forces) is posted. Thus, an applicant who is domiciled in Sindh, but his parent is posted in Punjab can apply against seats reserved for Sindh or against seats reserved for Punjab. However, if he applies under category 'A', he will have to submit with his application a certificate from the GOC of the area regarding the place of his parent's posting.

27 Documents to be attached with Form (F-I)

An applicant must exercise great care in ensuring that his application form (F-I) is complete and submitted online on or before the closing date. If an applicant secures admission in a particular merit list, he will have to submit the following documents along with the printout of application form (F-I) when he will report to the admission office for joining:

27.1 Documents to be submitted by All Applicants: (Attested Photocopies)

i. CNIC/FORM-B Documents to be attached with Form (F-I)
ii. Certificate of Secondary School Examination (Detailed Marks Certificate).
iii. Degree, Diploma or Certificate of the examination based on which admission is sought (i.e., FSc, BSc, or DAE etc.). Result cards issued by the board/ university are acceptable. Provisional Certificate in place of Degree/ Diploma will not be accepted.
iv. Detailed Marks Certificate of the examination based on which admission is sought.
v. Domicile Certificate.
vi. Entry Test result.

27.2 Additional Documents (Mandatory)

To whom applicable:

i. If you have passed HSSC (Pre-medical), you must submit an attested photocopy of the certificate for additional Mathematics.
ii. If you are seeking admission based on BSc Degree you must submit an attested photocopy of the HSSC Certificate as well.
iii. If you are applying for 'J' category seats, you must submit a certificate from concerned Social Welfare, Women Development and Bait ul Maal (Provincial Council for the Rehabilitation of Disabled Persons) Government of the Punjab or Federal Government.
iv. If you are applying for 'M' Category seats, you must submit in original a certificate from the Registrar of the university on prescribed Form F-IX (Available in the Registrar's office).
v. If you are applying for the 'N' Category seats, you must submit an attested photocopy of the relevant degree of your father or mother and renewed PEC registration Certificate.
vi. If you are applying on 'O' category seats, you must submit an attested photocopy of the educational degree/ certificate of your parent as evidence of the fact that he (parent) was a graduate of this university or its parent institution, i.e., the former University College of Engineering Taxila.
vii. If you are applying for Q1 or Q2 category seats, you must submit a certificate from the District Coordination Officer verifying that he is a resident of the

tribal areas of respective districts.

viii. If you are applying for 'R' category seats, you must submit an undertaking duly attested by Oath commissioner on Rs. 50 stamp paper, affirming that you belong to the scheduled religious minority non-Islamic group.

ix. If you are applying on 'X' category seats, you must submit
   a) A Certificate on Form F-VIII (can be downloaded from university website) regarding his parent's employment in a foreign country issued by the Pakistani embassy in that country.
   b) A photocopy of his parent's valid resident visa for that country attested by the Pakistani Embassy.
   c) In case of orphan visit section 23.22 for information about additional documents required.

x. If you have successfully completed the NCC training and wish to claim 20 marks you must submit an attested photocopy of the certificate issued by the Director General National Cadet Corps and Women Guards.

xi. If you are claiming 20 marks for being Hafiz-e-Quran, read clause24.5 of the prospectus carefully.

xii. If you are son of Armed Forces Personnel and are seeking admission not against the seats reserved for the province of your domicile but against the seats reserved for the province where your parent is posted, you must submit in original certificate from the GOC of the area about the place of your parent's posting.

xiii. If you are applying for any category requiring the Punjab domicile and you have passed the Higher Secondary Examination from a Board or Institution not included in the Punjab/Federal Capital Area, Islamabad, you should read section 26.2 and 26.3 carefully to find out the additional documents, you must submit along with Form F-I.

28 How to Complete and Submit the Application Form (F-I)?

Only online filled application forms will be accepted. A candidate can fill the application form (F-I), available online at:
admissions.uettaxila.edu.pk
While filling the FORM (F-I) please read the following instructions carefully:

Instructions for Online Filling of Application Forms:

- On the web-link admissions.uettaxila.edu.pk, click on My UET button.
- Enter your CNIC/B Form No. issued by NADRA, set password, and then click Register button for registration with UET to access the application Form.
- The Candidate can Sign in now.
- Fill the personal information, applicable options, educational information, and preferences and submit it online.
- The candidate can sign in again and again to see/edit his/her data until the closing date of submission of application forms online. After that editing access will be disabled.

28.1 Separate applications are required to be submitted for Group 01 and Group 02 programs along with a specific application processing fee.

28.2 All entries should be in BLOCK LETTERS.

28.3 Fill the column for preferences very carefully. The order of preferences once given shall be final and cannot be changed subsequently, after the submission of the application form online.
If any change in preference order or correction of information in the submitted application is desired by any candidate; it can only be done by withdrawal of current application and to file a fresh application with new registration fee.

28.4 Under Column 'Disciplines' use the following abbreviations:

Civil Engg.	Civil
Computer Engg.	Computer
Electrical Engg.	Electrical
Electronics Engg.	Electronics
Mechanical Engg.	Mechanical
Software Engg.	Software
Telecom Engg.	Telecom
Industrial Engg.	Industrial
Environmental Engg.	Environmental
Mechatronics Engg.	Mechtranics
Computer Science	Computer Sc
BS Physics	Physics
BS Mathematics	Mathematics

28.5 Under the Column 'Category' the candidate will choose only among 'A' (open merit), 'S' (partial subsidized) or 'X' (children of oversees Pakistani). The other categories will be adjusted automatically depending upon his applicable options.

For Example:

A candidate whose father is an engineer, alumnus of UET, Taxila and the candidate also belongs to the Tehsil Taxila and his first choice is Mechanical Engineering then ideal way to fill preferences is as follows:

Sr. No.	Discipline	Category
1.	Mechanical	A
2.	Mechanical	N
3.	Mechanical	T
4.	Civil	A
5.	Civil	N
6.	Electrical	A
7.	Electrical	N
8.	Electrical	T
9.	Electrical	O
10.	Mechanical	S
11.	Civil	S

and so on.

- 1st preference is Mechanical open merit.
- 2nd preference is Mechanical for engineer's son seats.
- 3rd preference is Mechanical Tehsil Taxila.
- 4th preference is Civil open merit.
- 5th preference is Civil for Engineer's son seats.
- 6th preference is Electrical for open merit.
- 7th preference is Electrical for engineer's son seats.
- 8th preference is Electrical for Tehsil Taxila.
- 9th preference is Electrical for children of university alumni seats.
- 10th preference is Mechanical in partial subsidized category.

28.6 Deadline for Receipt of Applications

The application form complete in all respects should be submitted online on or before the last date notified for submission of applications.

28.7 Incomplete Applications

Incomplete applications shall not be entertained, and application fee shall also not be returned on any ground.

29 Procedure for the Selected Candidates

29.1 Notification of Selection

Admissions are granted on merit and according to preferences given by the applicants.

A list of selectees will be displayed on official University website (admissions.uettaxila.edu.pk). The applicants can check the merit lists according to the schedule given in Section 33.

29.2 Depositing of Dues and Documents

- If the name of applicant appears in the merit list, he will report to Admission Office within the prescribed time limit for the particular merit list.
- He will submit the printout of application form F-I along with documents mentioned in section 27 of the prospectus. His eligibility will be determined according to the eligibility criteria for a discipline/ category laid down in the prospectus.
- **The admission offers to "Not Eligible" candidates will be cancelled whereas the "Eligible" candidates will be issued call letters and bank challan.**
- After depositing fee in HBL, UET, Taxila

branch the candidate will submit the following documents in the Admission Office within the time period of a particular merit list:

i. Bank Challan receipt in support of the University Dues deposited in the Habib Bank Ltd., UET, Taxila Branch
ii. Medical Certificate (F-V) duly signed and stamped by the District Medical Superintendent or the Medical Officer of the university or a Commissioned Medical Officer
iii. Original degrees, certificates, and result cards of SSC, HSSC, BSc, GCE(A), Diploma of Associate Engineers or the equivalent qualifications and their duplicate attested photocopies
iv. Original Marks Sheet of Entry Test
v. Original NCC certificate (If applicable)
vi. Original Domicile certificate
vii. Attested copy of National CNIC/Form B
viii. Bio-Data Sheet (F-VI) duly completed.
ix. Undertaking (F-VII) on a Stamp Paper of Rs. 50/-

Important: Consideration in next merit lists: Admissions are granted on merit and according to preferences given by the applicants. An applicant who secures admission in a discipline of his lower preference and he desires to be considered in next merit lists, MUST submit all the UNIVERSITY dues and ORIGINAL documents. If he fails to do so, his name would be excluded from any future merit lists and his admission would be cancelled.

29.3 Relaxation in Time Limit

If a selectee is prevented by unavoidable circumstances from timely fulfillment of the requirements laid down in 29.1 and 29.2, he should intimate the Convener Admission Committee about it within the prescribed time limit along with relevant documentary proof. The Convener Admission Committee may, at his discretion, grant relaxation in the time limit, which shall not exceed Three days.

29.4 Forfeiture of Right for Admission

A selectee who fails to fulfill the requirements laid down in 29.1 and 29.2 within the prescribed time limit shall forfeit his right of admission and will not be considered in subsequent merit lists.

However, such candidates may be considered as per following:

Initially they will be offered admissions in the disciplines in which their names appeared 1st time in merit list at the end of the current merit list, based on merit and subject to the availability of seat **and on submission of fresh application processing fee.** Moreover, they will be eligible to be transferred in the disciplines of their higher preferences, if further merit lists are displayed.

29.5 Provisional Admission

On fulfillment of the obligations mentioned in 29.1 and 29.2 a selectee will be admitted to the university. This admission shall however, be 'provisional 'until all the original degrees or certificates, submitted by him, have been verified for their veracity. In case any document proves to be false, fake, fabricated or do not comply towards eligibility criteria mentioned in section 21 found at a later stage, a provisionally admitted student shall be liable to expulsion from the university and to any other disciplinary or legal action the university may deem fit. Moreover, all the fees and charges deposited by him shall stand forfeited in favor of the university.

29.6 Notification of Selection of Categories B, C, D, E, F, and G

The applicants for the seats reserved for these categories will be informed about selections by the authority responsible for their selection. After

that the university will issue them call letters with a target date to report in the Admission Office to complete the remaining admission formalities.

29.7 Late Admission

The students who will join after the mid semester examinations of 1st semester (because of late nominations and/or 2nd, 3rd cycles of admissions) will be awarded "W" grade in all subjects of the result at the end of 1st semester of his regular session and their makeup classes will be arranged by the respective Chairman after the 1st semester examinations. The mid semester and end semester examination will be taken afresh of all such students and their result will be forwarded by the Chairman to the Controller of Examinations later. The result of 1st semester of such students will be revised by the Controller of Examinations.

29.8 Withdrawal of Original Documents:

The student may be allowed to withdraw their original documents (SSC/HSSC/Domicile) for some other use/purpose but he will not be allowed to withdraw all three original documents (SSC/HSSC/Domicile) at one time. At least one of his original documents will be retained in admission office as security deposit. In this regard the student will submit a written request to the convener admission stating the purpose (with documentary proof), duration and date of return duly signed by the respective chairman.

29.9 THE ADMISSION MADE AS A RESULT OF AN ERROR, OMISSION OR MISTAKE SHALL NOT CONFER ANY RIGHT OF AN APPLICANT

30 Fees and other Charges

30.1 The fees and charges to be paid by the students admitted to the bachelor's degree courses are mentioned in Table 30.1. The same are subject to revision/ modification by the University authorities at any time without any prior notification.

Table 30.1

Description	Subsidized (All categories except S & X)	Partial-Subsidized (only S and X)
Non-Recurring (Payable at the time of admission)	(Pak. Rupee)	(Pak. Rupee)
Admission Charges	7,000	70,000
Re-admission Charges	4,000	4,000
Students Identity Card	2,000	2,000
Document Verification Fee	3,000	3,000
Library Security (Refundable)	2,000	2,000
Recurring Charges (per semester)		
Registration Charges	2,000	2,000
Tuition Fee	38,000	130,000
Sports Charges	2,000	2,000
Magazine Charges	1,000	1,000
Medical Charges	3,000	3,000
Laboratory Charges	3,000	3,000
Examination Charges	3,000	3,000
Book Bank Rent	500	500
Instructional Tour Charges	5,000	5,000
Recreation Charges	3,000	3,000
Smart and Safe Campus Charges	3,000	3,000
Digital Library Charges	500	500
Survey Camp Charges (for Civil Engg only) *	10,000	10,000
Bus Fare for Non-Resident **	16,000	16,000
Bus Fare for Resident **	4,000	4,000
Total for First Semester	**94,000**	**249,000**
Total for Remaining 7 Semesters	**80,000**	**172,000**
Grand Total of 4 years	**654,000**	**1,453,000**
Additional for Hostel Resident		
Hostel Security (Refundable)	8,000	8,000
Mess Security (Refundable)	8,000	8,000
Room Rent	5,000	5,000
Services & Contingencies	3,000	3,000
Masjid Fund	500	500
Electricity charges**	10,000	10,000
Sui Gas charges**	1,500	1,500
Total for First Semester (Resident)	**24,000**	**24,000**

* *These charges will be paid with the fee of 2nd, 3rd and 4th Semesters of Civil Engineering students only*

** *These charges are dependant on the prevailing rates of*

fuel, electricity and gas fixed by the government. At the start of every semester these charges will be decided by the VC on the recommandations Treasurer and PD.

Notes:

1. *In case of admission withdrawl fee will be refunded as per Fee Refund Policy given in clause 30.11 of this prospectus.*
2. *In case a candidate of partial-subsidized category is promoted to some other subsidized category during admission cycle then the admission charges will be adjusted in the fee of next subsequent semesters.*
3. *Fees of first semester can be paid in two installments on request. In such cases; Rs. 50,000 will be paid by the subsidized categories and Rs. 1,50,000 will be paid by the partial-subsidized categories at the time of registration. Remaining amount will be due to pay by the end of 8th week of first semester by all such students.*

30.2 For different type of certificate fees and other examination related charges, contact Examination Branch.

30.3

i. The University also grants fee concession on merit as well as need basis.

ii. Students should maintain their own personal record of original receipts of dues till clearance including receipt of refundable security to avoid problems in future. Non-production of original dues receipts on demand can be considered as non-deposit of fee.

iii. All the admitted students are advised to open their bank accounts in Habib Bank Limited at UET Taxila branch.

30.4 The Chairman of the concerned department may grant extension in payment of dues to the needy students on cogent reasons recorded in writing for a maximum period of 30 days beyond the schedule of the dues circulated by Treasurer. He may also allow the payment of dues in two installments. The remission of late fee fine or re-admission fee cannot be waived off if extension is not allowed by the Chairman beyond the extension period. However, the Competent Authority can waive off late fee fine, on the provision of special case.

If such student fails to deposit the fee upto expiry of this extension, then all relevant clauses starting from 30.10d and onwards will be applicable (Semester Registration/ Fee).

30.5 University dues received in favor of students under loan scheme of National Bank of Pakistan will be adjusted against his/her outstanding dues. In case, the university has extended fee concession to a student, the same will not be withdrawn. The amount equal to fee concession will be paid to the concerned student to enable them to return the amount to NBP themselves to reduce their loan liability.

30.6 Financial assistance / Scholarship received from UET or any other agency/organization, the fee will be adjusted for his/her outstanding dues. The amount will not be refunded to the student. In case he/she has already been granted Half/ Full fee concession for the said period, it will stand canceled automatically and he /she will deposit the fee concession amount in favor of the university or financial assistance will be adjusted against outstanding dues. Student can avail one financial assistance/ scholarship from any agency at a time.

30.7 Periods of Fees and Other Charges

The Non-Recurring fee are charged at the time of admission while the recurring fee are charged per semester. The hostel charges are payable for the whole semester. Electric heaters are **not allowed** in hostel room for all students. A hostel resident found in violation of the rule by using heater in hostel room will be fined Rs 10,000 along with cancellation to of hostel residency for rest of his/her studentship in the university.

30.8 Securities

All kind of securities mentioned above remaining unclaimed for two years from the date of becoming due for refund shall lapse to the university for transfer to the Welfare Fund.

30.9 Refund of Securities

i. The mess security will be refunded when a student leaves the university or the hostel, after deduction of outstanding dues of the university, subject to the submission of clearance, completed in all respects.

ii. The refundable university security, library security and hostel security, however, shall stand forfeited if a student withdraws from or leaves the university before completing the first year.

30.10 Semester Registration / Fee

a. Regular semester fee & charges are payable before the start of every semester (Fall or Spring). The Treasurer will notify the fee schedule for all sessions one month before the start of every new semester in accordance with the Academic Schedule notified by the Director Academics. The last date of semester registration will be the last date of regular semester fee & charges submission.

b. The registration of the students (forms or online) for each semester will be done by the Chairmen of the academic departments.

The notified regular semester fee and charges for each semester shall be managed by the Treasurer. The registration and fee submission shall be completed ten (10) days prior to the start of the semester.

c. In case of a regular semester, if a student fails to register himself and/or to deposit the regular semester fee & charges (Defaulter Students' List to be notified by the Treasurer) for some cogent reasons, a fine of Rs. 100/- per day will be charged till one month of the commencement of classes. During this period chairman of the department can permit such candidate for late registration with payment of fine till that date.

d. If a student fails to get himself registered for a regular semester and/or does not deposit the regular semester fee & charges (Defaulter Students' List to be notified by the Treasurer) till one month after start of semester, he will be treated as suspended from the department. The Chairman will notify his suspension to all concerned. The Chairman can lift this suspension after the payment of re-admission fee and a fine of Rs. 4,000/-.

e. After one month of start of a regular semester, chairmen of all academic departments will notify the complete lists of registered students to all the concerned. These lists also include the students who have frozen their semester or who have registered themselves for additional courses with junior sessions and the names of students whose admissions have been suspended.

f. The student who fails to register for a regular semester and/or to deposit regular semester fee & other charges (Defaulter Students' List to be notified by the Treasurer) till the mid-semester examinations, his admission shall stand cancelled which will be notified by the Chairman. Such students will not be allowed to sit in the classes and to attempt the end semester examination of the semester.

g. The student whose admission has been cancelled can apply for re-admission. In this case application will be routed through Departmental Semester Committee (DSC) of the department and will be placed before the Dean for the final decision. The Dean will notify this decision to all the concerned. Re-admission fee, fine of Rs. 8,000/- and any other penalty imposed by the Dean will be applicable.

h. For all the above-mentioned cases, the student will not claim any other relaxation in the rules governing for teaching, attendance, and examinations etc.

i. The student who fails to register himself and/or to deposit the regular

semester fee & charges before the end semester examination of the semester, he will be treated as dismissed from his regular session. If he is willing for re-admission, he shall apply for forced relegation with the junior session explained in relevant clause of UG Rules & Regulations.

30.11 Fee Refund Policy for Admission Withdrawal case:

The following fee refund policy will be applicable in case of admission withdrawal (Revised National Level Fee-Refund Policy for Higher Education Institutions of Pakistan notified by HEC vide No. 10-1/HEC/A&C/2015/6542 dated December 7, 2015 and UET, Taxila adopted vide notification No. UETT/A&R/S-5/(51)/1969 dated November 28, 2019):

%age of Fee	Timeline For Semester
Full (100%) Fee Refund	Up to 7th day of commencement of classes
Half (50%) Fee Refund	From 8th – 15th day of commencement of classes
No (0%) Fee Refund	From 16th day of commencement of classes

i. Percentage of Fee shall be applicable on all components of fee, except for security and admission charges.

ii. Timeline shall be calculated continuously covering both weekdays and weekend.

31 University Dress Code

The students shall wear dress that ensures modesty, sobriety, and dignity. The dress must neither be offensive to social norms and ethical values of society nor injurious to feminine grace and gentleness. Female students shall, preferably, wear a scarf and an overall sufficient to conceal their posture.

32 Miscellaneous

32.1 Liability for Injury Damage and Loss:

The University teaching programs include training in its workshops and laboratories, places of engineering interest, industrial concern, and construction jobs. The University or other concerns shall not be responsible in the event of an injury, damage or loss to a student resulting from any cause whatsoever during such training.

32.2 Modification of Rules and Regulations:

The rules and regulations governing various aspects of students' life at the University (such as discipline, admissions, examination, migrations, fees, and charges etc.) are given in this prospectus or elsewhere as they stood at the time of its publication. There is no guarantee that these rules and regulations will remain unchanged throughout a student's stay at the University; nor does it, in any way restrict or curtail the inherent powers for the University authorities to modify them whenever in their judgment any modifications are called for, and to implement the modified rules and regulations from a date which they deem appropriate.

33 Admission Schedule

Online Admission Forms	10th June, 2024 (Monday)
Hifz-e-Quran Test (Jamia Masjid Bilal UET, Taxila) at 9:30AM	6th July, 2024 (Saturday)
1st Merit List on the website	8th July, 2024 (Monday)
Last Date Depositing Dues and Original Documents for 1st Merit List	For updated admission schedule please visit http://admissions.uettaxila.edu.pk
2nd Merit List on the website	
Last Date of Depositing Dues and Original Documents for 2nd Merit List	
3rd Merit List on the website	
Last Date Depositing Dues and Original Documents for 3rd Merit List	
Issuance of Registration No. to admitted students	
Start of 1st Semester Classes	
Admission Closure	

NOTES:

i. The selected candidates in a merit list must join the University within specified time limit as per requirements laid down under clause 29. If they fail to do so, their names would be excluded from future merit lists and their admission would be cancelled.

ii. No call letters shall be posted to selected candidates.

iii. The detailed lists can be viewed at the official website of the university at: **admissions.uettaxila.edu.pk**

iv. The display of merit lists shall continue till the admission is closed. So, keep visiting the University Web site for further merit lists (if any).

34 Admission Committee

Prof. Dr. Muhammad Iram Baig Convener	051-9047412
Engr. Muhammad Kashif Iqbal Deputy Convener	051-9047687
Dr. Malik Intisar Ali Sajjad Associate Professor, EED	051-9047558
Registrar	051-9047406
Treasurer	051-9047413
Admission Office Staff	
Mr. Abdul Waheed Assistant	051-9047412
Mr. Usman Khalid Qureshi Jr. Programmer	
Mr. Ghulam Dastgir Jr. Clerk	
Hafiz Muhammad Shahid Naib Qasid	

35 STUDENTS CODE OF CONDUCT

- You shall be honest, faithful, and just, and shall not act in any manner derogatory to the honor, integrity, and dignity of the engineering profession.
- You shall not injure, maliciously, directly, or indirectly, the reputation or employment of another engineer, nor shall you fail to act equitably while performing professional duty.
- You shall use your knowledge and skill of engineering for human welfare, and render professional service and advance, which reflects your best professional service and advance, which reflects your best professional judgment.
- You shall not abuse your position or power, nor accept illegal gratification of any sort.
- You shall faithfully observe and fulfill all your obligations.
- You shall express your opinion on engineering or other matters in a frank, open and straight forward manner.
- You shall not criticize another engineer's work without his knowledge nor malign or injure his profession- al reputation.
- You shall not ridicule fellow engineers nor let one discipline of engineering derides other disciplines or professions.
- You shall not directly or indirectly discredit other engineers nor assign (derogatory) epithets to their per- sons or work.
- Your professional advice shall be based on full knowledge of the facts and honest conviction, and you shall not write articles or advertise in self-laudatory or in any manner derogatory to the dignity of the profession.
- You shall ascertain facts before accepting them and shall not encourage or cause others to carry tales. Credulity is no credit.
- You shall help one another in upholding and doing that is right and shall not associate with those who transgress and those who indulge in unethical practices.
- You shall be kind and considerate to others and shall not fail to be cooperative and accommodating.
- You shall decide matters of common professional interest by mutual consultation.

36 IMPORTANT NOTICE: ADMISSION POLICY

ADMISSION SCHEDULE

For updated admission schedule please keep visiting
admissions.uettaxila.edu.pk

ELIGIBILITY FOR ADMISSION

The candidate should have obtained at least 60% unadjusted marks in examination based on which he seeks admission. Marks of NCC and Hifz-e-Quran, where applicable, shall be added only for determination of merit and not towards eligibility. Rounding off percentage figure to make it 60% will not be considered towards eligibility. The candidate having 50% marks will be considered for Computer Science only.

PREFERENCE TABLE

Only one F-I is required for all disciplines of interest in UET, Taxila. The applicant should precisely and carefully fill the preferences table. The order of preferences once given shall be final and cannot be changed subsequently after the submission of Application Form online.

FORFEITURE OF RIGHT FOR ADMISSION

A selectee who fails to fulfill the requirements laid down in 29.1 and 29.2 within the prescribed time limit shall forfeit his right of admission and will not be considered in subsequent merit lists.

TRANSFER ON THE BASIS OF GIVEN PREFERENCES AND MERIT

In case a seat in any Discipline/Category of higher preference given by a candidate falls vacant and he is eligible for transfer to that Discipline/Category based on his merit, he shall automatically be transferred to that Discipline/Category. He will have no right to retain his admission in the previous Discipline/Category because the seat vacated by him shall simultaneously be allotted to the next eligible candidate on merit.

FREEZING IN ANY GIVEN DISCIPLINE AND CATEGORY

If an applicant requests in writing to retain the discipline and category in which he has been selected for admission on merit, then he will not have any right to claim his admission in any other discipline and category of higher or lower merit if a seat falls vacant in any discipline. Applicant desiring to freeze category/discipline must have to apply in person in the admission office on the prescribed form for this purpose before the next merit list is displayed.

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