

UNDERGRADUATE PROSPECTUS 2020



www.uettaxila.edu.pk

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

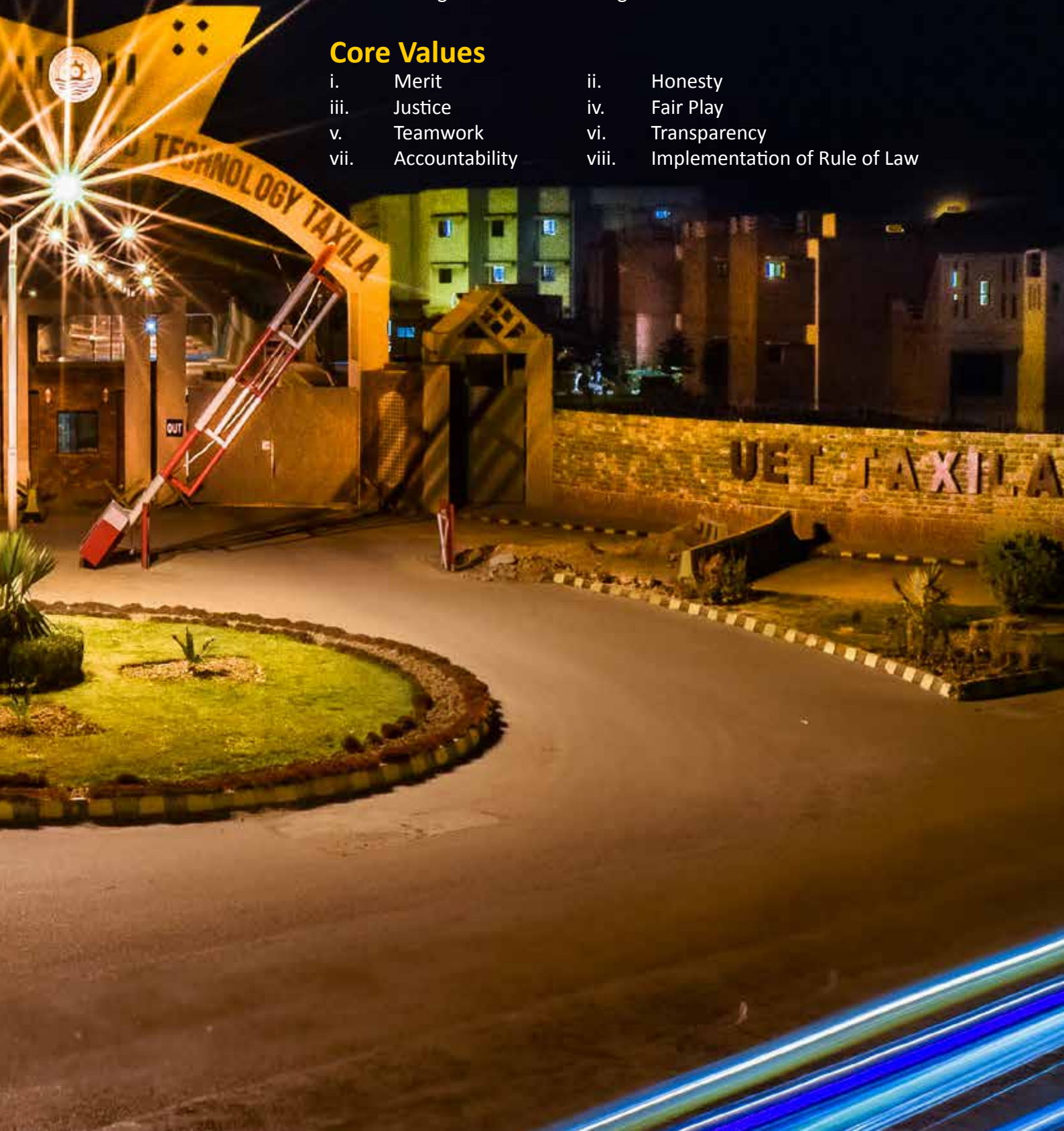
To be a quality conscious institution of international standing imparting knowledge in the field of engineering and applied technologies in a caring environment for the socioeconomic development of the country.

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

Ch. Muhammad Sarwar
(Governor of the Punjab)

Pro-Chancellor

Raja Yasir Humayun Sarfraz
(Minister for Higher Education and Information Technology, Govt. of Punjab)

Vice Chancellor

Prof. Dr. Muhammad Inayatullah Khan

Dean FM&AE

Prof. Dr. Muhammad Shahid Khalil

Registrar

Dr. Mansoor Ahmad Baluch

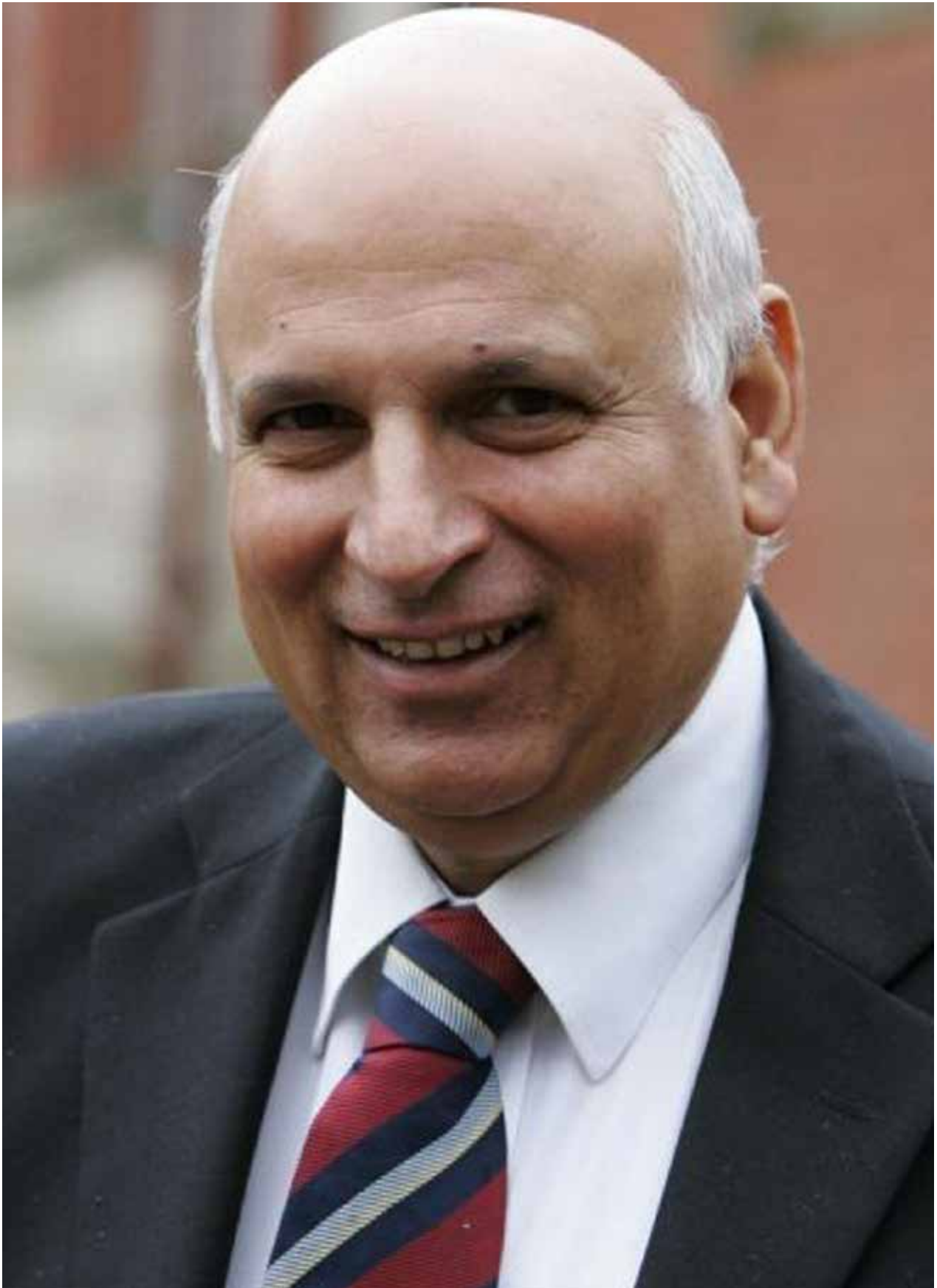
Controllar of Examination

M. Azhar Naeem Kamboh

Treasurer

Ali Hussain Naqvi





Ch. Muhammad Sarwar
(Governor of the Punjab)



Pro-Chancellor

Raja Yasir Humayun Sarfraz

(Minister for Higher Education and Information Technology, Govt. of Punjab)

Vice Chancellor's Message

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 training in various fields of Engineering & Technology to all students to meet the increasingly complex needs of the future with great emphasis placed on developing and sharpening the students' analytical, creative, thinking, problem solving skills and presentation skills. In order to equip our graduates with required skills with specific reference to the required defined graduate attributes, ICT and Entrepreneurship based courses together with sufficient opportunities for Industrial Training, which are part of our academic programs 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, learning and teaching and community service for socioeconomic development of the country and to ensure that core values of merit, honesty, fair play, teamwork, transparency and implementation of rule of law remain our hallmark.

With specific reference to covid-19 pandemic, the University has taken immediate precautions and is working continuously to build on these precautions to reduce the risk. On behalf of faculty, staff and students, I encourage us to do our part by being supportive of citizens who may need our assistance in coping with this natural disaster. 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 related to various academic domains including teaching, research, health based facilities, financial aid services, campus environment, student societies and clubs for extra-curricular activities.

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



Prof. Dr. Muhammad Inayatullah Khan

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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.



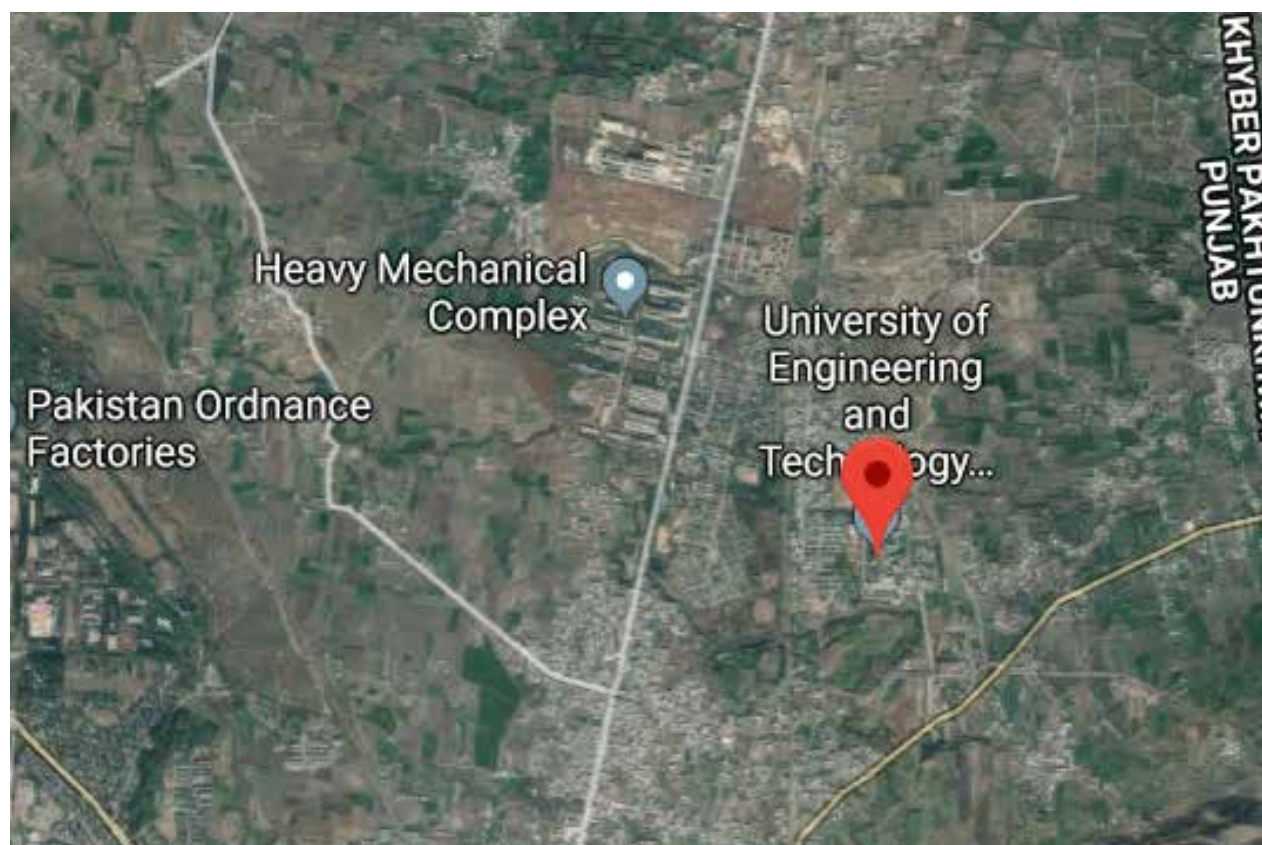
During this month it received its charter as an independent university under the University of Engineering and Technology Taxila Ordinance 1993. At present total enrollment of undergraduate and postgraduate students is above 5500.

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 Shah Wali 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.



Chairpersons of Academic Departments

Department of Civil Engineering	Prof. Dr. Qaiser-uz-Zaman Khan
Department of Environmental Engineering	Dr. Sadia Nasreen
Department of Electrical Engineering	Prof. Dr. Aftab Ahmad
Department of Electronics Engineering	Dr. Yaseer Arafat Durrani
Department of Mechanical Engineering	Prof. Dr. Riffat Asim Pasha
Department of Energy Engineering	Dr. Muzafar Ali
Department of Computer Engineering	Prof. Dr. Hafiz Adnan Habib
Department of Software Engineering	Dr. Tabassam Nawaz
Department of Telecommunication Engineering	Prof. Dr. Yasar Amin
Department of Computer Science	Dr. Syed Aun Irtaza
Department of Industrial Engineering	Dr. Waseem Ahmed
Department of Basic Sciences & Humanities	Dr. Muhammad Mudassar



ADMINISTRATIVE DEPARTMENTS AND SECTIONS

Establishment

Additional Registrars

Academic & Regulation:

Mr. Ali Hussain Naqvi

Establishment/Affiliation/Transport:

Mr. Khalid Mehmood

Deputy Registrar

Establishment:

Mr. Rana Nadeem Anjum

Assistant Registrars

Establishment:

Mr. Ehsan Ahmad

Dues & Scholarships:

Mr. Asif Ali

Procurement:

Mr. Usama Khalid

Vice-Chancellor's Office

Secretary to VC:

Syed Basharat Abbas Shah

Accounts Branch

Additional Treasurer

Accounts:

Mr. Muhammad Nawaz

Deputy Treasurers

Accounts:

Mr. Shahid Saleem

Audit Cell:

Mr. Abid Mehmood Qureshi

Resident Auditor

Mr. Abdur Rauf

Examinations Branch

Deputy Controllers:

Engr. Zakauallah

Mr. Ahmad Noor

Building and Works

Project Director:

Engr. Muhammad Tahir Ali

Assistant Engineer:

Engr. Nasreen Ali

Estate Office

Resident Officer/Estate Officer:

Engr. Muhammad Tahir Ali

Health Clinic

SMO (Male):

Dr. M. Arif Nadeem

SMO (Female):

Dr. Sabahat Qudus

Medical Officer:

Dr. Abu Obaida

Dental Surgeon:

Dr. Uzma Masood

Directors

Student Affairs:

Prof. Dr. Aftab Ahmad

Academics:

Prof. Dr. Qaiser uz Zaman Khan

Physical Education:

Mr. Muhammad Akmal Hussain

NARC:

Mr. Khuram Mehmood

Social Entrepreneurship:

Dr. Waseem Ahmad

Staff Development:

Dr. Muzaffar Ali

International Linkages:

Mrs. Sadia Shahbaz

Digital Library:

Dr. Nadeem Majeed Choudhary

ORIC:

Mrs. Sadia Shahbaz

Telephone Exchange:

Dr. Muhammad Jamil Khan

Planning & Development:

Prof. Dr. Imran Hafeez

Quality Enhancement Cell:

Mrs. Sadia Shahbaz

Advance Studies Research & Technological Development:

Prof. Dr. Muhammad Yaqub

Deputy Directors:

P&D:

Mrs. Amna Arshad

Placement:

Mrs. Saida Shahbaz

Data Analyst QEC:

Mr. Faisal Shahzad

Library

Deputy Chief Librarian:

Mr. Muhammad Mushtaq Khan

Senior Librarian:

Mr. Muhammad Safdar

Mr. Muhammad Bashir

Network Administration & Research Center

Network Administrator:

Mr. Muhammad Iqbal

Mr. Amjad Ismail

System Administrator:

Mr. Omer Masood

Web Manager:

Engr. Ulfat Hussain

Manager Software Development:

Mr. Huzaifa

Legal Cell

Legal Advisor:

Adv. Mr. Farhat Abbas Ch.

Technical Journal

Chief Editor:

Prof. Dr. Hafiz Adnan Habib

Editor:

Asif Ali

Security Directorate

Security Officer:

Mr. Riffat Iqbal Nadeem



Chairmen of Committees

Discipline:

Prof. Dr. Mirza Jhanzeb

Affiliation:

Prof. Dr. Mirza Jahanzeb

Library:

Prof. Dr. Tahir Mahmood

Sports:

Prof. Dr. Adeel Akram

Scholarship and Awards:

Prof. Dr. Adeel Akram

Transport:

Dr. Mansoor A. Baluch

Masjid:

Prof. Dr. Muhammad Iram Baig

Hostels

Senior Warden:

Prof. Dr. Hafiz Adnan Habib

Foreign Faculty Hostel:

Mr. Ali Hussain Naqvi

Halls of Residence

Wardens (Male):

Dr. Nazeer Ahmad Anjum

Engr. Muhammad Asjad Saleem Raja

Wardens (Female):

Ms. Mariam Batool (Ayesha-Hall)

Engr. Syeda Iffat Naqvi (Day Care Center)

Resident Tutors

Quaid-e-Azam (Q) Hall:

Engr. Mujahid Iqbal

Engr. Sullah ud Din

Iqbal (I) Hall:

Engr. Habib ur Rehman

Umar Hall & Usman Hall:

Mr. Muhammad Tausif

Ali Hall:

Engr. Hamaad Haider

Abu Bakar (AB) Hall:

Engr. Abdur Rehman

Engr. Wasif Ali

Jabir Bin Hayan (JBH) Hall:

Engr. Muhammad Usman Rashid

Ayesha Hall:

Engr. Saliha Sikandar

Day Care Center:

Engr. Saima Zareen

Dr. Uzma Masood

IMPORTANT TELEPHONE NUMBERS

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

Descpription	Intercom Ext. (ddd)	Descpription	Intercom Ext. (ddd)
Vice-Chancellor	401	Dy. Treasurer (Audit)	425
Secretary to the Vice-Chancellor	403, 404	Accounts Branch	417
Deans of Faculties		Dues & Scholarship Section	421, 422
Electrical & Electronics Engineering	533	Resident Auditor	423
Civil & Environmental Engineering	633	Controller of Examinations	428
Mechanical & Aeronautical Engineering	666	Examination Branch	432, 433
Telecom. & Information Engineering	566	Project Director (Building & Works)	434
Industrial Engineering	825	Director QEC	492
Chairmen of Academic Departments		Deputy Director QEC	493
Electrical Engineering	535	Director Physical Education	473
Electronics Engineering	720	Director P&D	442
Civil Engineering	635	Deputy Director Placement	444
Environmental Engineering	795	Legal Advisor	445
Mechanical Engineering	668	Library	455
Computer Engineering	568	Health Clinic	461
Software Engineering	735	Network Centre	468
Telecommunication Engineering	918	Transport Office	470
Computer Science	845	Directorate of Students Affairs	472
Industrial Engineering	827	Post Office	474
Basic Sciences	870	Habib Bank Ltd.	475
Other Establishments		Senior Warden	568
Registrar	405	Quaid-e-Azam Hall	264,269
Additional Registrar (Establishment)	407	Iqbal Hall	266,271
Assistant Registrar (Establishment)	408	Ali Hall	267,272
Establishment Branch	409	Abubakar Hall	265,270
Additional Reg. Academic & Regulation	410	Usman Hall	273,277
Academic & Regulation Branch	411	Bilal Hall	275, 276
Admissions Office (Undergraduate)	412, 427	Ayesha Hall	268,274
Treasurer	413	Telephone Exchange (Operator)	400, 500
Dy. Treasurer (Accounts)	418	Security Control Room	803



ACADEMIC PROGRAMS

The University offers B.Sc. Degree courses in the following programs:

- | | |
|------------------------------|----------------------------------|
| 1. Civil Engineering | 6. Industrial Engineering |
| 2. Environmental Engineering | 7. Computer Engineering |
| 3. Electrical Engineering | 8. Software Engineering |
| 4. Electronics Engineering | 9. Telecommunication Engineering |
| 5. Mechanical Engineering | 10. Computer Science |

Existing Faculties and Departments

Faculty of Civil and Environmental Engineering

- Department of Civil Engineering
- Department of Environmental Engineering

Faculty of Electronics and Electrical Engineering

- Department of Electrical Engineering
- Department of Electronics Engineering

Faculty of Mechanical and Aeronautical Engineering

- Department of Mechanical Engineering

Faculty of Industrial Engineering

- Department of Industrial Engineering

Faculty of Telecommunication and Information Engineering

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

Faculty of Basic Sciences and Humanities

- Department of Basic Sciences



PROFILE OF UNIVERSITY FACULTIES



1

Faculty of Civil and Environmental Engineering



Dean



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 Mary Univ., UK)
Post Doc (Univ. of Birmingham, UK)

Dr. Naeem Ejaz

BSc Eng. (UET Taxila)
MSc Eng. (UET Lahore)
PhD (UET Taxila)

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. Muhammad Fiaz Tahir

BSc Eng. (UET Taxila)
MSc Eng. (UET Lahore)
PhD (UET Taxila)

Dr. Naveed Ahmad

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)
PhD (Univ. of Nottingham, UK)

Dr. Faisal Shabbir

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

Assistant Professors**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)

Dr. Syed Bilal Ahmed Zaidi

BSc Eng. (Hons., UET Taxila)
M.Sc. Eng. (UET Taxila)
PhD (Uni. of Nottingham, UK)

Engr. Muhammad Usman Arshid

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Mehwish Asad

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Saqib Mehboob

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Muhammad Saad

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Dr. Naveed Ahmad

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila)
PhD (Tokyo University)

Dr. Afaq Ahmad

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila)
PhD (Heriot-watt University UK)

Dr. Irshad Qureshi

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)
M. Eng. (AIT, Thailand)
PhD (AIT, Thailand)

Dr. Ghufraan Ahmad Pasha

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila)
PhD (Saitama University Japan)

Lecturers**Engr. Muhammad Rameez Sohail**

BSc Eng. (MP Risalpur)
MSc Eng. (NUST)

Engr. Afzal Ahmed

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Usman Muhammad

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Zulfiqar Ali

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Kashif Riaz

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Rana Muhammad Waqas

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila)

Engr. Jamal Ahmed Khan

BSc Eng. (CECOS Peshawar)
MSc Eng. (NUST Islamabad)

Engr. Muhammad Talha Amir

BSc Eng. (Hons., UET Taxila)

MSc Eng. (UET Taxila)

Engr. Hammad Raza

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

Lab Engineers**Engr. Usman Rashid**

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

Engr. Muhammad Arshad

BSc Eng. (NUST)

MSc Eng. (NUST)

Engr. Zahra Bashir Malik

BSc Eng. (Hons., UET Taxila)

Engr. Hammad Haider

BSc Eng. (UET Lahore)

Engr. Mujahid Iqbal

BSc Eng. (UET Taxila)

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 641 undergraduate and 238 postgraduate (MSc Eng.) students are registered in the department. Civil engineers cater to the national needs for buildings, highways, dams, bridges, irrigation network and 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.



It is also worth mentioning that the PEC has already granted accreditation to 2014 & 2015 session after fulfillment of all requirements by the department for accreditation on OBE system.

Program Vision

To impart knowledge in the field of civil engineering individually and jointly for the socio-economic development of the country.

Program Mission

To fulfill the needs of the society by producing responsible civil engineers equipped with sound knowledge, highest moral values, and communication skills.

Program Educational Objectives (PEOs)

Civil Engineering graduates will demonstrate the;

PEO-1: Effective role towards engineering profession based on their technical knowledge and skills

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 the 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.

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
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 full time and part time 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. Twenty-Two students have been awarded PhD degrees in various fields. Presently about 69 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
CE-102	Engineering Mechanics	2	1
CE-103	Engineering Geology	2	1
CE-104	Surveying-I	2	2
MA-105	Mathematics-I	3	0
	Total	10	6
	Semester Total	16	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-106	Surveying-II	2	2
CE-107	Engineering Materials	2	1
CE-108	Professional Ethics	2	0
MA-109	Mathematics-II	3	0
HU-110	Pakistan Studies	2	0
CE-111	Professional English	2	0
	Total	13	3
	Semester Total	16	
	Total for First Year	32	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-201	Fluid Mechanics-I	2	1
CE-202	Properties of Concrete	2	1
CE-203	Engineering Practice	2	1
MA-204	Numerical Analysis and Computer Programming	2	1
HU-205	Islamic Studies	2	0
CE-212	Hazards and Disaster Management	3	0
	Total	13	4
	Semester Total	17	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-206	Theory of Structures-I	3	1
CE-207	Strength of Materials-I	2	1
CE-208	Soil Mechanics-I	2	1
CE-209	Drawing, Estimation & Construction	2	1
HU-210	Computer Applications	2	1
CE-211	Communication Skills & Technical Report Writing	1	1
	Total	12	6
	Semester Total	18	
	Total for First Year	35	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-301	Theory of Structures-II	3	1
CE-302	Strength of Materials-II	3	1
CE-303	Soil Mechanics-II	3	1
CE-304	Construction Planning & Management	2	1
CE-305	Hydrology and Water Resources	2	1
	Total	13	5
	Semester Total	18	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-306	Environmental Engineering-I	2	1
CE-307	Reinforced Concrete-I	3	1
CE-308	Design of Steel Structures	2	1
CE-309	Fluid Mechanics-II	2	1
CE-310	Transportation Engineering-I	2	1
	Total	11	5
	Semester Total	16	
	Total for 3rd Year	34	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-401	Environmental Engineering-II	2	1
CE-402	Reinforced Concrete-II	3	1
CE-403	Hydraulics Engineering	2	1
CE-404	Transportation Engineering-II	2	1
CE-405	Foundation Engineering	2	1
CE-406(A)	Project	0	3
	Total	11	8
	Semester Total	19	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-407	Structural Engineering	2	1
CE-408	Irrigation Engineering	2	1
CE-409	Design of Structures	2	2
CE-410	Computer Aided Design	1	2
CE-406(B)	Project	0	3
	Total	7	9
	Semester Total	16	
	Total for Final Year	35	
	Grand Total for Four Years	136	





DEPARTMENT OF ENVIRONMENTAL ENGINEERING

Chairperson

Dr. Sadia Nasreen

Assistant Professors

Dr. Sadia Nasreen

MSc Environmental Chemistry (FJWU Rwp)
MS Environmental Sciences (CIIT Abtabad)
PhD Environmental Eng. (China)

Engr. Sidra Iftikhar

BSc Environmental Eng. (UET Lahore)
MSc Environmental Eng. (UET Lahore)
(on higher studies abroad)

Engr. Shamas Tabraiz

BSc Environmental Eng. (UET Lahore)
MSc Environmental Eng. (UET Lahore)
(on higher studies abroad)

Lecturers

Engr. Rasikh Habib

BSc Environmental Eng. (NUST Islamabad)
MSc Environmental Eng. (NUST Islamabad)

Engr. Sadia Fida

BSc Environmental Eng. (UET Lahore)
MSc Environmental Eng. (UET Lahore)

Engr. Muhammad Zeeshan

BSc Environmental Eng. (UET Lahore)
MSc Environmental Eng. (UET Lahore)
(on higher studies abroad)

Engr. Babar Abbass

BSc Environmental Eng. (NUST Islamabad)
MSc Environmental Eng. (NUST Islamabad)

Engr. Abaid Ullah

BSc Env. Eng. (Hons., UET Taxila)
MSc Eng. Management (UET Taxila)
(Gold Medalist)

Engr. Bilal Asif

BSc Environmental Eng. (UET Taxila)
MS Environmental Eng. (NUST Islamabad)

Lab Engineers

Engr. Aasma Imam Khan

BSc Environmental Eng. (UET Taxila)

Engr. Nayaab Zahra

BSc Environmental Eng. (UET Lahore)
MSc Environmental Eng. (UET Lahore)

Engr. Muhammad Usman Saleem

BSc Environmental Eng. (UET Taxila)
MS Environmental 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.

Program Mission

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

Program Educational Objectives (PEOs)

Graduates will;

PEO-1: Apply acquired knowledge for design and operation of environmental systems, and related infra- structural facilities.

PEO-2: Exercise ethical, social, and professional practices while making engineering decisions.

PEO-3: Remain committed towards continued learning process.

The department employs highly qualified faculty with diverse backgrounds and research interests.

The department is equipped with laboratories including:

1. Environmental Analytical Techniques

2. Environmental Microbiology
3. Water Treatment Technology
4. Air & Noise Pollution Control
5. Environmental Chemistry
6. Advanced Analytical

Advanced Analytical Lab caters for the experimental and project works.

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 content 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
EN-112	Environmental Chemistry	2	1
BH-113	Engineering Calculus	3	0
CE-114	Engineering Drawing	1	2
CS-115	Fundamental of Computing and Programming	2	2
BH-116	Islamic Studies	2	0
	Total	13	5
	Semester Total	18	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CE-121	Engineering Mechanics	2	1
CE-122	Surveying and Leveling	2	2
BH-123	Introduction to Microbiology	3	0
BH-124	Linear Algebra and Differential Equations	3	0
BH-125	Communication Skills	2	0
EE-126	Electrical Technology	2	0
	Total	14	3
	Semester Total	17	
	Total for First Year	35	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-211	Environmental Microbiology	2	1
CE-212	Strength of Materials	2	1
CE-213	Soil Mechanics	2	0
BH-214	Environment and Human Interaction	2	0
BH-215	Numerical Analysis	3	0
BH-216	Pakistan Studies	2	0
	Total	13	2
	Semester Total	15	

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
CE-223	Transportation Engineering	2	1
MA-224	Thermodynamics	2	1
CE-225	Fluid Mechanics	2	1
CE-226	Introduction to GIS and RS	2	1
	Total	12	6
	Semester Total	18	
	Total for Second Year	33	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-311	Water Treatment and Design	3	1
BH-312	Probability and Statistics	3	0
CE-313	Structural Analysis	2	1
CE-314	Hydrology and Water Resource Management	3	0
EN-315	Environmental Management System	3	0
BH-316	Engineering Economics	2	0
	Total	16	2
	Semester Total	18	

Semester - VI

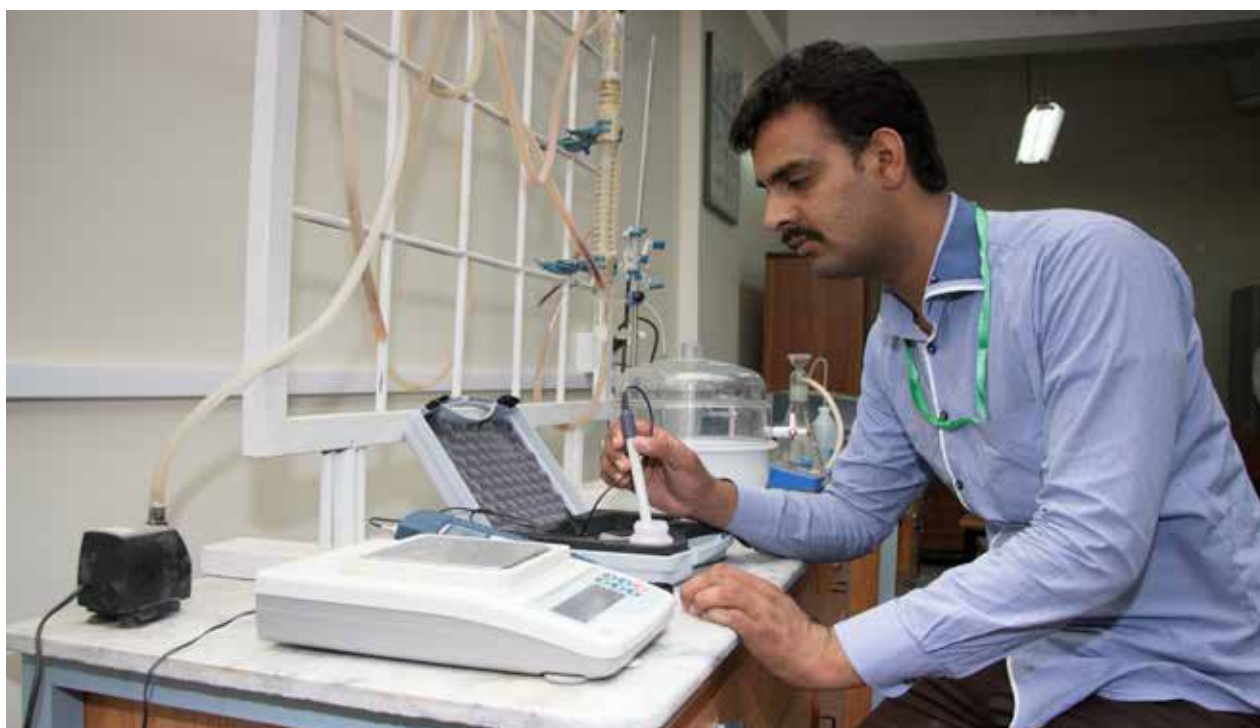
Course Code	Course Title	Credit Hours	
		Theory	Lab.
EN-321	Water Supply and Sewerage Network Design	2	2
CE-322	Project Planning and Management	2	0
EN-323	Environmental Impact Assessment and Management	3	0
EN-324	Solid and Hazardous Waste Management	3	0
EN-325	Air & Noise Pollution Control	3	1
BH-326	Technical Writing and Presentation Skills	2	0
	Total	15	3
	Semester Total	18	
	Total for Third Year	36	

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	Environmental Health and Safety	3	0
EN-414	Contaminated Site Remediation	3	0
EN-415	Professional Ethics	2	0
EN-416	Final Year 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
MS-422	Entrepreneurship	2	0
EN-423	Renewable Energy Resources	3	0
EN-424	Membrane Based Water and Waste-Water Treatment	2	0
EN-425	Final Year Project -II	0	3
	Total	10	3
	Semester Total	13	
	Total for Final Year	31	
	Grand Total for Four Years	135	



2

Faculty of Electronics and Electrical Engineering



Dean

This faculty consist of following two degree awarding departments:

- Department of Electrical Engineering
- Department of Electronics Engineering

DEPARTMENT OF ELECTRICAL ENGINEERING

Chairman

Prof. Dr. Aftab Ahmad

Professors

Dr. Aftab Ahmad

BSc Eng. (UET Lahore)
MSc Eng. (UET Lahore)
PhD (UET Taxila)

Dr. Muhammad Iram Baig

BSc Eng. (UET Lahore)
MSc Eng. (UET Lahore)
PhD (UET Taxila)

Dr. Gulistan Raja

BSc Eng. (UET, Taxila)
MSc Eng. (Osaka University Japan)
PhD (UET Taxila)

Dr. Tahir Mahmood

BSc Eng. (Hons., UET Lahore)
MSc Eng. (UET Lahore)
PhD (UET Taxila)

Associate Professors

Dr. Salman Amin

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

Dr. Sarmad Sohaib

BSc Eng. (GIKI Topi)
PhD (Uni. of Manchester, UK)
(On leave abroad)

Dr. Muhammad Obaidullah

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)
PhD (Uni. of Manchester UK)

Dr. Shabbir Majeed Chaudhry

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

Dr. Shaikh Saaqib Haroon

BSc Eng. (UET Lahore)
MSc Eng. (UET Taxila)
PhD (UET Taxila)

Assistant Professors

Engr. Ilyas Ahmad

BSc Eng. (UET Peshawar)
MSc Eng. (UET Taxila)

Dr. Inam ul Hasan Shaikh

BSc Eng. (Hons., UET Lahore)
MSc Eng. (UET Taxila)
PhD (Uni. of Manchester, UK)

Dr. Ing. Ahsan Ali

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)
PhD (TUH, Germany)

Dr. Hafiz M. Irfan Arshad

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MSc Eng. (UET Taxila)
PhD (UET Taxila) (on leave abroad)

Dr. Intisar Ali Sajjad

BSc Eng. (UET Lahore)
MSc Eng. (UET Taxila)
PhD (POLITO, Italy)

Dr. Junaid Mir

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)
PhD (Uni. of Surrey, UK)

Engr. Ghulam Ali

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

Dr. M. Faisal Nadeem Khan

BSc Eng. (AU Islamabad)
MSc Eng. (UET Taxila)
PhD (UET Taxila)

Dr. Qamas Gul

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

Dr. Muhammad Rafiq

BSc Eng. (UET Taxila)
MSc Eng. (Chalmers Uni. of Tech. Sweden)
PhD (NCEPU China)



Lecturers**Engr. Hammad Shaukat**

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila)

Engr. Mamoonah Khalid

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila)
(On Higher Studies Abroad)

Dr. Munira Batool

BSc Eng. (BZU Multan)
MSc Eng. (UET Taxila)
PhD (Univ. of Curtin, Australia)

Engr. M. Mansoor Ashraf

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MSc Eng. (UET Taxila)

Engr. Mehroze Iqbal

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MSc Eng. (UET Taxila)
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Engr. Abubakar Waqas

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(On Higher Studies Abroad)

Engr. Faisal Siddiq

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Nouman Qamar

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Tanveer Khursheed

BSc Eng. (PU Lahore)
MSc Eng. (UET Taxila)

Engr. Usama Ashfaq

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Hafiz Hammad Haider

BSc Eng. (PIEAS Islamabad)
MSc Eng. (UPB Germany)

Lab Engineers**Engr. Habib ur Rehman Habib**

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)
(On Higher Studies Abroad)

Engr. Aleem Zahid

BSc Eng. (CASE Islamabad)
MSc Eng. (UET Taxila)
(On Higher Studies Abroad)

Engr. Farzana Kausar

BSc Eng. (UET Taxila)
Engr. Komal Munir
BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Muhammad Waseem

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)
(On Higher Studies Abroad)

Engr. Hafiz Mehboob Riaz

BSc Eng. (UET Lahore)
MSc Eng. (NUST Islamabad)

Engr. Zainab Shahid

BSc Eng. (NUST Islamabad)
MSc Eng. (NUST Islamabad)

Engr. Shuja Irfan

BSc Eng. (UET Taxila)



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 3000 graduate students so far.

Mission

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

Program Educational Objectives (PEOs)

The graduated electrical engineer 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.

Core Values

- > **Integrity**
- > **Self-Discipline**
- > **Cognition**
- > **Team Spirit**

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
2. Computer Lab
3. Computer Simulation
4. Digital Systems
5. Electrical Machines
6. Electronics
7. Ind. IT: Control and Automation
 - i. Basic Control Lab
 - ii. Advance Control Lab
8. High Voltage
9. Instrumentation and Process Control
10. Microwave & Communication
11. Opto-Electronics
12. Power Systems
13. Power Electronics
14. Power Systems Simulation
15. Workshop & Projects

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 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 450 MSc and 32 PhDs have been produced. The post-graduate program offers a degree in “Master of Science in Electrical Engineering” with specializations in:

- **Power**
- **Electronics**
- **Digital Techniques**
- **Control**

The master’s degree courses are aimed at bringing the students abreast with the most recent developments in their fields of specialization. These courses are offered both for the part time as well as the full-time students. At present 26% students are enrolled in full-time and 74% students are enrolled in the part time program. Most of the part time students are working with major engineering organizations of the country.

The faculty members and postgraduate students are actively involved in research. 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	Pre-requisite(s)	Credit Hours
EE-1113	Linear Circuit Analysis	Freshman Standing	3
EE-1111	Linear Circuit Analysis Lab	Co-requisite: Linear Circuit Analysis	1
EE-1121	Workshop Practice Lab	Freshman Standing	1
NS-1133	Applied Physics	Freshman Standing	3
NS-1131	Applied Physics Lab	Co-requisite: Applied Physics	1
NS-1143	Calculus & Analytical Geometry	Freshman Standing	3
HU-1152	Functional English	Freshman Standing	2
HU-1162	Islamic Studies	Freshman Standing	2
Total			16

Semester - II

Course Code	Course Title	Pre-requisite(s)	Credit Hours
EE-1213	Electronic Devices & Circuits	Freshman Standing	3
EE-1211	Electronic Devices & Circuits Lab	Co-requisite: Electronic Devices & Circuits	1
EE-1221	Engineering Drawing Lab	Freshman Standing	1
CS-1233	Programming Fundamentals	Freshman Standing	3
CS-1231	Programming Fundamentals Lab	Co-requisite: Programming Fundamentals	1
IDE-1243	Engineering Mechanics	Freshman Standing	3
IDE-1241	Engineering Mechanics Lab	Co-requisite: Engineering Mechanics	1
NS-1253	Differential Equations	Freshman Standing	3
HU-1262	Pakistan Studies	Freshman Standing	2
Total			18
Total for First Year			18

Semester - III

Course Code	Course Title	Pre-requisite(s)	Credit Hours
EE-2113	Electrical Machines	Linear Circuit Analysis	3
EE-2111	Electrical Machines Lab	Co-requisite: Electrical Machines	1
EE-2123	Digital Logic Design	Sophomore Standing	3
ES-2121	Digital Logic Design Lab	Co-requisite: Digital Logic Design	1
CS-2133	Computing Elective	Mentioned against the list of computing electives	3
CS-2131	Computing Elective Lab	Co-requisite: Same Computing Elective	1
NS-2143	Complex Variables & Transforms	Sophomore Standing	3
HU-2152	Communication Skills	Sophomore Standing	2
Total			17

Semester - IV

Course Code	Course Title	Pre-requisite(s)	Credit Hours
EE-2213	Electrical Network Analysis	Linear Circuit Analysis	3
EE-2211	Electrical Network Analysis Lab	Co-requisite: Electrical Network Analysis	1
EE-2223	Microprocessors & Microcontrollers	Digital Logic Design	3
EE-2221	Microprocessors & Microcontrollers Lab	Co-requisite: Microprocessors & Microcontrollers	1
EE-2233	Signals & Systems	Complex Variables & Transforms	3
EE-2231	Signals & Systems Lab	Co-requisite: Signals & Systems	1
EE-2243	Probability Methods in Engineering	Sophomore Standing	3
NS-2253	Linear Algebra	Sophomore Standing	3
Total			18
Total for Second Year			35

Semester - V

Course Code	Course Title	Pre-requisite(s)	Credit Hours
EE-3113	Linear Control Systems	Signals & Systems	3
EE-3111	Linear Control Systems Lab	Co-requisite: Linear Control Systems	1
EE-3123	Electromagnetic Field Theory	Complex Variables & Transforms	3
IDE-3133	Applied Thermodynamics	Sophomore Standing	3
IDE-3131	Applied Thermodynamics Lab	Co-requisite: Applied Thermodynamics	1
NS-3143	Natural Science Elective	From list of natural science electives	3
HU-3153	Technical Report Writing	Sophomore Standing	3
Total			17

Semester - VI

Course Code	Course Title	Pre-requisite(s)	Credit Hours
EE-3213	Communication Systems	Signals & Systems	3
EE-3211	Communication Systems Lab	Co-requisite: Communication Systems	1
MS-3223	Management Science Elective I	From list of management science electives	3
HU-3233	Social Science Elective I	From list of social science electives	3
EE-32##3	Breadth Core I (Restricted Elective)	From list of specialization electives	3
EE-32##1	Breadth Core I Lab (Restricted Elective)	Co-requisite: Same Breadth Core I	1
EE-32##3	Breadth Core II (Restricted Elective)	From list of specialization electives	3
EE-32##1	Breadth Core II Lab (Restricted Elective)	Co-requisite: Same Breadth Core II	1
Total			18
Total for Third Year			35

Semester - VII

Course Code	Course Title	Pre-requisite(s)	Credit Hours
EE-4113	Design Project	Earned 92 credit hours or more	3
MS-4123	Management Science Elective II	From list of management science electives	3
HU-4133	Social Science Elective II	From list of social science electives	3
EE-41##3	Depth Elective I	From list of specialization electives	3
EE-41##1	Depth Elective I Lab	Co-requisite: Same Depth Elective I	1
EE-41##3	Depth Elective II	From list of specialization electives	3
EE-41##1	Depth Elective II Lab	Co-requisite: Same Depth Elective II	1
Total			17

Semester - VIII

Course Code	Course Title	Pre-requisite(s)	Credit Hours
EE-4213	Senior Design Project	Design Project + Technical Report Writing	3
EE-42##3	Depth Elective III	From list of specialization electives	3
EE-42##1	Depth Elective III Lab	Co-requisite: Same Depth Elective III	1
EE-42##3	Depth Elective IV	From list of specialization electives	3
EE-42##1	Depth Elective IV Lab	Co-requisite: Same Depth Elective IV	1
EE-42##3	Depth Elective V	From list of specialization electives	3
EE-42##1	Depth Elective V Lab	Co-requisite: Same Depth Elective V	0/1
Total			14/15
Total for Final Year			31/32
Grand Total for Four Years			135/136



Computing Electives

Course Title	Pre-requisite(s)
Data Structures & Algorithms	Programming Fundamentals
Machine Learning	Programming Fundamentals
Software Engineering	Programming Fundamentals
Databases	Programming Fundamentals
Artificial Intelligence	Programming Fundamentals
Mobile Application Development	Programming Fundamentals
Web Application Development	Programming Fundamentals
Network Security	Programming Fundamentals

Natural Science Electives

Course Title	Pre-requisite(s)
Numerical Analysis	Sophomore Standing
Multivariable Calculus	Sophomore Standing
Discrete Mathematics	Sophomore Standing
Chemistry	Sophomore Standing
Biology	Sophomore Standing

Management Science Electives

Course Title	Pre-requisite(s)
Engineering Economics & Management	Junior Standing
Engineering Project Management	Junior Standing
Entrepreneurship	Junior Standing
Principles of Management	Junior Standing
Leadership & Personal Grooming	Junior Standing

Social Science Electives

Course Title	Pre-requisite(s)
Professional Ethics	Junior Standing
Sociology for Engineers	Junior Standing
Critical Thinking	Junior Standing
Organizational Behavior	Junior Standing
Professional Psychology	Junior Standing



SPECIALIZATION ELECTIVES

Power

Course Code	Course Title	Pre-requisite(s)
9A	Power System Analysis (Breadth Core I)	Electrical Network Analysis
9B	Power Distribution & Utilization (Breadth Core II)	Electrical Network Analysis
9C	Instrumentation & Measurements	Linear Circuit Analysis
9D	Power Electronics	Electronic Devices & Circuits
9E	Electrical Power Transmission	Electrical Network Analysis
9F	Power System Protection	Power System Analysis
9G	Power System Operation & Control	Power System Analysis
9H	Renewable Energy Systems	Junior Standing
9I	High Voltage Engineering	Senior Standing
9J	Industrial Automation	Senior Standing
9K	Digital Signal Processing	Signals & Systems
9L	Power Generation	Electrical Machines
9M	Smart Grid	Communication Systems
9N	Electrical Machine Design	Electrical Machines
9O	Industrial Drives	Power Electronics
9P	Advanced Electrical Machines	Electrical Machines
9Q	FACTS & HVDC Transmission	Senior Standing

Communication

Course Code	Course Title	Pre-requisite(s)
8A	Electronic Circuit Design (Breadth Core I)	Electronic Devices & Circuits
8B	Computer Communication Networks (Breadth Core II)	Junior Standing
8C	Instrumentation & Measurements	Linear Circuit Analysis
8D	Power Electronics	Electronic Devices & Circuits
8E	RF & Microwave Engineering	Electromagnetic Field Theory
8F	Digital Image Processing	Signals & Systems
8G	Antenna & Wave Propagation	Electromagnetic Field Theory
8H	Digital Communication	Communication Systems
8I	Optical Communication	Communication Systems
8J	Industrial Automation	Senior Standing
8K	Digital Signal Processing	Signals & Systems
8L	Wireless & Mobile Communication	Communication Systems
8M	Communication Electronics	Communication Systems
8N	Satellite Communication	Communication Systems
8O	Navigation & Radar Systems	Communication Systems

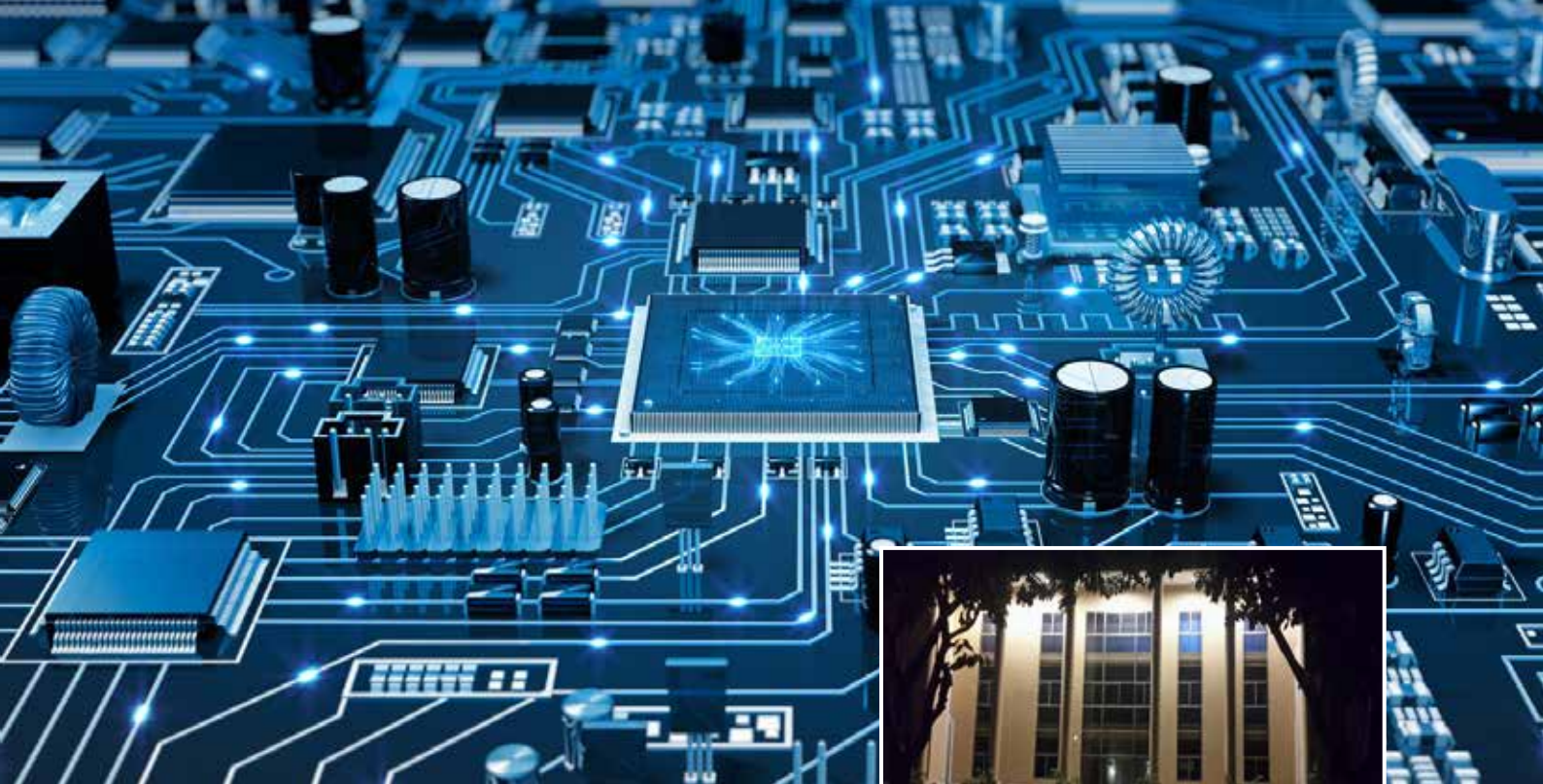
Electronics

Course Code	Course Title	Pre-requisite(s)
7A	Electronic Circuit Design (Breadth Core I)	Electronic Devices & Circuits
7B	Power Electronics (Breadth Core II)	Electronic Devices & Circuits
7C	Instrumentation & Measurements	Linear Circuit Analysis
7D	Optoelectronics	Electronic Devices & Circuits
7E	RF & Microwave Engineering	Electromagnetic Field Theory
7F	Integrated Electronics	Electronic Circuit Design
7G	Antenna & Wave Propagation	Electromagnetic Field Theory
7H	Digital System Design	Digital Logic Design
7I	Industrial Electronics	Electronic Devices & Circuits
7J	VLSI Design	Digital Logic Design
7K	Digital Signal Processing	Signals & Systems
7L	Solid State Device Physics	Electronic Devices & Circuits
7M	Introduction to Nanotechnology	Junior Standing
7N	Biomedical Instrumentation	Senior Standing

Notes:

1. 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.
2. 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.





DEPARTMENT OF ELECTRONICS ENGINEERING

Chairman

Dr. Yaseer Arafat Durrani

Associate Professor

Dr. Yaseer Arafat Durrani

BSc (Uni. of Peshawar)
BSc Eng. (EMU Turkey)
MSc Eng. (KTH Sweden)
PhD Eng. (UPM Spain)

Assistant Professors

Dr. Syed Azhar Ali Zaidi

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)
PhD (POLITO Italy)

Dr. Khawaja Shafiq Haider

BSc Eng. (Dawood Uni, Karachi)
MSc Eng. (NUST Islamabad)
PhD Eng. (NUST Islambad)

Dr. Aamir Rashid

BSc Eng. (UET Lahore)
MSc Eng. (UNS, France)
PhD Eng. (INPT, France)

Dr. Usman Masood

BSc Eng. (UET Taxila)
MSc Eng. (Uni. of Kassel Germany)
PhD Eng. (UNi. of Kassel Germany)

Lecturers

Engr. Adil Usman

BSc Eng. (AU Islamabad)
MSc Eng. (AU Islamabad)

Engr. Syed Zohaib Hassan Naqvi

BSc Eng. (IIU Islamabad)
MSc Eng. (IIU Islamabad)

Engr. Muhammad Faraz

BSc Eng. (IIU Islamabad)
MSc Eng. (UET Taxila) (on study leave)

Engr. Qummar Zaman

BSc Eng. (IIU Islamabad)
MSc Eng. (UET Taxila) (on study leave)

Engr. Muhammad Atif Imtiaz

BSc Eng. (MAJU Islamabad)
MSc Eng. (UET Taxila)

Lab Engineers

Engr. Muhammad Umar Khan
BSc Eng. (COMSATS)

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

Engr. Hafiza Misbah Younis
BSc Eng. (UET Taxila)

Engr. Sumair Aziz
BS Eng. (IIU Islamabad)

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 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 of 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 Educational Objectives (PEO's)

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

PEO-1: To produce graduates capable of developing creative solutions, analysis, and design of Electronic systems with their applications.

PEO-2: To produce graduates exhibiting leadership with effective contribution towards the uplift of their profession and society through awareness about professional ethics.

PEO-3: To produce graduates who are willing to pursue continuous professional development for updating and expanding their knowledge base.

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 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 laboratories:



1. Basic Electronics
2. Digital Electronics
3. VLSI Design
4. Embedded System
5. Control Systems
6. Digital Signal Processing & Communication
7. Computer
8. Instrumentation
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 15, among those 11 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
- Semiconductor Materials, Devices and Design
- Bio-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 System



Courses Under Semester System BSc Electronics Engineering

Semester - I

Course Code	Course Title	Theory	Lab	Pre-Requisites
BH-111	Functional English	3	0	
BH-112	Calculus & Analytical Geometry	3	0	
BH-113	Applied Physics	3	1	
CS-114	Computer Fundamentals & Programming	2	1	
EN-115	Linear Circuit Analysis	3	1	
EN-116	Electronics Workshop	0	1	
	Total	14	04	
	Semester Total	18		

Semester - II

Course Code	Course Title	Theory	Lab	Pre-Requisites
BH-121	Communication Skills	3	0	
BH-122	Linear Algebra	3	0	Calculus & Analytical Geometry
CS-123	Computer-Aided Engineering Design	0	1	
CS-124	Object Oriented Programming	3	1	Computer Fundamentals & Programming
EN-125	Solid-State Electronics	2	0	
EN-126	Electronic Devices & Circuits	3	1	Linear Circuit Analysis, Applied Physics
	Total	14	03	
	Semester Total	17		
	Total for First Year	35		

Semester - III

Course Code	Course Title	Theory	Lab	Pre-Requisites
BH-211	Differential Equations	3	0	Calculus & Analytical Geometry
EN-212	Electronic Circuit Design	3	1	Electronic Devices & Circuits
EN-213	Digital Logic Design	3	1	
EN-214	Electrical Network Analysis	3	1	Linear Circuit Analysis
EN-215	Instrumentation & Measurements	3	1	Linear Circuit Analysis
	Total	15	04	
	Semester Total	19		

Semester - IV

Course Code	Course Title	Theory	Lab	Pre-Requisites
BH-221	Complex Variables & Transforms	3	0	Linear Algebra, Differential Equations
BH-222	Pakistan Studies	2	0	
EN-223	Microprocessors & Microcontrollers	3	1	Digital Logic Design
EN-224	Electrical Machines	3	1	Electrical Network Analysis
EN-225	Integrated Electronics	3	1	Electronic Circuit Design
	Total	14	03	
	Semester Total	17		
	Total for Second Year	36		

Semester - V

Course Code	Course Title	Theory	Lab	Pre-Requisites
BH-311	Social Sciences Elective I	3	0	
BH-312	Technical Report Writing & Presentation Skills	3	0	
EN-313	Probability & Random Variables	3	0	
EN-314	Electromagnetic Field Theory	3	0	Complex Variables & Transforms
BH-315	Signals & Systems	3	1	Electrical Network Analysis
	Total	15	01	
	Semester Total	16		

Semester - VI

Course Code	Course Title	Theory	Lab	Pre-Requisites
BH-321	Islamic Studies	2	0	
BH-322	Social Sciences Elective II	3	0	
EN-323	Analog & Digital Communication	3	1	Electronic Circuit Design, Signals & Systems
EN-324	Control Systems	3	1	Electrical Network Analysis, Signals & Systems
EN-325	Digital Signal Processing	3	1	Signals & Systems
	Total	14	03	
	Semester Total	17		
	Total for Third Year	33		

Semester - VII

Course Code	Course Title	Theory	Lab	Pre-Requisites
MS-411	Management Sciences Elective I	3	0	
EN-4XX	Elective-I	3	1	See list of Elective Courses
EN-4XX	Elective-II	3	0/1	See list of Elective Courses
XX-4XX	Elective-III	3	0/1	See list of Elective Courses
EN-499A	Electronic Engineering Project	0	3	
	Total	12	4/6	
	Semester Total	16/18		

Semester - VIII

Course Code	Course Title	Theory	Lab	Pre-Requisites
MS-421	Management Sciences Elective II	3	0	
EN-4XX	Elective-IV	3	1	See list of Elective Courses
EN-4xx	Elective-V	3	0/1	See list of Elective Courses
EN-499B	Electronic Engineering Project	0	3	
	Total	09	4/5	
	Semester Total	13/14		
	Total for Final Year	29/32		
	Grand Total for Four Years	133/136		



List of Elective Courses

Course Code	Course Title	Theory	Lab	Pre-Requisites
EN-412	FPGA-Based System Design	3	1	Digital Logic Design
EN-413	Embedded System Design	3	1	Introduction to Computers, Digital Logic Design
EN-414	Industrial Automation	3	1	Instrumentation & Measurements, Control Systems
EN/CS-415	Digital Image Processing	3	1	Digital Signal Processing
EN-416	VLSI Design	3	1	Integrated Electronics
EN-417	Digital System Design	3	1	Digital Logic Design
EN-418	Analog & Mixed Signal Design	3	1	Integrated Electronics
EN-419	RF Electronics	3	0	Analog and Digital Communications, Integrated Electronics
EN-420	Microelectronic Technology	3	0	Integrated Electronics
EN-422	Power Electronics	3	1	Electronic Circuit Design
EN-423	Computer Architecture	3	0	Microprocessors and Microcontrollers
EN/CS-424	Computer Communication Networks	3	1	Analog and Digital Communications
EN-425	Digital Control Systems	3	1	Control Systems
EN-426	Industrial Electronics	3	1	Power Electronics
EN/CS-427	Artificial Intelligence	3	1	Digital Logic Design
EN-428	Filter Design	3	1	Digital Signal Processing
EN-429	Introduction to Nanotechnology	3	0	Solid-State Electronics, Integrated Electronics
EN-430	Biomedical Instrumentation	3	1	Instrumentation & Measurements
EN-431	Opto-Electronics	3	0	Applied Physics
EN-432	Laser and Fiber Optics	3	0	Applied Physics
EN-433	Digital Instrumentation Systems	3	1	Instrumentation & Measurements
EN-434	Mobile Communications	3	0	Analog and Digital Communications
EN-435	Satellite Communications	3	0	Analog and Digital Communications
EN-436	Microwave Engineering	3	0	Electromagnetic Field Theory
EN-437	Wave Propagation and Antennas	3	1	Electromagnetic Field Theory, Electrical Network Analysis
EN-438	Navigational Aids	3	1	
EN-439	Operating System Concepts	3	0	Introduction to Computers
EN/CS-440	Advanced Object-Oriented Programming	3	1	Computer Programming
EN/CS-441	Introduction to Neural Networks	3	1	Microprocessors and Microcontrollers, Artificial Intelligence
EN/CS-442	Fuzzy Logic and simulation	3	0	Microprocessors and Microcontrollers, Artificial Intelligence

Course Code	Course Title	Theory	Lab	Pre-Requisites
EN/CS-443	Pattern Recognition and Matching	3	0	Digital Signal Processing
BH-444	Numerical Methods	3	0	
EN/MT-445	Introduction to Robotics	3	0	Linear Algebra
EN/MT-446	Mechatronics Applications	3	0	
EN/MT-447	Thermodynamics	3	0	
EN/MT-448	Mechanics of Materials	3	0	
EN/MT-449	Theory & Design of Machines	3	0	Mechanics of Materials
EN/MT-450	Engineering Dynamics	3	0	
EN/MT-451	Materials & Manufacturing Processes	3	0	

Note:

All the above-mentioned Elective courses are either 3+0 credit hours or 3+1 credit hours. The Elective courses (either 3+0 or 3+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 Management Sciences Elective Courses

Course Title
Engineering Economics & Management
Engineering Project Management
Entrepreneurship
Principles of Management
Leadership & Personal Grooming



3

Faculty of Mechanical and Aeronautical Engineering

Dean

Prof. Dr. Muhammad Shahid Khalil

This faculty has one degree awarding department:

- Department of Mechanical Engineering



DEPARTMENT OF MECHANICAL ENGINEERING

Chairman

Prof. Dr. Riffat Asim Pasha

Professors

Dr. Muhammad Shahid Khalil

BSc Eng. (UET Lahore)
PhD (Sheffield UK) PGD(Quality)
PGD (HRM)

Dr. Riffat Asim Pasha

BSc Eng. (UET Lahore)
MSc Eng. (UET Taxila)
PhD (UET Taxila)

Associate Professors

Dr. Muzaffar Ali

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

Dr. Muhammad Ali Nasir

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

Dr. Muhammad Shehryar

BSc Eng. (NUST Islamabad)
MSc Eng. (ENSAM France)
PhD (Ecole Polytechnique France)

Dr. Hafiz Muhammad Ali

BSc Eng. (UET Taxila)
PhD (Queen Mary UK) (on leave abroad)

Assistant Professors

Engr. Khalid Masood Khan

BSc Eng. (UET Lahore)
MSc Eng. (Birmingham UK)

Engr. Zahid Suleman Butt

BSc Eng. (Hons., UET Lahore)
MSc Eng. (UET Taxila)

Engr. Muhammad Kashif Iqbal

BSc Eng. (Hons) (UET Taxila)

Dr. Tanzeel-ur-Rashid

BSc Eng. (UET Taxila)
MSc Eng. (UET Lahore)
PhD (UET Taxila)

Engr. Abdul Mobeen

BSc Eng. (UET Lahore)
MSc Eng. (Aachen Uni., Germany)

Dr. Nazeer Ahmad Anjum

BSc Eng. (Hons. UET Taxila)
MSc Eng. (UET Taxila)
PhD (UET Taxila)

Dr. Waqar Ahmad Qureshi

BSc Eng. (NUST)
MSc Eng. (UET Taxila)
PhD Eng. (POLITO, Italy)

Dr. Abid Hussain

BSc Eng. (Hons. UET Taxila)
MSc Eng. (UET Taxila)
PhD (HKUST, Hong Kong)

Eng. Rana Atta-ur-Rahman

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Tayyaba Bano

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

Dr. Aneela Wakeel

MSc (PU Lahore)
PhD (Chongqing, China)

Dr. Azhar Hussain

BSc Eng. (UET Lahore)
MSc Eng. (Hanyang, South Korea)
PhD (POLITO, Italy)



Dr. Rizwan Ahmed Malik

BSc Eng. (PU Lahore)
MSc Eng. (University of Ulsan, South Korea)
PhD (Changwon National Uni, South Korea)
Post Doc (Changwon National Uni, SK)

Lecturers

Engr. Aneela Anum

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. M. Sajjad Sabir

BSc Eng. (NUST Ibd)
MSc Eng. (NUST Ibd)
(on higher studies abroad)

Engr. Waqas Asghar

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

Engr. Muhammad Usman

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

Engr. Najam ul Hasan

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

Engr. Muhammad Ebrahim Khalid

BSc Eng. (Air Uni. Ibd)
MSc Eng. (UET Taxila)



Engr. Aamir Sohail

BSc Eng. (UET Taxila)

MSc Eng. (PIEAS Ibd)

Engr. Muhammad Noman

BSc Eng. (PU Lahore)

MSc Eng. (UET Taxila)

Lab Engineers**Engr. Muhammad Ahmed**

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

(on higher studies abroad)

Engr. Muhammad Imran

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

(on higher studies abroad)

Engr. Hafiz Muhammad Habib

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

Engr. Sullah ud Din

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

Engr. Rehan Saghir

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

Engr. Abdul Rehman

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

Engr. Syed Muhammad Kashif

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

The Department**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: Exhibit technical skills to develop engineering solutions.

PEO-2: Demonstrate expertise and moral values for effective teamwork.

PEO-3: Possess vision and apply management techniques for sustainable development.

PEO-4: Serve the society through continuous professional development.

PEO-5: Solve complex engineering problems and can pursue higher education.

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-Fluid Engineering
- Applied Mechanics and Design
- Manufacturing Processes Engineering



- Computer based Mechanical Engineering
- Applied Mathematics & Statistics
- Engineering Management

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.

Course Graduate Program

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 25 students have completed their PhD degrees. By the end of year 2020 it is expected that the tally of completed PhDs from the MED would be 32 and quite a few are nearing the mature stage of their research.

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. Renewable Energy Research & Development Center (RERDC)
18. Composite Materials and Smart Structures
19. Fluid Structure Interaction
20. Machine Tool
21. Advanced Microscopy & Imaging
22. Workshops

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 boasts 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	2	0
MS-101	Health, Safety and Environment	1	0
NS-101	Calculus and Analytical Geometry	3	0
NS-102	Applied Chemistry	2	0
CS-101	Computer Systems and Programming	2	1
ME-111	Engineering Drawing and Graphics	2	1
ME-131	Workshop Practice	1	1
	Total	13	3
	Semester Total	16	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EE-102	Electrical Engineering	2	1
NS-103	Applied Physics	2	1
NS-104	Linear Algebra and Ordinary Differential Equations	3	0
ME-112	Engineering Mechanics-I: Statics	3	0
ME-113	Engineering Materials	2	1
ME-114	Computer Aided Drawing	0	1
ME-121	Fluid Mechanics-I	3	0
	Total	15	4
	Semester Total	19	
	Total for First Year	35	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
NS-205	Complex Variables and 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-221	Fluid Mechanics-II	3	0
ME-222	Fluid Mechanics Lab	0	1
ME-223	Thermodynamics-I	3	0
ME-231	Manufacturing Processes-I	2	0
	Total	16	2
	Semester Total	18	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-202	Islamic Studies	2	0
NS-206	Numerical Analysis	3	0
ME-214	Mechanics of Materials-II	3	0
ME-215	Mechanics of Materials Lab	0	1
ME-216	Machine Design -I	2	0
ME-224	Thermodynamics-II	2	0
ME-225	Thermodynamics Lab	0	1
ME-232	Manufacturing Processes-II	2	0
ME-233	Manufacturing Processes Lab	0	1
	Total	14	3
	Semester Total	17	
	Total for Second Year	35	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EE-303	Electronics Engineering	2	1
HU-303	Communication Skills	1	1
NS-307	Applied Statistics	2	0
ME-311	Machine Design-II	3	0
ME-312	Computer Aided Engineering	0	1
ME-321	Heat and Mass Transfer	3	0
ME-331	Measurement & Instrumentation	2	0
	Total	13	3
	Semester Total	16	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MS-302	Engineering Economics	2	0
HU-304	Technical Report Writing & Presentation Skills	2	0
ME-313	Mechanics of Machines	3	0
ME-322	Refrigeration and Air Conditioning	3	0
ME-323	Heat Transfer and R & A/C Lab	0	1
ME-324	Power Plants	2	0
ME-332	Control Engineering	3	0
ME-333	M&I and Control Lab	0	1
	Total	15	2
	Semester Total	17	
	Total for Third Year	33	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MS-403	Management Elective	2	0
HU-405	Pakistan Studies	2	0
ME-411	Mechanical Vibrations	3	0
ME-412	Mechanisms and Mechanical Vibrations Lab	0	1
ME-421	Internal Combustion Engines	3	0
ME-422	Power Plants and IC Engines Lab	0	1
ME-4XY	Technical Elective-I	2	1
ME-499	Design Project-I	0	3
	Total	12	6
	Semester Total	18	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
MS-404	Entrepreneurship	1	0
HU-406	Social Sciences	2	0
ME-413	Finite Element Methods	2	1
ME-4XY	Technical Elective-II	3	0
ME-4XY	Technical Elective-III	2	1
ME-499	Design Project-II	0	3
	Total:	10	5
	Semester Total	15	
	Total for Final Year	33	
	Grand Total for Four Years	136	



Technical Electives: (ME-4XY)

a.	ME(Elec.)-414	Tribology
b.	ME(Elec.)-415	Mechanical Engineering Design Analysis
c.	ME(Elec.)-416	Stress Analysis
d.	ME(Elec.)-417	Composite Materials
e.	ME(Elec.)-423	Renewable Energy Technology
f.	ME(Elec.)-424	Gas Dynamics
g.	ME(Elec.)-425	Aerodynamics
h.	ME(Elec.)-426	Computational Fluid Dynamics (CFD)
i.	ME(Elec.)-427	Nuclear Engineering
j.	ME(Elec.)-428	Automotive Engineering
k.	ME(Elec.)-431	Advanced Manufacturing Systems
l.	ME(Elec.)-432	Introduction to Mechatronics
m.	ME(Elec.)-433	Robotics
n.	ME(Elec.)-434	Maintenance Engineering

Management Electives: (MS-403)

a.	MS(Elec.)	Operations Management
b.	MS(Elec.)	Total Quality Management
c.	MS(Elec.)	Project Management
d.	MS(Elec.)	Operations Research
e.	MS(Elec.)	Engineering Law
f.	MS(Elec.)	Supply Chain Management



4

Faculty of Industrial Engineering



Dean

This faculty has following degree awarding department:

- Department of Industrial Engineering

DEPARTMENT OF INDUSTRIAL ENGINEERING

Chairman

Dr. Wasim Ahmad

Professors

Dr. Mirza Jahanzaib

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

Associate Professors

Dr. Wasim Ahmad

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

Dr. Hafiz M. Khuram Ali

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

Assistant Professors

Dr. Salman Hussain

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

Dr. Haris Aziz

BSc Eng. (UET Lahore)
MSc Eng. (AIT, Thailand)
PhD (AIT, Thailand)
Post Doc. (Binghamton Uni. NY, USA)

Dr. Saifullah

BSc Eng. (UET Taxila)
MSc Eng. (HUST, China)
PhD (HUST, China)
Post Doc (HUST, China)

Engr. Syed Turab Haider

BSc Eng. (UET Taxila)
MSc Eng. (Brunel Uni., UK)

Lecturers

Engr. Abid Ali

BSc Eng. (PU Lahore)
MSc Eng. (UET Taxila)

Engr. Haji Bahader Khan

BSc Eng. (PU Lahore)
MSc Eng. (UET Taxila)

Engr. Zahid Rashid

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

Engr. Zaheer Ahmad

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

Engr. Irshad Yehya

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

Engr. Aisha Tayyab

BSc Eng. (UET Lahore)
MSc Eng. (UET Taxila)

Engr. Muhammad Awais Islam

BSc Eng. (PU Lahore)
MSc Eng. (PU Lahore)

Lab Engineers**Engr. Muhammad Jawad**

BSc Eng. (UET Lahore)
MSc Eng. (UET Taxila)

Engr. Muhammad Usman

BSc Eng. (PU Lahore)

Engr. Neelum Iqbal

BSc Eng. (UET Lahore)
MSc Eng. (UET Taxila)

Engr. Muhammad Abdul Rehman

BSc Eng. (PU Lahore)
MSc Eng. (PU Lahore)

**Introduction**

Industrial Engineering is the branch of engineering that involves two main streams: systems engineering and manufacturing engineering. Systems engineering is concerned with the Design, Analysis, Operations, and maintenance of systems. These can range from a consumer product or single piece of equipment to large business, social, and environmental systems. The System Engineer's interest lies in modeling system functions and determining how the best objectives of the system can be achieved. Manufacturing engineering on the other hand, deals with the design and manufacture of products by employing conventional and non-conventional manufacturing technologies. Manufacturing Engineer tends to choose best Materials, technology, efficient workforce, and optimum use of resources to produce quality products.

The methods employed in Industrial Engineering provide an excellent vehicle to perform costs and benefits analysis on both private and public sectors. Industrial Engineers determine the most effective way to utilize the basic factors of production, people, machines, materials, information, and energy to make a product or provide a service.

Industrial Engineers by virtue of education and training have opportunity to work in a variety of departments and businesses. The distinctive aspects of industrial engineering are the flexibility that it offers. Whether it is shortening a rollercoaster line, streamlining an operating room, distributing products worldwide, or manufacturing superior automobiles, all share the common goal of saving money and increasing efficiencies. The need for Industrial Engineers is growing day by day. Industrial Engineers are multitasking individuals who have the skills to improve quality and productivity of processes and systems. Industrial Engineers have the capabilities to figure out how to do things better. Industrial Engineers do multitask that improve quality and productivity of processes and systems.

The Department

Industrial Engineering with Production and Manufacturing majors 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. An independent four-year program leading to BSc degree in Industrial Engineering is being introduced with 2010-entry at the university. Apart from BSc Engineering program, department is also offering MSc and PhD degree programs in the field of Industrial Engineering and Engineering Management. The BSc program of Industrial Engineering has been accredited with PEC for three years on Out-come Based Education (OBE) system for Entries 2014, 2015 and 2016.

Mission of the Department

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 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 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 Modeling 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 neighborhood 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.

Labortries and Other Facilities

The department has eight laboratories and a fully functional workshop.

1. Machine Tools
2. Product development center

3. Management system planning & Design
4. Human Factors and Occupational Safety
5. Management System Modeling and Simulation
6. Machining Precision and Metrology
7. Industrial Automation and Control

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 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 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	Supply Chain and Logistics Management	2	0
IE-216	Mechanics of Materials	2	1
NS-204	Industrial Electronics	2	1
	Total	15	4
	Semester Total	19	
	Total for Second Year	37	

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-316	Industrial Simulation	2	1
IE-317	Human Factors Engineering	2	1
IE-321	Management of Engineering Projects	2	1
HU-301	Engineering Economics	3	0
IE-318	Planning and Scheduling in Manufacturing	2	0
IE-319	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-XXX	Elective I	2	1
IE-XXX	Elective II	2	1
IE-XXX	Elective I	3	0
IE-XXX	Elective II	3	0
IE-492	Project Phase II	0	3
	Total	10	5
	Semester Total	15	
	Total for Final Year	32	
	Grand Total for Four Years	135	



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	Special Topics	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	Process Planning and CAM	3	1

Electives (Manufacturing Track)

Course Code	Course Title	Credit Hours	
		Theory	Lab.
IE-427	Marketing Management	3	0
IE-428	Human Resource Management	3	0
IE-429	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-436	Special Topics	3	0
IE-437	Artificial Intelligence	3	0
IE-438	Expert System Applications	3	0
IE-439	Occupational Health & Safety	2	1
IE-440	Professional Engineering practices	3	0



Dean

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. Hafiz Adnan Habib

Professor

Prof. Dr. Hafiz Adnan Habib

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

PhD (UET Taxila)

Associate Professor

Dr. Muhammad Haroon Yousaf

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

PhD (UET Taxila)

Dr. Muhammad Majid

BSc Eng. (UET Taxila)

MSc Eng. (Sheffield, UK)

PhD (Sheffield, UK)

Assistant Professors

Dr. Muhammad Rizwan

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

PhD (UET Taxila)

Engr. Malik Muhammad Asim

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

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. Muhammad Awais Azam

BSc Eng. (UET Taxila)
MSc Eng. (Queens Mary, UK)
PhD (UK)

Engr. Afshan Jamil

BSc Eng. (UET Taxila) (Gold Medalist)
MSc Eng. (UET Taxila)

Engr. Naveed Khan Baloch

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Dr. Waqar Ahmad

BSc Eng. (CIIT Abd)
MSc Eng. (UET Taxila)
PhD (POLITO, Italy)

Engr. Abdul Rehman Chaudhry

BSc Eng. (UET Taxila)
MSc Eng. (LUMS Lahore)
(on study leave)

Engr. Romana Shahzadi

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Dr. Muhammad Asif Khan

BSc. Eng. (UET Taxila)
MSc Eng. (Petronas, Malaysia)
PhD (Petronas, Malaysia)

Lecturers**Engr. Mona Zafar**

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Noshina Ishaque

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Asim Raza

BSc Eng. (CIIT Wah)
MSc Eng. (UET Taxila)

Engr. Asim Raheel

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Sanay Muhammad Umar Saeed

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Sharoon Saleem

BSc Eng. (UET Taxila)
MSc Eng. (UET Taxila)

Engr. Muhammad Tariq Javed

BSc. Eng. (CIIT Wah)
MSc Eng. (UET Taxila)

Lab Engineers**Engr. Malik Amir Arsalan Awan**

BSc Eng. (UET Taxila)
MSc Eng. (NUST)

Engr. Usman Rauf

BSc Eng. (CIIT Wah)
MSc Eng. (Sweden)



Introduction

Job market for computer engineers is increasing due to advancement in the field of computing and creation of new fields. The hottest job for computer engineers is Internet of Things (IoT) and Android Things. Recent developments in field of artificial intelligence, robotics, self-driving cars, and Android has further created job opportunities for computer engineers. Computer engineers play a central role in modernization of world. Computer engineers develop computing systems with the sensors and actuators. These computing systems range from tiny systems to large scale industrial, healthcare, transportation, defense systems. Computer engineering as a profession has gained lot of popularity in the recent decades and the job market is expected to grow further in coming times.

Department of Computer Engineering teaches students about developing Internet of Things (IoT) devices, Android Things, Artificial Intelligence and Robotics systems. Department is strengthening its labs to offer intensive hands-on training to the students in these fields so that students can compete in international market. Department has taken

tools from leading tech companies like Intel, Google, Raspberry Pi, Arduino, Xilinx, ARM, TI etc. for hands-on training of students. Department follows the curriculum developed by these companies in the labs so that student can compete with students of advanced countries as they follow curriculum developed by these companies.

Department follows international practices for showcasing the skill set of students. Every student is required to have Git and LinkedIn account to build their profiles to showcase themselves in international community.

The Department

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 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 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.

Program Educational Objectives (PEOs)

Graduates of the Computer Engineering Program are expected to have;

PEO-1: Necessary background and technical skills to analyze problems and design solutions in domains like embedded systems, computer aided systems, system administration and integration.

PEO-2: Ability to practice computer engineering skills to serve local and global industries and organizations as consultants and entrepreneurs.

PEO-3: Success with awareness and commitment to their ethical and social responsibilities, both as individuals and in team environments

PEO-4: Capability of maintaining and improving their technical competence through advance degree programs in engineering and other professionally related fields.

Laboratories

The department have following Labs;

1. Electronic Systems
2. Data Communication & Networking
3. Computing
4. Digital Systems
5. Video and Image Processing

Electronic system lab contains specialized hardware in the area of electrical and electronics engineering which comprises of twenty workstations. Lab offers services in the courses of electronic circuit, circuit analysis and digital logic design.

Data Communication and networking lab is equipped with CISCO sponsored network related hardware along with 40 Dell-760 computing machines. Lab is also providing vibrant services as CISCO local academy. Lab offers services in the areas of computer communication and networks etc.

Computing lab is equipped with 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

Digital systems lab contains specialized hardware in the domain of digital system design. Lab is equipped with micro controller kits (80C51 and PIC 18 series) microprocessor kits and FPGA Kits. This lab is also equipped with twenty Dell Optiplex-790 machines. Digital Systems Lab offers courses of microprocessor & interfacing, microcomputer systems, VLSI systems and digital systems design.

Video and image processing lab was established as a project funded by Higher Education Commission Pakistan. 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 for final year projects.

Technical Societies in the Department

Technical societies are established in the department that serves guideline for the students to choose their profession after completion of their degree. Students entering in 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 interests. Computer Engineering students have been divided in to three categories for this reason. Scholars from undergraduate and

postgraduate programs and members from the faculty share their work with each other. Each society is headed by specialist of respective

area from the faculty. Other faculty members also coordinate. One student is also selected as student chair for each society.

URL: <http://web.uettaxila.edu.pk/uett/CPED/techSociety.htm>

Taxilian Robotics & Automation Club (TRAC)

Society Counselor

Engr. Naveed Khan Baloch

This Society is a group of people who are committed to the advancement of robotics in the university through innovation and sharing of expertise, information, and experience. Society arranges seminars, workshops and conferences on Micro-controllers, FPGAs, and Processors. It serves as a catalyst for preparing students for the competencies required by industries today and in near future. This society also aims to organize a national level competition in the university.

Online Course Management System

All the courses which are currently being taught in all the semesters are managed online. The purpose of this online management of courses is to provide access to the students to all the informative material regarding the subject anywhere all the time so that they can be updated.

URL: http://web.uettaxila.edu.pk/uet/CPED/cms_CPED.

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	Computing Fundamentals	2	1
EE-102	Basic Electrical Engineering.	3	1
NS-103	Applied Physics	3	1
MA-104	Calculus & Analytical Geometry	3	0
HU-105	English Language Proficiency	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	Computer Programming	3	1
EE-108	Circuit Analysis	3	1
MA-109	Linear Algebra & Differential Equations	3	0
HU-110	Islamic Studies	2	0
	Total	14	3
	Semester Total	17	
	Total for First Year	34	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-201	Computer Organization	3	0
CP-202	Data Structures & Algorithms	3	1
CP-203	Computer Applications in Engineering Design	2	1
EE-204	Electronic Circuits	3	1
MA-205	Complex Analysis and Transform Methods	3	0
	Total	14	3
	Semester Total	17	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-206	Object Oriented Programming	2	1
CP-207	Operating Systems	3	1
EE-208	Microprocessor and Interfacing	3	1
EE-209	Signals & Systems	3	0
MA-210	Discrete Structures	3	0
	Total	14	3
	Semester Total	17	
	Total for Second Year	34	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-301	Microcontroller System Design	3	1
CP-302	Computer Communication & Networks	3	1
CP-303	Digital Signal Processing	3	1
MA-304	Numerical Methods & Probability	3	0
HU-305	Business Communication & Report Writing	2	0
	Total	14	3
	Semester Total	17	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-306	Digital System Design	3	1
SE-307	Database Management Systems	3	1
HU-308	Pakistan Studies	2	0
CP-309	CEDE-I	3	1
CP-310	IDEE-I	3	0
	Total	14	3
	Semester Total	17	
	Total for Third Year	34	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-401	Preliminary Project Studies	0	2
MS-402	Computer Engineering Project Management	3	0
HU-403	Engineering Economics	2	0
HU-404	Professional Ethics	2	0
CP-405	CEDE-II	3	1
CP-406	IDEE-II	3	1
	Total	13	4
	Semester Total	17	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
CP-407	Design Project	0	4
MS-408	Entrepreneurship & Leadership	2	0
MS-409	Management Information System	3	0
CP-411	IDEE-III	3	1
CP-410	CEDE-III	3	1
	Total	11	6
	Semester Total	17	
	Total for Fourth Year	34	
	Grand Total for Four Years	136	



Elective Courses for Computer Engineering

Computer Engineering Depth Electives (CEDE)

Course Code	Course Title	Credit Hours
	Wireless and mobile networks (CEDE-1)	3+1
	Digital Image Processing (CEDE-1)	3+1
	Mobile application development (CEDE-2)	3+1
	Parallel & Distributed Computing (CEDE-2)	3+1
	VLSI System Design (CEDE-3)	3+1
	System Programming (CEDE-3)	3+1

Inter-Disciplinary Engineering Electives (IDEE)

Course Code	Course Title	Credit Hours
	Advance Algorithms	3+0
	Fault Tolerant Computing	3+0
	Network Security & Cryptography	3+0
	Data Warehousing & Mining	3+0
	Control Engineering	3+1
	Computer Graphics	3+1
	Digital Communication	3+1
	Robotics	3+1
	Communication Systems	3+1
	Software Quality Assurance	3+1
	Machine Learning	3+1





DEPARTMENT OF SOFTWARE ENGINEERING

Chairman

Dr. Tabassam Nawaz

Associate Professor

Dr. Tabassam Nawaz

BSc Eng. (UET Taxila)
MCS (BIIT Rwp)
MSc Eng. (UET Taxila)
PhD (UET Taxila)

Dr. Syed Muhammad Anwar

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MSc Eng. (Sheffield, UK)
PhD (Sheffield. UK)
Post Doc (USA)

Assistant Professors

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MS (CASE Islamabad)
MCS (Hamdard Uni. Karachi)
PhD (UET Taxila)

Dr. Huma Ayub

MCS (QAU Islamabad)
MS (NUST)
PhD (UET, Taxila)

Dr. Ali Javed

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila) Gold Medalist
PhD (UET Taxila)
Post Doc (USA)

Dr. Madiha Liaqat

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila)
PhD (NUST Islamabad)

Dr. Hassan Dawood

BSc Eng. (CIIT Wah)
ME (BNU, China)
PhD (BNU, China)

Engr. Muhammad Asjad Saleem Raja

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MSc Eng. (UET Taxila)

Engr. Wajahat Abbas

BSc Eng. (Hons., UET Taxila)
MSc Eng. (UET Taxila)

Engr. Fawad Riasat Raja

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MSc Eng. (UET Taxila)

Engr. Raja Mubashir Ayub Minhas

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MSc Eng. (UET Taxila)

Engr. Saima Zareen

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MSc Eng. (NUST)

Engr. Wajeeha Yasser

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MSc Eng. (UET Taxila)

Engr. Maria Andleeb

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila)

Engr. Tehmina Kalsoom

BSc Eng. (UET Taxila)

MSc Eng. (UET Taxila) Gold Medal

Lab Engineers

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MSc Eng. (UET Taxila)

Engr. Sidra Shafi

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MSs (NUST Islamabad)

Engr. Rabia Arshad

BSc Eng. (Hons., UET Taxila)

Engr. Saba Awan

BSc Eng. (Hons., UET Taxila)

MSc Eng. (UET Taxila)



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 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 Lab
2. Computer Graphics Lab
3. DOT IT Lab
4. Elementary Computer Lab
5. Final Year Project Lab

The 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.

Introductory courses including basic programming and computing are performed in elementary lab. The lab is equipped with latest equipment and software to facilitate students.

This lab is used by the students of final year to work on their final year project; the lab is equipped with all the necessary facilities that help the students.

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

Society Advisor:

Dr. Ali Javed

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.

a. Soft Desk

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 participates every year.

b. 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, Android and Search Engine Optimization (SEO). After successful completion of these workshops, students can get best jobs either in Software field or in networking field.



Courses Under Semester System BSc Software Engineering

Semester - I

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SE-101	Introduction to Computing	2	1
SE-102	Discrete Structures	3	0
MA-103	Applied Physics	3	0
MA-104	Calculus and Analytical Geometry	3	0
HU-105	English Composition and Comprehension	3	0
HU-106	Pakistan Studies	2	0
	Total	16	1
	Semester Total	17	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SE-107	Introduction to Software Engineering	3	0
HU-108	Islamic Studies\Ethics	2	0
SE-109	Programming Fundamentals	3	1
MA-110	Linear Algebra and Differential Equations	3	0
HU-111	Communication and Presentation skills	3	0
SE-112	Engineering Economics	2	0
	Total	16	1
	Semester Total	17	
	Total for First Year	34	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SE-201	Software Requirements Engineering	2	1
SE-202	Object Oriented Programming	3	1
SE-203	Human Computer Interaction	3	0
MG-204	Management and Marketing	3	0
HU-205	Technical and Business Writing	3	0
	Total	14	2
	Semester Total	16	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SE-206	Data Structures and Algorithm	3	1
SE-207	Formal Methods in Software Engineering	3	0
MA-208	Numerical and Symbolic Computing	2	0
SE-209	Software Design & Architecture	2	1
MA-210	Probability and Statistics	3	0
MG-211	Organizational Behavior	2	0
	Total	15	2
	Semester Total	17	
	Total for Second Year	33	

Semester - V

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SE-301	Software Quality Engineering	3	0
SE-302	Operating Systems	3	1
SE-303	Database Systems	3	1
SE-304	Computer Networks	3	1
SE-305	Analysis of Algorithms	3	0
	Total	15	3
	Semester Total	18	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SE-306	Digital Image Processing	3	1
SE-307	Web Engineering	3	1
SE-308	Information Security	3	0
SE-309	Software Construction & Development	2	1
SE-XXX	SE Elective I	3	0
	Total	14	3
	Semester Total	17	
	Total for Third Year	35	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SE-401	Software Reengineering	3	0
SE-402	Software Project Management	3	0
SE-403	Final Year Project-I	0	3
MG-404	Human Resource Management	3	0
SE-XXX	SE Elective II	3	0
SE-XXX	SE Elective III	2	1
	Total	14	4
	Semester Total	18	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
SE-405	Professional Ethics	3	0
SE-406	Final Year Project II	0	3
MG-407	Entrepreneurship and Leadership	2	0
SE-408	SE Elective IV	2	0
SE-409	SE Elective V	3	0
	Total	10	3
	Semester Total	13	
	Total for Final Year	31	
	Grand Total for Four Years	133	



SOFTWARE ENGINEERING ELECTIVE COURSES

Course Code	Course Title	Course Code	Course Title
X10	Distributed Computing	X32	Multimedia Systems
X11	Software Testing	X33	Analysis of Algorithms
X12	Real Time Systems	X34	Compiler Construction
X13	Machine Learning	X35	Advance Operating Systems
X14	Computer Vision	X36	Data Warehousing & Data Mining
X15	Wireless Networks	X37	Introduction to Bio-Informatics
X16	Advance Database Management System	X38	Agent Based Software Engineering
X17	Enterprise System Engineering	X39	Big Data Analytics
X18	Data Security and Encryption	X40	Cloud Computing
X19	Design Patterns	X41	Computer Graphics
X20	Artificial Neural Networks	X42	Data Encryption and Security
X21	Software Metrics	X43	E-Commerce
X22	Business Process Automation	X44	Game Application Development
X23	Advance Software Technologies	X45	Global Software Development
X24	Information Systems and Data Processing	X46	Information Systems Audit
X25	Automata Theory & Formal Languages	X47	Management Information Systems
X26	Fault Tolerant and Survivable Systems	X48	Mobile Application Development
X27	Financial and E-Commerce Systems	X49	Multimedia Communication
X28	Multimedia, game, and entertainment Systems	X50	Natural Language Processing
X29	Embedded and real time systems	51	Systems Programming
X30	Semantic Web	X52	Advanced Topics in Software Engineering
X31	Visual Programming		

X denotes 3 or 4





DEPARTMENT OF TELECOMMUNICATION ENGINEERING

Chairman

Prof. Dr. Yasar Amin

Professors

Dr. Adeel Akram

BSc Eng. (UET Lahore)
MSc Eng. (NUST)
PhD (UET Taxila)

Dr. Yasar Amin

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MSc Eng. (KTH, Sweden)
PhD (KTH, Sweden)
MBA (UTU, Finland)

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MSc Eng. (UET Taxila)

Engr. Sadaf Talha

BSc Eng. (UET Taxila)
MSc Eng. (NUST)



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.

Vision

To foster innovation, excellence, and access



at different levels of education for the telecommunication engineering profession.

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
CS-102	Introduction to Computing	2	1
MA-103	Calculus & Analytical Geometry	3	0
EE-104	Circuit Analysis	3	1
MA-105	Applied Physics	3	1
EE-106 (L)	Electric Workshop	0	1
	Total	14	4
	Semester Total	18	

Semester - II

Course Code	Course Title	Credit Hours	
		Theory	Lab.
HU-107	Communication Skills	3	0
CS-108	Object Oriented Programming	3	1
EE-109	Electrical Network Analysis	3	1
MA-192	Differential Equations	3	0
IE-122	Computer Aided Engineering Design	1	0
HU-112	Islamic Studies	2	0
	Total	15	2
	Semester Total	17	
	Total for First Year	35	

Semester - III

Course Code	Course Title	Credit Hours	
		Theory	Lab.
EE-203	Electronic Devices and Circuits	3	1
MA-205	Multivariable Calculus	3	0
HU-205	Pakistan Studies	2	0
	IDE- Elective 1	2	0
	IDE- Elective 1	1	0
HU-405	Engineering Economics	3	0
MA-206	Linear Algebra	3	0
	Total	17	1
	Semester Total	18	

Semester - IV

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-207	Probability Methods in Engineering	3	0
EE-208	Amplifiers & Oscillators	3	1
EE-209	Signals & Systems	3	0
EE-210	Digital Logic Design	3	1
HU-305	Technical Report Writing & Presentation	3	0
	Total	15	2
	Semester Total	17	
	Total for Second Year	35	

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
TE-309	Microprocessors & Microcontrollers	3	1
CS-304	Computer Communication Networks	3	1
	Total	15	4
	Semester Total	18	

Semester - VI

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-306	Digital Communication	3	1
TE-307	Antennas & Wave Propagation	3	1
TE-308	Wireless Communication & RF Planning	2	0
TE-304	Digital Signal Processing	3	1
	IDE Elective-II	3	0
	Total	14	3
	Semester Total	17	
	Total for Third Year	35	

Semester - VII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-401	Microwave Engineering	3	1
TE-402	Optical Fiber Communication	3	1
TE-403	Final Year Design Project -I	3	0
	MBC Depth Elective-I	3	0
HU-404	Professional Practices	3	0
	Total	15	2
	Semester Total	17	

Semester - VIII

Course Code	Course Title	Credit Hours	
		Theory	Lab.
TE-405	Transmission & Switching Systems	3	1
TE-406	Final Year Design Project -II	3	0
	MBC Depth Elective-II	3	0
	Social Science Elective	3	0
MG-407	Entrepreneurship	3	0
	Total	15	1
	Semester Total	16	
	Total for Final Year	33	
	Grand Total for Four Years	138	

Elective Courses for Telecommunication Engineering

IDE Elective-I

Course Code	Course Title
EE-211	Numerical Methods in Engineering
CS-212	Operating Systems
CS-213	Data Structure and Algorithms
CS-214	Database Management systems

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 Communication
TE-412	Telecom Standards and Regulations
TE-413	Telecom 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 System Engineering
TE-420	Telecommunication Networks Management
TE-421	Compression Techniques
TE-422	Telecommunication Systems

IDE Elective-II

Course Code	Course Title
EE-422	Embedded Systems
TE-423	Artificial Intelligence
TE-424	Reliability in Telecommunication Systems
EE-425	VLSI Systems

IDE Elective-III

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



DEPARTMENT OF COMPUTER SCIENCE

Chairman

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Associate Professor

Dr. Syed Aun Irtaza

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Abid Rauf

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Mehmoon Anwar

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MS CS (IIU, Islamabad)

The Department

The Department of Computer Science is offering BS Computer Science, BSc Cyber Engineering Technology, MS Computer Science, MS Data Science and PhD program in a broad range of specializations.

The Computer science is the scientific and practical approach to computation and its applications. A computer scientist specializes in the theory of computation and the design of computational systems. Computer science degree provides tremendous career opportunities around the globe with attractive pay packages. Computer science education is being boosted by US government. US government is promoting computer science education at all levels from K-12 to higher education. US government has declared computer science as a basic skill that must be learnt by every individual. This trend is being followed by European countries and India.

Computer science has served human beings from their personal life to all sectors of business. Computer science evolved and produced new mechanisms and services for human beings.

Computing is now supporting human being everywhere from personal life to managing businesses. Such involvement has created great number of jobs for computer scientists. Top careers for computer scientists are software application development, computer systems analyst, computer system engineers, network system administrator, database administrator, business intelligence analyst, web developer, smart phone application development, computer programmer, big data, cloud computing.

Computer science department considers latest job trends for computer scientists in international market. The department has objective to train students with the skills that are high in demand in international job market. Department has particularly focused on training students about big data, data science,

cloud computing, android app development, iOS app development and SAP. These are among the most demanded skills for computer scientists.

The department primarily teaches curriculum recommended by National Computing Education Accreditation Council (NCEAC). In addition, the department has introduced subjects required for skills development in big data, cloud computing, android, and iOS app development to target international job market.

The department has academic partnerships with leading companies of computer science industry. So far, department has academic partnership with Cloudera, Oracle, VMWare, Amazon Web Service, SAP, and Microsoft. The department has got industry developed curriculum by these academic partnerships. The department has also received software being deployed in industry from these academic partnering companies.

Laboratories

There are following labs in the department;

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

Computer science department has established two computing labs, one apple lab, one data science lab for experimentation of students. Students are provided wireless internet access. Department is planning to Bring Your Own Device (BYOD) facility to let students use software on their own laptops. The department is also providing blended learning facility to the students. Video lectures are recorded, and students can view these lectures after class to enhance their learning.

General Computing is general purposes lab for the students to perform experiments of computer programming, web programming, designing and development.

Cloud computing is a type of Internet-based computing that provides shared computer processing resources and data to computers and other devices on demand. This lab offsets the need to store the data locally, potentially saving costs.

The Digital Logic Design Lab is one of the most important labs of the department. The Lab is well equipped with both hardware and software facilities required by the students to perform the necessary experiments.

Final year project lab is developed to facilitate the students in design development, completion, and testing of their final year projects.

For all the Labs in Computer Science BYOD architecture is encouraged to facilitate the students. This step improves the quality of education. A student may interact through his own devices to connect the department for curriculum-related activities. BYOD is most likely to cost-effective and learning affecting for student individually as well as group studies. Computer science department promotes the BYOD culture for students, teachers, and staff.

COMPTECH (Society of Computer Technology)

Advisor:

Dr. Muhammad Munwar Iqbal
(Assistant Professor)

Patron:

Dr. Syed Aun Irtiza

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 to participate in the competitions being held by other institutions.
- To organize Extra Curricular activities and events for the Students to foster their intellectual, literary, and artistic 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) Closing Ceremony (Bonfire)
- 8) (QUICK CODING)
- 9) (WIN, DRAW or LOSE)

PROGRAM STRUCTURE

To complete the BS Computer Science degree:

The minimum credit hours are 132 including computing related courses. The program comprises of 8 semesters, spread over 4 years. The detail of courses are given as follows;



Courses Under Semester System BS Computer Science

Semester - I

Course Code	Course Title	Credit Hours	Pre-Requisite
CS-101	Introduction to Information and Communication Technologies	2+1	
CS-102	Programming Fundamentals	3+1	
MT-101	Calculus and Analytical geometry	3+0	
EG-101	Communication and Presentation Skills	3+0	
EL-101	Basic Electronics	2+1	
Semester Total		16	

Semester - II

Course Code	Course Title	Credit Hours	Pre-Requisite
CS-103	Object Oriented Programming	3+1	Programming Fundamental
CS-104	Discrete Structure	3+0	
EG-102	Technical and Business Writing	3+0	Communication and Presentation Skills
MT-102	Probability & Statics	3+0	
PK-101	Islamic and Pak Studies	2+0	
Semester Total		15	

Semester - III

Course Code	Course Title	Credit Hours	Pre-Requisite
CS-201	Data Structures and Algorithms	3+1	OOP
CS-202	Digital Logic Design	3+1	Basic Electronics
CS-203	Theory of Programming Languages	3+0	Programming Fundamentals
UE-201	University Elective – I	3+0	
MT-202	Liner Algebra and Differential Equations	3+0	
Semester Total		17	

Semester - IV

Course Code	Course Title	Credit Hours	Pre-Requisite
CS-204	Design and Analysis of Algorithms	3+0	DSA
CS-205	Theory of Automata & Formal Languages	3+0	
CS-206	Computer Architecture	3+1	
UE-202	University Elective – II	3+0	
CS-203	Database Systems	3+1	DSA
MT-203	Numerical Computing	3+0	
Semester Total		17	

Semester - V

Course Code	Course Title	Credit Hours	Pre-Requisite
CS-301	Compiler Construction	3+0	Theory of Automata
CS-302	Software Engineering	3+0	
CS-303	CS Elective – I	3+0	
CS-304	CS Elective – II	3+0	
CS-305	Operating Systems	3+1	DSA
Semester Total		16	

Semester - VI

Course Code	Course Title	Credit Hours	Pre-Requisite
CS-307	CS Elective – III	3+0	
CS-308	Artificial Intelligence	3+1	Discrete Structure
UE-301	University Elective –III	3+0	
CS-309	Computer Communication and Networks	3+1	
CS-310	CS Elective - IV	3+0	
CS-311	Smart Application Development	3+0	
Semester Total		18	

Semester - VII

Course Code	Course Title	Credit Hours	Pre-Requisite
CS-400	Final Year Project - I	0+3	
CS-401	CS Elective – V	3+0	
CS-402	Parallel and Distributing Computing	3+0	OS
CS-403	Big Data Analytics	3+0	
CS-404	CS Elective - VI	3+0	
CS-405	Data Warehousing	3+0	
Semester Total		18	

Semester - VII

Course Code	Course Title	Credit Hours	Pre-Requisite
CS-406	Final Year Project - II	0+3	Final Year Project-I
CS-407	Advance Topics in Computer Science	3+0	
CS-408	Information Security	3+0	Discrete Structure
UE-401	University Elective – IV	3+0	
Semester Total		12	

Computer Science Elective courses

Sr#	Course Title	Credit Hours	Sr#	Course Title	Credit Hours
1	Operations Research	3 (3, 0)	21	Expert Systems	3 (3,0)
2	Simulation and Modeling	3 (3, 0)	22	Artificial Neural Network	3 (3,0)
3	Computer Graphics	3 (2, 1)	23	Fuzzy Logic	3 (3,0)
4	Digital Image Processing	3 (2, 1)	24	Software Quality Assurance	3 (3,0)
5	Digital Signal Processing	3 (2, 1)	25	Advance Object-Oriented Programming (JAVA)	4 (3,1)
6	Computer Vision	3 (2, 1)	26	Network Analysis and Design	3 (3,0)
7	Software Engineering	3 (3, 0)	27	Network Management	3 (3, 0)
8	Advance Software Engineering	3 (3, 0)	28	Game Programming	3 (3, 0)
9	Principles of Programming Languages	3 (2, 1)	29	Object Oriented Software Engineering	3 (3, 0)
10	Data Communication	3 (3, 0)	30	Network Programming	3 (3, 0)
11	Distributed Computing	3 (2, 3)	31	Cloud Computing	3 (3, 0)
12	Data and Network Security	3 (3, 0)	32	Visual Programming	3 (3, 0)
13	Wireless Networks	3 (2, 3)	33	Cryptography	3 (3, 0)
14	Telecommunication Systems	3 (2, 1)	34	Computer Law	3 (3, 0)
15	Microprocessor Interfacing	3 (2, 1)	35	Computer Animation	3 (3, 0)
16	Web Engineering	3 (2, 1)	36	Modern Programming Language	3 (3, 0)
17	System Programming	3 (2, 1)	37	Information Security	3 (3, 0)
18	Distributed Database Systems	3 (2, 1)	38	Data and Network Security	3 (3, 0)
19	Data Warehousing	3 (2, 1)	39	Adv. Topics in Computer Science	3 (3, 0)
20	Numerical Computing	3 (3,0)			

University Elective Courses

Sr#	Course Code	Course Title	Credit Hours	Sr#	Course Code	Course Title	Credit Hours
1	MG	Financial Accounting	3 (3, 0)	10	EC	E-Commerce	3 (3, 0)
2	MG	Financial Management	3 (3, 0)	11	SS	International Relations	3 (3, 0)
3	MG	Human Resource Management	3 (3, 0)	12	QA	Quality Assurance and Management System	3 (3, 0)
4	MG	Marketing	3 (3, 0)	13	SS	Social Service	3 (3, 0)
5	SS	Economics	3 (3, 0)	14	EP	Entrepreneurship	3 (3, 0)
6	PS	Psychology	3 (3, 0)	15	SS	Philosophy	3 (3, 0)
7	QA	Quality Improvement tools &Methods	3 (3, 0)	16	SS	Social Media Marketing	3 (3, 0)
8	QA	Quality Control & Engineering Standards	3 (3, 0)	17	SS	Foreign/Regional Language (French, German, Sindhi, Punjabi, Urdu etc.)	3 (3, 0)
9	MG	Introduction to Management	3 (3, 0)				

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

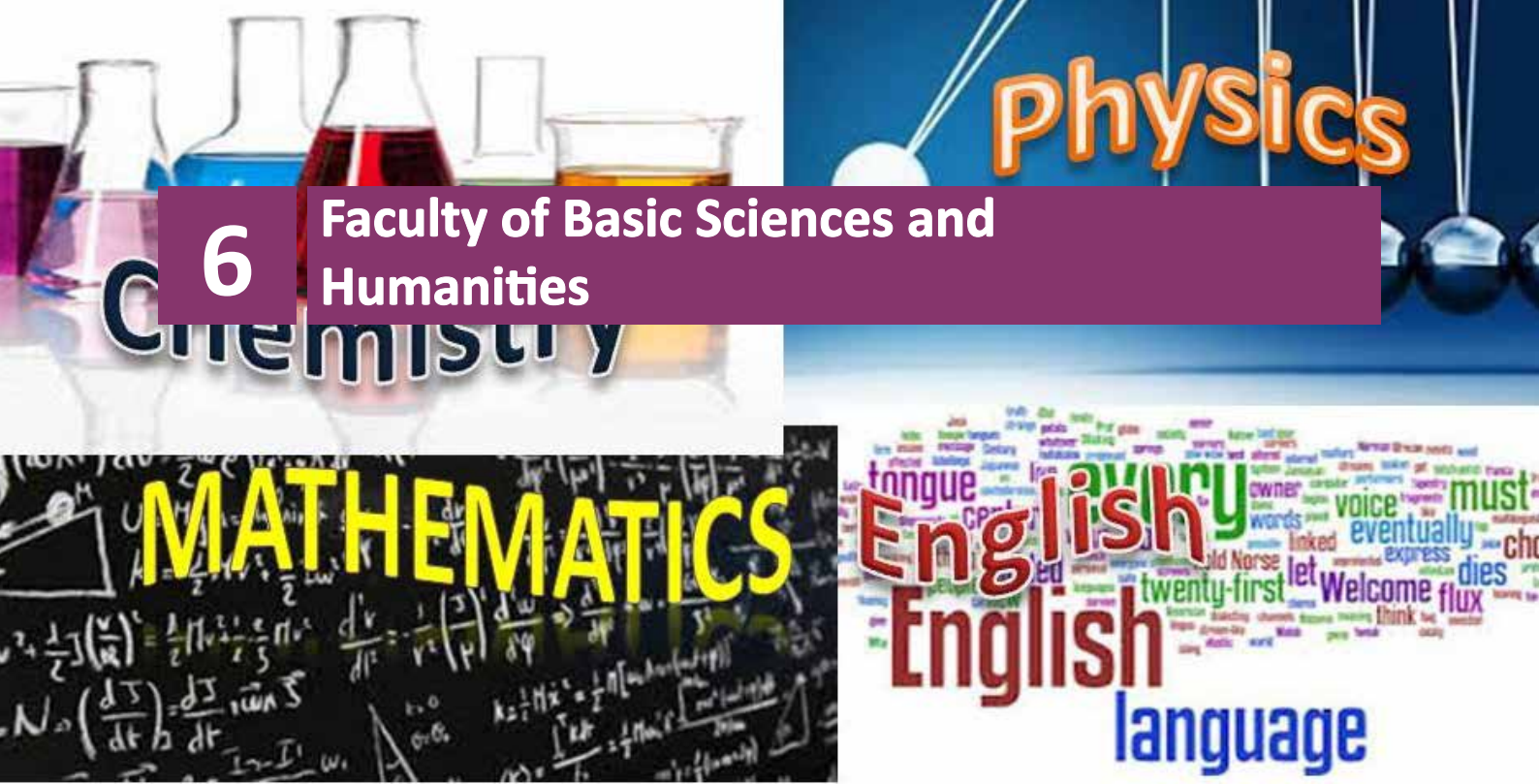
The main objectives of this initiative are as follows:

- 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

Dean

DEPARTMENT BASIC SCIENCES AND HUMANITIES

Chairman

Dr. Muhammad Mudassar

Associate Professor

Dr. Muhammad Mudassar

PhD Mathematics (UET Lahore)

Dr. Nasir Siddiqui

PhD Mathematics (QAU Islamabad)

Assistant Professors

Ms. Safeera Batool

M. Phil Mathematics (QAU Islamabad)

Dr. Muhammad Sultan

PhD Chemistry (QAU Islamabad)

Ms. Sumaira Nawaz

M. Phil. Islamic Studies (AIOU Islamabad)

(on leave for Higher Studies)

Dr. Naila Maqsood

PhD. Public and Govt. Policy (NDU Islamabad)

Dr. Zaffer Elahi

PhD Mathematics (PU Lahore)

Dr. Malik Sajjad Mehmood

PhD Physics, (PIEAS Islamabad)

Dr. Azeem Shahzad

PhD Mathematics (QAU Islamabad)

Dr. Muhammad Arshad Javed

PhD Physics (IU Bahawalpur)

Dr. Muhammad Altaf

PhD Statistics (China)

Dr. Muhammad Touqeer

PhD Mathematics (PU Lahore)

Ms. Fareeha Zaheer

M.Phil. English (AU Islamabad)

Dr. Muhammad Nadeem

PhD Physics (Malaysia)

Lecturers

Ms. Haleema Sadia

M. Phil Mathematics (QAU Islamabad)

Dr. Syed Abdul Rehman Shah

PhD Islamic Banking & Finance (IIU Islamabad)

Ms. Mariam Batool

M.A. English (PU Lahore)

Ms. Tehmina Farrukh

M.A. English (NUML Islamabad)

Mr. Muhammad Tariq

M. Phil Physics (QAU Islamabad)
(on Higher Studies Abroad)

Ms. Andleeb Abbasi

M. Phil Mathematics (QAU Islamabad)

Ms. Sumaira Rashid

M. Phil Mathematics (QAU Islamabad)

Mr. Syed Zulqarnain Haider

M. Phil Mathematics (QAU Islamabad)

Mr. Syed Sabyel Haider

M. Phil Mathematics (NUST Islamabad)
(on Leave for Higher Studies)

Dr. Kulsoom Rahim

PhD Physics (QAU Islamabad)

Mr. Jawad Ahmad

M. Phil Mathematics (QAU Islamabad)

Ms. Sabahat Jaleel

M. Phil. Pakistan Studies (QAU Islamabad)

Mr. Muhammad Irfan

M. Phil. Islamic Studies (QAU Islamabad)



The Department

The department was established in 1975 as a part of the University College of Engineering, Taxila and is as old as the institution itself. With the inception as an independent University in October 1993, the department has been placed under the Faculty of Basic Sciences and Humanities.

The department offers courses in Mathematics, Physics, Chemistry, Economics, Statistics, Islamic Studies, Pakistan Studies, Ethics and English. Mathematics is an essential prerequisite and pivotal element for various fields of engineering and other sciences. In fact, it plays a key-role for the comprehension of any subject of engineering and physical sciences. A practical engineer needs an adequate knowledge of modern mathematics to successfully cope with the complex real-world problems. Therefore, all the degree programs offered by different engineering departments of the university have courses in applied mathematics, statistics, and numerical analysis etc.

The intention of the Minor Mathematics is to furnish student with a broad set of tools that will strengthen and diversify their engineering skills and enhance their employability prospects across multiple business sectors. Invited lectures from guest speakers will complement the course by providing their real-world perspective and views on how mathematical tools are used in different businesses.

The courses offered in the subjects of Applied Physics and Chemistry are very essential for forming the base of the engineering subjects. Also, the essential practical work in these subjects is carried out as a support



to the immense forthcoming engineering practical work. The curricula of Physics and Chemistry including the recent development are constituted to meet the pre-requisites of the engineering subjects. The contents of the courses are regularly revised to keep abreast of the fast progress occurring in the various engineering faculties.

Appropriate courses in Islamic Studies have also been constituted to be taught to the Muslim students of all engineering faculties. The purpose is to enlighten the soul and mind of the students and enable them to get appraisal of tenets of Islam so that they may perform their duties with integrity and diligence when the future responsibilities of serving the nation will be bestowed upon them. The Non-Muslims students are offered courses in the subject of Ethics as well.

The subject of Pakistan Studies was introduced at all levels for undergraduate first time during 1982. This course has been designed as a compulsory subject for the students at undergraduate level. The course framework is issue oriented. It has many dimensions, the historical and ideological background of Pakistan, the process of governance and national development as well as the issue arising in the modern age and posing challenges

to Pakistan. The course was designed with a vision, the Pakistan Studies should open a window to future.

It is an established fact that English is an international language, so proficiency in English language is required to compete with the modern world. Different courses are offered in different departments to enhance student's English language skills for professional purposes. Effective communication skills include everything from facial expression to visual literacy, from anxiety management to verbal skills, from body language to document presentation. Students can become more effective communicators by cultivating competency through these courses. These courses include Technical Report Writing as well which enhances students to write well in professional life.

In future language lab will be established in the department so that students could practice listening and speaking skills. This project of language lab will be helpful to provide students an environment where they can practice language. Along with language lab, the department is planning to start spoken English courses in summers, especially IELTS and TOFEL for University students who want to go abroad for higher studies.



Research Extension and Advisory Services

The faculty members are actively engaged in research work and have produced several research publications, which have been published in scientific journals of repute and presented in national and international conferences and seminars. The current research fields of interest in the subject of mathematics are mathematics in manufacturing, algebraic optimization, numerical analysis, integral equations, linear programming, queuing theory, quantum mechanics and Fluid Mechanics.

The research field interests in the subject of Physics are Safety and Reliability of Nuclear Industry, Nano Physics, Study Material Properties with X-ray Diffractometer (XRD), Optical Spectrometer and LCR Meter.

The research in the subject of Islamic Studies is being carried out in the field of “Seerat-un-Nabi and Political System of Islam”. Islamic Banking & Finance and Interest Free Islamic Economic System.



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, coffee table 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 members 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 first 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: librarian.uet@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.

EBRARY

ebrary offers a wide variety of multidisciplinary content. It acquires large number of titles from leading academic publishers. Users have full access to 142,000 eBooks through this source. This ebrary consists of the following areas:

- Engineering and Allied Technologies
- Computers and Information Technology
- Pure Sciences
- Life & Physical Sciences
- Social Sciences & Humanities

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.

7.8 Online Accessible Databases

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 MACHENERY (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

MCGRAW HILL COLLECTIONS

Following collections of McGraw Hill are accessible in this collection:

- McGraw-Hill's Access Science
- McGraw-Hill's Access Engineering

PROJECT MUSE

- Project MUSE provides access to 430 full-text journals from 108 publishers in humanities and social science. MUSE pricing meets library needs around the world. It covers almost all subjects like:
 - Technology
 - Languages & Linguistics
 - Economics
 - Social Sciences & Humanities
 - Art
 - Architecture
 - Literature
 - History & Culture
 - Religions
 - Philosophy and so on...

SCIENCE ONLINE

- Provides access to the full text of the prestigious Science publication.
- It allows users to search within Science and across a multitude of scientific journals.

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.



7.9 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.

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.



8

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 Program (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 providing 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:

- Blanket Wi-Fi coverage
- Intelligent Video Surveillance (IVS) services
- All the Departmental buildings, Hostels, Cafes and Parking Areas are provided with Wi-Fi hotspot services.
- Users can access Wireless Internet services throughout the campus.
- After execution of this project UET Taxila has a total Internet bandwidth of 913 Mbps through PERN while PTCL is providing an additional 100 Mbps bandwidth as part of the 4G/EVO wireless services MoU.
- All the buildings, main roads as well as boundary areas are covered by IP-based video cameras.
- The data generated by cameras is stored locally at UET Taxila as well as at HEC Data Center Islamabad.
- Moreover, EDU Roam (Educational Roaming) service is being provided with this project that allows UET Taxila users to access Internet services at any institute that supports EDU Roam within Pakistan or abroad

NARC has its own domain hosting and 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 (FMS), Management Information System (MIS) for alumni, and so on. Besides Video Conferencing and Smart Classroom services, NARC has also setup its online helpdesk to facilitate the faculty, staff and students. In case of any IT related complaints can be submitted 24/7 to the NARC helpdesk, where they are resolved immediately.

NARC provides official email accounts for all employees and the students. All Microsoft Office365 services can be accessed using these accounts for communication and collaboration. Microsoft Teams is used to attend online meetings and classes during COVID-19

pandemic and access Microsoft cloud storage up to 2TB per user. It also enables them to access Genuine Microsoft software made available through HEC/Microsoft Academic Alliance. NARC also provides professional trainings as Cisco Certified Training Academy. It is also maintaining Google Apps for Education (G Suite) services.

ERP Vision

NARC is in the process of deploying Enterprise Resource Planning (ERP) software to attain the following goals:

- Enhance productivity and efficiency of process within the University, and
- Ensure timely delivery of services to students, parents, faculty, and staff members.

NARC is engaged with Syntaxmatic Technologies SMC Pvt. Ltd. for the development, testing and commissioning of "Campus Management System" called (ERP@CLOUD), that is a powerful, flexible, comprehensive and cross platform web-based solution.

ERP@CLOUD comprises of following modules:

- Admissions
- Fee Management
- Academics Management
- Outcome Based Education (OBE)
- Examinations (OBE Based and Traditional)
- Students Feedback
- Teachers Portal
- Students 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.

Technical Societies

S.N.	Faculty	Dept.	Advisor	Society
1.	Faculty of Electronics & Electrical Engineering	Electrical	Dr. Gulistan Raja Professor	Institute of Electrical & Electronics Engineers (IEEE)
			Dr. Junaid Mir Assistant Professor	Society of Innovative Electrical Professionals (SIEP)
		Electronics	Engr. Umar Khan Lab. Engineer	IEEE Consumer Electronics Society
2.	Faculty of Telecom & Information Engineering	Computer	Dr. Naveed Baloch Assistant Professor	Taxilian Robotics and Automation Club (TRAC)
		Software	Dr. Ali Javed Assistant Professor	SOFTDESK
		Telecom	Dr. Hamayun Shahid Assistant Professor	Society of Telecom Engineers & Professionals (STEP)
		Computer Science	Dr. Muhammad Munawar Iqbal Assistant Professor	COMPTECH Society
3.	Faculty of Civil & Environmental Engineering	Civil	Dr. Naveed Ahmad Assistant Professor	Society of Traffic and Road Safety (STARS)
			Dr. Naeem Ijaz Professor	Institute of Civil Engineers (ICE)
			Engr. Talha Amir Lecturer	American Society of Civil Engineers (ASCE)
4.	Faculty of Mechanical & Aeronautical Engineering	Mechanical	Dr. Muzaffar Ali Associate Professor	American Society of Heating, Refrigerating & Air Conditioning Engineers (ASHRAE)
			Dr. Nazeer Anjum Assistant Professor	Institute of Mechanical Engineers (IMECHE)
			Dr. Riffat Asim Pasha Professor	American Society of Mechanical Engineers (ASME)
			Dr. Riffat Asim Pasha Professor	American Society of Safety Engineers (ASSE)
			Dr. Muzaffar Ali Associate Professor	American Association of Energy Engineers (AAEE)
5.	Faculty of Industrial Engineering	Industrial	Engr. Abid Ali Lecturer	Institute of Industrial Engineers (IIE)

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)
- University Art and Culture Society (UACS)
- An-Nisa Girls Scholars Society
- UET Adventure Club
- Environmental & Horticultural Society
- Rashid Cheema, Health & Blood Donor Society (RCHBDS)
- Al-Mohandis Literary Society
- Character Building Society
- Students Counseling and Guidance Bureau
- UET Media Club
- National Youth Assembly as Student Society
- Disaster & Crises Management Cell
- Umeed-e-Subh: Student Welfare Society
- Social Entrepreneurship Society
- Medical Awareness and Technical Skills Society (MATTS)

11 Directorate of Sports

The university provides indoor and outdoor sports facilities to the students for participation in games and sports. The Directorate of Sports and Sports Committee comprising of university teachers supervises the sports activities. A series of inter-faculty and inter-hostel tournaments are held to provide participation to maximum number of students. Outstanding sportsmen are encouraged to take part in the inter-university tournaments.



Outstanding players also participate in National level events. Gym facility comprising of fitness and exercise machines is also provided for the students.

Well maintained ground for Cricket, Hockey, Football and Lawn Tennis are available. Moreover, indoor facilities for Basketball, Badminton, Table Tennis and Snooker are also provided to the students.

12 | Halls of Residences

The University has limited provisions for hostel accommodation at the Campus for both male and female students. 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 (For Girls)

A separate hall for international students has been approved and is under construction. Another Hall for female students is also being

constructed. It has an accommodation for 128 students.

The management of the halls is supervised by the Senior Warden. Each hall is looked after by Resident Tutor/s being faculty members.

The students themselves manage many aspects of life in the halls. The halls are provided with common rooms, dining halls, canteens, mosques, and other such places of common utility. Each hall has its own mess with adequate messing and dining facilities. The mess is run on a no-profit no-loss basis. A Students Mess Committee under the supervision of a Resident Tutor regulates the weekly menu, finances, billing, and quality of the food.

The students are required to abide by the rules and regulations governing residence in the University halls and are encouraged to develop community life conducive to healthy growth of the social aspects of their personalities.



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 routes 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.



15 Dues and Scholarships

This 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	Scholarship/Stipend for Afghan Students	Ministry of The Inter Provincial Coordination Islamabad
4	Scholarship for IOK Students	Ministry of The Inter Provincial Coordination Islamabad
5	Students from Kashmir (AJK)	Kashmir Affair Division Islamabad
6	ICT Scholarship	Ministry of Information Technology
7	Students from FATA & Baluchistan	Higher Education Commission Islamabad
8	Scholarship for Army Children	Fauji Foundation
9	Talent Scholarship	Directorate of Education, Gilgit Baltistan
10	Talent Scholarship	Quetta, Directorate
11	Board Scholarship	FBISE Islamabad and different Concerned Boards
12	Scholarship to needy Students	Pakistan Engineering Congress.
13	Scholarship to needy Students	Pakistan Diya Foundation
14	Scholarship to needy Students	Fauji Fertilizer Company
15	Scholarship to needy Students	Punjab Educational Endowment Fund, Lahore
16	OGDCL Scholarship through HEC	OGDCL, Pakistan
17	Semester Fee to Students	Karwan-e-Ilam Foundation
18	Scholarship/Financial Assistance	Punjab Worker Welfare Fund, Organizations
19	Semester Fee to Needy Students	Pakistan Bait-ul-Mal
20	Ehsas Scholarship	Government of Pakistan
21	Loan For Needy Students	National Bank of Pakistan
22	Semester Fee and Mess Charges	(TFP Sch) A. Mateen Ansari Memorial Scholarship (AMS)
23	Scholarships For Needy Students	Saudi Arabian Center (IEP-SAC)

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 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

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 provided 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 Coordination with HEC for arrangement of funds to execute projects, 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.

Key Functions

- Preparation of Public Sector Development Programs.
- Preparation of the PC-I, PC-II, PC-III, PC-IV and PC-V.
- Submission of Cash, Work and Activity Plans to HEC
- Preparation of Monthly and Quarterly Progress Reports.
- Coordination with Monitoring Teams, HEC and Planning Commission.
- To coordinate with all Project Directors and monitoring the progress of ongoing

projects.

- To communicate/submit reports, plans, and projects to the HEC and Planning Commission.

Monitoring Mechanism

Monitoring and follow-up of all development projects are conducted with the collaboration of Monitoring and Evaluation wing of HEC to ensure the smooth implementation of the projects by adopting following mechanism.

INFRASTRUCTURE DEVELOPMENT PROJECTS FUNDED BY HEC

i. Ongoing Projects:

Following infrastructure development projects funded by HEC through PSDP are running at Main campus and sub campus Chakwal:

1. Commencement of 4 years undergraduate Program in Water Resource Engineering & Petroleum Engineering at UET Taxila
2. Strengthening and Up Gradation of UET Taxila and its Sub Campus

ii. Project submitted for Approval to HEC:

PC-1 of the project titled "Establishment of Sub Campus of UET Taxila at Pind Dadan Khan District Jhelum" has been submitted to Higher Education Commission,



Islamabad, Government of Pakistan in order to promote the quality education and provide access to higher education to the local youth those from disadvantaged backgrounds.

19 Quality Enhancement Cell

The Quality Enhancement Cell was established at UET Taxila in February 2011 it is entrusted with the task to promote education for effective management of standards and quality of programs at all levels. It requires the developing quality assurance processes and methods of evaluation to maintain high educational standards of UET. These academic activities at UET are being regularly monitored by Quality Assurance Agency (QAA), HEC through Quality Enhancement Cell (QEC).

Quality Assurance

It is observed that almost all the national universities have similar scheme of studies for respective degree programs with minor variations, thanks to the information sharing in the age of IT. But the quality of outgoing graduates from these universities is conspicuously variant. We need to accept that most of the universities here do not meet the international quality criteria. It is this dismal where most of our efforts needs to be focused. This is the only way to achieve value addition, international competitiveness and consequently, socio-economic upgradation. Seemingly, this idea became the founding stone of the Quality Assurance Agency (QAA), formed by the HEC. It has evolved well organized policies with quantifiable parameters of quality, required to enhance the educational standards in Higher Education.

Institutional Performance Evaluation (IPE)

Self IPE was conducted on 14th May 2018 by IPE committee including external members, of UET Taxila. The report was satisfactory and forward to HEC.

MS and PhD Program Review

MSc and PhD Program Review was conducted in June, 2018 of UET Taxila by MSc-PhD Program Review Committee. The report was satisfactory and was forwarded to HEC.

Self-Assessment by Program Teams

Self-Assessment of academic programs is conducted by Program Team (PT), a group of professionals who are nominated by the head of the department. PT is responsible for writing of Self-Assessment Report (SAR) and acts as a contact/focal group during the period of assessment process.

Assessment Team

Assessment Team (AT) is a group of professionals who will review the SAR prepared by the PT and give its findings in the form of AT Report. External Members from other Universities have been included in AT.

All programs being offered at UET Taxila have been accredited by regulatory agencies.

Outcome Based Education (OBE)

University of Engineering and Technology, Taxila has adopted the outcome based education system. Now all the undergraduate programs are OBE based and SARs have been submitted to PEC accordingly.

Various trainings have been arranged for the benefit of faculty and students.

SAR Status

As per revised HEC guidelines, program wise SAR have been initiated for the following programs:

- M.Sc., PhD Mechanical Engineering
- M.Sc., PhD Electrical Engineering
- M.Sc., PhD Industrial Engineering
- M.Sc., PhD Electronics Engineering.

Memberships

UET Taxila is member of Asia Pacific Quality Network (APQN).

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

21.1 Eligibility Requirements

a. HSSC Examination

- i. An applicant for admission to any of bachelor's degree course offered by the University must fulfill the following requirements:

S#	HSSC Combination	Eligible Disciplines
1.	Math, Physics, Chemistry	All BS programs of University
2.	Math, Physics, Computer Science	Computer Eng., Software Eng., Telecommunication Eng., and Computer Science
3.	Math, Physics, Statistics OR Physics, Biology, Chemistry	Computer Science only

- ii. He should have passed (or expect to pass) upto 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 the candidate obtained (or expect to obtain) at least 50% unadjusted marks will also be eligible. 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% (or 50% in case of admission in CS) will not be considered towards eligibility.

- iii. He should be a resident of the area from where he seeks admission.
- iv. He should meet standards of physique and eyesight laid down in the medical certificate.
- v. He should have appeared in the Entry Test for the respective session arranged by the UET Lahore with the following combinations: (English, Mathematics/ Biology, Physics, Chemistry/Computer Science/Statistics.)

b. 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. FSc. (Pre-medical) with Mathematics as an additional subject.
- iii. *Cambridge Overseas Higher School Certificate of Education (Advanced Level) with Mathematics, Physics & Chemistry.
- iv. *British General Certificate of Education (Advanced Level) with Mathematics, Physics, and Chemistry.
- v. *American High School Graduate Diploma (HSG Diploma).
- vi. *Any foreign equivalent certificate or diploma accepted by IBCC (Inter Board Chairmen Committee).
- vii. He should have earned (or expect to earn) a minimum of "C" grade in

the subjects of Mathematics/Biology, Physics and Chemistry/Computer Science in A-level examination.

***Note:** Applicants (Sr. No. iii to vi) are required to attach an equivalence certificate (Pre-Engineering) issued by the IBCC, 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.

21.2 Eligibility for Diploma Holders

Holders of the Diploma of Associate Engineer, he should have passed (or expect to pass) 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.

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

- 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: Diploma holders are eligible to apply on open merit and on all other categories where they may fit.

21.3 Provisions about admission on the basis of a BSc Degree

Given the qualifications and restrictions stated below, a person is eligible for admission to the bachelor's degree courses at the University based on a degree of Bachelor of Science.

- i. 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.

21.4 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	Mechanical	Electrical	Computer	Software	Telecom	Electronics	Industrial	Environmental	Computer Science	Total
A	Punjab	124	124	124	67	67	67	34	34	34	70	745
B	Sind	1	1	1								3
C	Baluchistan	2	2	2								6
D	Khyber Pakhtunkhwa	1	1	1								3
	Azad Kashmir & Gilgit Baltistan											
E1	Azad Kashmir	2	2	1								5
E2	Kel Areas	1										1
E3	Gilgit Baltistan	2	2	2	1	2	3		1			13
F	HEC Nominees from Baluchistan & FATA	4	4	4	2	2	2	1	1	1		21
G	Disable Persons					2						2
	Foreign Nationals											
H1	Foreign Countries	3	3	3								9
H2	Afghan Nominee	1										1
H3	Bangladesh Nominee	1	1	1								3
H4	Indian Held Kashmir (over & above PEC quota)	4	2	2	1							9
H5	Muslim Nominee from Sri Lanka (Distt. Kandy)			1								1
H6	Afghan Nominee (PM Directive)	5	5	5	5							20
H7	Gambian Nominees	1	1	1	2	1		1	1			8
I	Diploma of Associate Engineer											
	Children of Armed Forces Personnel											
J1	ARMY	1	2	1								4
J2	AIR FORCE		1									1
J3	NAVY			1								1
K	FATA (Over & above PEC quota)	2	2	2	1	1	1	1	1	1		12
*L	Backward Areas	1		1								2
M	Children of Univ. Employees	Max 2 per section or 6 per dept. which is greater, except CS										30
N	Children of Graduate Engr./Architects/ City & Regional Planners	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
S	All Pakistan (Partial Subsidized)	38	38	38	15	15	20	10	10	10	70	264
X	Overseas Pakistanis (Partial Subsidized)	5	6	4	5	8	5	3	2	4	4	46
	Grand Total	200	200	200	100	100	100	50	50	50	150	1200

*L Following are Backward districts of Punjab: 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'.*
3. *Category 'I' is abolished for admission cycle 2020, in compliance with Lahore High Court judgements on writ petitions No. 1286 of 2016 and No. 57079 of 2019, the quota reserved for candidates holding Diploma of Associate Engineering (DAE) qualification.*
4. *In Computer Science one third of seats of every category are reserved for candidates of HSSC with Pre-Medical combination 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. 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 admission. Un-filled 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 (Baluchistan Province)

The applicant should be a resident of the Baluchistan province. Applications are to be submitted to the Secretary, Department of Education, Government of Baluchistan, 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 admission. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

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, Khyber Pakhtunkhwa 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 admission. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

23.5 Category E (AK including KEL Area & Gilgit Baltistan)

The applicant for the Azad Kashmir and Kel Area seats should be a national of Azad Kashmir, and the applicant for the Gilgit Baltistan seat should be a resident of these areas. 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. For the seats reserved for the Gilgit Baltistan 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 Azad Kashmir and 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 admission. Unfilled seats (if any) will be

cancelled after the prescribed date for receipt of nominations.

23.6 Category F (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 admission. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

23.7 Category G (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 Bait ul 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.

23.8 Category H (Foreign Nationals)

The applicants from category H1 to H5 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 H6 and H7 are required to submit their applications through HEC Islamabad, Pakistan.

23.9 Category I (Diploma Holders)

This category has been abolished in compliance with Lahore High Court judgements on writ petitions No. 1286 of 2016 and No. 57079 of 2019. Now these candidates can apply on open merit on all categories where they fall. The applicant should be a resident of the Punjab province and should have passed the relevant diploma examination from the Punjab Board of Technical Education, Lahore. The list relevant diplomas are given in section 22.1. Selection and allotment of disciplines are made according to merit.

23.10 Category J (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 admission. 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 K (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 admission. Unfilled seats (if any) will be cancelled after the prescribed date for receipt of nominations.

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.

Note:

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 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.

23.20 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.

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) or BASc.
- iii. Diploma of Associate Engineer.
- iv. 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) as the Highest Qualification:
- i) Entry Test: 30%
 - ii) Matric: 20%
 - iii) 1st Year of HSSC (Pre-Eng.): 50%
- B) For Applicants with BSc OR BASc as the Highest Qualification
- i) Entry Test: 30%
 - ii) Matric: 20%
 - iii) HSSC or equivalent: 20%
 - iv) BSc or equivalent: 30%
- C) For Applicants Having Diploma of Associate Engineer as the Highest Qualification:
- i) Entry Test: 30%
 - ii) Matric: 20%
 - iii) Sum of 1st & 2nd Year Marks: 50%
- D) In case of foreign qualifications (A-Level etc.):
- i) Entry Test: 30%
 - ii) Marks in 11th Class ("O" level or equivalent): 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 will be offered before the declaration of result of HSSC part-II, the following conditions will also apply.
 - a. Admission of candidates, who are unable to earn 60% or above in their HSSC and equivalent qualification or DAE, will be cancelled and their dues will be reimbursed in full without any deduction.
 - b. Admission of A-level candidates who are unable to score at least "C" grade in Physics, Mathematics/Biology and Chemistry/CS 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 of the distribution of seats 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. 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 on the basis of 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 at the end of the current merit list. 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 before the next merit list is displayed.

24.10 Variation in Seats

- a. The university authorities may exercise their right before the closing of 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. Unfilled seats due to unavailability of applicants in the category 'X' will first be transferred to category 'S'. Unfilled seats due to unavailability of applicants in the categories G, L, M, N, O, 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:

$$[30 \times (\text{Entry Test marks/Entry Test total marks})] + [20 \times (\text{Matric marks/Matric Total marks})] + [50 \times (\text{HSSC Part-I marks} + \text{NCC} + \text{HIFZ-E-QURAN})/(\text{HSSC total marks part-I})]$$

Example

An applicant who has obtained 300/400 in Entry Test, 685/850 in Matric and 448/550 in HSSC part-I. He has obtained Haifz - E - Quran Certificate as well.

% Admission Marks = $[30 \times (300/400) + 20 \times (685/850) + 50 \times ((448+20)/550)] = 81.163\%$

CASE 2:

Applicants having BSc as the highest qualification

Formula:

$[30 \times (\text{Entry Test marks}/\text{Entry Test total marks})] + [20 \times (\text{Matric marks}/\text{Matric Total marks})] + [20 \times (\text{HSSC marks}/\text{HSSC total marks})] + [30 \times (\text{BSc marks} + \text{NCC} + \text{HIFZ-E-QURAN})/(\text{BSc total marks})]$

Example:

An applicant who has obtained 574/850 marks in matric, 720/1100 marks in HSSC, 624/800 marks BSc and 284/400 marks in Entry Test, having also NCC certificate:

% Admission Marks = $[30 \times (284/400)]$

$+ [20 \times (574/850)] + [20 \times (720/1100)] + [30 \times ((624 + 20)/800)] = 72.047\%$

CASE 3:

Applicants having Diploma of Associate Engineer as the highest qualification.

Formula:

$[30 \times (\text{Entry Test marks}/\text{Entry Test total marks})] + [20 \times (\text{Matric marks}/\text{Matric Total marks})] + [50 \times (\text{Diploma 1st} + \text{2nd year marks} + \text{NCC} + \text{HIFZ-E-QURAN})/(\text{Diploma total marks 1st} + \text{2nd year})]$

Example

An applicant has 240/400 marks in Entry Test, 581/850 marks in matric and 1480/2000 marks in first two years of Diploma.

% Admission Marks = $[30 \times (240/400)] + [20 \times (581/850)] + [50 \times (1480/2000)] = 68.671\%$

25 Merit Positoin Entry – 2019

Sr.	Department	A	G	L	O	I	N	Q1	Q2	T	X
		Open Merit	Disable Persons	Backward Areas	Alumni	Diploma Holders	Engineer's Children	DG-Khan (Tribal)	Rajanpur (Tribal)	Tehsil Taxila	Overseas
1.	Mechanical	70.605				69.949	68.989			70.559	63.134
2.	Civil	69.132		69.011		69.375	68.061		52.436		59.241
3	Electrical	66.520		64.811	62.780	70.595	51.480	58.520		61.673	52.082
4	Software	68.986	61.591			65.248					54.339
5.	Electronics	58.532				67.481					47.441
6.	Computer	64.134				64.938					49.975
7.	Industrial	58.257				67.889					53.325
8.	Telecom	58.516				65.209					48.245
9.	Environmental	51.570				67.785					50.136
10	Computer Sc.	67.205				---					---

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, G, L, N, 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 'a.' 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 'J', 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
- 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 Diploma of Associate Engineer 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 'G' 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 have to submit an attested photocopy of the educational degree/ certificate of your parent as an 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 on 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 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 23.19 for information about additional documents required.
- ix. 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.
- x. If you are claiming 20 marks for being Hifz-e-Quran, read clause 24.5 of the prospectus carefully.
- xi. 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 have to submit in original certificate from the GOC of the area about the place of your parent's posting.
- xii. 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 Only one application form is to be submitted for any number of disciplines and categories you apply for.

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 application form online.

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
Computer Science	Computer Sc

28.5 Under the Column 'Category' the candidate will choose only between 'A' (open merit), 'S' (partial subsidized) or 'X' (children of overseas 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 district Chakwal 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	Civil	A
4.	Civil	N
5.	Civil	L
6.	Electrical	A
7.	Electrical	N
8.	Electrical	L
9.	Electrical	O

and so on.

- 1st preference is Mechanical open merit.
- 2nd preference is Mechanical for engineer's son seats.
- 3rd preference is Civil open merit.
- 4th preference is Civil for engineer's son seats.
- 5th preference is Civil for backward districts of Punjab seats.
- 6th preference is Electrical for open merit.
- 7th preference is Electrical for engineer's son seats.
- 8th preference is Electrical for backward districts of Punjab seats.
- 9th preference is Electrical for children of university alumni seats.
- 10th preference is any other as per choice of candidate.

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 34.

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 26 and 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. Ten attested and most recent photographs
 - iv. Attested Certificate of parent’s/ guardian’s income
 - v. 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
 - vi. Original Marks Sheet of Entry Test
 - vii. Original NCC certificate (If applicable)
 - viii. Original Domicile certificate
 - ix. Attested copy of National CNIC/Form B
 - x. Bio-Data Sheet (F-VI) duly completed
 - xi. 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. 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 Deadlines for Admission

Admission shall be closed from date as given in admission schedule (clause 34).

29.7 Notification of Selection of Categories B, C, D, E, F, H, J, and K

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.

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.

30.2 For Examination Fees, see the relevant section.

- 30.3**
- The University also grants fee concession on merit as well as need basis.
 - Students should maintain their own personal record of original receipts of dues till clearance including receipt of refundable security to avoid problems in future. Nonproduction of original dues receipts on demand can be considered as non-deposit of fee.
 - All the admitted students are advised to open their bank accounts in Habib Bank Limited at UET Taxila branch.

Table 30.1

Description	Subsidized	Partial Subsidized
Non-Recurring (Payable at the time of admission)	Pak. Rupee	Pak. Rupee
Admission/ Re-admission Fee	6,000	500,000
Registration Fee	4,000	4,000
Library Security (Refundable)	2,000	2,000
Students Bus Card Fee	200	200
Students Identity Card Fee	300	300
Verification Fee	2,000	2,000
*Survey Camp Charges (for Civil Eng. only)	5,000	5,000
Additional for Hostel Resident		
Hostel Security (Refundable)	5,000	5,000
Mess Security (Refundable)	3,000	3,000
Service & Contingencies	2,500	2,500
Recurring Fee (per semester)		
Tuition Fee	32,000	66,000
Tutorial Fee	1,000	1,000
Sports Fee	500	500
Magazine Fee	500	500
Medical Fee	1,000	1,000
Laboratory Fee	1,000	1,000
Examination Fee	1,000	1,000
Book Bank Rent	500	500
Instructional Tour Fee	1,000	1,000
Recreation Fee	600	600
Bus Fare for Resident	3,000	3,000
Bus Fare for Non-Resident	12,500	12,500
Stationery Charges	500	500
Smart and Safe Campus Fee	2,400	2,400
Additional for Hostel Resident		
Room Rent	4,000	4,000
Electricity charges	3,600	3,600
Sui Gas charges	2,400	2,400
Masjid Fund	500	500
Total Fee for First Semester (Resident)	80,500	608,500
Remaining Semesters (Resident)	55,500	89,500
Grand Total for 4 years (Resident)	469,000	1,235,000
Total for First Semester (Non-Resident)	69,000	597,000
Remaining Semesters (Non-Resident)	54,500	88,500
Grand Total for 4 years (Non-Resident)	450,500	1,216,500

* These additional charges will be paid with the fees of 4th Semester of Civil Engineering students only

30.4 The Dean of the concerned faculty, on the recommendation of the Chairman concerned, 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 Dues & Scholarship Section. He/she 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 Dean beyond the extension period. However, the Competent Authority can waive off late fee fine, on the provision of special case.

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 cancelled 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. Heaters are not allowed in hostel room for all students including new and existing 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 Non-payment of Fee and Charges

A fine of Rs.100/- per day will be charged for a period of 10 days after the last date fixed for payment of fees and charges. After that, the name of the defaulter will be automatically stuck off from the rolls of the university and he/she will have to pay the re-admission fee along with the fees and fine before he is re-admitted. Application to this effect shall be submitted to the concerned Dean of Faculty. However, a student who receives scholarship through the university Treasurer may pay his/her fee and charges without fine within a week of receipt of the scholarship for the corresponding period.

30.11 Fee Refund Policy for Admission Withdrawal case:

The following fee refund policy will be applicable in case of admission withdrawal:

%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 the 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

Submission of Entry Test Forms	June 02, 2020
Centralized Entry Test in all Punjab	To be announced
Online Admission Forms	July 06, 2020
Last Date of Submission of Online Admission Forms	July 20, 2020
Hifz-e-Quran Test	July 21, 2020
1st Merit List on the website	For updated admission schedule please visit admissions. uettaxila. edu. pk
Last Date Depositing Dues and Original Documents for 1st Merit List	
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 Closed	

TENTATIVE ADMISSION SCHEDULE

The tentative schedule for all admission processes every year will be as under:

- I. An Entry Test will be conducted for all applicants in middle of June (at the end of Intermediate Theory examinations) each year.
- II. Admission will open in the first week of July each year.
- III. Applications will be received until end of July each year.
- IV. First merit list of candidates will be displayed in first week of August each year.
- V. Classes of first semester will start in synchronism with sessions already in progress (3rd, 5th, and 7th) in first week of September each year.

34 Admission Committee

Prof. Dr. Muhammad Iram Baig (Convener)	051-9047412
Engr. Muhammad Kashif Iqbal Asstt. Professor, MED	051-9047412
Dr. Mansoor Ahmad Baloch (Registrar)	051-9047406
Mr. Ali Hussain Naqvi Treasurer	051-9047413
Dr. Nadeem Majeed Choudhary Asstt. Professor, SED	051-9047740
Dr. Malik Intisar Ali Sajjad Asstt. Professor, EED	051-9047554
Dr. Syed Bilal Ahmad Zaidi Asstt. Professor, CED	051-9047651
Mr. Awais Mehmood Programmer, CS	
Admission Office Staff	
Mr. M. Asghar Mahmood (Admin Officer)	051-9047412
Mr. Abdul Waheed (Assistant)	
Mr. Usman Khalid Qureshi (Jr. P.)	
Mr. Ghulam Dastgir (Jr. Clerk)	
Hafiz Muhammad Shahid	

NOTES:

- 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.
- No call letters shall be posted to selected candidates.
- The detailed lists can be viewed at the official website of the university at: admissions.uettaxila.edu.pk
- 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).

35 | 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.

36 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.



OUTCOME BASED EDUCATION (OBE)

Outcome Based Education (OBE) is the hallmark of UET Taxila education and following are the Program Learning Outcomes (PLOs) adopted by each academic department of the University

PLO	Statement	
PLO -1	Engineering Knowledge	Ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
PLO -2	Problem Analysis	Ability to identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
PLO -3	Design and development of solutions	Ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
PLO -4	Investigations	Ability to conduct investigation into complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.
PLO -5	Modern tool usage	Ability to create, select and apply appropriate techniques, resources, modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
PLO -6	Engineer and society	Ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.
PLO -7	Environment and Sustainability	Ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
PLO -8	Ethics	Ability to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
PLO -9	Individual and teamwork	Ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
PLO -10	Communication	Ability to communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PLO -11	Project management	Ability to demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PLO -12	Lifelong learning	Ability to recognize the need for, and have the preparations and ability to engage in independent and lifelong learning in the broadest context of technological change.



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