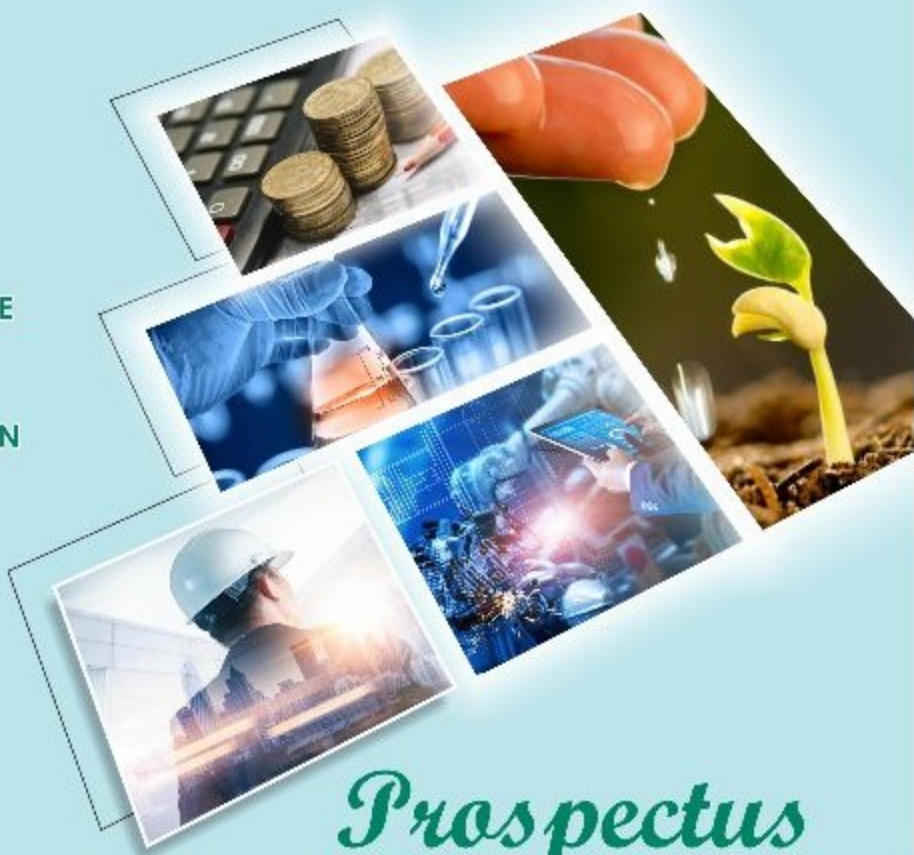


NFC INSTITUTE OF ENGINEERING AND FERTILIZER RESEARCH

KNOWLEDGE

INNOVATION

CREATION



Prospectus

2023-24

الحمد لله رب العالمين
والصلاة والسلام على
سيد المرسلين
آل محمد الطيبين



Degree Programs

- ▶ B.Sc. Chemical Engineering (OBE Level II)
- ▶ B.Sc. Electrical Engineering (OBE Level II)
- ▶ B.Sc. Mechanical Engineering (OBE Level II)
- ▶ B.Sc. Civil Engineering (OBE Level II)
- ▶ B.Sc. Computer Science
- ▶ Bachelor of Business Administration (BBA)

Affiliated with
**University of
Engineering &
Technology, Lahore**

- ▶ B.Sc. Information Technology (4 Year)
- ▶ B.Sc. Information Technology (2 Year ADP)

Affiliated with
**University of
Sargodha, Sargodha**

- ▶ B.S. Artificial Intelligence
- ▶ B.S Cyber Security
- ▶ B.S. Data Science
- ▶ B.S. Tourism & Hospitality Management
- ▶ B.S. Bio Chemistry

Affiliated with
**Khawaja Fareed
University of
Engineering &
Information Technology,
Rahim Yar Khan**

All Engineering Programs Accredited by
Pakistan Engineering Council at OBE Level-II

B.Sc. Computer Science is Accredited by
National Computing Education Accreditation Council (NCEAC)



Rana Tanveer Hussain

Federal Minister

Ministry of Federal Education and Professional Training,
Government of Pakistan.

Message to the youth

Higher education plays a pivotal role in the transformation and development of a progressive nation. Higher education institutions impart the quest, knowledge and skills to youth and make them ready for shouldering future responsibilities of running the whole system of a country. Human Resource Development is the central pillar of the government policy, and technical education plays a fundamental role towards the formation of human social capital.

I am glad to have this opportunity to address you, who are seeking admission at NFC Institute of Engineering and Fertilizer Research, (IE&FR) Faisalabad.

In a developing society, professional education to the youth is a highly commendable work that surely contributes to the economic development of the country. IE&FR contributions are valuable in providing quality education to all income groups of the society.

The Ministry of Federal Education & Professional Training is committed to ensure

quality education to all sections of the society. Our special focus is on technical, professional and vocational education. Under the leadership of the Prime Minister of Pakistan, the Ministry of Federal Education and Professional Training has aligned all its programs to achieve the targets of Sustainable Development Goals (SDG-4). This project is an important step towards reforming the technical and professional education in the country to meet the international standards and job market requirements.

Another milestone achieved by this Ministry is the National Curriculum Council (NCC) to ensure minimum National Standards in education for all provinces.

Youth is our largest asset; with quality education and better training, our youth can immensely contribute to economic growth and stability. I wish you all success in all your future endeavors.



Waseem Ajmal Chaudhry
Chairman, Board of Directors

Chairman Message

New millennium confronts us with a bewildering array of challenges and opportunities. The society today is becoming complex and is in a constant state of mutation, showing the modifications in all levels of human life, pushing and putting off those who cannot go with the pace. Demands are increasing for a holistic breed of scientists and engineers graduates with the skill to work across intellectual, social and cultural boundaries. Our science and engineering education must go beyond the best to address the new global realities. This integrative capability is the key to successful performance in an increasingly diverse and complex work environment.

The Government of Pakistan is focusing its entire efforts to transform the Higher Education Institutes (HEIs) into world class seats of credible learning, equipped with analytical skills and professionalism to benefit the multifaceted society and to create entrepreneur culture within.

Professional education and applied research is indispensable to shape the youth to enlightened

citizens with strong moral and ethical values that build a tolerant and pluralistic society rooted in the culture of Pakistan. To cope with the challenges of the 21st century and conforming to the vision of the Government of Pakistan, NFC Institute of Engineering & Fertilizer Research is creating systemization of knowledge & standardization programs in Science, engineering and technology. All these efforts are under the strict guidance of Higher Education Commission (HEC) and through the roadmap of Pakistan Engineering Council (PEC), National Computing Education Accreditation Council (NCEAC) and relevant professional bodies.

The rich tradition of the Institute, its widely recognized excellence in research as well as its pace towards a truly modern institution, with perfect environment for nurturing talent and nourishing skills make it a unique and prestigious institute of higher engineering education. I assure you an amiable atmosphere with an intellectually stimulating & lucrative stay at NFC IE&FR, Faisalabad.



Prof. Dr. Najaf Ali Awan

Director

NFC Institute of Engineering and Fertilizer Research

Director Welcome Message

I feel pleased to welcome you to the NFC Institute of Engineering & Fertilizer Research (IE&FR) Faisalabad. IE&FR has always believed that only professional education can accelerate the pace of national development and reconstruction, resulting in a shift from conventional education to the concept of human capital formation. Envisioned with a mission of providing international standards of education and qualities to meet national requirements, IE&FR is promoting technological knowledge in the fields of engineering, sciences, technology and business administration. We strongly endorse academic excellence but also believe that a key role of our Institute is to prepare our

youth for entering into the skilled workforce. Keeping in mind, we have to build and continue to strengthen our links with community, industry and business to develop the best outcomes for our students. Our strong links with industry and the professions also allow our students to benefit from valuable and profitable work placements. The advanced hands-on training embedded in our course modules not only underpins learning but also gives tangible advantages in the employment market to our graduates.

Best of luck for your application and distant future



UET, LAHORE PROFILE

Muhammad Baligh Ur Rehman
Chancellor
Governor Punjab

Mr. Mansoor Qadir
Pro Chancellor
Minister of Higher Education
Govt of Punjab.

Prof. Dr. Habib-ur-Rehman
Acting Vice Chancellor

Mr. Muhammad Asif
Registrar

Prof. Dr. Muhammad Shoaib
Dean, Faculty of Electrical Engineering

Prof. Dr. -Ing. Naveed Ramzan
Dean, Faculty of Mechanical Engineering
Dean, Faculty of Civil Engineering
Dean, Faculty of Chemical,
Metallurgical & Polymer Engineering /
Chairman, Affiliation Committee

Prof. Dr. Muhammad Shahid Rafique
Dean, Faculty of Natural Sciences, Humanities &
Islamic Studies

Prof. Dr. Muhammad Tahir
Chairman, Department of Electrical Engineering

Prof. Dr. Nasir Hayat Khan
Chairman, Department of Mechanical Engineering

Prof. Dr. Khalid Farooq
Chairman, Department of Civil Engineering

Prof. Dr. Ali Hammad Akbar
Chairman, Department of Computer
Engineering

Prof. Dr. Muhammad Usman Ghani Khan
Chairman, Department of Computer Science

Dr. Muhammad Nasir Malik
Director, Institute of Business & Management

Mr. Muhammad Zargham Nusrat
Controller of Examinations

Dr. Asim Loan
Convener Admission Committee

Prof. Dr. Asif Ali Qaiser
Director, Student Affairs



VISION, MISSION & OBJECTIVES

VISION

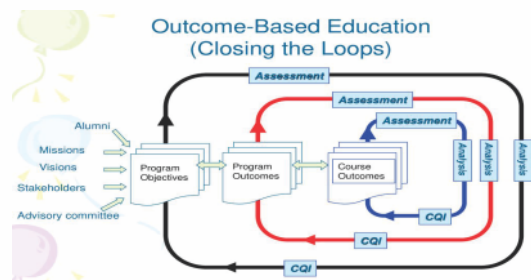
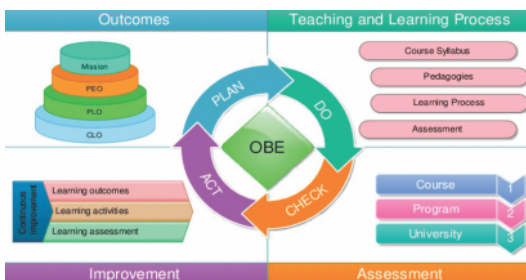
To acquire prominence at national and international level as a unique source of quality education and distinguished research, which stimulates all to excel in their respective, endeavors to emerge as winners.

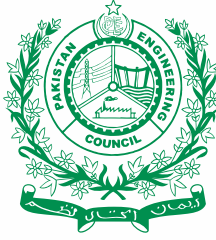
MISSION

NFC Institute of Engineering & Fertilizer Research is committed to uplift the quality of engineering/technical education in all the departments to fulfill the requirements and satisfaction of its students, their potential employers and other stakeholders. This goal will be achieved by continuous monitoring and assessments with a provision of training, guidance and resource management. In this way, we will ensure to maintain a sustainable quality of education in the institute that will significantly contribute in the excellence of technical education and prosperity in Pakistan.

OBJECTIVES

1. To develop, implement and monitor the quality standards and moves in the institute.
2. To meet the challenges of global compatibility to excel the education standards.
3. To develop a viable and sustainable mechanism of quality assurance in the education sector of the country.
4. To produce the manpower that could serve the society in an efficient, effective and honest manner.





Program Learning Outcomes (PLOs)

- 1. Engineering Knowledge:** An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
- 2. Problem Analysis:** An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
- 3. Design/Development of Solutions:** An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
- 4. Investigation:** An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
- 5. Modern Tool Usage:** An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
- 6. The Engineer and Society:** An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.
- 7. Environment and Sustain-ability:** An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
- 9. Individual and Team Work:** An ability to work effectively, as an individual or in a team, on multifaceted and/or multi disciplinary settings.
- 10. Communication:** An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11. Project Management:** An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multi-disciplinary environment.
- 12. Lifelong Learning:** An ability to recognize importance of, and pursue lifelong learning in the broader context of Innovation and technological developments.

Institute's View



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Monument, NFC IE&FR



Institute Profile

NFC Institute of Engineering & Fertilizer Research (IE&FR) Faisalabad is one of the new generations of Pakistani Institution with a progressive and innovative outlook. The Institute is envisaged to grow as a modern center of excellence for research and development in the fields of sciences, engineering and technology. NFC IE&FR is committed to the provision of intellectual leadership and to emerge as a beacon of light for the country's scientific and technological progress and needs.

Institute places equal weightage on the dissemination of knowledge (teaching), the creation of knowledge (research) and the application of knowledge (development). IE&FR also contribute in developing competent scientific and technical manpower having an international level of higher education in order to meet the country's public and private sector needs. The Institute has maintained the standard of quality education and research & development services as per international standards.

Historical Background

Importance of agriculture in Pakistan's economy needs no stress. In order to increase the agricultural yield, the first fertilizer plant was established in 1958. Since then fertilizer capacity has been added both in the public and private sector. To ensure optimum benefits from these investments, problems have to be solved locally. With that view, the Fertilizer Research & Development Institute (FR&DI) was established at

Faisalabad in 1986 with technical and financial assistance from the United Nations Industrial Development Organization (UNIDO) with objectives to conduct research in the field of fertilizers and process industries.

UNIDO and National Fertilizer Corporation of Pakistan provided the funds of 20 million rupees for starting this project of national importance.

In this background and considering the requirement of the country, it was decided to upgrade FR&DI and start Bachelor Degree program in Chemical Engineering in May 1998, while retaining its function of R&D. Approval from the Government of Pakistan was obtained and University of Engineering & Technology, Lahore granted affiliation.

In order to reflect both educational and research



functions, the Institute had been renamed as NFC Institute of Engineering and Fertilizer Research (IE&FR). Institute was under the management of National Fertilizer Corporation of Pakistan, which is a subsidiary of the Ministry of Industries and production Government of Pakistan, containing a large number of industrial facilities, which provides a strong technical back up to the students for practical training and internships.

careers in a wide range of industrial, professional, and academic environments and to develop graduates with strong sense of ethics, professionalism, and ability to succeed as both individual and team contributors. At the start, 30 students were inducted in B.Sc. Chemical Engineering program.



Currently, the institute is transferred to the Ministry of Federal Education and Professional Training by the Cabinet Division seeing its role in engineering education & professional training.

Department of Chemical Engineering was established with the aim to enhance research activities in the Institute to provide students with a high quality education that will enable them to adapt a rapidly changing technical environment, to produce graduates who will be productive throughout their

In the year 2000, the number of seats was increased to 60. The year 2002 was historical for the Institute, when the first batch passed out. Response from different industries was very encouraging and the ratio of job placement was about 90 percent.

Keeping in view the need for competent and skilled electrical engineers in the industrial field of Pakistan, NFC IE&FR started the Department of Electrical Engineering in September 2003. In 2004, NFC IE&FR started the 4 years bachelors program in

Mechanical Engineering, with an objective to equip the students with an in-depth knowledge of Mechanical Engineering and in developing technical skills for design and operation of Mechanical systems.

To cater the industrial demand and meet the challenges of the 21st century, Masters Program in Chemical Engineering has been started from September 2007 in affiliation with UET, Lahore. It has upgraded the status of Institute and has augmented the research & development activities in the Institute. NFCIE&FR is the first ever Institute which is permitted by the UET, Lahore for starting M.Sc. classes. All Bachelors and Masters engineering programs are affiliated with University of Engineering & Technology (UET) Lahore. Pakistan Engineering Council (PEC), the apex body to regulate Engineering education in the country has recognized and accredited Engineering programs on the basis of its facilities, high standards of engineering education and competence of academic staff. Educational, research and project collaborations with different foreign universities are in progress. At present, all Engineering degree programs in the institute are accredited on OBE Level II (Outcome Based Education)



Distinguishing features of the IE&FR are the Skill Development Programs, Industrial trainings, timely theory & practical presentations, monthly surprise tests and quizzes, management courses, special classes for spoken English, training in an academic environment and in time completion of study programs. Advanced engineering courses, methods of instruction, system of mid terms and end of term examinations give NFC IE&FR a unique position among leading educational institutions in Pakistan.

Seminars, technical lectures, exhibitions and workshops on different scientific and industrial issues are the inimitable components of the Institute.

High Profile Faculty

The IE&FR faculty comprises teachers with high academic achievements in parallel with industrial experiences. Many have advanced degrees in their field of specialization from foreign institutions of repute. Faculty members have a cavernous insight and command over current issues, faced by local industries.

The faculty ensures the best possible outcome of talent from the students by providing a matchless blend of quality classroom instructions, creating collaborative learning environment among students, mutual discussion atmosphere in classrooms, bringing up research & exploration qualities in students supported by opportune industrial visits and training.



کيسری دروازہ
دیسری سڑک

لا الہ الا اللہ محمد رسول اللہ

بجائے اللہ

New
7UP
Lemonade

سید دستیاب

Kaisri Gate & Gumti, Faisalabad



Demographic Location

Shuffling a glorious history of Faisalabad spanning over 5 decades, dances upon us the dawdling transition of the city from being a deserted piece of land to a metropolis, becoming an exotic blend of industrial, cultural, agricultural business and educational activities of the region. The City of Faisalabad formerly known as Lyallpur, multicolored jewel of the lower Chenab, came into being in the 1880s. The city that is now well known as “Manchester of Pakistan” for its extensive development of industrial activities was nothing but a desolate tract of land 100 years ago. The foundation of the first ever residential area was laid in 1895.

During those days, the area across the river Chenab was called “Sandal Bar”. Before the establishment of Lyallpur City the ancient residential area was called “Pakka Marri” now known as “Pakki Marri”. The caravans used to stay at this place while traveling from Jhang to Lahore.

The Britishers during their reign decided to convert this area into a city. In the beginning the small establishment was called “Chenab Canal Colony” which was later named “Lyallpur” after the name of the then Governor of Punjab Lt. General Sir James B Lyall. In 1902, the population of the town exceeded 4,000. A considerable number of houses and shops to

cater the ordinary needs of the population were built.

In 1904, the new district of Lyallpur was constituted and the famous clock tower was completed in 1906. It was built on a well, under the supervision of Ghulam Khan, who belonged to the same family who built Taj Mahal in Agra. By the time this tower was built, the eight bazaars were already operational. The map of Faisalabad is just a copy of the British flag, Union Jack, designed by an architect Desmond Yong. The total area of 110 sq. acres was used to build eight bazaars & clock tower in a round shape. All these eight bazaars are connected with each other through another bazaar, which is called “Goal Bazaar”. In 1916, the grain market saw its shops surging with customers. In the same year, the civil Hospital was expanded. World War II awakened the region politically.

Revolutionary meetings were held. Fiery speeches were made, slogans were written on the walls. In 1943, the late Quaid-e-Azam came to Lyallpur and addressed a gathering in Dhobi Ghat Ground. After independence, the city of Lyallpur marched rapidly on the path of development & progress. This development has been made possible by the continued efforts of pioneering entrepreneurs as well as workers over a period of 5 decades. In 1977, the name of the city was changed to Faisalabad, after the

name of the late King of Saudi Arabia, Shah Faisal-bin- Abdul Aziz. At the present, Faisalabad is the 3rd largest city and the hub of textile production in Pakistan.

In Faisalabad, 67 large and 161 small textile units along with 22 textiles spinning mills are operating. It offers a huge agricultural market, bearing the oldest agricultural university of Pakistan. The other industries are chemical fertilizers, synthetic fibers, drugs and pharmaceuticals, canned products, ghee (clarified butter), oil, soap, textiles, hosiery, sugar, and flour. It offers a lucrative wholesale market for cloth and grain. Amongst the chief crops are; wheat, cotton, and sugarcane.

Faisalabad has transformed into a modern city,

envisaging the contrasts of the old and new traditions and cultures. It maintains a number of recreational and educational facilities.

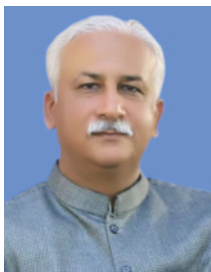
NFC Institute of Engineering & Fertilizer Research (IE&FR) plays an admirable role in the agricultural & industrial growth of the city. IE&FR has strong relations with the agricultural and industrial management of the city and run many R&D projects with different organizations. Institute also has close liaison with Faisalabad Chamber of Commerce & Industries. Industrial domain of the city and IE&FR close liaison with the industry provides splendid job opportunities for the graduates of the Institute.



DIRECTOR SECRETARIAT



Prof. Dr. Najaf Ali Awan
Director



Mr. Amir Jehan
PS to Director



Mr. Rizwan Ashraf
APS to Director

OBJECTIVES OF THE DIRECTOR SECRETARIAT

The primary objective of the Director Secretariat is to provide efficient and effective administrative support to the Director and assist in the smooth functioning of the Institute's executive office.

The specific objectives of the Director Secretariat may include:

1. Providing administrative assistance to the Director in managing their schedule, appointments and communication with various stakeholders, including faculty, staff, students and externals.
2. Handling official correspondence, drafting letters, preparing reports and managing communication on behalf of the Director.
3. Organizing meetings, conferences and events involving the Director, both internally and externally, ensuring necessary arrangements are in place.
4. Assisting the Director in implementing institutional policies, decisions and initiatives across various departments.
5. Facilitating coordination between different departments, committees, and administrative units to ensure effective governance and decision-making.
6. Assisting the Director in strategic planning and policy development to enhance the overall performance and reputation of the Institute.
7. Representing the Director's office in public events, liaising with external stakeholders when necessary.
8. Ensuring the confidentiality and ethical handling of sensitive information within the Director's office.



Registrar Office



Mr. Shabeeb Ahmad Gill
Registrar/Head
(Persl. & Admin)



Mr. Adeel Safdar
Additional Registrar / Manager
(Persl. & Admin)



Mr. Bilal Iftikhar
Deputy Registrar/
Deputy Manager (Persl.)
On Leave



Syed Iftikhar ul Hassan
Deputy Registrar/
Deputy Manager
(Persl.)



Rana Shamas-ul-Haq Khan
Assistant Registrar/
Assistant Manager
(Legal/Admin)



The Campus & Facilities

The IE&FR campus is spread over 25 acres. It is located on Faisalabad Jaranwala road, adjacent to the Kohinoor and People's Colony, a developed suburb of Faisalabad with shops, restaurants, hospitals and other facilities. In keeping with the Institute's mission, the campus has been carefully planned to provide excellent facilities to students and to create an environment, which is conducive to learning.

The infrastructure of the institute entails administration wing, central library, spectacular air-conditioned auditorium, Jamia Mosque, separate male & female hostels and dedicated academic blocks.

The departmental buildings comprise offices of faculty members, fully furnished & air-conditioned classrooms and well-equipped laboratories. For the extension of facilities multi-purpose sports complex and swimming pool along with playing grounds and jogging tracks are being developed, which shall merge in the marvelous mega structure.

Library

Library plays an important role in any educational, research & development institutes and serves as a place where one gets first hand knowledge from the

experience of others. IE&FR main library strives to provide quality resources and services to support the programs of the Institute and to meet the learning and information needs of students, faculty, staff and community members.

Library has a collection of more than ten thousand technical books, reports, proceeding of seminars / workshops and conferences etc., containing technical reports on chemical, electrical,

mechanical engineering, computer science, environmental sciences and topics related to fertilizers.

Journals related to different engineering disciplines, environmental sciences and chemical process industries are being subscribed regularly to help the



students and scholars keep abreast of latest research & developments in the world. IE&FR Library is fully automated with Dewey Decimal Classification Scheme & Bar Code circulation system. The library automation software has been developed in house & working excellently.

Digital Library Services

NFC IE&FR Library feels honor to announce the facilities of Digital Library Services. Digital Library Services is a program from Higher Education Commission (HEC) with aim to support and strengthen the research activities in Pakistan, to provide researchers, faculty members and students with access to international scholarly literature based

on electronic (online) delivery, providing access to high quality, peer-reviewed journals, databases and articles across a wide range of disciplines. Presently, digital library has 17000 online journals. These journals are available through eight world's renowned publishers, having different databases on sciences, technology, social science and humanities.

IT Infrastructure and Services

The IE&FR's computing facilities are being continuously upgraded to keep them in sync with fast paced advances in information technologies.

The Institute believes that a modern IT environment



for students, faculty and administration is absolutely essential to provide quality education. To achieve this objective, Institute is providing “State of the Art” computing and Internet services with over 100 workstations, each being powered by Intel's core series processors with the latest operating systems and software packages. All workstations are interconnected, forming the Institute's Local Area Network (LAN).

The Internet Facility at IE&FR is one of its prominent features. IE&FR has both wireless and DSL Internet connections. Fast Internet connectivity plays an important role in facilitating the faculty and students for academic as well as Research and Development activities at the Institute. IE&FR students avail the facility of free Internet access from 7:30 am to 10:00 pm in the campus.

Classrooms

Expanded and updated classroom facilities are available in the campus to address anticipated growth in graduate and postgraduate level educational programs. All class rooms are air conditioned and

equipped with modern facilities of multimedia, overhead & slide projectors, public address systems.

Professional Skill Development Program

Professional Skill Development Centre is a unique feature of the Institute. The center is responsible for arranging seminars, workshops, certificate level programs, short courses & external/internal training for senior and middle management working in industrial sector. Burning issues of different industries are being addressed in these seminars and workshops to benefit the engineering community. The major topics, which are covered during last 9 years are analytical techniques, energy & fuel conservation, chemical process improvement, marketing techniques and communication skills, human resources management, computer skills, environmental management system, modern instrumentation and process control, advanced industrial electronics and automation.

Internship and Placement Bureau

The purpose of the internship program is to provide a





planned transition from the Institutional curriculum to a personal and professional setting in a students' area of interest. During the internship experience, the student will test the practical application of the theories of academic learning in the professional setting under the guidance and supervision of professional staff members. The students will have the opportunity to evaluate the field of organization as a professional career, identifies strengths and weaknesses of professional behavior and allow him/her to enter the professional world gradually under competent supervision and guidance.

In IE&FR, there is separate bureau, which is responsible for arranging internships for students during the summer vacation in numerous organizations and industries. Arrangement for internship is normally of 8-12 weeks duration. The students are required to submit a brief report on the work carried out during internship. On completion of such trainings, students receive certificates, which is a formidable asset for lifetime. The placement Bureau keeps liaison with the leading engineering, industrial and commercial organizations, supplies information and guidance to the final year students, regarding

their employment prospects and publicizes the jobs available with the employers.

Laboratories

Laboratories in various departments of IE&FR are well equipped, pleasant and spacious. We are blessed with a team of dedicated and excellent technical staff. They look after the laboratories and their skills are used extensively to support both undergraduate and postgraduate laboratory requirements. The list of laboratories is available in the prospectus for the respective departments.

Industrial Tours

Students of the Institute are provided an opportunity to enhance their technical knowledge and broaden their outlook by undertaking tours of industries, located all over Pakistan. The expenditure of these tours is borne by the Institute. Attendance in Industrial Tour is mandatory.

Student Advisory Office

It is one of the major divisions of the IE&FR campus, with oversight of all issues and resources related to



student life. Students' Advisory Office is a cluster of units, designed and devoted to serve all students and to make sure that the learning and living environment on campus is conducive to attain academic goals. It also includes efforts to make every student feel important within the campus community.

An important function of this office is to promote extra-curricular activities among students and to provide healthy outlets. Through active participation in variety of programs and services, students have the opportunity to experience and develop leadership skills that complement and support their academic studies. Students' advisory office cultivates tomorrow civic minded and service oriented professionals to make their stay on the campus, a rich experience of multidimensional growth.

Sports Facilities

The Institute's Sports and Fitness program offers students to compete or simply have fun with sports. Students are encouraged to take advantage of sports facilities with their interests and talents. Great attention is paid for providing and maintaining sports



facilities of a high quality. Facilities are provided for all the major sports including cricket, hockey, football, table tennis, lawn tennis, badminton, basketball, squash, athletics and full fledged sports complex and swimming pool etc. A well equipped gymnasium is also established. The walking and jogging track within the campus will be completed during this year.

Accommodation

The Institute provides an accommodation service for prospective students. Hostels have limited number of seats available on first come first serve basis. Hostels are tri-sitter. Other hostel facilities like indoor games, dinning halls and common rooms are available to make the stay of students more comfortable and pleasant. Well-organized Cafeteria provides students breakfast, snacks & refreshment and remains open till late night.

Female Hostel

Hostel facility for girl's students has been provided in IE&FR. This is a separate block, which is within the campus, and a female resident teacher is the in-charge of that hostel. She is available all the day to facilitate the girl's students.

Counseling & Guidance

Counseling and guidance service provides support to students and can help with study skills, including how to learn more effectively. The service is based on equal opportunity principles and delivered by suitably trained and experienced staff.

Medical Facility

The institute provides medical cover to its employees and students under the supervision of a medical doctor. A contract has been signed with government and private hospital to provide medical facilities. The institute has its own ambulance to facilitate the students.

Scholarships

Scholarships are awarded to such students who are needy and also show excellent results in B.Sc. Engineering & Computer Science first, second & third professional examination. Some of the industries & organizations also offer financial assistance to the deserving students. NFC IE&FR has set up the Office of the Innovation, Research and Commercialization (ORIC) to foster innovation, research, and

entrepreneurial activities in technology-based areas. It is an endeavor to bridge the gap between academia and the industry. IIIC provides a platform to Start-ups prospective entrepreneurs to convert their innovative ideas into commercially viable products.



- Facilities to be made available to Participants (Graduate Engineers/ Scientists); Provision of office within the IE&FR
- Use of the laboratories, workshops, Simulation, CAD/CAE facilities and other infrastructure
- Mentoring and consultancy from faculty staff or assistance to locate suitable people from outside of the Faculty
- To liaison with private/public sector enterprises and funding sources, government agencies, industrial associations, chambers to facilitate and networking for incubate companies
- Management & Transfer of technology.



Life at IE&FR

Our hope is that you will be challenged to journey into new worlds, into the world of ideas, the world of facts, the world of values and the world of believes. We hope you discover new skills and learn to solve new problems. When you complete the journey, what you take away from this place will reflect the commitment you have made, and the energy you have put into being a full participant in the community. It is our sincere hope that you will want to involve yourself in every aspect of life here, and be an integral part of our Institutional growth and future development.

The IE&FR campus is a friendly and sociable campus. Students lead busy and full lives, striking a healthy balance between work and play. Students are active and diverse in their interests. To cater the students diverse interest, there are many societies working in the campus.

Societies

Student societies are responsible for conducting various educational and recreational activities for students such as debates, seminars, annual nights, annual sports, fun fair and other such events. These societies run by the students, arrange various events that provides a welcome relief from the pressure of their daily routine. The faculty and administration also encourages these activities as they provide healthy platform for students to develop organizational and managerial skills.

IE&FR Literary Society

The Literary society has the pride of being the oldest society of NFC IE&FR, which was founded in 1999. Society is playing an important role in the grooming of IE&FRians, by providing them platform for their extracurricular activities. The Literary society has been arranging different events after its foundation, which includes: The Annual Night (celebrated every

Student Advisor Intro



The responsibilities of the students advisor office are to promote co-curriculum activities, scholarship Management and regularizing the schedule of studies. The student advisor is a bridge between curricular & extracurricular activities among all academic departments. The office also responsible for the communication with parents regarding students progress reports.

Mrs. Tanzila Samin
Student Advisor

year), Funfair, all Faisalabad QIRAT & NAAT Competition, the Seeratun-Nabi Conference and different dinners & iftar parties.

IE&FR Debating Society

Debating has been called the “Art of Persuasion”. Many students have art to fuse the hearts, but this art was going to waste. Debating Society was established to save this art and to use this for the betterment of communication skills. Debating Society is concerned with promoting debate and organizing various debating activities in the IE&FR campus. After the establishment of the society, different inter faculty & inter university declamation contest has been arranged by the society. Members of the society also won various debating competition in different universities.

NFC Blood Donor Society (NBDS)

In the Quran, Allah says, “To save one life is to save all humanity”. NBDS is working for a noble cause by serving the community and saving the lives of people. Its objective is “To serve the humanity”. The motto of NBDS is “Just a drop can crop” and it was proved because lives of more than 100 people were cropped by the donation of blood by the members of this society. NBDS arranges blood camp once a year. Seminars and workshops for the awareness on different health issues are also arranged

by this society.

IE&FRian Engineers Forum

This society maintains close coordination among the IE&FR alumni employed at various organizations throughout the country. The main objectives of Engineer's forum are to build up the image/introduction of “NFC IE&FR” in the industrial sector, to establish relationship with industry, particularly with NFC IE&FR graduates; to help the young engineers for employment in the industry, helping the students in the industrial training, participation of the Institute in the engineering activities in various platforms, career development of young engineers of NFC IE&FR, arrangement of training course/workshop for the students through senior graduates of NFC IE&FR Faisalabad.



IE&FRian's Hostel Society

IEFRIAN'S Hostel Society is established for the hostelites of the Institute to spend their time in positive activities to maintain the mental and physical health of the students. This society conducts awareness sessions, seminars and games which help out their personal, communal and recreational issues during their stay at the hostel. The Hostel Management supervises the activities of the Society for the residents in general and specifically for the students living in dormitories. The society also

welcomes the students of new sessions admitted and helps them at the arrival. Society members also motivate the students present in the hostels from different sections of the society to maintain the good communication, interpersonal skills and harmony to assemble the face of IEFRIans.

IE&FR Dramatic Society

IEFR Dramatic Society aims to showcase the young talent at IEFR and celebrate art. We aim to indoctrinate the positive cultural heritage in addition to promote extracurricular educational messages. Our purpose is to instill love and recognition for drama and theatre in our society and develop innovative and courageous artists poised to be the creative leaders of tomorrow.

This society is responsible to provide a platform to students to conceive and play dramas on different aspects of life. The members of the IEFR Dramatic Society perform on several platforms, which motivate them to work and perform even better in different events. They work to convey a positive message to the audience through entertainment and highlight social issues present in our society. Through this platform, students gain confidence, improve their public speaking skills, and learn to express themselves.

Sports Committee

Annual sports are arranged by Sports Committee, which comprises of executives and senior students. Various indoor and outdoor games are played under friendly environments. Sport prizes are announced and distributed on Annual Student's Function. We assure that you will find excellent facilities, enthusiasm and encouragement from our dedicated sports staff, to implement our slogan "Sports for All".

Institute of Electrical and Electronics Engineers (IEEE) - NFC Students Wing

IEEE (Institute of Electrical and Electronics Engineers) is a worldwide organization of professional Electrical / Electronics Engineers. It also secures the student memberships for Electrical / Electronics Engineering from all over the world. To streamline student activities and to bridge the gaps between field professionals and engineering students, IEEE establishes different student branches in engineering universities and colleges. IEEE-NFC Student Branch is one of 1616 IEEE student branches in the world. The mission of IEEE-NFC Student Branch is to structure and configure global engineering related activities and generate utmost openings for our students to learn, to communicate, to get skilled, directed and to get exposed to the minute



Mr. Ali Anan Qamar, Deputy Commissioner Faisalabad present in a seminar on Solid Waste Management at NFC Institute of Engineering & Fertilizer Research.

technologies. On this platform, our students get a nationwide exposure through participation and winning in project exhibitions, seminars, expert lectures, student congresses and technical competitions.

American Society of Mechanical Engineers (ASME) – NFC Chapter

ASME is a not-for-profit membership organization that enables collaboration; knowledge sharing, career enrichment, and skills development across all engineering disciplines, toward a goal of helping the global engineering community develop solutions to benefit lives and livelihoods. Founded in 1880 by a small group of leading industrialists, ASME has grown through the decades to include more than 130,000 members in 158 countries. Thirty-thousand of these members are students.

ASME NFC IE&FR CHAPTER has founded in 2010. In this short run till now ASME NFC CHAPTER progressed well. A big achievement of ASME NFC IE&FR was student leader ship seminar 2012. Such types of events organized by ASME are of great importance for students, these events provide a platform to students to show off their talent, improve their management skills and boost up their confidence level.



Society of Mechanical Engineers of Pakistan (SMEP) – NFC Chapter

The Society of Mechanical Engineers of Pakistan is formed with the aim of providing a platform to the Mechanical Engineers in Pakistan. According to some estimates there are more than 17000 mechanical engineers actively involved in various fields ranging from manufacturing to services.

A need to unite the mechanical engineers serving in Pakistan was long felt, this was needed to increase professional's competence, introduce standardizations, improve quality of education, provide better growth opportunities for mechanical engineering professional and above all provide the mechanical engineers serving in all of their diverse areas of interests a platform so their voice can be heard. With these expressed and declared aims. The Society of Mechanical Engineers of Pakistan (SMEP) was formed.

IE&FR Association for Computing Machinery (ACM) Chapter

THE IE&FR ACM Student Chapter has been established at NFC IE&FR Computer Science Department. IE&FR ACM Chapter was established to provide platform to the students of NFC IE&FR,



where they can interact the worldwide Computer Sciences community and stay in touch with the latest development in the field. ACM's Special Interest Groups offer a wealth of conferences, publications, and activities on the local-to global scale, providing unlimited opportunities for sharing technical expertise and first-hand knowledge of the latest development trends.

Founded in 1947, ACM is a major force in advancing the skills of information technology professionals and students worldwide. Today, ACM's 80,000 members and the public turn to ACM for the industry's leading Portal to Computing Literature, authoritative publications and pioneering conferences, providing leadership for the 21st century.

The Association for Computing Machinery is the world's leading IT and computing community, offering members access to educational information, influential people and career opportunities that are not available anywhere else. Students with the ACM Student Membership you have access to:

- Over 450 free online courses and 395 free online IT books
- A complete Career Resource Centre with exclusive job listings, self-assessment tools and career-related articles
- The ACM Portal that includes the content of 35+ IT publications
- A network of 77,000 peers.
- Objectives of IE&FR ACM Student Chapter
- To provide the students of IE&FR with the opportunity to fully utilize the benefits of ACM.

- To induce the habits of thinking and research in the students by exposing them to new technologies and trends through seminars and workshops.
- To facilitate the IE&FR students in acquiring knowledge that will become the foundation upon which they can build their future.

International Association for Hydro- Environment Engineering and Research (IAHR) Young Professional Network (YPN)

The International Association for Hydro-Environment Engineering and Research (IAHR), founded in 1935, is a worldwide independent organization of engineers and water specialists working in fields related to the hydro-environmental sciences and their practical application. Activities range from river and merit time hydraulics to water resources development and eco-hydraulics, through to ice engineering, hydro-informatics and continuing education and training. In order to benefit the students of Civil Engineering Department in their academic and professional life, the IAHR Young Professionals Network (YPN) at NFC-IE&FR was established in 2016. YPN is putting its full efforts to make the purpose of its creating fruitful by organizing different events, activities, workshop and seminars as well. The YPN has recently organized Continuing Professional Development (CPD) and motivational lectures:

- CPD Lecture on, “Water Resources and Energy” conducted by Prof. Dr. Muhammad Arshad, Chairman Department of Irrigation and Drainage, UAF Faisalabad
- CPD Lecture on, “Corrosion resistance structure: FRP Reinforced concrete structure” by Dr. Qasim Shaukhat khan, Assistant Professor, UET Lahore.

- Motivational Lecture on, “Journey to Success” by Sheikh Atif Ahmad
- Motivational Lecture on, “Har Fard Hai Millat K Mukadar Ka Sitara” by Zeshan Afzal

American Institute of Chemical Engineers (AIChE)
NFC IE&FR Student Chapter

Institute of Chemical Engineering (AIChE) American Institute of Chemical Engineering (AIChE) is an international collaboration with numerous branches in various countries which aims to promote the field of Chemical Engineering on academic, technical as well as practical levels and focuses on boosting the career related skills of Chemical Engineers and enhances their knowledge to whole new levels of zenith. AIChE NFC CHAPTER was established in 2010; it is actively involved in activities ranging from organizing workshops, special courses, introductory seminars and arranging industrial visits. The aim of this society is to foster student industrial relationship. The chapter mission is the encouragement and promotion of responsible Professional Development and ethical behavior through education, networking and community service

IE&FR Media Cell

IE&FR media cell comprises two main units performing their roles as under.

Social Media Wing

IE&FR Media Cell takes pride in shaping and enhancing the online presence of NFC-IE&FR. As an integral part of the organization, the primary goal is to effectively communicate key messages across various official social media platforms such as Facebook, Instagram, YouTube, and more. The Social Media Wing understands the power of social media in today's

digital era and leverages its potential to build a strong and engaging community around NFC-IE&FR. Our dedicated team works tirelessly to create compelling content, manage online interactions, and drive meaningful engagement with our audience. By staying on top of the latest trends and utilizing strategic marketing techniques, we aim to raise awareness, promote positive perceptions, and foster a deep connection between NFC-IE&FR and its online followers. Together, we will leave a lasting impact and establish social media wing of NFC-IE&FR as a trusted and influential presence in the digital world.

Public Relation Unit

The Public Relations Unit aims to build and maintain the positive image of IE&FR. Its objective also includes positively handling and communicating information internally and externally. It uses press releases, News channels coverage and other communications to shape and influence public impression and raise awareness. This unit communicates key messages to the audiences in order to establish and maintain goodwill and understanding of NFC-IE&FR's operations, Events, Admission campaigns and communicating its messages to the masses by using Print media and Electronic media.





Admission Committee



Mr. Hassan Ijaz Tarar
Convener



Dr. Nasif Raza Jaffri
Deputy Convener



Syed Shamim Raza
Member



Dr. Shehroze Ali
Member



Dr. Umair Munir
Member



Mrs. Tanzila Samin
Incharge Admission Office



Admission Regulations

WHO CAN APPLY

An applicant seeking admission in any of the following Degree Program must fulfill the general requirements and specific criteria mentioned below

- B.Sc. Computer Science
- B.Sc. Mechanical Engineering,
- B.Sc. Civil Engineering,
- B.Sc. Electrical Engineering,
- B.Sc. Chemical Engineering,
- Bachelor of Business Administration (BBA)
- BS. Information Technology (4 Year Program)
- BS. Information Technology (2 Year Program)
- B.S. Artificial Intelligence
- B.S Cyber Security
- B.S. Data Science
- B.S. Tourism & Hospitality Management
- B.S. Bio Chemistry

GENERAL INSTRUCTIONS

- a) Members of the Institute staff will be available for personal consultation during admission period.
- b) Try to submit the application as early as possible. Do not wait for the last date.
- c) As soon as the process of selection is complete, the merit list shall be notified showing the percentage aggregate marks of the applicants admitted in different disciplines against different categories.

ADMISSION REQUIREMENT FOR PROGRAMS AFFILIATED WITH UET, LAHORE

1. Candidates having either one of the following

subject combinations in their intermediate or equivalent are eligible to apply for admission in programs listed alongside each combination.

Subject Combinations in Intermediate/equivalent qualification	Programs for Which Eligible
Mathematics, Physics Chemistry	All programs offered at NFC-IEFR, Faisalabad.
Mathematics, Physics, Computer Science	Computer Science, BBA
Mathematics, Physics, Statistics	BBA
Biology, Physics, Chemistry	BBA
Intermediate or equivalent subject combinations other than the above	BBA

The University/Institute recognizes the following examinations as equivalent to the Intermediate in subject combinations listed above:

- i. Intermediate Examination of the Board of Intermediate & Secondary Education, Azad Kashmir,
- ii. Intermediate Examination of the Aga Khan

University Examination Board.

iii. Intermediate Examination of a Higher Education Commission (HEC)

recognized/approved institution

iv. Equivalent examinations of Non-Pakistani Board.

2. Equivalence Certificates for Examinations Conducted by Non-Pakistani Boards.

The determination of equivalence and issuance of equivalent marks certificate up to HSSC level for certificates other than those issued by Pakistan's Boards is the jurisdiction of the Inter Board Committee of Chairmen (IBCC) as per decision of the Supreme Court of Pakistan. Such applicants are required to attach an equivalence certificate showing marks with the application for admission issued by the IBCC. The following are the addresses of the IBCC offices:

- i. IBCC Plot No. 25, Street No. 38, G-10/4, Islamabad.
- ii. IBCC Regional Office at Queen Plaza Durand Road, Muhammad Nagar, Garhi Shah, Lahore. 042-36293013

3. ELIGIBILITY FOR ADMISSION

3.1 General Eligibility Requirements

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

- i. He should have earned at least 60% marks in Intermediate / DAE or equivalent/foreign qualification examination excluding sports and Hafiz-e-Quran marks.
- ii. He should have appeared and passes the Entry Test by securing at least 33% for Engineering Programs, arranged by UET, Lahore for that academic session in which he seeks admission. His subject combination in the Entrance Test must be same as his intermediate (or equivalent) subject combination because he will be considered for admission in the prescribed disciplines relevant to his subject combination

only. This restriction does not apply to DAE qualified candidates.

- iii. In case the candidates seeks admission based on B.Sc. Engineering Technology or equivalent degree, he should have obtained (or expect to obtain) at least 60% marks, in case of annual system, or a CGPA of 2.5 out of 4.0, in case of semester system.
- iv. He should be a bonafide resident of the area from where he seeks admission.
- v. He should meet standards of physique and eyesight laid down in the medical certificate.

3.2 Other Eligibility requirements

- i. As per combination mentioned above.
- ii. Candidate with B.Sc. Engineering Technology or equivalent degree should have his degree relevant to the branch of engineering as prescribed by the University, in which he seeks admission.
- iii. Candidate with DAE qualification should have their diploma relevant to the branch of engineering in which he seeks admission as explained later in this prospectus.
- iv. Candidates with intermediate or equivalent qualification in subject combination/qualification other than those listed above are only eligible to apply in BBA program.

3.3 Diploma Holders

- a) Candidates with a Diploma of Associate Engineer should have passed diploma examination of a Board of Technical Education in the relevant Technology.
- b) Candidates with a Diploma of Associate Engineer shall not be eligible unless their diplomas are in the relevant technology as specified against each degree course given below (the following list may be amended from time to time depending on notifications of Pakistan Engineering Council (PEC).

i B.Sc. Electrical Engineering

- a) Diploma in Electrical Technology
- b) Diploma in Telecommunication Technology
- c) Diploma in Electronics Technology

- d) Diploma in Avionics Technology
- e) Diploma in Instrumentation Technology
- f) Diploma in Information Technology
- g) Diploma in Precision Mechanical & Instrument Technology
- h) Diploma in Radar Technology
- i) Diploma in Automation Technology
- j) Diploma in Radio Technology
- k) Diploma in Instrumentation & Process Control Technology
- l) Diploma in Mechatronics
- m) Diploma in Computer/ Computer Information Technology

ii B.Sc. Computer Science

- a) Diploma in Computer Information Technology
- b) Diploma in Computer Technology
- c) Diploma in Information Technology
- d) Diploma in Software Technology
- e) Diploma in Electrical Technology
- f) Diploma in Mechanical Technology
- g) Diploma in Civil Technology
- h) Diploma in Electronics Technology
- i) Diploma in Biomedical Technology
- j) Diploma in Automation Technology
- k) Diploma in Radio Technology
- l) Diploma in Radar Technology
- m) Diploma in Instruments Technology
- n) Diploma in Instrumentation & Process Control Technology
- o) Diploma in Telecommunication Technology

iii B.Sc. Civil Engineering

- a) Diploma in Civil Technology
- b) Diploma in Land & Mine Surveying Technology
- c) Diploma in Architecture Technology
- d) Diploma in Environmental Technology
- e) Diploma in Civil Technology with any specialization

iv B.Sc. Mechanical Engineering

- a) Diploma in Mechanical Technology
- b) Diploma in Precision Mechanical & Instruments Technology
- c) Diploma in Auto & Diesel Technology

- d) Diploma in Bio-Medical Technology
- e) Diploma in Dies & Mould Technology
- f) Diploma in Automation Technology
- g) Diploma in Refrigeration & Air Conditioning Technology
- h) Diploma in Aerospace Technology
- i) Diploma in Mechatronics Technology
- j) Diploma in Mechanical Technology with any specialization
- k) Diploma in Vacuum Technology

v B.Sc. Chemical Engineering

- a) Diploma in Chemical Technology
- b) Diploma in Chemical Processing Technology
- c) Diploma in Chemical Technology (Specialization in Sugar Technology)
- d) Diploma in Petro Chemical Technology
- e) Diploma in Petroleum Technology
- f) Diploma in Leather Technology
- g) Diploma in Footwear Technology
- h) Diploma in Glass, Ceramics and Pottery Development
- i) Diploma in Chemical Technology with any specialization

3.4 Seat for B.Sc. Engineering Technology or Equivalent Degree Holders.

B. Tech/B.Sc. Engineering Tech.

A candidate possessing B. Tech/Bachelor of Engineering Technology (with relevant discipline) duly recognized by HEC, seeking admission in the relevant engineering discipline against 02% reserved seats for B. Tech / Bachelor of Engineering Technology (with relevant discipline), shall be considered for admission with one year exemption:

The students admitted against the 2% reserved seats for B. Tech/Bachelor of Engineering Technology (with relevant discipline) will have to pay dues & fee for all four years.

a) Electrical Engineering

Electrical Technology,
Electrical Engineering Technology

Electronics Technology

b) Civil Engineering

Civil Technology,

Civil Engineering Technology

c) Mechanical Engineering

Mechanical Technology

Mechanical Engineering Technology

Industrial Technology

Industrial Engineering Technology

Mechatronics Technology

Mechatronics Engineering Technology

d) Chemical Engineering

Chemical Technology

Chemical Engineering Technology

Polymer Technology

Polymer Engineering Technology

Material Technology

Material Engineering Technology

DETERMINATION OF MERIT FOR UET PROGRAMS

1. EXAMINATIONS CONSIDERED FOR MERIT PURPOSE

2. MERIT DETERMINATION

The applicant should have earned at least 60% marks in Intermediate/DAE or equivalent. The comparative merit of applicants in programs that require ECAT will be determined on the basis of overall adjusted admission marks obtained by them in the examinations stated above:

2.1 FOR ALL ENGINEERING PROGRAMS

a) In case of Intermediate stream:

- Entrance Test (ET) Percentage Marks: 33% weight in merit aggregate.
- First Year Percentage Marks: 50% weight in merit aggregate.
- Matriculation Percentage Marks : 17% weight in merit aggregate.

b) In case of diploma holders:

- ET Percentage Marks: 33% weight in merit aggregate.
- Sum of First-and Second-years Percentage Marks: 67% weight in merit aggregate.

c) In case of B.Sc. Engineering Technology

or equivalent degree holders:

- ET Percentage Marks: 33% weight in merit aggregate.
- 7 semester CGPA if degree is not yet complete: 67% weight in merit aggregate.

d) In case of foreign qualification:

- ET Percentage Marks: 33% weight in merit aggregate.
- Marks earned in 11th Class ("O" level or equivalent): 67% weight in merit aggregate.

2.2 FOR COMPUTER SCIENCE:

The applicant should have earned at least 60% marks in Intermediate/DAE or equivalent and 50% overall adjusted marks calculated according to the formula given in Merit Calculation section.

a) In case of Intermediate Stream:

- Entrance Test (ECAT) Percentage Marks: 30% weight in merit aggregate
- Matriculation % Marks: 25% weight in merit aggregate
- First Year % Marks: 45% weight in merit aggregate

b) In case of diploma holders:

- Entrance Test (ECAT) Percentage Marks: 30% weight in merit aggregate
- Sum of 1st & 2nd Years % Marks 70% weight in merit aggregate

c) In case of B.Sc. Engineering & Technology of equivalent degree holders:

- Entrance Test (ECAT) Percentage Marks: 30% weight in merit aggregate
- 7th Semesters CGPA (if degree is not yet complete): 70% weight in merit aggregate

d) In case of foreign qualification:

- Entrance Test (ECAT) Percentage Marks: 30% weight in merit aggregate
- Marks earned in 11th Class ("O" level or equivalent): 70% weight in merit aggregate

2.3 FOR BACHELOR OF BUSINESS ADMINISTRATION (BBA)

The applicant should have earned at least 60% marks in Intermediate/DAE or equivalent.

- Entrance Test (ECAT) Percentage Marks: 30 % weight in merit aggregate
 - 7th Semesters CGPA (if degree is not yet complete): 70% weight in merit aggregate
- d) In case of foreign qualification:**
 - Entrance Test (ECAT) Percentage Marks: 30% weight in merit aggregate
 - Marks earned in 11th Class ("O" level or equivalent): 70% weight in merit aggregate

The applicant should have earned at least 60% marks in Intermediate/DAE or equivalent.

a) In case of Intermediate stream:

- First Year Percentage Marks: 75% weight in merit aggregate
- Matriculation Percentage Marks: 25% weight in merit aggregate

b) In case of foreign qualification:

- Marks earned in "O" level or equivalent: 100% weight in merit aggregate

2.3 FOR BACHELOR OF BUSINESS ADMINISTRATION (BBA)

3. ELIGIBILITY FOR ADMISSION:

DEPARTMENT OF COMPUTER SCIENCE		
Sr No.	Degree	Eligibility Criteria
1.	B.Sc Computer Science	<p>An applicant for admission to the B.Sc Computer Science bachelor's degree must fulfill the following requirement.</p> <ol style="list-style-type: none"> He/She should have earned (or expected to achieve) at least 60% marks in Intermediate/ DAE or equivalent foreign qualification examination excluding sports and Hafz-e-Quran marks. He should have appeared in the Entry Test arranged by the University of Engineering and Technology Lahore. His subject combination in the entrance test must be the same as his intermediate (or equivalent) subject combination because he will only be considered for admission in the prescribed disciplines relevant to his subject combination. This restriction does not apply to DAE-qualified candidates. In case the candidate seeks admission based on B.Sc. Engineering Technology or equivalent degree, he should have obtained (or expected to obtain) at least 60% marks in case of annual or a CGPA of 2.5 out of 4.0 in case of semester system. He should have earned (or expected to achieve) at least 50% of overall adjusted aggregate marks calculated according to the formula given in the Merit calculation on the IEFR website. He should be a bonafide resident of the area from where he seeks admission. He should meet the standards of physique and eyesight laid down in the medical certificate.
2.	BS Data Science BS Artificial Intelligence BS Cyber Security	<p>An applicant for admission to the BS Data Science/ BS Artificial Intelligence/ BS Cyber Security bachelor's degree must fulfill the following requirement.</p> <ol style="list-style-type: none"> Higher Secondary School Certificate (HSSC) with Pre-Engineering / ICS / DAE / A-Levels or equivalent (with Mathematics) having 50% marks. Higher Secondary School Certificate (HSSC) with Pre-Medical having 50% marks. (They must pass deficiency Mathematics courses of 06 credit hours in the first two semesters).
3.	BS Information Technology	<p>An applicant for admission to the BS Information Technology bachelor's degree must fulfill the following requirement.</p> <ol style="list-style-type: none"> At least 50% marks in the Intermediate (HSSC) examination with Mathematics or equivalent qualification with Mathematics certified by IBCC or DAE equivalent. OR At least 50% marks in the intermediate (HSSC) examination with Pre-Medical, and they must pass deficiency Mathematics courses of 06 credit hours in the first two semesters.

4. MERIT OF INTERMEDIATE (PRE-MEDICAL) WITH MATHEMATICS:

In determining the merit of an applicant having intermediate (Pre-Medical) with mathematics as an additional subject, the marks obtained in first year biology course will be used as long as the applicant gets a passing grade in the mathematics subject.

5. CREDIT FOR HAFIZ-E-QURAN

A Hafiz-e-Quran is given additional marks in determination of merit. He will get the benefit only if he has:

- a) Checked the box provided in the application form and
- b) Appeared before the “verification committee”, appointed by the Director for oral test, which can award marks according to the degree of his proficiency in between 0 to 20.

The “Verification Committee” will hold oral test at 10:00 AM in the Institute on mentioned date in admission schedule for applicants. It may be noted that no separate call letters will be issued to the concerned applicants in this connection.

6. CREDIT FOR SPORTS:

- a) A maximum of ten marks will be added to the academic marks in Intermediate or equivalent examination of an applicants who is a sportsman. He will get the benefit only if he has:
 - b) Checked the box provided in the application form; and
 - c) Appeared before the “verification committee”, appointed by the Director NFC-IEFR, which will determine his proficiency as a Sportsman according to the following criteria:
 - “05 Marks for Physical Test showing actual performance and endurance”
 - “01 Marks for Inter College Champion”
 - “02 Marks for District Level Champion”

- “03 Marks for Divisional Level”
- “04 Marks for Provincial Level”
- “05 Marks for National Level or under 18 representation abroad”

The “Verification Committee” will hold sports test at 10:00 am in Institute on mentioned date in admission schedule for applicants. It may be noted that no separate call letters will be issued to the concerned applicants in this connection.

7. CONDITIONAL ADMISSION TO CANDIDATES

Since admission will be offered before declaration of the Intermediate Examination Part-II (or Equivalent) result, the following condition will apply:

- a) Admission of candidates, who are unable to earn 60% or above in their B.Sc. Engineering Technology Degree or Intermediate and equivalent qualification (such as A-level equivalence by IBCC) or DAE, will be cancelled and their dues will be reimbursed in full without deduction for UET affiliated programs.
- b) Admission of candidates, who are unable to earn 50% or above in their BS or Intermediate and equivalent qualification (such as A-level equivalence by IBCC) or DAE will be cancelled and their dues will be reimbursed in full without deduction for University of Sargodha affiliated programs.

8. AGE LIMIT AND GENDER

- a) There is no age restriction for seeking admission to any bachelor's degree course at the Institute in affiliation with UET, Lahore. Male, female and transgender persons are eligible to apply for all seats.
- b) The age restriction for seeking admission is 30 years for 04-years BS degree course and 40 year for 02-years BS degree course at the Institute in affiliation with University of Sargodha. Male, female and transgender persons are eligible to apply for all seats.

9. DETERMINATION OF MERIT IN CASE OF EQUAL PERCENTAGE OF ADMISSION MARKS

If two or more applicants have equal percentage of admission marks (up to four places of decimal after truncation), they shall be treated at par for the purpose of admission.

Explanation:

In case there is a tie for the last seat in a particular discipline/category, then all the candidates who have secured equal percentage of admission marks (up to four 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 that

discipline/category.

10. MERIT DETERMINED CATEGORY WISE

The seats for admission to the bachelor's degree courses at the Institute are distributed over various categories. These categories are discussed below. The details of the distribution of seats are available in the Seats Allocation Chart. The applicants for each category are grouped separately. Then on the basis of the percentage admission marks, comparative merit of the applicants in the group is prepared. The applicants belonging to a category thus compete for admission amongst themselves for the seats allocated to it.

SEATS BREAKUP, CATEGORIES & SYMBOLS

Description	Category	B.Sc. Mechanical Engineering	B.Sc. Civil Engineering	B.Sc. Electrical Engineering	B.Sc. Chemical Engineering	B.Sc. Computer Science	BBA	BS-IT (4 Year)	BS-IT (2 Year)
Punjab / Islamabad	A	39	39	39	26	52	14	41	26
Sindh	B	4	4	4	3	6	1	4	3
Khyber PakhtoonKhawa	C	3	3	3	3	5	1	3	3
Baluchistan	D	1	1	1	1	2	1	1	1
FATA / Gilgit Baltistan	E	1	1	1	1	2	1	1	1
AJK / PATA	F	1	1	1	1	2	1	1	1
NFC / IE&FR Employees Son/Daughter	G	6	6	6	3	6	2	6	3
Self-Finance	H	14	14	14	8	16	5	14	8
Overseas Pakistani / Foreigners	I	2	2	2	1	2	1	2	1
Female	J	5	5	5	2	5	2	5	2
B. Tech /B.Sc. Engg. Tech.	L	2	2	2	—	—	—	—	—
Armed Forces	M	2	2	2	1	2	1	2	1
TOTAL		80	80	80	50	100	30	80	50

11.DETERMINATION OF MERIT:

The comparative merit of applicants will be determined on the basis of overall adjusted admission marks obtained by them in accordance with UET Lahore/University of Sargodha admission policy 2023.

12. INELIGIBILITY CRITERIA FOR UET PROGRAMS:

Anyone having any of the following deficiencies will not be eligible for admission at NFC IEFR, Faisalabad.

- Having less than 60% marks in the

Intermediate/A-level or equivalent

- Failed/not appeared in any subject in Intermediate Part-I/II
- Did not appeared in Combined Entry Test or any other eligible Test
- Having less than 50% aggregate merit for CS.

13. INELIGIBILITY CRITERIA FOR UNIVERSITY OF SARGODHA PROGRAMS:

- Having less than 50% marks in the Intermediate/A-level or equivalent

SEATS BREAKUP, CATEGORIES & SYMBOLS

Description	Category	BS Tourism and Hospitality	BS Data Science	BS Artificial Intelligence	BS Cyber Security	BS Biochemistry
Punjab / Islamabad	A	26	26	26	26	26
Sindh	B	3	3	3	3	3
Khyber PakhtoonKhawa	C	3	3	3	3	3
Baluchistan	D	1	1	1	1	1
FATA / Gilgit Baltistan	E	1	1	1	1	1
AJK / PATA	F	1	1	1	1	1
NFC / IE&FR Employees Son/Daughter	G	3	3	3	3	3
Self-Finance	H	8	8	8	8	8
Overseas Pakistani / Foreigners	I	1	1	1	1	1
Female	J	2	2	2	2	2
B. Tech /B.Sc. Engg. Tech.	L	–	–	–	–	–
Armed Forces	M	1	1	1	1	1
TOTAL		50	50	50	50	50

- Failed/not appeared in any subject in Intermediate Part-I/II.

14. HOW TO APPLY:

14.1 Degree programs affiliated with UET, Lahore.

- B. Sc. Computer Science
- B. Sc. Mechanical Engineering
- B. Sc. Civil Engineering
- B. Sc. Electrical Engineering
- B.Sc. Chemical Engineering
- Bachelor of Business Administration (BBA)

14.2 Degree programs affiliated with University of Sargodha, Sargodha.

- BS. Information Technology (04 Year Program)
- BS. Information Technology (02 Year Program)

14.3 Degree programs affiliated with Khawaja Fareed University of Engineering & Information Technology, Rahim Yar Khan

- B.S. Artificial Intelligence
- B.S Cyber Security
- B.S. Data Science
- B.S. Tourism & Hospitality Management
- B.S. Bio Chemistry

15. APPLICATION FORMS:

Application form link is available at our website (www.ieftr.edu.pk) for online apply or download. For the candidates from other cities, Application Form can be submitted/send through courier to ADMISSION OFFICE at NFC IE&FR along with required documents and after submitting Rs.2000/- as Prospectus and Processing Fee in bank. Admission Office opened during office hours (8.00am to 4.00pm).

16. PREFERENCES:

Applicant may apply for more than one department and/or Categories applicable in their case, on Single Application Form for Bachelor Programs.

17. TRANSFER ON THE BASIS OF GIVEN PREFERENCES AND MERIT

In case a seat in any discipline/category of applicant's higher preference falls vacant and he is eligible for transfer to that discipline/category on the basis of his merit, he shall be automatically transferred to the discipline/category.

18. VARIATION IN SEATS

The Institute authorities may exercise their right at any time to increase or decrease the number of seats allocated to any category and there shall be no appeal against such a decision.

19. UN-UTILIZED SEATS

If some seats allocated to any category (other than Open Merit) remain un-utilized for lack of adequate applicants, then the decision regarding un-utilized seats in each category shall be made by the admission committee.

20. ERASING & OVERWRITING

Incomplete Application forms will be rejected. Erasing or over writings on application form will not be accepted in any case. Duplicate Forms are available from the Admission Office.

21. MULTIPLE CATEGORY APPLICATION

The applicant applying against the reserved seats (Categories G, H, I, J, L & M) should also apply against their respective provincial categories, otherwise application for open merit regarding provincial categories will not be considered.

22. Documents Required

Following documents are required with the application form

Demand Draft for Self Finance / Overseas / Foreigners applicants (if applicable) or Admission Dues (if applicable) as mentioned in Prospectus or website in favor of NFC Institute of Engineering & Fertilizer Research, Faisalabad. Rs.2000/- as Prospectus & Processing Fee if the Admission Form is downloaded.	4 passport size recent photographs duly attested.
	Address Form duly filled(available with Admission package)
	Attested photocopy of B. Sc./ADP/ADS Certificate. (If applicable)
Attested photocopy of Matriculation Certificate issued by the Boards of Intermediate & Secondary Education.	Attested photocopy of DAE Certificate issued by the Board of Technical Education. (If applicable)
Attested photocopy of Intermediate or equivalence Certificate/ Detail Marks Certificate issued by the Boards of Intermediate & Secondary Education.	Attested photocopy Sports Certificate or Hafiz-e-Quran Certificate. Certificate must be issued from the Madrassas which are registered with Government of Pakistan or Provincial authorities. (If applicable)
Roll Number Slip of Intermediate Examination for those who apply on First Year result basis.	The overseas candidate shall have to submit a copy of passport of his/her father and copy of work permit along with the application form (if applicable).
Entry Test Result for current year valid for one year. (if applicable)	Candidates seeking admission on NFC/IE&FR employee's seats shall have to fill-in the Performa (Form 1) available on IE&FR website/admission office and attach it with application form.
Equivalence Certificate issued by the Inter Board Committee of Chairmen (IBCC) in case the applicant has equivalent examination.	
Attested copy of domicile certificate of the candidate must be attached with application form and submitted on/before the last date of submission of the application form, failing which the candidate shall not be eligible for admission in that particular category. However, for the candidates less than 21 years of age, applying on Baluchistan seats, the domicile certificate of the father showing the candidate as his son/daughter shall be acceptable.	Attested photocopy of CNIC/Form-B of Candidate & Father/Guardian

23. PREFERENCE BASED MERIT CRITERIA (Prompt Processing):

Following number of seats mentioned against categories A,B,C,D,E,F,H and (K only for Technology Programs) will be filled on preference based merit (%age aggregate). The applicant who fall within the proposed merit %age for each category/discipline, will offer Provisional Admission at the time of submission of Admission Form as per his/her 1st preference only, if allocated seat for preference based merit is available in said category.

Applicant seeking admission on preference basis has to submit Admission Dues within 03 days of the submission of Admission Forms along with an Undertaking on Non Judicial Stamp Paper assuring the fulfillment of the eligibility criteria after declaration of intermediate results (Part-II). Once the preference based provisional admission is offered in any discipline to applicant, it will not be changed in future in any case. The provisional

admission offered is confirmed subject to meet the eligibility criteria, already mentioned in Admission Procedure. The new aggregate percentage after declaration of intermediate result (Part-II) will not affect his/her admission status.

Applicant waiting for their results may also apply with intermediate Part-I result. However, the intermediate/A-level or equivalence certificate with at least 60% marks is required within 15 days of declaration of intermediate results by respective boards for programs affiliated with UET, Lahore.

Applicant waiting for their results may also apply with intermediate Part-I result. However, the intermediate/A-level or equivalence certificate with at least 50% marks is required within 15 days of declaration of intermediate results by respective boards for programs affiliated with University of Sargodha.

Available Seats for Preference Base Merit and it's Minimum Merit:

Category	B.Sc. Mechanical Engg.		B.Sc. Civil Engg.		B.Sc. Electrical Engg.		B.Sc. Chemical Engg.		B.Sc. Computer Science		BS-IT (4 year)		BS-IT (2 year)	
	Available Seats	Minimum %age aggregate	Available Seats	Minimum %age aggregate	Available Seats	Minimum %age aggregate	Available Seats	Minimum %age aggregate	Available Seats	Minimum %age aggregate	Available Seats	Minimum %age aggregate	Available Seats	Minimum %age aggregate
A	27	54.00	27	53.00	27	52.00	30	51.00	30	52.00	22	50.00	13	50.00
B	2	54.00	2	53.00	2	52.00	3	51.00	3	52.00	3	50.00	2	50.00
C	1	54.00	1	53.00	1	52.00	3	51.00	3	52.00	3	50.00	1	50.00
D	-	-	-	-	-	-	1	51.00	1	51.00	1	51.00	1	51.00
E	-	-	-	-	-	-	1	51.00	1	51.00	1	51.00	1	51.00
F	-	-	-	-	-	-	1	51.00	1	51.00	1	51.00	1	51.00
H	10	50.00	10	50.00	10	50.00	12	51.00	12	50.00	10	50.00	6	50.00

MERIT LIST OF BBA:

There will be two merit lists for BBA.

1. PREFERENCE BASED LIST**2. MERIT LIST (OPTIONAL)**

- Preference Based List: Preference Based List will consist of applicants having BBA as their first preference.
- Merit List: After generating of Preference List if still there are some vacant seats are available then Merit List will be generated, comprising applicants having BBA as their low preference.

25. CATEGORY WISE MERIT

The total seats are distributed among different categories (as mentioned in seat break-up). The applicants for each category are grouped separately and their merit will be determined category - basis.

26. PREFERENCES & MERIT

If a seat in any Program/Category is lying vacant such cases will be referred to admission committee and vacant seats will be filled as per their advice. In case a seat in any discipline/category of applicant's higher preference falls vacant and he/she is eligible for transfer to that discipline/category on the basis of his/her merit, he/she shall be automatically transferred to said discipline/category in next merit list.

IMPORTANT: Consideration in the Next Merit lists Admission is granted on merit and according to preference given by the applicants. An applicant who secures admission in a discipline of his lower preference and he will be consider in next merit lists for his higher preferences. If he does not want to be considering in next merit list or further upgrade, he has to submit a written application to freeze his admission in his current discipline at least 03

days before the display of next merit list.

27. NOTIFICATION OF SELECTION:

Complete list of selected candidates will be put up on the Institute Notice Boards, while minimum aggregate will be put up on the Institute web site <http://iefr.edu.pk> as well. Kindly note that, it is the sole responsibility of the candidate to remain abreast with the status of admission as available on the Notice Boards.

28. FORMING OF SECTIONS OF CLASSES:

The disciplines having strength is more than 60 will be divided in two sections. The sections will be called Section A and Section B. The distribution of Roll Numbers in sections is sole discretion of admission committee, which is not challengeable. Timing of both sections will be swapped after each semester.

29. IN CASE OF CONFLICT:

In case of conflicts between admission rules & regulations of NFC Institute of Engineering & Fertilizer Research, Faisalabad and University of Engineering & Technology, Lahore then the rules of University of Engineering & Technology, Lahore will supersede the rules of NFC Institute of Engineering & Fertilizer Research, Faisalabad.

30. GRANT OF PROVISIONAL ADMISSION:

The provisionally selected candidates on merit basis will be informed through a merit list will be displayed on institute notice board or website. As per eligibility on merit basis within each category, Provisional Admission may be granted to the applicant in the respective disciplines of study. The provisionally selected candidates on first year merit basis, after declaration of Intermediate/equivalent final result if he/she fails to meet the eligibility criteria mentioned in Prospectus/website, his/her admission shall stand cancelled automatically. Provisional

Admission will be confirmed after the verification of all original documents endorsed by the issuing authority, while Provisional Admission will stand cancelled automatically if registration of candidate will not be granted by the University of Engineering & Technology Lahore/University of Sargodha, as per university rules & regulations. In case, if any discrepancy appears during entire period of studies, the admission of candidate will be cancelled along with all academics and non-academic credits achieved by the student. Only refundable dues will be refunded as prescribed in this prospectus, if applicable.

31. DEPOSITING OF ADMISSION DUES AND DOCUMENTS:

The selected candidates have to deposit the Admission Dues within 05 days from the display of merit list in shape of Demand Draft/Pay Order/Bank Challan in favor of NFC Institute of Engineering & Fertilizer Research, Faisalabad or Bank Deposit Voucher slip submitted in bank account of NFC IEFR. After due date no one will be allowed to submit the Admission Dues. Merit lists and Fee submission schedule will be display on notice boards as well as on Institute web site. It is solely candidate's own responsibility to confirm his / her admission from Institute. No relaxation will be given in time limit to deposit the fee.

The selected candidates have to submit the following documents at the time of depositing the Admission Dues:

- a. Have to show the original academic certificates to admission officers for verification of photocopies.
- b. Candidates who selected on other than Punjab province category have to show their Original Domicile and CNIC at the time of verification of photocopies.

- c. 03 sets of photocopies of SSC, HSSC/DAE or equivalent Certificate.
- d. 02 sets of copies of Entry Test Result.
- e. 06 copies of the most recent passport size photograph.
- f. 01 set of copies of Domicile and CNIC of candidates who selected on other than Punjab province categories.
- g. Undertaking on a Rs.100/- non-judicial paper duly completed.
- h. Bio-data card Form-III duly completed in all respects.

32. FORFEITURE OF RIGHT OF ADMISSION:

A selected candidate who fails to fulfill the requirements laid down in the above clause within the prescribed time-limit shall forfeit his right of admission.

33. REJECTION OF APPLICATION:

The Institute reserves the right to reject any application for admission without assigning any reason.

WARNING:

1. The Admission made as a result of an error, omission or mistake shall not confer any right on an applicant.
2. If any stage, a student is found indulging in politics, his admission will be cancelled.
3. The application who apply on 1st year result. They have to submit their complete result within 15 days after declaration of intermediate result from board. If any applicant fail to submit the complete intermediate result card within 15 days after declaration of result, he/she shall forfeit his right of admission



Account's Office

Mr. Istikhar Ahmad
Head of Department

Mr. Zahid Aziz
Manager

Mr. Saeed Qadir
Deputy Manager

Mr. Asif Masood
Deputy Manager

Mr. Ijaz Ali
Assistant Manager



Dues & Fee Structure

Sr.#	Particular	Four Year Programs				Two Year
		B.Sc Engineering	B.Sc Engineering Technology	B.Sc Computer Science, B.S. IT/Cy.S/DS/ AI/Bio Ch	BBA/B.S. THM	BS IT
ADMISSION FEE (RS.)						
1	Admission Fee	35,000	16,000	28,000	16,000	28,000
2	Security (Refundable)	8,000	8,000	8,000	8,000	8,000
3	PSDP/CPD Contribution	1,000	1,000	1,000	1,000	1,000
4	NFC-IEFR Welfare Trust Contribution	1,000	1,000	1,000	1,000	1,000
5	Document Verification	5,000	5,000	5,000	5,000	5,000
6	University Registration Fee	20,000	10,000	20,000	20,000	20,000
	A-Total (Once at time of Admission)	70,000	41,000	63,000	51,000	** 63,000
QUARTERLY DUES (RS.)						
	First Year					
1	1 st Quarter	47,130	30,890	35,820	30,890	44,590
2	2 nd Quarter	47,130	30,890	35,820	30,890	44,590
3	3 rd Quarter	47,130	30,890	35,820	30,890	44,590
4	4 th Quarter	47,130	30,890	35,820	30,890	44,590
	Second Year					
1	1 st Quarter	49,485	32,435	37,610	32,435	44,590
2	2 nd Quarter	49,485	32,435	37,610	32,435	44,590
3	3 rd Quarter	49,485	32,435	37,610	32,435	44,590
4	4 th Quarter	49,485	32,435	37,610	32,435	44,590
	Third Year					
1	1 st Quarter	51,960	34,055	39,495	34,055	-
2	2 nd Quarter	51,960	34,055	39,495	34,055	-
3	3 rd Quarter	51,960	34,055	39,495	34,055	-
4	4 th Quarter	51,960	34,055	39,495	34,055	-
	Fourth Year					
1	1 st Quarter	54,560	35,755	41,465	35,755	-
2	2 nd Quarter	54,560	35,755	41,465	35,755	-
3	3 rd Quarter	54,560	35,755	41,465	35,755	-
4	4 th Quarter	54,560	35,755	41,465	35,755	-
	B-Tuition Fee for Regular / Open Merit Admission	812,540	532,540	617,560	532,540	356,720
	Total Tuition Fee for Complete Degree (4 Years) (A+B)	882,540	573,540	680,560	583,540	356,720
FOR CATEGORY (H) SELF FINANCE & (I) OVERSEAS PAKISTANI / FOREIGNERS						
Additional Self fee will be charged from (H) & (I)						
Chemical and Electrical Engineering		200,000	B. Sc. Engineering Technology			75,000
Mechanical and Civil Engineering		500,000	BBA			150,000
Computer Science		200,000				
SELF FINANCE PAYMENT METHOD						
25% at time of Admission						
25% between 1 st January to 10 th January with second quarter fee						
50% between 1 st April to 10 th April with third quarter fee						
Fee increase on yearly basis						
5% increase every year						
* Fuel price adjustment Rs. 500/- per month for day scholars.						
**Admission Fee included in quarterly dues of BS IT Two year programs.						

Hostel Dues

SR#	PARTICULAR	AMOUNT (RS)
1	Security (Refundable)	5,000
2	Annual Hostel Dues*	40,000

* Fuel price adjustment **Rs. 500/-** each per month additionally for hostel resident.

Examination Dues

SR#	PARTICULAR	AMOUNT (RS)
1	Examination fee per semester	7,500

Summer School & Examination Dues

SR#	PARTICULAR	AMOUNT (RS)
1	Tuition Fee for Engineering Programs (Per credit hour)	4,000
2	Tuition fee for Computer Science / BBA /B. Sc Engg. Tech (Per credit hour)	3,000
3	Examination fee for All Programs (Per credit hour)	1,000

Project/Research Fee

SR#	PARTICULAR	AMOUNT (RS)
1	Project fee for four year programs in 7th semester	5,000

Survey Camp Fee

SR#	PARTICULAR	AMOUNT (RS)
1	B.Sc Civil Engineering / B.Sc Civil Engineering Technology	15,000

Tuition Fee (Category-G)

Tuition Fee Engineering Program

Rs.13,000/- per month

Tuition Fee Computer Science

Rs.8,425/- per month

Tuition Fee BBA programs.

Rs.7,660/- per month

Industrial Tour & Annual Function

Industrial Tours and Annual Functions will be organized by the respective department and students.

Moreover, at the time of arrangements of industrial tours and annual functions, the students shall

contribute these charges, as per actual.

Dues Rebate/Concession

A rebate/ concession of **5%** will be given on the payment of lump sum fee of the whole year.

Survey Camp Fee

The students of B.Sc. Civil Engineering / B.Sc. Civil Engineering Technology has to pay extra **Rs.15,000/-** during the study of 3rd Year for Survey Camp.

Payment of Dues

Payment of dues will be made on quarterly basis and will be payable up-to 10th of starting month of each

quarter. A fine of **Rs.50** per day will be charged after 10th of first month of that quarter till the last date of that month. After first month of the quarter, the name of the student will be struck off from the roll of the Institute and he will not be allowed to attend the classes. For the readmission, he will have to pay the Institute dues standing against him with (as per actual admission fee given in table) as readmission Fee.

Overseas Pakistani/Foreigner/Self Finance {Category H & I}

The Applicants seeking admission on category reserved for Overseas Pakistani/Foreigner or Self Finance (Category H& I) would have to pay additional **Rs. 500,000/-** for Civil & Mechanical Engineering Programs **Rs.200,000/-** for Computer Science, Chemical & Electrical Engineering Programs and **Rs.150,000/-** for BBA & **Rs.75,000/-** for Engineering Technology Program in installment as prescribed in Dues & Fee Structure Table.

Advance Tax under Section 236(I) Finance Act, 2013 ITO, 2001:-

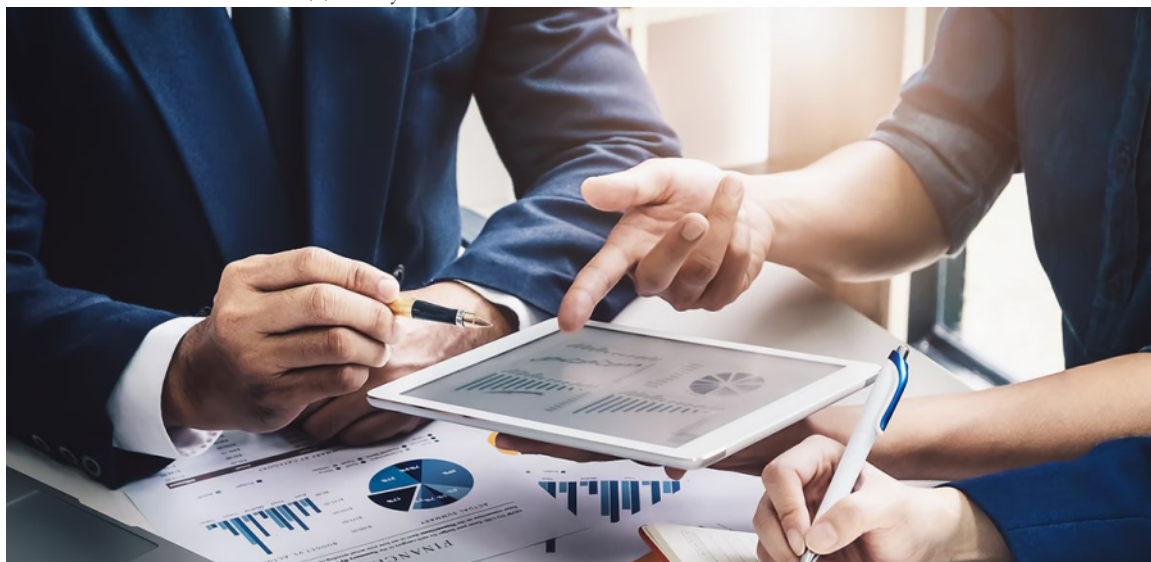
- Please Note: Since 2013-2014, as per newly inserted section 236 (I) every educational

institution is required to collect advance income tax at the rate of 5% on the amount of fee paid to an educational Institution. The person responsible for preparing monthly, bimonthly or quarterly fee voucher or challan shall also charge withholding tax in case the fee exceeds Rs. 200,000/- (Rupees Two hundred thousand.) annually.

- The term fee includes tuition fee & all charges received by the educational institution, by whatever name called, excluding the amount which is refundable. The withholding agent for the purpose of this section i.e. educational institution shall also provided details in the withholding statement to be filed under section 165 to the income Tax Ordinance, 2001.

Refund of Dues

The Higher Education Commission (HEC) has circulated the following revised National fee-Refund Policy vide letter No. 10-1/HEC/A&C/2015/6542 dated December 07, 2015.



%age of Fee*	Timeline** for Semester/Trimester System
Full (100%) Fee Refund	Upto 7 th day of commencement of classes.
Half (50%) Fee Refund	From 8 th – 15 th day of commencement of classes.
No Fee (0%) Refund	From 16 th day of commencement of classes.

* %age of Fee shall be applicable on all components of fee except for security and admission charges.

** Time line shall be calculated continuously covering both weekdays and weekend.

*** The applicant who got admission on Preference Based Merit. As they have got admission on priority as per their request, therefore no refund will be made except securities.





Taqwa Mosque, NFC IE&FR

Services Departments & Committees

Students Advisor

Ms. Tanzila Samin Khan
Student's Advisor

Mr. Farukh Ahmad
Superintendent

Mr. Arshad Nadeem
Assistant

Mr. Muhammad Akram
Attendant

The prime responsibility of the students' advisor office is to regularize the schedule of studies for all the teaching departments and different semesters. This office also keeps the parents about the students' progress reports, specifically attendance of students on a monthly basis. Student's Advisor office is responsible for promoting co- and extracurricular activities through different societies among the potential students. The student advisor is a bridge between curricular and personality building activities among all academic departments. The office helps the different departments in scrutinizing on merit and need based scholarships.

Internships & Job Placement Bureau

Dr. M. Junaid Alvi
Assistant Prof.
(Elect. Engg.),
Convenor

Mr. Atif Ali kKhan
Lecturer (Civil Engg.),
Member

Mr. Muhammad Imran
Lecturer
(Chemical Engg.),
Member

Mr. Rashid Yousaf
Lecturer (SBM),
Member

Mr. Omair Ashraf
Lecturer (Comp. Sc.),
Member

Dr. Umair Munir
Lecturer (Mech. Engg.),
Member

The purpose of the internship program is to provide a planned transition from the Institutional curriculum to a personal and professional setting in a students' area of interest. During the internship experience, the student will test the practical application of the theories of academic learning in the professional setting under the guidance and supervision of professional staff members. The students will have the opportunity to evaluate the field of organization as a professional career, identify strengths and weaknesses of professional behavior and allow him/her to enter the professional world gradually under competent supervision and guidance.

In IE&FR, there is a separate bureau, which is responsible for arranging internships for students during the summer vacation in numerous organizations and industries. Arrangement for internship is normally of 8-12 weeks duration. The students are required to submit a brief report on the work carried out during internship. On completion of such training, students receive certificates, which is a formidable asset for lifetime. The placement Bureau keeps liaison with the leading engineering, industrial and commercial organizations, supplies information and guidance to the final year students, regarding their employment prospects and publicizes the jobs available with the employers.

Quality Enhancement Cell (QEC)

Prof. Dr. M. Sultan Zia
Head (Comp. Sc.),
Convener

Mr. Shabeeb Ahmad Gill
Head (Persl. & Admn.),
Member

Mrs. Tanzila Samin
Lecturer (SBM),
Member

Dr. M. Awais Ashraf
Asstt. Prof. (Chem. Engg.),
Member

Mr. Zafar Abbas
Lecturer (Mech. Engg.),
Member

Dr. Nasif Raza Jaffri
Asstt. Prof. (Elect. Engg.),
Member

Dr. M. Talha Ghafoor
Asstt. Prof. (Civil Engg.),
Member

1. The Quality Enhancement Cell (QEC) is to be headed by the Convener reporting directly to the Director. He is to be the correspondent with the outside bodies mentioned in the PEC manual of Accreditation.
2. QEC is responsible for promoting public confidence that the quality and standards of the award of degrees are enhanced and safeguarded.
3. QEC is responsible for defining clear and explicit standards as points of reference to the reviews to be carried out. It should also help the employees to know as to what they could expect from candidates. QEC also reviews quality standards and the quality of teaching and learning in each subject area.
4. QEC is responsible to ensure that the Institute quality assurance procedures are designed to fit in with the arrangements in place nationally for maintaining and improving the quality of Higher Education.

QEC is structured to have a focused attention on quality assurance aspects of higher education.

1. To develop, implement and monitor the quality standards and moves in the institute.
2. To meet the challenges of global compatibility to excel the education standards.
3. To develop a viable and sustainable mechanism of quality assurance in the education sector of the country.
4. To produce the manpower that could serve the society in an efficient, effective and honest manner.

Office of Research, Innovation & Commercialization (ORIC)

Mr. Shabeeb Ahmad Gill
Head (Persl. & Admn.)
In-charge / Focal Person

Dr. Syed Murrawat Abbas Naqvi
Head (Mech. Engg.),
Member

Dr. Sheraz Ali
Head (Civil Engg.),
Member

Dr. Nasif Raza Jaffri
Assistant Prof. (Elect. Engg.), Member

Mr. Rashid Yousaf
Lecturer (SBM),
Member

Research is an integral part of the educational institutes where the practical aspects of the projects are verified. Almost all of the student's projects have certain innovative angles that make the specific project a unique entity. Economic feasibility along with market research to commercialize the same is needed so that the research and innovation could be used for the society.

The primary objective of the ORIC committee will be to facilitate high-quality research across various disciplines. This includes supporting faculty and researchers in conducting impactful research projects. The committee will assist the researchers in finding and applying for research grants and funding opportunities from various sources, including government agencies, private foundations, and industry partners.

Main Library

Syed Shamim Raza
In-charge

Mr. Umair Ahmad
Librarian

Ms. Sadaf Batool
Assistant Librarian

Mr. Zia Ul Haq
Library Superintendent

Mr. Nazir Ahmad
Circulation Section

Mr. M. Imran
Data Entry Operator

Mr. Khalid Mahmood
Book Bank Section

Mr. M. Ishaq
Book Bank Section

Library plays an important role in any educational, research & development institutes and serves as a place where one gets firsthand knowledge from the experience of others. IE&FR main library strives to provide high quality resources and services to support the programs of the Institute and to meet the needs of students, faculty, staff and community members.

Library has a collection of more than twenty thousand technical books, reports, proceedings of seminars/workshops and conferences etc., containing technical reports on chemical, electrical, mechanical, civil engineering, computer science, information technology, business administration and topics related to Islam and literature.

Journals related to different engineering and IT Disciplines are being subscribed regularly to help the scholars keep abreast of latest research & developments in the world. Library material properly organized by using Anglo-American Cataloguing Rules (AACR2) and Dewey Decimal Classification (DDC). Library is fully automated through in house software, users can search and reserve their required material (Books, Journals etc.) by using OPAC (Online public Access Catalogues) available on NFC IEFR website www.library.ief.edu.pk.

Digital Library Services

Main Library has a well equipped computer lab with the facility of Digital Library which is providing access to numerous quality, peer-reviewed journals, databases, and articles through HEC's Digital Library Program. In addition to this thousands of E-books are also available on different subject areas like Science and Technology, Social Sciences and Humanities. Students and faculty can access these resources not only in the library but also within campus premises.

NFC IE&FR Research Journal

Dr. Ammar Rafiq
Managing Editor

Dr. Jumaid Alvi
Associate Editor

Mr. Zafar Abbas
Manager Publications

NFC-IE&FR Journal of Engineering and Scientific Research ISSN 2521-0114 (ONLINE), ISSN 2222-1247 (PRINT) aims to publish high quality papers in all areas of "scientific research". By not excluding papers on the basis of subject area, this journal facilitates the research and wishes to publish papers as long as they are technically correct and scientifically motivated. The journal also encourages the submission of useful reports of negative results. This is a quality controlled, Open peer reviewed, open access INTERNATIONAL journal.

All submitted manuscripts to the NFC-IE&FR Journal of Engineering and Scientific Research are subject to a strict peer-review process by at least one international reviewer and one local reviewer that are experts in the respective area.

The factors that are taken into account in review are relevance, soundness, significance, originality, readability and language. The possible decisions include acceptance, acceptance with major or minor revisions, or rejection.

Redressal of Students' Grievances Committee

Mr. Zafar Abbas
Lecturer, (Mech. Engg.),
Convenor

Dr. Syed Rizwan Hassan
Assistant Prof., (Elect.
Engg.), Member

Dr. Hammad Hussain
Awan
Assistant Prof., (Civil
Engg.), Member

Mr. Muhammad Imran
Computer Operator
(Library), Assistant

A grievance is a complaint by a student involving the interpretation, application, or alleged violation of institute's policies and procedures. The function of the committee is to look into the complaints lodged by any student, and judge its merit. The committee is intended to find solutions for grievances like physical or mental harassment, complaints regarding class room teaching, class room management, completion of syllabus, teaching methodology, infrastructure maintenance and up gradation, etc. If and when they arise and to forward the findings to the Management if necessary for further action. The committee listen, record and scrutinize the grievances submitted to them by the Students and take necessary steps immediately.

IE&FR Alumni Society

Mr. Tahir Ishfaq
Convenor

Mr. Tauseef Abid
Member

Mr. Atif Ali Khan
Member

Mr. Abu Bakar
Member

All the students passed out from the institute are members of the Society. The main purpose of the society is to connect them on multiple available mediums from contact numbers to the social media platforms. The committee arranges get to gather and annual meetings of the Alumni on departmental basis almost every year. The alumni help graduating students with guidance in the future planning for their careers. They also help the needy students in their studies mostly in personal capacity.

Material Testing Services

Dr. Sharoz Ali
Head Civil Engineering
Department,
Convenor

Dr. Wajeeha Qamar
Assistant Prof.,
Member

This committee is performing the testing of construction material on a commercial basis according to the ASTM International (American Society for Testing and Materials) Standards. Different vendors of construction material and contractors are regular clients of the services rendered. They check and verify the quality, strength and properties of the material in question and generate the necessary document/ report for clients. All essential testing equipment and provision are available for the said job. Universal Testing Machine (UTM) is installed in the laboratory along with the certified technicians.

Commercial Department

Mr. Shafeeq Ahmad
Convenor

Mr. Mehboob Ashraf
Member

Mr. Saeed Qadir
Member

Mr. Atif Ali Khan
Member

Mr. Zeeshan Amjad
Mmeber

Mr. Ahmad Sohaib
Superintendent

Mr. Subh e Sadiq
Clerk

The commercial department is responsible for the procurement of Laboratory equipment, Furniture & Fixture, Consumable items, Office Equipment, Chemicals and stationary items. The department prepares the tender documents and tender notices after communication with the department for which the equipment or items to be used. They follow the public procurement procedures framed by the government from time to time.

Civil Construction & Works

Mr. Zaeem Fakhar
In-Charge

Mr. Mujeeb Ghaffar
Lab. Engr. (Civil Engg.)

Rao Muhammad Asif
Jr. Assistant (Civil Engg.)

The committee is performing necessary repair and maintenance work required to different constructed areas. The crew consists of mason and labor for performing the said activity as demanded to increase the life of the constructed infrastructure. From planning, design and drawings to the execution of construction activity, the committee is conducting the job as per specifications.

Repair & Maintenance (R&M)

Mr. Azhar Anwar
In-charge

Mr. Shafqat Munir
Superintendent

Mr. Muhammad Saif
Supervisor

The Repair & Maintenance department is responsible for the provision of supplies of Electricity, Water, Natural Gas and telephony to the different laboratories and constructed blocks of the institute as per requirements and technical drawings. They are also responsible for the provision of alternate power supplies from generators. Along with the supplies of the utilities, the department provides repairing facilities to the furniture and fixtures present in the different offices and classrooms. The staff comprises Electricians, Plumbers, carpenters, welders and telephone technicians.

Different departments generate work orders as per repair and maintenance required from time to time. The R&M departments render their services as per standard procedures safety protocols. The staff is equipped with all necessary tools and gadgets needed during the repair and maintenance work.

As per requirements, R&M generates the indents of parts damaged and/or supplies needed for their procedures.

Main Store

Mr. Imran Shamshad
In-charge

Mr. Amanat Ali
Superintendent

Mr. Waqas Mohsin
Superintendent

Mr. Mujtaba
Attendant

Store keeps a certain inventory level of consumable items so that they may be provided as per requirement basis. The store staff generates the inspection report and good receiving report for all capital items purchased. They are responsible for receiving procurement and delivered to the department that indented them. From office stationary to the construction material, from furniture to the fixture and from consumable chemicals to the laboratory machines, all are recorded and traced in the store record. Electronic gadgets and computers along with accessories are stored there.

After service life, all these equipment and articles are submitted and scraped in the store for disposal as per salvage value according to the procedure.

Horticulture & House Keeping Committee

Rana Shams Ul Haq
Convenor

Mr. Arfan Ali
Assistant

Mr. Shahrukh
Assistant

This committee is liable for the art of green area cultivation and management alongside the cleanliness of the roads and grounds of the institute. The committee and crew have their own nursery consisting of a variety of fruity and flowery plants. The crew prepares the parterre for flowers and ornamental shrubs and grows them by using modern ways. They also trim the plants in a special way and enhance the beauty of the area. The committee produces organic fertilizer for plants with the technical assistance from R&D.

Security Department

Mr. Adeel Safdar
In-charge

Mr. Tariq Mahmood
Supervisor

Mr. Ihsan ul Haq
Supervisor

Mr. Babar Nadeem
Supervisor

Mr. Asim Hanif
Supervisor

Mr. Ali Raza
Supervisor

Mr. Waris Ali
Supervisor

This department is responsible for the Safety & Security of the persons and property of the institute. The security department defines rules and protocol for Employees, Students, Visitors and Vehicles coming in and out from the gates. The security personnel perform their duty in rotation for 24/7 in different places to ensure the safety and security. All the purchased items must enter on the gate as a first check necessary for the safety. All outgoing items have to submit the gate-pass to the security department. They are also responsible for the in and out timing of the employees as well as for the official vehicles.

Prospectus Committee

Syed Shamim Raza
Convenor

Mrs. Tanzeela Samin
Member

Mr. Zafer Abbas
Member

Dr. Rizwan Hassan
Member

The Committee is responsible for the tasks necessary for the design and printing of prospectus each year. Following are the main activities of the committee

1. Preparation of the tender notice and tender documents.
2. Coordinate with different departments in preparing the text and image files necessary for the candidates for the admission.
3. Communicate and help the designer regarding the provision of text and graphic material.
4. Proof reading of the designed text and pictures suitability.
5. Arrangement for the approval of the designed material.
6. In time printing of the prospectus for the admission.



Department of Chemical Engineering

Dr. Waqar Ali Khan

Head of Department
Ph.D Chemical Engineering, Pakistan
25 years of experience
Phone: 0092-41-2429004, 9220355 -7
Ext: 165

Dr. Najaf Ali Awan

Professor
Ph.D Chemical Engineering, Pakistan
30 years of experience

Syed Shamim Raza

Assistant Professor
M.Sc. Chemical Engineering
27 years of experience

Mr. M. Tahir Ishfaq

Assistant Professor
M.Sc. Chemical Engineering, M.C.S
27 years of experience

Mr. Ahtsham Razaque

Assistant Professor
M.Sc. Chemical Engineering
25 years of experience

Dr. M. Awais Ashraf

Assistant Professor/Coordinator
Ph.D Chemical Engineering
15 years of experience

Mr. Bilal Ahmed Awan

Lecturer
M.Sc. Chemical Engineering
14 years of experience

Mr. Shahid Mirza

Lecturer (on Ph. D Study Leave)
M.Sc. Chemical Engineering
15 years of experience

Mr. Tayyab Ali

Lecturer
M.Sc. Chemical Engineering
14 years of experience

Mrs. Hina Arshad

Lecturer (on Ph.D Study Leave)
M.Sc. Chemical Engineering
15 years of experience

Dr. Hina Mukhtar

Assistant Professor

Ph.D Chemical Engineering, Pakistan

13 years of experience

Mr. Masood-ur-Rauf Zafar

Deputy Manager

M.Phil Environmental Engineering

14 years of experience

Mr. Muhammad Imran

Lecturer

M.Sc. Chemical Engineering

11 years of experience

Hafiz Miqdad Bin Masood

Lecturer

M.Sc. Chemical Engineering

07 years of experience

Ms. Shazma Nisar

Lab. Engineer

M.Sc. Chemical Engineering

05 years of experience

Mr. Zaid Yahya

Lab. Engineer

B.Sc. Chemical Engineering

04 years of experience



Program Educational Objectives (PEOs)

The main objectives of the undergraduate program in Chemical Engineering department are to provide a solid foundation of mathematical, scientific and engineering knowledge to its graduates along with the development of intellectual skills essential for their prosperous and successful careers. The PEOs of Chemical Engineering Program are given below. These PEOs will be evaluated and reviewed after 3-5 years of the graduation of each Session.

PEO-1: To serve the chemical and allied industries in leading positions with strong technical and professional education and skills.

PEO-2: To cope with rapidly changing technological advancements with core knowledge in multidisciplinary sectors i.e. education, entrepreneurship, research & development.

PEO-3: To be able as contributor in society & environment for sustainable development with social responsibility and ethical values.

Sr. No.	PEOs	Vision	Mission	Department Mission
1.	Chemical Engineering Knowledge	✓	✓	✓
2.	Modern Education for Innovative Research	✓	✓	✓
3.	Professionalism, Society and Ethics	✓	✓	✓

Department Mission

“To empower the graduates with excellent technical & leadership skills, integrity and moral values for sustainable development of society & to prepare them in academia, R&D organization & industry with the pursuit of advanced studies & innovations.”



B.Sc. Chemical Engineering

Have you ever wondered how raw materials are transformed into useful products, what is involved in the production of high tech materials, how materials which are used in industrial applications are designed, how one would invent a fuel cell, Who makes new synthetic materials such as artificial hearts and biodegradable polymers? Who invents methods to control emissions of carbon dioxide and toxic gases? Who designs & operates oil refineries to produce ultralow Sulfur diesel and lead free petrol? Who designs most advanced nuclear reactors? Who develops long range missiles and who flourishes processes for obtaining medicines from biological organisms? Have you ever thought about how all of these processes are so much more environment friendly than processes of 50 years ago? It is likely that chemical engineers have played a vital role in the answers to these questions. They are manufacturing the materials that are the building blocks of almost everything around us. Chemical engineers make a difference to today's society and those of the future.

Chemical Engineering involves the design, development operation and management of industrial processes that turn raw materials into valuable products. The principles underlying such processes include chemical reactions, separation (distillation, evaporation, drying, filtration), flow of materials (gas, liquids, particulate solids) and physical phenomena (heat transfer, fluid flow, diffusion) and, when arranged in a sequence with precision control and proper instrumentation, these operations make up a manufacturing process. Society needs chemical engineers to safely develop new processes and products in a way that helps to manage resource and protect the environment as efficiently as possible.

According to Encyclopedia Britannica "Chemical Engineering is the development of processes, design and operation of plants in which materials undergo changes in their physical or chemical state in an economical way. Applied throughout the process industries, it is established on the principles of chemistry, physics, and mathematics along with economics".

Chemical Engineering Department at IE&FR

Chemical Engineering department offers complete program at both undergraduate and postgraduate level of studies. The department has a reputation within industry and academia for producing highly trained, competent and professional chemical engineers. It is a dynamic and goal oriented group of highly qualified and experienced faculty which is well supported by experienced technical staff and modern research & development infrastructure. Opportunities are provided to the students at all levels to get cognizant with the latest developments in the various areas of Chemical Engineering.

Laboratories of Chemical Engineering Department

The department of chemical engineering features a large number of well equipped and state of the art labs and miniature plants providing cutting edge facilities, in diverse Areas of Chemical Engineering. The Department includes Particle Technology, Applied Chemistry, Engineering Drawing, Industrial Stoichiometry, Applied Physics, Mechanical Technology, Electrical Technology, Analytical Chemistry, Chemical Process Industries, Fuel & Combustion, Fluid Flow, Computer & Chemical Analysis, Process Heat Transfer, Chemical Reaction Engineering, Mass Transfer, Chemical Engineering Thermodynamics, Instrumentation & Control and Environmental Engineering laboratories. Main library of Institute has over 3000 textbooks, handbooks and reference books for use of the faculty members and students. Various research journals related to the field are also available in the library.

Close contact with professionals in the chemical process and related industries is one of the distinguishing characteristics of the department. Such contact, with corporate leaders as well as practicing engineers and scientists, helps to provide the student with an understanding of the milieu in which the engineer works.

The Department maintains close association with a large number of chemical industries and design

organizations, and continuously upgrading the course curriculum.

Industry oriented developmental projects are undertaken regularly. The Department also undertakes consultancy assignments from industry, in the areas of process development, design, pollution control and industrial waste minimization, etc. The Department arranges seminars and workshops regularly on various industrial issues and other developments of this field of engineering.

Bachelor's Degree Program in Chemical Engineering

Chemical Engineering department offers four-year bachelor degree program in Chemical Engineering. The students a broad based education with emphasis on theory and practice of Chemical Engineering keeping in views the current and future requirements of the country. The courses of study are in accordance with the advancement of era and offer opportunities of specialization in one of the few optional subjects in research oriented atmosphere. The courses are structured as to provide fundamental principles of Chemical Engineering as well as modern advancement in the field. Continual improvement in courses outline is the added features of the department. Semester system and midterm tests encourage thorough studies and understanding of the subjects. The course is designed to impart the students' complete grasp of practical and theoretical aspects of process industry. Students are encouraged to identify & rectify industrial problems. On-plant training in industrial & design organizations is a part of the regular undergraduate curriculum.

Graduates from this program should develop:

- A sound understanding of the principles of Chemical Engineering
- Sufficient detailed process knowledge and research based problem-solving
- Methodologies to obtain quantitative solutions to relatively complex plant problems.
- Sufficient knowledge of environmental sustainability and community issues to



appreciate these aspects of plant operations and to integrate these elements into the analysis and solution of practical plant problems.

- Selection, formulation, solution and interpretation of mathematical models in Chemical Engineering.

Career Choices for Chemical Engineers & Job Prospects

Chemical Engineering is a broadly based engineering discipline with multidirectional career choices. The job prospects for Chemical Engineering graduates are very attractive indeed, and most of our graduates are employed in large to medium enterprises. Chemical Engineers are making tremendous contribution to the areas such as refineries, petrochemicals, food & beverages, fertilizers, pharmaceutical, paper & board, paints & dyes, detergents, explosives, glass & ceramics, cement, manmade fiber, nuclear processing, plastic and synthetic rubber, waste disposal and environmental issues, etc. They might work as operational engineers, be part of research teams, or occupy senior management positions. Those who work for multinational companies often travel all over the world. It is worth noting that surveys indicate that Chemical Engineers are better paid, on average, than other engineers and pure scientists. Chemical Engineers are also easily able to get jobs in the allied discipline because they have a broad range of skills and are experienced to tackle I.T, HRM and POM problems. Employment opportunities may also include areas such as marketing, sales,

merchandizing, banking, accountancy and insurance. In the second half of the 20th century, considerable number of chemical engineers has been involved in space exploration, from the design of fuel cells to the manufacture of propellants.

Industrial Liaison & Consultancy Services

Through the Industrial Liaison Chemical Engineering department provides an expanding range research and consultancy services, training programs and enterprise development services to meet the development and educational needs of the industrial sector and the wider community. The basic philosophy of the services is to encourage industrial development and growth through Innovation there by creating employment opportunities. The Institute has a complement of highly qualified staff with a broad range of research, consultancy and training expertise, which is made available to the business sector and the wider community through the provision of the following services:

- Collaborative Research and Development with Industry
- Training Programs
- Seminars & Workshops
- Business and Technology Mentoring and Consultancy
- Access to Skilled Graduates



Courses Related to Basic & Applied Sciences

Basic, or pure, science is primarily connected with the development of theories (or as they are frequently called, models) establishing relationships between phenomena and the universe. When they are sufficiently validated, these theories (hypotheses, models) become the working laws or principles of science. Applied science, on the other hand, is directly connected with the application of the working laws of pure science to the practical affairs of life, and to increasing man's control over his environment.

Thus leading to the development of new techniques, processes and machines, such activities as investigating the strength and uses of materials, extending the findings of pure mathematics to improve the sampling procedures used in agriculture or the potentialities of atomic energy, all are examples of the work of applied scientist or technologist.

Chemistry is a basic science, which in a very direct way, explores the intricacies and structure of God's creation and provides a window on the marvelous beauty and order inherent in the creation. The study of chemistry involves understanding the chemical and physical properties of individual elements, compounds and their mixtures, and explaining their many reactions and properties using theoretical models. Through the application of chemistry, resources found within creation may be converted into numerous products that benefit mankind. Knowledge of chemistry is essential in dealing with the many environmental problems facing society. An understanding of the principles of chemistry also provides a foundation for chemical engineering.

Physics is the science of nature, from the quarks to the cosmos. Consequently, physics treats of the fundamental constituents of the universe, the forces they exert on one another and the results produced by these forces. Sometimes, in modern physics, a more sophisticated approach is taken that incorporates elements of the three areas listed above; it relates to the laws of symmetry and conservation, such as those pertaining to energy, momentum, charge, and parity.

Many of the branches of physics have developed into engineering & technology. These branches are classical mechanics, hydrodynamics, aerodynamics, heat & thermodynamics, optics, acoustics, electricity and magnetism, electronics and nuclear engineering.

Mathematics is the discipline that deals with concepts such as quantity, structure, space and change. It evolved, through the use of abstraction and logical reasoning, from counting, calculation, measurement and the study of the shapes and motions of physical objects. Mathematicians explore these and related concepts, aiming to formulate new conjectures and establish their truth by rigorous deduction from appropriately chosen axioms and definitions. Mathematics is present in all aspects of engineering. The good knowledge of mathematics is must for all engineers. It is currently accepted that undergraduate engineering students need a solid understanding of mathematics and physics.

Department of Basic & Applied Sciences at IEFR

Basic & applied sciences are the foundation of all engineering disciplines. The department of basic & applied sciences at the institute is playing a fundamental role in developing the future engineers & professionals. It offers programs designed to provide students with a good foundation in the basic sciences. Studies rooted in the three basic fields of physics, chemistry, mathematics, linguistics and communication sciences, during first two years serving to generate educational and research results from an interdisciplinary scientific perspective. The department emphasizes basic physical and chemical principles including training in laboratory skills & scientific research. The department reviews continuously the objectives and contents of every course in order to increase the number of gained skills for students.

"Alumni in Professional Career"



Muzammil Tarique
Quality Control Specialist
PepsiCo-Saudi Arabia

Hello Pals!

I received my Chemical Engineering degree from NFC in 2018 and I'm currently employed by PepsiCo Saudi Arabia as a QC Specialist.

My professional career has experienced a lot of ups and downs from the beginning of my academic career to the present, but after learning from all of these experiences, I advise my juniors and up-and-coming talent to "Stop listening to the myths that there are no jobs for fresher, because there are still plenty of chances and opportunities for young talent if you are literally want to avail them."

You can accomplish everything by setting your mindset & if you put in persistent effort and have confidence in yourself. Trust in Allah, do your best and you can get anything you want, realize your dreams, become the best of the best, and realize your aspirations.

Continue onward I wish you luck.



Dr Humbul Suleman
AMIChemE, FHEA, MCA
Senior Lecturer in Chemical Engineering,
Teesside University, UK
Member, UK Carbon Capture and
Storage Research Centre, UK
Member, Net Zero Industry
Innovation Centre, UK
BSc (Hons) Chemical Engineering,
2004-2008

I am a senior lecturer in chemical engineering at Teesside University, UK, one of the leading universities in North East England for education, research and innovation. Apart from teaching UG and PG classes at Teesside, I am supervising funded research projects in carbon capture and steering public policy in the UK's efforts for decarbonisation. Indeed, the inspiration for this lifelong career choice came from my teachers at IEFR, who meticulously taught the concepts of chemical engineering and helped me to overcome my fears and shortcomings. My time as a student there was one of the finest learning experiences I had. Besides academic success, some of my warmest reminiscences are the time spent with friends. Everyone was always so welcoming and supporting. I am thankful to IEFR for the best academic environment and the fond memories of friendships, rapport, and achievements that I will cherish for the rest of my life.

B.Sc. Chemical Engineering

Curriculum

First Semester

Course #	Title	Credit Hours	
		Th.	Lab.
ChE-101	Industrial Stoichiometry-I	3	0
CS-101 & CS-101L	Computing Fundamentals	2	1
CY-142 & CY-142L	Physical & Analytical Chemistry	2	1
HU-III	Communication Skills	0	1
MA-113	Calculus and Analytical Geometry	3	0
ME-122L	Engineering Drawing	0	2
Total		10	05

Second Semester

Course #	Title	Credit Hours	
		Th.	Lab.
ChE-102	Fluid Flow-I	3	0
ChE-104	Health and Safety at Workplace	2	0
ChE-103 & ChE-103	Chemical Process Industries	2	1
IS-101 Or HU-101	Islamic and Pakistan Studies – I (Muslim Students) or Ethics and Pakistan Studies – I (Non- Muslim Students)	3	0
MA-118	Applied Mathematics and Statistics	3	0
ME-100L	Workshop Practice	0	1
PHY-113 & PHY-113L	Applied Physics	2	1
Total		15	03

Third Semester

Course #	Title	Credit Hours	
		Th.	Lab.
ChE-201	Industrial Stoichiometry – II	3	0
ChE-203 & ChE-203L	Particle Technology	3	1
ChE-204 & ChE- 204L	Chemical Engineering Thermodynamics- I	3	1
CY-221 & CY-221L	Inorganic and Organic Chemistry	2	1
HU-221	Technical Writing and Presentation Skills	3	0
MA-233 L	Applied Mechanics	0	1
Total		14	04

Fourth Semester

Course #	Title	Credit Hours	
		Th.	Lab.
ChE-208 & ChE-208 L	Fluid Flow-II	2	1
ChE-209 & ChE-209 L	Process Heat Transfer	3	1
ChE-210 & ChE-210 L	Separation Process – I	3	1
EE-140 & EE-140L	Electrical Technology	2	1
IS-201 or HU-201	Islamic and Pakistan Studies – II (Muslim Students) or Ethics and Pakistan Studies –II (Non- Muslim Students)	3	0
Total		13	04

Fifth Semester

Course #	Title	Credit Hours	
		Th.	Lab.
ChE-301 & ChE-301 L	Chemical Reaction Engineering	3	1
ChE-311	Engineering Materials	2	0
ChE-312 & ChE-312L	Unit Processes	2	1
ChE-304	Chemical Engineering Thermodynamics – II	3	0
MA-240 & MA-240 L	Numerical Analysis	2	1
MGT-413	Entrepreneurship	3	0
Total		15	03

Sixth Semester

Course #	Title	Credit Hours	
		Th.	Lab.
ChE-313	Chemical Process Design and Economics	3	0
ChE-214	Chemical Engineering Mathematics	2	0
ChE-310 & ChE-310L	Separation Process – II	2	1
ChE-307	Transport Phenomena	3	0
ChE-308 & ChE-308 L	Energy Engineering	3	1
ChE-315 L	Process Modeling and Simulation	0	2
ChE-316	Community / Research Project	1	0
Total		14	04

Seventh Semester

Course #	Title	Credit Hours	
		Th.	Lab.
ChE-401	Chemical Reactor Design	2	0
ChE-409	Chemical Process Equipment Design & Rating	3	0
ChE-432 to ChE-441	Elective – I	2	0
ChE-404 & ChE-404L	Instrumentation And Control	3	1
ChE-410	Engineering Management	2	0
ChE-411	Final Year Project – I	0	3
ChE-317	Community / Research Project	1	0
Total		13	04

Eighth Semester

Course #	Title	Credit Hours	
		Th.	Lab.
ChE-406 & ChE-406 L	Environmental Engineering	3	1
ChE-432 to ChE-441	Elective-II	2	0
ChE-421 to ChE-431	Elective-III	3	0
ChE-421 to ChE-431	Elective-IV	3	0
ChE-412	Final Year Project – II	0	3
Total		11	04

Elective Subjects (One Subject Required)

Course No. and Title		Credit Hours	Prerequisite Courses (if any)	Proposed Course No.
ChE-420	Gas Engineering	3(3,0)	Final Year Standing	ChE-421
ChE-421	Biochemical Engineering	3(3,0)	Final Year Standing	ChE-422
ChE-422	Biomass and Bio fuels	3(3,0)		ChE-427
ChE-423	Industrial Safety and Risk management	3(3,0)		ChE-428
ChE-424	Clean Coal Technologies	3(3,0)		ChE-429
ChE-425	Material Characterization Techniques	3(3,0)		ChE-430
ChE-419	Maintenance Engineering	3(3,0)		ChE-431
ChE-409	Industrial Psychology and Ethics	2(2,0)		ChE-432
ChE-410	Polymer Engineering	2(2,0)		ChE-433
ChE-411	Petroleum Refinery	2(2,0)		ChE-434
ChE-412	Food Engineering	2(2,0)		ChE-435
ChE-413	Membrane Technology	2(2,0)		ChE-436
ChE-414	Computational Fluid Dynamics	2(2,0)		ChE-437
ChE-415	Computer Aided Design	2(2,0)		ChE-438
ChE-416	Process Analysis and Optimization	2(2,0)		ChE-439
ChE-417	Chemical Safety and Security	2(2,0)		ChE-440
ChE-418	Process Equipment Malfunction	2(2,0)		ChE-441

BS BIOCHEMISTRY

OVERVIEW

BS Biochemistry program is designed to help students develop skills and an in-depth understanding of the core aspects of biology, biochemistry, and the physiology of the human body and contrast them with other species by developing analytical skills to evaluate laboratory and field data. The ambit of the course extends to cutting-edge developments within the fields of biotechnology, molecular ecology, climate change, and antimicrobial resistance.

In BS Biochemistry program, students are engaged mainly in the intense understanding of biochemistry with critical assessment. The program is designed to give students a grasp of the basic principles of biochemistry through a course of study that emphasizes fundamental concepts of biochemistry.

INTRODUCTION

The department sets out to meet a key goal of modern biology – to arrive at a full understanding of the structure and dynamic chemistry of the underlying molecular constituents of cells, the essential feature is that biochemistry uses molecular

methods to explain biological processes. The Department's research is grouped under the headings of several broad programs including Clinical Biochemistry, Enzymology, Nutritional and Metabolic Biochemistry, Plant Biochemistry & Molecular Biology, Molecular Biology of Human Diseases, Proteomics, Genomics and Cell Biology. Excellent research facilities and a research-oriented

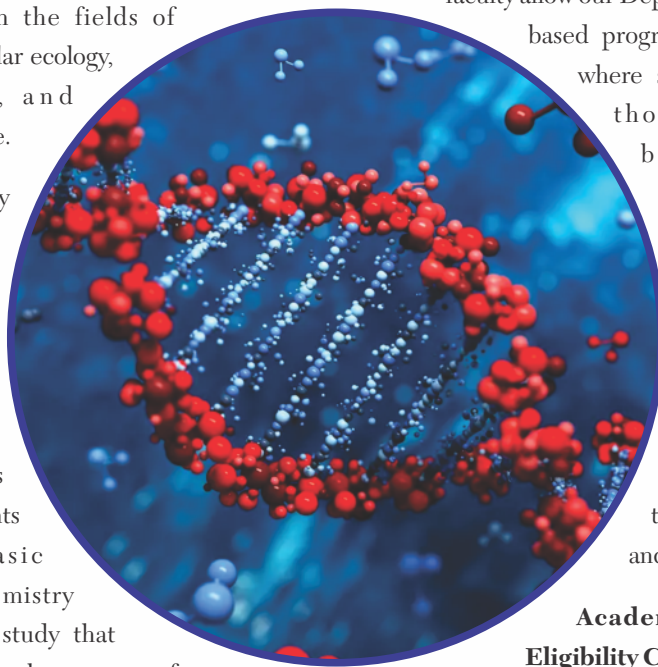
faculty allow our Department to offer broadly based programs of graduate study where students can acquire a thorough and diverse background in Biochemistry and Molecular Biology.

OUR MISSION

Excel in Undergraduate, Graduate and Post graduate education in the field of Biochemistry and its Science

Academic Qualification / Eligibility Criteria

- Higher Secondary School Certificate (HSSC) with Pre-Medical or equivalent with Chemistry and Biology with 50% marks.
- KFUEIT recognized aptitude test (KFAT / NAT/MCAT) with minimum score of 40%
- DAE in relevant field is also eligible



BS BIOCHEMISTRY

Curriculum

First Semester

Course Title	Theory	Lab	Credits Hours
Functional English	3	0	3
Pakistan Studies	2	0	2
Mathematics-I	3	0	3
Basic Health Awareness	2	0	2
Organic Chemistry	3	1	4
Introductory Biochemistry	3	1	4
Total Credit Hours	16	2	18

Second Semester

Course Title	Theory	Lab	Credits Hours
Communication Skills	3	0	3
Islamic Studies	2	0	2
Inorganic Chemistry	3	1	4
Constitution & Legal System of Pakistan	2	0	2
Mathematics-II	3	0	3
Carbohydrates & Lipids	2	1	3
Total Credit Hours	15	2	17

Third Semester

Course Title	Theory	Lab	Credits Hours
Technical Writing and Presentation Skills	3	0	3
Applied Economics	3	0	3
Proteins & Amino Acids	2	1	3
Analytical Chemistry	3	1	4
Probability and Statistics	3	0	3
Total Credit Hours	14	2	16

Fourth Semester

Course Title	Theory	Lab	Credits Hours
Genetics	3	0	3
Human Physiology	3	0	3
Physical Chemistry	3	0	3
Microbiology	2	1	3
Enzymology	2	1	3
Immunology	3	0	3
Total Credit Hours	16	2	18

Fifth Semester

Course Title	Theory	Lab	Credits Hours
Metabolism	4	0	4
Molecular Biochemistry	3	0	3
Nutritional Biochemistry	2	0	2
Environmental Biochemistry	2	0	2
Bioenergetics	2	0	2
Introduction to ICT	2	1	3
Total Credit Hours	15	1	16

Sixth Semester

Course Title	Theory	Lab	Credits Hours
Industrial Biochemistry	2	1	3
Clinical Biochemistry	2	1	3
Techniques in Molecular Biology	2	1	3
Marketing Management	3	0	3
Plant Biochemistry	2	1	3
Internship	3	0	3
Total Credit Hours	4	4	18

Seventh Semester

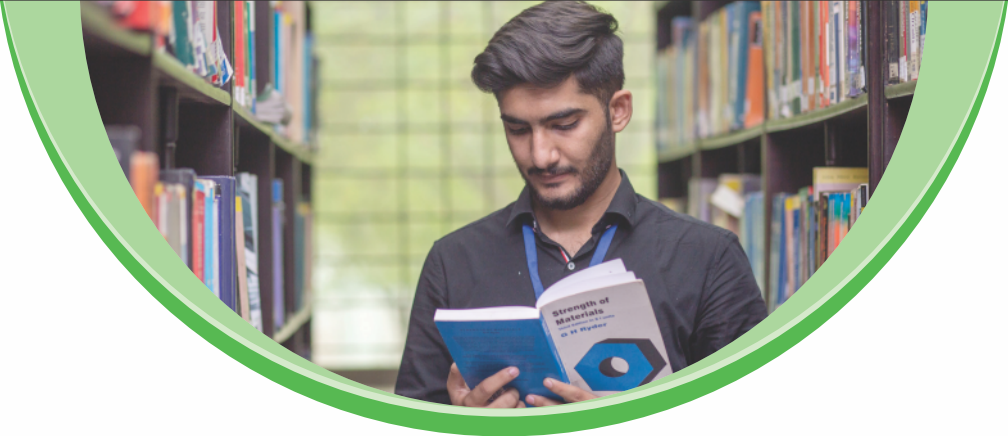
Course Title	Theory	Lab	Credits Hours
Research Projects & Scientific Writing	3	0	3
Bio- membranes & Cell	3	0	3
Signaling	2	0	2
Introduction to Bioinformatics	3	1	4
Elective-I	3	0	3
Total Credit Hours	14	1	15

Eight Semester

Course Title	Theory	Lab	Credits Hours
Current Trends in Biochemistry	3	0	3
Review Report	3	0	3
Seminar	1	0	1
Bio- safety & Ethics	2	0	2
Elective-II	3	0	3
Elective-III	3	0	3
Total Credit Hours	15	0	15

List of Elective Courses

Course Title	Theory	Lab	Credits Hours
Cancer Biology	3	0	3
Genomics	3	0	3
Proteomics	3	0	3
General Virology	3	0	3
Antimicrobials & Chemotherapeutics	3	0	3
Structural Biology	3	0	3
Fermentation Biotechnology	3	0	3
Toxicology	3	0	3



Courses Related to Basic & Applied Sciences

Mrs. Shazia Saeed

Assistant Professor

M.Sc. Organic Chemistry

22 years of experience

Email: nfcshazia14@gmail.com

Mr. Muhammad Yaseen

Assistant Professor

M. Phil Mathematics

22 years of experience

Mrs. Humera Yasmeen

Lecturer

MA History, B. Ed

20 years of experience

Ms. Noreen Siffat

Lecturer

M. Sc. Analytical Chemistry

09 years of experience

Basic, or pure, science is primarily connected with the development of theories (or as they are frequently called, models) establishing relationships between phenomena and the universe. When they are sufficiently validated, these theories (hypotheses, models) become the working laws or principles of science. Applied science, on the other hand, is directly connected with the application of the working laws of pure science to the practical affairs of life, and to increasing man's control over his environment.

Thus leading to the development of new techniques, processes and machines, such activities as investigating the strength and uses of materials, extending the findings of pure mathematics to improve the sampling procedures used in agriculture or the potentialities of atomic energy, all are examples of the work of applied scientist or technologist.

Chemistry is a basic science, which in a very direct way, explores the intricacies and structure of God's creation and provides a window on the marvelous beauty and order inherent in the creation. The study of chemistry involves understanding the chemical and physical properties of individual elements, compounds and their mixtures, and explaining their many reactions and properties using theoretical models. Through the application of chemistry, resources found within creation may be converted into numerous products that benefit mankind.

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Physics is the science of nature, from the quarks to the cosmos. Consequently, physics treats of the fundamental constituents of the universe, the forces they exert on one another and the results produced by these forces. Sometimes, in modern physics, a more sophisticated approach is taken that incorporates elements of the three areas listed above; it relates to the laws of symmetry and conservation, such as those pertaining to energy, momentum, charge, and parity. Many of the branches of physics have developed into

engineering & technology. These branches are classical mechanics, hydrodynamics, aerodynamics, heat & thermodynamics, optics, acoustics, electricity and magnetism, electronics and nuclear engineering.

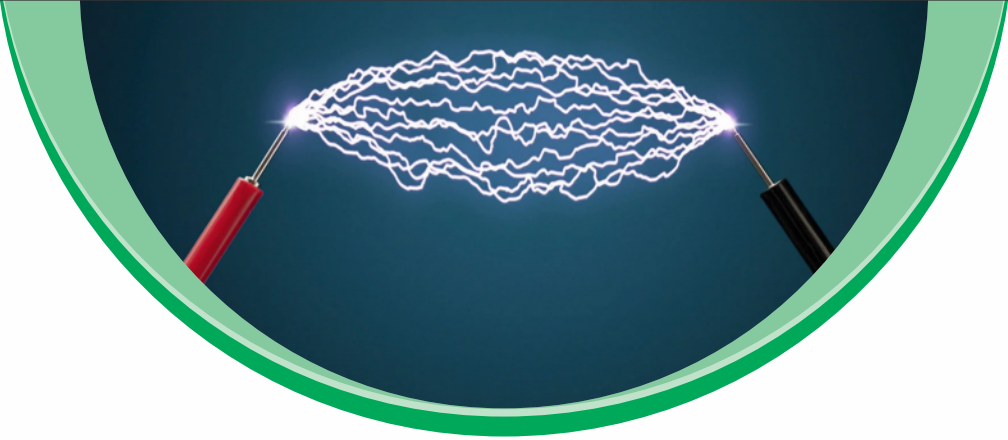
Mathematics is the discipline that deals with concepts such as quantity, structure, space and change. It evolved, through the use of abstraction and logical reasoning, from counting, calculation, measurement and the study of the shapes and motions of physical objects. Mathematicians explore these and related concepts, aiming to formulate new conjectures and establish their truth by rigorous deduction from

appropriately chosen axioms and definitions. Mathematics is present in all aspects of engineering. The good knowledge of mathematics is must for all engineers. It is currently accepted that undergraduate engineering students need a solid understanding of mathematics and physics.

Department of Basic & Applied Sciences at IEFR

Basic & applied sciences are the foundation of all engineering disciplines. The department of basic & applied sciences at the institute is playing a fundamental role in developing the future engineers & professionals. It offers programs designed to provide students with a good foundation in the basic sciences. Studies rooted in the three basic fields of physics, chemistry, mathematics, linguistics and communication sciences, during first two years serving to generate educational and research results from an interdisciplinary scientific perspective. The department emphasizes basic physical and chemical principles including training in laboratory skills & scientific research. The department reviews continuously the objectives and contents of every course in order to increase the number of gained skills for students.





Department of Electrical Engineering

Dr. Muhammad Junaid Alvi

Assistant Professor / Coordinator
Ph.D Electrical Engineering
13 years of experience
Ph: 0092-41-2429004, 9220355 -7 Ext: 16

Mr. Hamid Ali Rao

Assistant Professor
M.Sc. Electrical Engineering (Sweden)
20 years of experience

Mr. Muhammad Shafique

Assistant Professor
M.Sc. Electrical Engineering
26 years of experience

Mr. Hassan Ijaz Tarar

Assistant Professor
M.Sc. Electrical Engineering
17 years of experience

Mr. Toseef Abid

Lecturer
M.Sc. Electrical Engineering
15 years of experience

Dr. Adnan Safdar

Assistant Professor
M.Sc. Electrical Engineering
14 years of experience

Dr. Rizwan ul Hassan

Assistant Professor (Power)
Ph.D Electrical Engineering
14 years of experience

Mrs. Uzma Azam

Lecturer
M.Sc. Electronics Engineering
14 years of experience

Mr. Amir Haider

Lecturer
M.Sc. Electronic Engineering
13 years of experience

Mr. Awais Anjum

Lecturer
M.Sc. Electrical Engineering
13 years of experience

Dr. Usama Abrar

Assistant Professor
Ph.D Control & Electronics
11 years of experience

Dr. Nasif Raza Jaffri

Assistant Professors
Ph.D Electrical Engineering
11 years of experience

Dr. Salman Arain

Assistant Professor
Ph.D Electrical & Engineering
07 years of experience

Mr. Mehboob Ashraf

Senior Lab. Demonstrator/
Dy. Manager M.C.S
28 years of experience

Mrs. Maira Naz

Lecturer
M.Sc. Electrical Engineering
13 years of experience

Ms. Ayesha Javed

Lecturer
M.Sc. Electronics Engineering
10 years of experience

Mr. Ali Ghalib

Lecturer
M.Sc. Electrical Engineering
10 years of experience

Mr. Ali Abbas Malik

Lecturer
M.Sc. Electrical Engineering
11 years of experience

Mr. M. Junaid Razzaq

Lecturer
M.S. Electrical Engineering
06 years of experience

Dr. Syed Rizwan Hassan

Assistant Professor
Ph.D. Electrical Engineering
07 years of experience

Dr. Asim Quddus

Assistant Professor
Ph.D. Electrical Engineering
07 years of experience

Mr. Usama Ali

Lab. Engineer
B.Sc. Electronics Engineering
10 years of experience

Mr. Muhammad Saqib Ashraf

Lab. Engineer
M.Sc. Electrical Engineering

Mr. Muhammad Awais Altaf

Lab. Engineer
B.Sc. Electrical Engineering



Program Educational Objectives (PEOs)

The main objectives of the undergraduate program in Electrical Engineering department are to provide a solid foundation of mathematical, scientific and engineering knowledge to its graduates along with the development of intellectual skills essential for their prosperous and successful careers.

The PEOs of Electrical Engineering Program are given below. These PEOs will be evaluated and reviewed after 3-5years of the graduation of each Session.

PEO 1: To edify and train the graduates in design, synthesis, applications and project management are as to resolve electrical engineering problems.

PEO 2: To prepare the graduates for acquiring the international standards of advanced or higher education and innovative research.

PEO 3: To establish the leadership skills that will enable them to command their departments and organizations.

PEO 4: To indulge professional, social and ethical responsibilities in the graduates.

Mapping of NFC-IE&FR Vision and Mission with PEOs

Sr. No.	PEOs	Institution		Department Mission
		Vision	Mission	
1.	Electrical engineering knowledge	✓	✓	✓
2.	Modern education for innovative research.	✓	✓	✓
3.	Team work, leadership skills to command organizations.	✓	✓	✓
4.	Professionalism, society and ethics	✓	✓	✓

Sr. No.	Program Learning Outcomes (PLOs)	Program Educational Objectives (PEOs)			
		PEO-1	PEO-2	PEO-3	PEO-4
1.	Engineering Knowledge	✓			
2.	Problem Analysis	✓			
3.	Design/Development of Solutions	✓			
4.	Investigation		✓		
5.	Modern Tool Usage		✓		
6.	The Engineer and Society				✓
7.	Environment and Sustainability			✓	
8.	Ethics				✓
9.	Individual and Team Work			✓	
10.	Communication			✓	
11.	Project Management			✓	
12.	Lifelong Learning				✓

Department's Mission

To prepare electrical engineering graduates having a concrete knowledge-base and analytical/problem solving skills that shall empower them to undertake challenging job positions, innovative research and entrepreneurship.

Sr. No.	Program Learning Outcomes (PLOs)	Program Educational Objectives (PEOs)			
		PEO-1	PEO-2	PEO-3	PEO-4
1.	Engineering Knowledge	✓			
2.	Problem Analysis	✓			
3.	Design/Development of Solutions	✓			
4.	Investigation		✓		
5.	Modern Tool Usage		✓		
6.	The Engineer and Society				✓
7.	Environment and Sustainability			✓	
8.	Ethics				✓
9.	Individual and Team Work			✓	

"Alumni in Professional Career"



Zuha Siddique
B.Sc. Electrical Engineering (2k14-18)
Current Pursuit:
Master of Engineering (Professional)
with specialization in Electrical and
Renewable Energy Engineering at
Deakin University, Australia

Looking back, NFC-IEFR holds a special place in my heart as the university where I spent the most beautiful and transformative days of my life. The vibrant culture and nurturing atmosphere at NFC-IEFR fostered my personal growth. As an alumnus, I wholeheartedly affirm that NFC-IEFR provided a strong foundation for my academic and personal journey. The education, guidance, and encouragement I received have been invaluable in shaping my growth. NFC-IEFR's extensive range of extracurricular activities and events, peer culture, and excellent laboratories truly make it stand out as the top engineering university in the Faisalabad region.



Haseeb Ahmad Gujjar
B.Sc. Electrical Engineering (17-21)

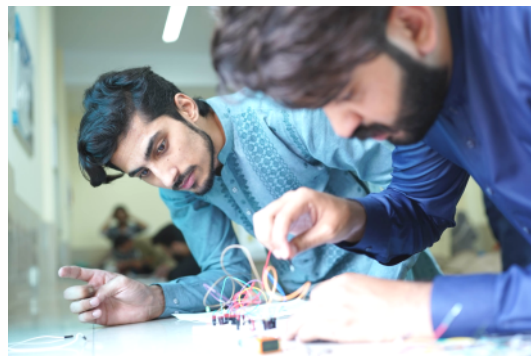
As an alumna of NFC IEFR, I can say that it was a truly rewarding experience. The university provided an excellent education that gave me the skills I needed to succeed in my career. The Faculty is knowledgeable and always available to help.

Currently working in Quaid e azam thermal power plant as Assistant Engineer Electrical.

B.Sc. Electrical Engineering

Electrical and Electronics is the nucleus of every contemporary and modern day technology. Holding an extensive and widespread history commencing from an ordinary light bulb, thermionic valves, POTs (Plain Old Telephone Systems) towards today's satellite transmitted television, transcontinental Computer Networks, Wireless and avant-garde communication, emergence of novel ideas in fixed and mobile communications offering never used before services to the users, an extremely new epoch of multimedia services from HDTV(High Definition Television), IPTV (Internet Protocol TV), VoD (Video On Demand), video conferencing, effective power generation, transmission and utilization, Medicine, Robotics, Design of highly integrated VLSI circuits... and the list shows no bounds.

The Electrical Engineering profession addresses the use of science, technology, problem solving skills, inventiveness and resourcefulness of an engineer to design, construct, maintain and operate different new fangled electrical, electronics and computer based systems. This is an exceedingly electrifying and exhilarating field of enterprisers and inventors who are geared up to develop diversified goals and divergent methodologies. Electrical Engineering being the instigator of all the engineering disciplines demands a multidisciplinary approach and a knack to communicate the ideas and



incorporation of the knowledge from other disciplines to take in hand the tight spots of today and challenges of impending future.

This promptly and speedily evolving field of electrical/electronics has an unremitting and ceaseless need of engineering professionals, even more than ever needed to fuel the passion for escalation. What it demands from the engineers that they equip themselves dynamically to embrace the exigent growth in this field and to be able to contribute in its augmentation and intensification.

Electrical Engineering at NFC IEFR

Dynamicism is the quintessence of electrical/electronics engineering field. An engineering institute must inculcate the abilities in their students of being able to pace up with the spiraling upward augmentation in this field. Not only a profound knowledge of existing technologies is required but the students should be able to learn beyond their classroom experiences. They must be aptly trained to employ, utilize and impart that acquaintance and information for development of revolutionary technologies.

The institute works upon transforming young, enthusiastic and zesty brains into highly proficient, skilled and technically sound team of engineers. Understanding the imperative needs of becoming an ideal place of learning



NFC IEFR holds a strong research, didactic and development vista, whose vivid reflection can be seen in the Electrical Engineering Department. The Newly constructed State of the Art Electrical Engineering Department Building is now in use. A multistory marvelous and impressive Department Building which covers an area of 80,000 sq ft comprises of huge lecture theatres embedded with every modern teaching aid, spacious labs, faculty offices, conference room, independent auditorium, examination halls, Student Counseling Office, separate room for females students, etc.

The department offers four year tenure of quality based classroom erudition by valued instructions and scholarly research with a spice of out of the classroom learning experiences, through visits to industrial sites and interaction with seasoned field professionals. Electrical Engineering department has a mission to produce engineers having entrepreneurial and self motivational spirits which makes them able to avail career opportunities in today's high technology and immensely dense market place.

The degree program is affiliated with University of Engineering and Technology, Lahore and accredited by Pakistan Engineering Council, at level

II, which is a distinction for any engineering institute.

Vision

To acquire prominence at national and international level as a unique source of quality education and distinguished research, which stimulates all to excel in their respective endeavors to emerge as winners.

Mission

To prepare electrical engineering graduates having a concrete knowledge-based and analytical/problem solving skills through its qualified faculty, state of art facilities and enabling environment, that shall empower them to undertake innovative research and entrepreneurship.

Objectives of Electrical Engineering Degree Program:

- To edify and train the students in using analysis, synthesis, computational, design and collaborative working skills to resolve electrical engineering problems.
- To produce the electrical engineering graduates who are well equipped to engage in advanced or additional education in their



chosen field of endeavor or interest.

- To have a yield of graduates who are recruited by an extensive range of engineering employers in design, fabrication, synthesis, application, utilization and project management areas.
- To instill in students the understanding of their professional, social and ethical responsibilities they need for lifelong benefits.

Program Learning outcomes

- Engineering Knowledge
- Problem analysis
- Design/development of solutions
- Investigation
- Modern tools usage
- The engineer and society
- Environment and sustain ability
- Ethics
- Individual and team work
- Communication
- Project management
- Life long learning

The Electrical Engineering Curriculum

The Higher Education Commission approved



curriculum also taught in UET, Lahore is followed here. The curriculum is well designed and specifically tailored to meet the prime and key objectives of the ever evolving field of engineering, in accordance with international standards. The department is also regularly developing and updating courses, looming up a futuristic, innovative and forward thinking approach in students.

The curriculum basically overviews electronic

technology and a solid grounding in underlying physical and mathematical principles, learning about all the levels in analysis, design and synthesis from transistors, transmission media and electromagnetic devices, to the organization and control of large scale systems like computers, communication networks and information transfer. The curriculum indemnifies that the analysis, synthesis and design abilities are developed and integrated throughout the curriculum in sequential and chronological manner, leading to form highly proficient, skillful and eager to learn fleet of electrical engineers. It also aims to provide technical content which is current and relevant to present and future engineering practices.

Research aims & objectives

The electrical engineering department at NFC IE&FR, Faisalabad is committed to carry out cutting edge and productive research in the vast

domain of electrical, electronics & communication engineering.

The research aims at:-

- Utilizing the latest technological advancements for the betterment and evolution of the society.
- Catering the demands and needs of local industry and strategic R&D organizations of the country.
- Contributing to cutting edge research in diversified specialties such as advanced
- digital and analog electronics, nano-technology communication, computer networking, signal processing and multimedia, computer vision and advanced control of robotics.
- Development of quality and well groomed research professionals

Why choose NFC IE&FR for Bachelors in Electrical Engineering?

The department team has a firm and unswerving mission to prepare dexterous and up to the mark technical cohorts having a pertinent theoretical knowledge bank studded with the spice of revelation to the practical industrial scenario. The customary classroom learning is well aided by:

Different lab projects and assignments which are given to the students which are graded in the semester results. Students design the circuits, purchase the components by themselves to have a local market exposure, fabricate the circuits and present them.

Research Assignments are also an added feature where students search for certain contemporary technologies, not in their curriculums but this exercise cultivates in them the yearning for learning

more ahead of their existing knowledge.

Teaching of different simulation software which would facilitate the students to be able to use modern engineering tools for design and analysis.

Timely presentations during the semesters enhance the capability of students to express themselves and to nurture their communication skills.

Opportune industrial visits, internships and industrial trainings are specifically planned for the students in different semesters which facilitate their practical erudition as well as broaden their horizons and perspectives.

Giving the students opportunities to appear in different technical platforms specially build for students is another supplementary benefit. IEEE(Institute of Electrical and Electronics Engineers) is a global electrical engineer's organization based in USA, runs different sections, chapters, and branches all over the world in different universities and colleges. NFC IEFR is one of them holding the honor to have IEEE NFC Student Branch opened here among 1616 student branches worldwide.

On this platform the students of NFC IEFR get a chance to have a wide variety of learning experiences. They have got opportunities to participate in different national level technical events, student congresses, annual meetings, seminars and workshops. These co curricular activities nourish the hidden talents in students and groom them to become the first

choice of any organization as soon as they complete their studies.

CT Funded Final Year Projects (FYP)

The department aims to promote and encourage R&D culture among the students. The Final Year

Projects (FYP) of the students are being regularly sent to National ICT R&D Fund, Ministry of Information Technology, Islamabad for financial support, which is provided to the selected Final Year Projects of undergraduate students.

This financial assistance enables the students undertaking Final Year Projects (FYP) in building prototypes and working models to showcase their creativity and innovation by applying hands on engineering and development skills. The funding covers the cost for purchase of equipment and miscellaneous costs related to the development of prototypes only.

Job Prospects for Electrical Engineers

Electrical and Electronics Engineering is a perfect amalgam of continuous technical involvement and dynamic concepts and ideas, and thus turns out to be the mother of every engineering discipline. This versatility opens up a wide variety of jobs for fresh graduates in local and national industrial streams.

Electrical Engineers are responsible for generation, conversion and transfer of electric power, information transfer through different guided and unguided media, electronics circuits designs and fabrication, act as a building block of information

technology revolution, work with improved data storage devices and faster computer chips to advanced data compression methods, from cell phones to fiber optic networks, design of computerized systems, implementation of fully automated control systems, engineering project management and what not!! They can play an immense and strengthening role in reshaping telecommunication and power scene in impending and imminent era. The electrical engineers no doubt can sought a very rewarding and respected career.

The example is many of our passed out students are working with well reputed organizations like Mobilink, Zong, Wateen, Telenor, Ibrahim Group of Industries, Sitara Group of Industries, WAPDA, PTCL, UET Lahore Faisalabad Campus etc. There are a few students who have got a chance to work abroad and represent Pakistan. Some students also opted to go for higher studies abroad and got admissions on the basis of their B.Sc degrees in some renowned educational institutes around the globe.

Faculty of Electrical Engineering Department

Faculty of Electrical Engineering is highly skilled and competent. The faculty is committed to impart best possible technical and ethical knowledge to the students to make them responsible, technically sound and morally capable citizens of Pakistan. This



strong commitment can be seen in the yield of Electrical Engineering Department which is serving in different organizations all over the world. The faculty is also interested in self grooming through enhancement in qualification, which is the basic essence of professional teaching. Almost 60% of the faculty is through its Post graduate and Doctorate degrees. The faculty is also interested in launching research papers in different areas of their interest, not only that but through the help of the undergraduate students' economically viable lab equipment and trainers are also fabricated in our labs which once again aid in enhancing the technical skills of our students. Faculty members also become a vital part in selecting the final year projects for the students which are every year much appreciated by the UET, Lahore project evaluation teams and personnels from local industry. A research proposal by NFC IE&FR Faisalabad faculty member on title of FYP has been accepted by ICT R&D fund. They have rewarded money for the execution of this project for a duration of time months.

Laboratories of Electrical Engineering Department

The department owns fully accomplished labs with latest equipment in various technological areas. Not

only that, but every year a colossal amount of development budget is consumed in upgrading the laboratory facilities to make them best center of learning for our students. Fully equipped Computer Lab with Internet connection is also available inside the department building which help the students to learn different engineering software and taste a spice of virtual environment as well as in conjunction with the real time hands on training on the lab equipment.

Following labs exist with the Electrical Department:

- Electrical Technology Lab
- Microprocessor Systems Lab
- Communication Systems Lab
- Transmission Line and Antenna Lab
- Power Transmission and Distribution Lab
- Machine Lab
- Instrumentation and Control Lab
- Electronics Lab
- Power Electronics Lab
- Computer Lab.



- To edify and train the students in design, synthesis, applications and project management areas to resolve electrical engineering problems.
- To prepare the students for acquiring the international standards of advanced or higher education and innovative research.
- To establish the leadership skills that will enable them to command their departments and organizations.
- To indulge professional, social and ethical responsibilities in the graduates.

B.Sc. Electrical Engineering

Curriculum

First Semester

Course #	Title	Credit Hours	
		Th.	Lab.
MA-123	Calculus	3	0
IS-101	Islamic & Pakistan Studies-I	3	0
EE-132	Introduction to Computing and Data Science	3	1
ME-238	Thermodynamics	2	1
HU-101L	Communication Skills	0	1
PHY-123	Mechanics and Wave Motion	3	1

Second Semester

Course #	Title	Credit Hours	
		Th.	Lab.
EE-101L	Electrical and Electronics Workshop	0	1
EE-100	Electric Circuit	3	1
PHY-132	Electricity and Magnetism	3	1
MA-224	Multi variate Calculus	3	0
MA-229	Ordinary Differential Equations	2	0
EE-133	Programming Fundamentals	3	1

Third Semester

Course #	Title	Credit Hours	
		Th.	Lab.
HU-221	Technical Writing & Presentation Skills	3	0
MA-234	Linear Algebra	3	0
EE-110	Circuit Analysis & Design	3	1
EE-250	Electric Machinery Fundamentals	3	1
EE-233	Discrete Mathematics	2	0
ME-100L	Workshop Practice	0	1

Fourth Semester

Course #	Title	Credit Hours	
		Th.	Lab.
EE-216	Electronic Devices and Circuits	3	0
EE-220	Signal and Systems	3	1
EE-272	Digital Systems	3	1
EE-302	Applied Probability	3	0
EE-234	Data Structures and Algorithms	3	1
HU-1XX	International Languages		

Fifth Semester

Course #	Title	Credit Hours	
		Th.	Lab.
EE-273	Microprocessor Systems	3	0
EE-356	Power Transmission Distribution and Utilization	3	1
EE-322	Analog and Digital Communication	3	0
EE-384	Electromagnetic and its Applications	3	1
XYZ	Non-Engineering Elective		

Sixth Semester

Course #	Title	Credit Hours	
		Th.	Lab.
EE-312/ EE-439	Power Electronics / Introduction to Machine Learning	3	0
EE-451/ EE-384	Power System Analysis and Design / Digital Signal Processing	3	1
EE-452/ EE-475/ EE-486	Renewable Electrical Energy System / Computer Architecture / Microwave and Antenna Engineering	3	0
EE-340	Control Systems	3	1
MGT-42S	Professional Ethics	3	0

Seventh Semester

Course #	Title	Credit Hours	
		Th.	Lab.
IS-201	Islamic & Pakistan Studies-II / Ethics	3	0
MGT	Management Elective-I	3	0
EE499a	Project Phase-I	0	3

Eighth Semester

Course #	Title	Credit Hours	
		Th.	Lab.
MGT	Management Elective-II	3	0
EE499b	Project Phase-II	0	3

Dedicated Subjects for Power Core

Subject Name	
1	High Voltage Engineering
2	Renewable Electrical Energy Systems
3	Power System Operation and Control
4	Power System Protection
5	Design of Electrical Machines

Dedicated Subjects for Electronics Core

Subject Name	
1	Subjects Name
2	Wireless Communications
3	Computer Networks
4	Microwave Engineering for Passive Devices
5	Antenna Systems
6	Microwave Engineering for Active Devices

Dedicated Subjects for Computer Core

Subject Name	
1	Operating Systems
2	Computer Networks
3	Database Engineering
4	Introduction to Machine Learning
5	Computer Architecture

* All rules and regulations of university of Engineering & Technology, Lahore will be followed in examinations.



Department of Mechanical Engineering

Dr. Syed Murawat Abbas Naqvi

Head of Department

Ph.D Mechanical Engineering

08 years of experience

Phone: 0092-41-9220355 -7 Ext.126

Dr. Umair Munir

Assistant Professor

Ph.D Mechanical Engineering

15 years of experience

Dr. Hafiz M. Waqas

Assistant Professor

Ph.D Mechanical Engineering

10 years of experience

Mr. M. Naheed Javed

Assistant Professor

M.Sc. Mechanical Engineering

20 years of experience

Mr. Zafar Abass

Lecturer

M.Sc. Mechanical Engineering

17 years of experience

Mr. Muhammad Umair

Lecturer (on Ph.D study leave)

M.Sc. Mechanical Engineering

16 years of experience

Mrs. Romeeza Majeed

Lecturer

M.Sc. Mechanical Engineering

11 years of experience

Mr. Muhammad Azhar Anwar

Lecturer

M.Sc. Mechanical Engineering

13 years of experience

Mr. M. Zubair Afzal

Lecturer

M.Sc. Mechanical Engineering

07 years of experience

Mr. Saqib Naseer

Lecturer (On Study Leave)

M.Sc. Mechanical Engineering

06 years of experience

**Hafiz Muhammad Usman
Iqbal**

Lecturer

M.Sc. Mechanical Engineering
06 years of experience

Mrs. Bushra Riaz

Lecturer

M.Sc. Mechanical Engineering
09 years of experience

Mrs. Amna Noor

Lecturer

M.Sc. Mechanical Engineering
08 years of experience

Mrs. Fabia Manzoor

Lecturer

M.Sc. Mechanical Engineering
04 years of experience

Mr. Muhammad Abu Bakar

Lecturer

M.Sc. Mechanical Engineering
05 years of Experience

Mr. Faraz Shabbir

Lab. Engineer

B.Sc. Mechanical Engineering
07 Years of Experience

Mr. Waleed Ahmad

Lab. Engineer

B.Sc. Mechanical Engineering
02 Years of Experience

Mr. Khizar Siddique

Lab. Engineer

B.Sc. Mechanical Engineering
02 Years of Experience

Mr. Shah Nawaz

Senior Instructor (Labs)/
Assistant Manager



Program Educational Objectives (PEOs)

PEO-1: Apply the knowledge to solve analytical and practical engineering problems

PEO-2: Work for the continuous socio-technical development of the society

PEO-3: Exhibit strong communication, and managerial skills, as team leaders as well as team members

Department's Mission

Department of mechanical engineering at NFC Institute of Engineering & Fertilizer Research (NFC-IE&FR) dedicates itself to provide students with a set of skills, knowledge and attributes that will permit its graduates to succeed and prosper as engineers and leaders. The department endeavor to organize its graduates to pursue life-long learning, serve the profession and meet intellectual, ethical and career challenges.

Accreditation

IE&FR has moved from traditional education system to Outcome Based Education (OBE) system. The B. Sc. Mechanical Engineering program of IE&FR has been re-accredited by the Pakistan Engineering Council (PEC) under OBE system.

Scope of Mechanical Engineering

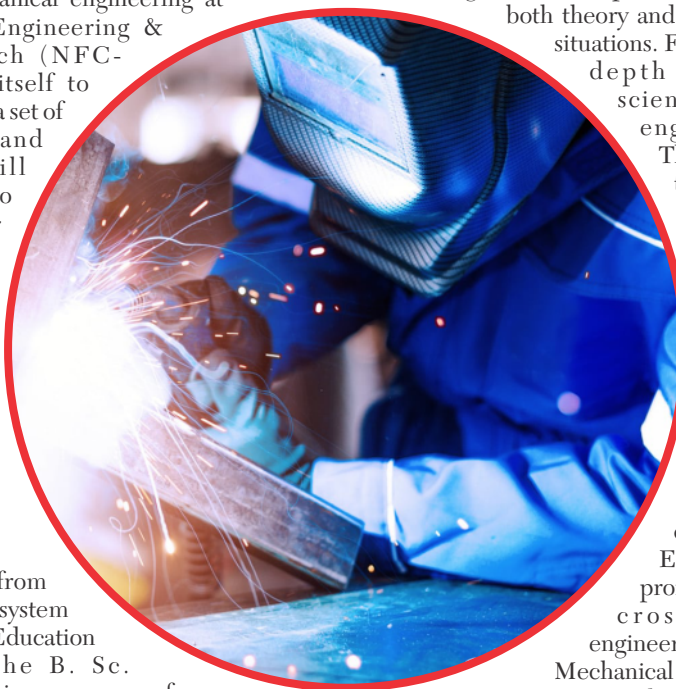
Mechanical engineering is a very broad field of engineering that involves the application of physical principles for analysis, design, manufacturing, and maintenance of mechanical systems. The process of mechanical engineering can be as simple as the design of a wheel or as complex as the optimization of a turbocharged engine for speed. It can be as small as the cutting of a nano-sized gear or as large as the

assembly of a supertanker used to carry oil around the world. It is a diversifying study of engineering, encompassing areas ranging from robotics machine to computational mechanics, composite materials and Tribology.

Mechanical engineering continues to play a key role in developing, operating and manufacturing new machines, devices and processes to benefit mankind. Mechanical engineers apply their creative imaginations and professional skills to combine both theory and practice in a variety of situations. For this, they need an in-depth understanding of scientific principles and engineering processes. They also need to be able to develop solutions to real-life problems in the face of conflicting requirements.

Mechanical engineers in the commercial world combine technical and management skills to retain the competitive advantage for their companies. Mechanical Engineering is a diverse profession that lies at the crossroads of all the engineering disciplines. In a way, Mechanical Engineers are involved in creating the future. They are the driving force behind many of our technologies and industrial processes including innovative products like mobiles, PCs and DVD etc. in our modern world. The Mechanical Engineering Department at IE&FR seeks to combine excellence in education and research with service to society. The goal of academic program in Mechanical Engineering is to provide students with a balance of intellectual and practical experiences that enable them to address a variety of industrial needs.

Academic course work and projects are designed to



endow students with the ability to apply knowledge of science, mathematics, and engineering, and the capability to work effectively in multidisciplinary teams, providing leadership and technical expertise. With a solid grounding in the principles and practice of mechanical engineering, our graduates are ready to engage in ethical approaches to engineering, with concern for society and the environment.

Laboratories of Mechanical Engineering Department

The Department of Mechanical Engineering has made substantial investment in up-to date equipment for its laboratories and has enviable computing facilities. The department has well equipped laboratories in the areas of Applied Thermodynamics, Hydraulics & Fluid Flow, Heat & Mass Transfer, Refrigeration & Air Conditioning, Energy Resources & Utilization, Metrology & Quality Assurance, Mechanics of Materials & Machines, Workshop Technology, Machine Tools & Machining and Power Plants. In all these laboratories, stress is being made to update the lab facilities by introducing the computerized data acquisition facilities. The central library has more than 1500 books related to Mechanical Engineering. Faculty is highly energetic and qualified.

All the members have a close liaison with local industry and aims to provide students with a well formed understanding of all aspects of the employment relationship, that is, industrial relations, human resource management and related activities. For students to have an exposure of industrial milieu



and to aid practical learning of students, several industrial visits locally and out of city are specifically planned for the students in each semester as a regular feature, which helps them in relating theoretical knowledge to practical, to gain confidence, buoyancy and self assurance in communicating with industrial professionals. As a part of curriculum activities, internship of students in different industries to give timely industrial level training. Workshops for industrial professionals are also held by the department team and expressly address the learning requirements of the industrial individuals as well as our students.

The Mechanical Engineering Department also accommodates the other Engineering Discipline of Chemical & Electrical Engineering in teaching their subjects like Applied Mechanics-I, Engineering Drawing, Mechanical Technology, Applied Thermodynamics, Workshop Practice, Basic Mechanical Engineering subjects are being taught along with their relative laboratories.

Bachelor's Degree Program in Mechanical Engineering

Mechanical Engineering department offers four-year bachelor degree program in Mechanical Engineering in affiliation with University of Engineering & Technology Lahore. This program provides the strong academic engineering education required to equip graduates with the broad range of skills a Mechanical Engineer needs in order to meet the challenges of a diverse range of careers. The application of engineering science and the solution of industrial problems is a strong theme throughout the degree program.



Mechanical Engineering degree at IE&FR allows students to develop a fundamental understanding of Mechanical Engineering principles by studying engineering sciences and learning to apply them to real engineering problems. This program is designed to prepare students for a professional career in Mechanical Engineering by providing a broad education which encompasses the methodologies and practices of engineering appropriate to the needs of industry. The program is structured so as to develop a sound understanding of the nature of engineering systems, how they function and typical operational problems, which commonly face the practitioner engineer. Students also gain confidence and skills to begin their career in engineering. Group work, individual projects, computing skills, design work, presentation skills and team building courses are integrated into the degree program.

Courses also address the business and financial management aspects of Mechanical Engineering. This produces graduates, who will not only understand the aspects of engineering but, will be able to direct and manage projects also.

Career Choices for Mechanical Engineers & Job Prospects

The Mechanical Engineering professional can, and

should, aim high in their career aspirations. A degree in Mechanical Engineering is an international passport to an interesting, challenging and well rewarding career. The industry offers a wide choice of options extending across many interdisciplinary interdependent specialties. The main areas of employment are in design and manufacture, research and development, management, project engineering and technical support, sales and marketing.

Mechanical engineers design power plants, aeroplanes, space crafts, automobiles, heating and air-conditioning systems, conveyors and elevators. They are employed as environmental, nuclear and railway engineers. Mechanical engineers are involved in development of technologies for solar and wind energy and exciting areas like micro machines. Many hold managerial positions in their companies. Whether working on an oil rig or in corporate headquarters, Mechanical Engineers are solving the technical problems of today and tomorrow.

"Alumni in Professional Career"

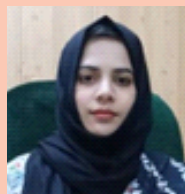


Engr. Shoaib Hassan Awan
Elected Vice Chairman,
All Pakistan LPG Distributors
Association 2022-23
Deputy Convener, FPCCI
Regional Standing
Committee, LPG 2022-23.

I had studied in NFC institute of Engineering and Fertilizer Research Faisalabad in the field of Mechanical Engineering (2009-13). I had learned a lot during my study career there. Alhamdulillah by the grace of Allah, parents prayers and teachers guidance I became a successful businessman in Pakistan. In the field of LPG we are in a complete supply chain from import to deal with end consumers.

We are doing business with PSO, SSGC LPG, PARCO, FAUJI FOUNDATION, BURSHANE, PPL, OGDCL, BYCO etc.

We deal with industrial applications based in LPG



Aqsa Shahbaz
Senior Mechanical Engineer
Design at Pakistan Railways.

I see it as a great honour to be a student of NFC-IEFR. It's the reason I am pursuing my dreams and facing the work-life challenges fearlessly. I am grateful to this institute, especially my department, for facilitating us with such a positive learning environment, maintaining that very discipline as well as decorum in its premises.

B.Sc. Mechanical Engineering

Curriculum

First Semester

Course #	Title	Credit Hours		Pre-Requisite
		Th.	Lab.	
HU 111 & HU 111L	Communication Skills	1	1	
MA 113	Calculus and Analytic Geometry	3	0	
PHY 119	Engineering Physics	2	0	
CS 101 & CS 101L	Computing Fundamental for Engineers	1	1	
ME 111 & ME 111L	Thermodynamics-I	3	1	
ME 121 & 121L	Engineering Graphics and Drawing	1	1	
ME 131	Materials and Manufacturing-I	3	0	
Total		14	4	

Second Semester

Course #	Title	Credit Hours		Pre-Requisite
		Th.	Lab.	
IS 101	Islamic and Pak Studies-I	3	0	
ME 122 & ME 122 L	Engineering Mechanics	3	1	
CE 101 & CS 101L	Computer Programming for Engineers	1	1	
HU 121 & HU 121L	Technical Writing	1	1	
MA 225	Differential Equations and Transforms	3	0	
EE 101	Electrical Engineering and Electronics	2	0	
ME 100L	Workshop Practice	0	1	
QT-101	Translation of Holy Quran-I	1	0	
Total		14	4	

Third Semester

Course #	Title	Credit Hours		Pre-Requisite
		Th.	Lab.	
IS 201	Islamic and Pakistan Studies-II	3	0	
ME 231 & ME 231L	Materials and Manufacturing-II	2	1	ME 131
ME 251L & ME 221 &	Computer Aided Drawing	0	1	
ME 221L & ME 211 &	Mechanics of Materials-I	3	1	ME 122
ME211L	Fluid Mechanics-I	3	1	
QT-201	Translation of Holy Quran-II	1	0	
HU-100	Languages	0	0	
Total		12	4	

Fourth Semester

Course #	Title	Credit Hours		Pre-Requisite
		Th.	Lab.	
MGT 410	Engineering Project Management	2	0	
ME 212 & ME 212L	Thermodynamics-II	3	1	ME 111
ME 213 & ME 213L	Fluid Mechanics-II	3	1	ME 211
ME 222 & 222 L	Mechanics of Materials-II	2	1	ME 221
MA-241	Applied Engineering Statistics	2	0	
MGT 413 & MGT 413L	Engineering Entrepreneurship	1	1	
Total		13	4	

Fifth Semester

Course #	Title	Credit Hours		Pre-Requisite
		Th.	Lab.	
ME 321 & ME 321L	Mechanics of Machines	3	1	ME 122
ME 311 & ME 311L	Heat and Mass Transfer	3	1	ME 213
ME 341	Instrumentation and Control	2	0	
ME 322	Machine Design-I	3	0	ME 222
ME 351L	Computer Aided Design-I	0	1	
ME 371	Health Safety & Industrial Environment	2	0	
ME 399L	Semester Design Project	0	1	
QT 301	Translation of Holy Quran-III	1	0	
Total		14	4	

Sixth Semester

Course #	Title	Credit Hours		Pre-Requisite
		Th.	Lab.	
ME 342 & ME 342L	Robotics And Automation	2	0	ME 341
ME 381 & 381L	Engineering Data Analytics & AI	2	1	
ME 323	Machine Design II	2		ME 222
ME 352L	Computer Aided Design-II	0	1	
ME 332	Metrology and Quality Assurance	2		MA 241
ME 361	Energy Resources and Utilization	2	0	ME 311
ME 351 & ME 351L	Computational Engineering-I	2	0	
MGT 316B	Professional Ethics in Engineering Practices	2	0	
Total		14	4	

Seventh Semester

Course #	Title	Credit Hours		Pre-Requisite
		Th.	Lab.	
ME 461 & ME 461L	IC Engine	2	1	ME 212
MGT 160	Engineering Economics	2	0	
ME 451 & ME 451L	Computational Engineering-II	2	1	ME 351
ME 462	Energy Conservation and Management	2	0	ME 361
ME 496L	FYDP-I	0	3	
ME 400	Elective-I	2	0	
QT 401	Translation of Hol Quran-IV	1	0	
ME 471	Production and Operations Management	2	0	
Total		13	5	

Eighth Semester

Course #	Title	Credit Hours		Pre-Requisite
		Th.	Lab.	
ME 463	Power Plants Engineering	2	0	ME 212
ME 464L	Energy & Power Systems	0	1	
ME 411 & ME 411L	Refrigeration and Air Conditioning	2	1	ME 311
ME 421	Mechanical Vibration	2	0	ME 321
MGT 312	Supply Chain Management	2	0	
ME 497L	FYDP-II	0	3	ME 496
ME400	Elective-II	2	0	
Total		10	5	
Grand Total		104	34	



Department of Civil Engineering

Dr. Shehroze Ali

Head of Department
Ph.D Structural Engineering, Australia
10 years of experience

Dr. Wajeeha Qamar

Assistant Professor
Ph.D Transportation Engineering
17 years of experience

Dr. Muhammad Hussain Awan

Assistant Professor
Ph.D Transportation Sciences, Belgium
08 years of experience

Dr. Muhammad Talha Ghafoor

Assistant Professor
Ph.D Civil Engineering, Japan
04 years of experience

Engr. Atif Ali Khan

Lecturer
M.Sc. Transportation Engineering
13 years of experience

Engr. Sohail Afzal Gill

Lecturer
M. Sc. Water Resources Engineering
14 years of experience

Engr. M. Zaeem Fakhar

Lecturer
M.Sc. Structural Engineering, UK.
08 years of experience

Engr. Sohail Saleh

Lecturer (on study leaves)
M.Sc. Transportation Engineering
08 years of experience

Engr. Rizwan Amjad

Lecturer (on study leaves)
M.Sc. Structural Engineering
07 years of experience

Engr. Usman Shahid

Lecturer
M.Sc. Construction Engg. & Management
07 years of experience

Engr. M. Umair Ashfaq

Lecturer
M.Sc. Geotechnical Engineering
06 years of experience

Engr. Suliman Khan

Lecturer
M.Sc. Structural Engineering, China
05 years of experience

Engr. Gul Zaman

Lecturer

M.Sc. in Geotechnical & Highway

03 years of experience

Engr. Khushal Khan

Lecturer

M.Sc. Structural Engineering

05 years of experience

Engr. Darakhshan Zahra

Lab. Engineer

B.Sc. Civil Engineering

01 year of experience

Engr. Hamza Shahid

Lab. Engineer

B.Sc. Civil Engineering

02 years of experience

Engr. Ayeza Saleem

Lab. Engineer

B.Sc. Civil Engineering

01 year of experience

Engr. Muhammad Imran

Lab. Engineer

M.Sc. Structural Engineering

06 months of experience



Outcome Based Education (OBE) Process

The Department of Civil Engineering at NFC IE&FR Faisalabad, is actively taking initiatives in implementation of Outcome-Based Education (OBE) system in teaching-learning process. OBE is a flexible, empowerment-oriented approach to learning. It aims at equipping learners with the knowledge, competence and orientations needed for success after they leave institution. It empowers students to take more responsibility for their own learning and supports the move to greater student engagement with the curriculum and to student-centered approaches.

Several stakeholders such as employers, industrial advisory board, faculty councils, and alumni are involved directly in the assessment of program effectiveness. Program Education Objectives (PEOs) are assessed directly as well as indirectly to monitor the attainment. During four years of the program, Washington Accord graduate attributes (WAs/PLOs) are imparted to the students and then attainment is assessed and analyzed through both direct and indirect assessments. Course Learning Outcomes (CLOs) are a major part of attainment of PLOs. Every loop in PEOs, PLOs and CLOs has a four steps process involving design, assessment, evaluation and review with corrective actions if required.

Program Educational Objectives (PEOs)

The program Education Objectives (PEOs) are to produce graduates who can exhibit following traits after five (05) years of graduation:

PEO-1. Graduates demonstrate their proficiency of applying the knowledge & skills to solve complex civil engineering problems.

PEO-2. Graduates communicate effectively and contribute in the project team.

PEO-3. Graduates uphold principles of ethics and societal obligations with integrity throughout their professional practices.

PEO-4. Graduates engage themselves in continuous professional learning process for the sustainability.

Department's Mission

People are our priority. The world is our laboratory. To make contribution to a sustainable world, shaping public policy, enhancing health & safety and the quality of life by developing global leadership among students, alumni and faculty in different phases of planning, designing, constructing, managing and renewing built natural environments.

B.Sc. Civil Engineering

Also known as the mother of all engineering disciplines, civil engineering is the oldest, broadest and most useful branch of engineering. It facilitates all engineering fields through variety of projects by the utilization of natural resources. The role of Civil Engineering has always been very vital in our daily life as we are surrounded by various Civil Engineering structures. No matter how large are the projects, Civil Engineering provides foundation for start of each project. The demand of Civil Engineers in different projects is increasing day by day. So, the



Civil Engineering can never be neglected in any country and all over the globe due to its majestic art of creation.

Civil engineering is the field of engineering which deals with the planning, design, construction and



maintenance of different structures such as building, roads, bridges, dams, reservoirs, canals, tunnels, railway tracks, airports, seaports, harbors etc and also impact of these structures on environment. Examples of mega Civil Engineering Structures in Pakistan are mainly Badshahi Mosque, Faisal Mosque, Shahi Qila, Shalamar Bagh, Minar-e-Pakistan, Motorway, Shahra-e- Karakoram , Tarbela Dam, Mangla Dam, Ghazi Brotha Hydropower Channel and internationally Eiffel Tower (France), Burj-al-Arab (Dubai), Pisa Tower (Italy), Eurotunnel (through sea) (France), Three Gorges Dam (China) etc. Civil Engineers utilize the available resources (expertise, materials, manpower) to complete the project in a given time span keeping in view the time, expenditure, environmental issues and physical hazards of the project.

Civil Engineering Department at IE&FR

Civil Engineering Department was established in fall 2010 at IE&FR. Department has affiliation with the University of Engineering and Technology (UET) Lahore and there is frequent exchange of knowledge between respective departments.

Department of Civil Engineering is following the curriculum of B.Sc. Civil Engineering as approved by the UET, Lahore. Faculty of the department is highly qualified, dedicated and further induction of highly qualified staff is also in progress. Department has its own separate building where adequate space is available for class rooms and lab facilities. Currently department is offering B.Sc. Civil Engineering Program which comprises eight semesters.

In bachelor degree program, emphasis is given on the development of fundamental concepts and principles which constitute the basis of Civil Engineering practice. To increase their capabilities for research, students are given assignments/mini projects during the classes in semesters and main project in final year. Classes of different subjects are

supplemented with tutorials and laboratory work. Class and laboratory work is further supported by frequent field tours / visits in order to strengthen the concepts and approach of students for understanding the basic principles of the Civil Engineering.

Job Opportunities / Employment

- Civil Engineers are employed by a wide range of national and international firms/organizations.
- In Pakistan, Civil Engineers are consumed in various Government as well as Private organizations including mainly
- Water and Power Development Authority



- (WAPDA)
- Communication and Works Department (C & W)
- Indus River System Authority (IRSA), Pakistan Railways
- Civil Aviation Authority (CAA)
- National Highway Authority (NHA)
- Irrigation and Power Department
- Public Health Engineering Department (PHE) and in Private Sectors

Consulting firms like National Engineering Services of Pakistan (NESPak), Associated Consulting Engineers (ACE) and Contractors Like Descon Engineering, Izhar Construction, Habib Rafiq and many others.

List of Sub-Disciplines in Civil Engineering

Being a broader field, Civil Engineering is divided into the following sub fields.

1. Construction Engineering
2. Structural Engineering
3. Geotechnical Engineering
4. Transportation Engineering
5. Surveying
6. Water Resource Engineering
7. Environmental Engineering
8. Municipal Engineering
9. Coastal Engineering

10. Material Engineering
11. Earthquake Engineering
12. Bridge Engineering
13. Tunnel Engineering

Each field of the Civil Engineering has its jobs both at government and private sector level.

Laboratories and Other Facilities

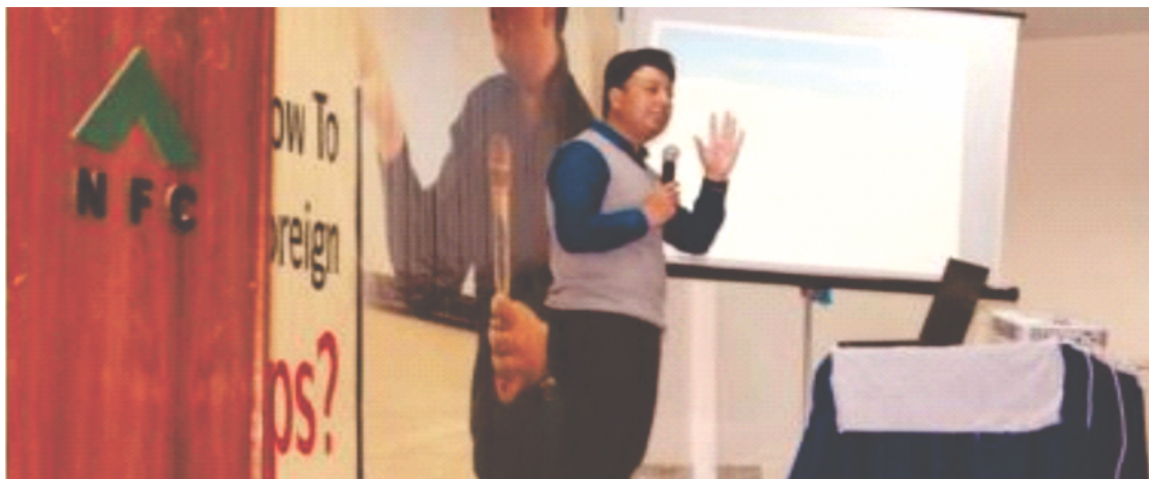
Following labs have been developed in Civil Engineering Department at IEFr Faisalabad:

- Concrete Lab/Construction Materials Lab
- Fluid Mechanics Lab
- Hydraulic Engineering Lab
- Transportation Engineering Lab
- Strength of Materials Lab
- Surveying Lab
- Geotechnical Engineering Lab
- Computer Lab
- Structural Mechanics Lab
- Basic Mechanics Lab
- Environmental Engineering Lab

Commercial testing

Concrete and Steel commercial testing is also carried out by Civil Engineering Department.

Student Chapter



NFC IE&FR Young Professionals Network-YPN Pakistan

Young Professionals Network believes “Every great achiever is inspired by great mentors”. Young professionals' network was founded by optimistic leader Prof. Dr. Saqib Ehsan, Head of Civil Engineering Department on 14 March, 2016.

- An informative seminar “How to win Foreign Scholarships” was arranged by YPN regarding the guidance of winning different scholarships in the educational

career of a student. The chief speaker / instructor for this seminar was Mr. Muhammad Bilal Hussain (CEO-Motivatorx) having a vast experience for training students for studying abroad and providing guidelines for gaining foreign scholarships. Scholarships can be very helpful in a student's life. They help a student in minimizing his financial stress and to grab more opportunities by using these financial aids in his/her educational career.

- YPN arranged a CPD webinar on the topic “Importance of Health and Safety in Civil Engineering” conducted by Engr. Shahid Iqbal who is the expert in Project Management, Construction Management, Health & Safety. This CPD webinar is

attended by not only NFC students, but many PEC holders as well. This webinar is about the current practice and major concerns regarding health & safety in construction projects.

Why Civil Engineering / Technology at NFC-IE&FR

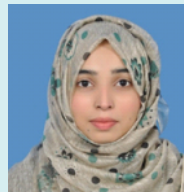
1. First Pakistan Engineering Council (PEC) and National Technology Council (NTC) recognized institute of Faisalabad in Civil Engineering.
2. Department has an affiliation with the University of Engineering and Technology (UET) Lahore.
3. Department has its own separate building where adequate space is available for class rooms and lab facilities.
4. Departmental Recreational and Industrial Tours.
5. Fully Developed Labs for students in which commercial testing is also conducted.
6. Foreign Qualified Faculty (Germany, UK, Japan, Australia, Korea).
7. Continuing Professional Development (CPD) Seminars, Lectures and Workshops are conducted to tackle down the challenges of modern era.

"Alumni in Professional Career"



Engr. M. Ahmad Khizar
Project Consultant Engineer
Planning and
Development Department
Government of the Punjab
NFC Civil Batch 2015-2019

NFC is an institute which provides a complete platform to boost up your practical knowledge of Engineering. Institute has extraordinary Laboratory resources. Faculty of institute encourages students to build their character and to enhance their self confidence.



Engr. Mawra Attaria
Assistant Director /
Sub Divisional Officer
Water and Sanitation
Agency, Lahore Development
Authority, Lahore.
Civil Engineering Batch-
(2015-2019)

I Engr. Mawra Attaria is an alumnus of the prestigious Institute of NFC. "NFC Institute of Engineering and Fertilizer Research is a place to nurture our personality, build our character and enlighten our future under the latest amenities. NFC is the best institute in the 3rd biggest city in Pakistan. It provides a tremendous forum to build social networks and interpersonal skills to conquer the world.

B.Sc. Civil Engineering

Curriculum

First Semester

Course No.	Title	Credit Hours	
		Th.	Lab.
CE-103	Construction Materials	2	1
CE-105	Civil Engineering Drawing	1	2
Phy-122	Basic Mechanics	2	1
MA-111	Applied Mathematics-I	3	0
EE-198	Basic Electrical Technology	1	1
MinE-170	Basic Engineering Geology	2	0
QT-101	Translation of the Holy Quran-I	1	0

Second Semester

Course No.	Title	Credit Hours	
		Th.	Lab.
CE-101	Elementary Surveying	3	1
CE-102	Computer Programming	2	1
HU-101	Communication Skills	0	1
IS/HU-101	Islamic & Pak Studies/ Ethics	3	0
MA-112	Applied Mathematics	3	0
ME-119	Basic Mechanical Technology	1	0
ME-100L	Workshop Practice	0	1

Third Semester

Course No.	Title	Credit Hours	
		Th.	Lab.
CE-201	Surveying and GIS-RS Applications	3	1
CE-212	Mechanics of Materials	3	1
CE-231	Fluid Mechanics-I	3	1
IS/HU-201	Islamic & Pak Studies/Ethics	3	0
MA-240	Numerical Analysis	2	1

Fourth Semester

Course No.	Title	Credit Hours	
		Th.	Lab.
CE-205	Civil Engineering Construction & Graphics	2	1
CE-207	Engineering Economy & Construction Management	3	1
CE-211	Elementary Structural Analysis	3	0
CE-221	Geotechnical Engineering-I	3	1
ATP-201	Introduction to Architectures and Town Planning	2	0
QT-201	Translation of the Holy Quran-II	1	0

Fifth Semester

Course No.	Title	Credit Hours	
		Th.	Lab.
Mgt-317	Project Management in Engineering	2	0
CE-311	Structural Analysis	2	0
CE-313	Steel Structures	3	1
CE-321	Geotechnical Engineering-II	3	1
CE-332	Hydrology and Water Resources Management	2	1
HU-300	Technical Report Writing	0	1
QT-301	Translation of the Holy Quran-III	1	0

Sixth Semester

Course No.	Title	Credit Hours	
		Th.	Lab.
CE-312	Structural Mechanics	3	1
CE-314	Plain & Reinforced Concrete-I	3	1
CE-331	Fluid Mechanics-II	3	1
CE-305	Hazards and Disaster Management	2	0
MA-356	Probability & Statistics in Engineering	2	0
Mgt-319	Entrepreneurship for Engineers	1	0
CE-306	Professional Ethics	1	0

Seventh Semester

Course No.	Title	Credit Hours	
		Th.	Lab.
CE-412	Structural Engineering	3	1
CE-411	Plain and Reinforced Concrete-II	3	1
CE-421	Transportation Engineering	3	1
CE-434	Hydraulic Engineering	3	1
CE-499	Project	0	3

Eighth Semester

Course No.	Title	Credit Hours	
		Th.	Lab.
CE-431	Irrigation Engineering	3	1
CE-413	Design of Structures	2	1
CE-423	Pavement and Foundation Engineering	3	0
ENE-440	Environmental Engineering	3	1
CE-499	Project	0	3
QT-401	Translation of the Holy Quran-IV	1	0



Department of Computer Science

Prof. Dr. Muhammad Sultan Zia

Professor / Head of Department
Ph.D (FAST) Islamabad,
MS(CS) (FAST) Islamabad,
M.Sc. (CS) IIU Islamabad.
20 Years of Experience in Education & Research
Phone: 0092 41 9220355-7 Ext. 155

Dr. Muhammad Awias

Assistant Professor / Coordinator
Ph.D (Zhejiang University, China),
M.Sc. (CS) UET Lahore,
B.Sc. Engineering UET, Lahore.
19 Years of Experience in Education & Research

Dr. Ammar Rafiq

Assistant Professor
Ph.D (UET Lahore, MS (IT) NUST, Islamabad,
BS (CS) UAF, Faisalabad
18 Years of Experience in Education & Research

Mr. Asim Mubarik

Assistant Professor
Ph.D. (Hohai China) In progress
MS (Software Engineering)
NUST Islamabad. BS(CS),
17 Years of Experience in Education

Dr. Qammar Uddin

Lecturer
Ph.D. (CUST) Islamabad,
MS Electronics Engineering (MAJU) Islamabad.
11 Years of Experience in Education & Research

Ms. Anum Ejaz

Lecturer
MS (CS), NTU Faisalabad,
B.Sc. (Computer System Engineering),
BZU Multan.
11 Years of Experience in Education

Mr. Omair Ashraf (On Study Leave)

Lecturer
MS(CS), NTU Faisalabad.
B.Sc. (Telecom Engineering), COMSAT
Abbottabad.
11 Years of Experience in Education

Mr. Usman Ahmed

Lecturer
MS (Computing) Ireland. MBA (IT). Lahore
17 Years of Experience in Education

Ms. Amna Yasin

Lecturer
MS (CS) COMSAT Lahore, BS (CS) UET Lahore.
08 Years of Experience in Education

Mr. Fiaz Waheed

Lecturer

MS (CS) GC University Faisalabad, BS (CS), UET
Lahore.

10 Years of Experience in Education & Industry

Engr. Najam Farooq

Lab Engineer

B.Sc (Telecom Engineering), GC University
Faisalabad.

10 Years of Experience in Education & Industry

Ms. Aden Iqbal

Lecturer

MS (CS) NTU Faisalabad.

BS (CS), University of South Asia Lahore.

08 Years of Experience in Education

Ms. Huma Naeem

Lab Engineer

B.Sc. Electrical Engineering UET,
Lahore,

M.Sc Electrical Engineering
3 years of experience

Ms. Adeela Bashir

Lab Engineer

B.Sc. Electrical Engineering Comsats, Lahore
2 years of experience

Ms. Shafia Kiran

Demonstrator

BS (Hons) Mathematics GC University

1 year of experience



Introduction:

The computers and computing play a significant role in our lives. In all technical and scientific disciplines, computing is transforming the process of research, development, and discovery. With more people having access to information technology, computing's social influence is growing. At the same time, the foundations of computers are also evolving quickly. The computing landscape is changing as a result of new technologies like multicore processors, mobile computing, and cloud computing, and as computer science becomes more interdisciplinary, new problems are emerging. Companies in a variety of industries are looking for computer scientists with cutting-edge expertise. A strong computer science department is essential to NFC-IE&FR's mission to be a valuable institute that prepares students to contribute to the advancement of society.

The Department of Computer Science was established as a separate department in 2006. It took off by offering B.Sc. (Computer Science) program in 2006. In 2022, the department started B.Sc. Information Technology (4-years) program in 2022 as well B.Sc. Information Technology (2-years) program in 2022. These bachelor's Programs at NFC-IE&FR are distinguished from similar degree courses offered in our close vicinity. Our programs are having a more diverse coverage of all related subjects like Artificial Intelligence, Computer Communication and Networking, Information

Systems, Software Development, and Web Technologies, with a tinge of management courses. This has been carefully conceived to make our students more up-to-date with market trends.

The Vision:

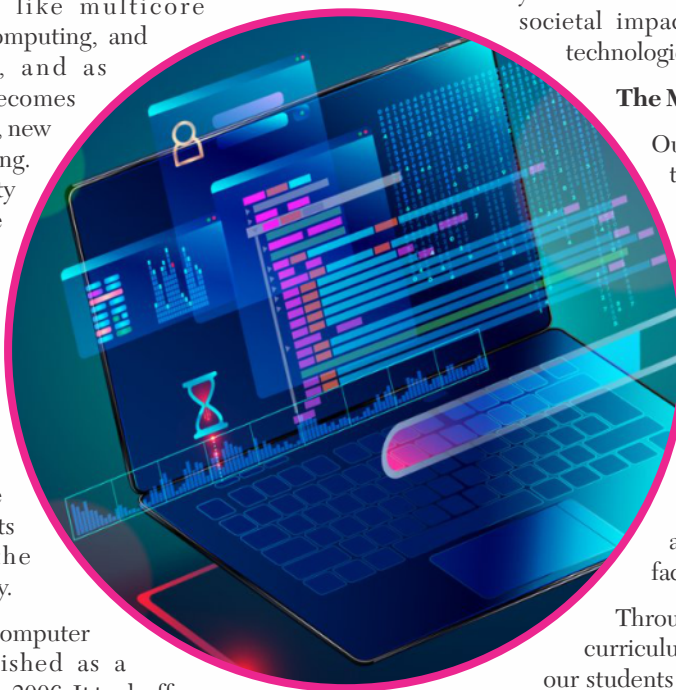
To be a global leader in computer science by conducting groundbreaking research, providing high-quality education, fostering interdisciplinary collaboration, engaging with industry, promoting diversity and inclusion, and making a positive societal impact through innovative technologies and solutions.

The Mission Statement:

Our mission is to advance the field of computer science through rigorous education, cutting-edge research, and meaningful collaboration. We are committed to fostering intellectual curiosity, critical thinking, and technical excellence among our students, faculty, and staff.

Through our comprehensive curriculum, we aim to provide our students with a solid foundation in computer science principles, theories, and practical skills. We strive to equip them with the ability to analyze, design, and develop innovative solutions to complex problems while considering ethical implications and societal impact.

We are dedicated to conducting impactful research that pushes the boundaries of computer science knowledge and addresses real-world challenges. Our interdisciplinary collaborations enable us to leverage diverse perspectives and expertise,



fostering innovation and driving technological advancements.

As an inclusive and diverse community, we value and promote equal opportunities for all individuals, regardless of their background or identity. We foster an environment that encourages open dialogue, collaboration, and mutual respect.

We actively engage with industry partners, government agencies, and the wider technology community to facilitate knowledge transfer, internships, and research collaborations. By bridging academia and industry, we aim to contribute to the practical application of computer science and empower our students to succeed in a rapidly evolving technological landscape.

Ultimately, our mission is to make a positive impact on society through the responsible use of computer science. We strive to develop technologies, systems, and policies that address pressing societal challenges, enhance the quality of life, and promote the greater good.

Together, we envision a future where computer science plays a transformative role in shaping a more innovative, sustainable, and inclusive world.

Offered Programs:

- BS Computer Science (4 years)
- BS Information Technology (4 years)
- BS Information Technology (2 years)

Mode of Study:

A great deal of research and teaching takes place that encompasses theory, technology, practice, and applications of software and engineering in computer-based engineering systems. To accomplish its mission, the Department of Computer Science places equal weightage on the dissemination of knowledge (teaching), the creation of knowledge (research), and the application of knowledge (development). The excellent teacher-to-student ratio in the department ensures that

instruction, research, and development are integrated to make the institution, innovative and responsive.

Bachelor's degree in Computer Science spans four years to study, distributed into a total of 8 semesters and coupled with internship opportunities in an appropriate business concern. Students are tested through quizzes, assignments, midterm, and final exams, their performance is gauged on absolute and relative grading systems. The courses follow the international grading system of grade point average (GPA). In addition to its permanent faculty, the faculty at NFC-IE&FR is drawn from a diversified pool of professional instructors, holding at least a master's degree.

To provide hands-on experience, students undertake semester projects and write technical research papers as their semester work. To strengthen their theoretical skill, students are given practical exposure to industries by arranging visits to industries and inviting guest speakers.

The culture of the department is instrumental in giving students technical versatility and a driving intellectual curiosity to carry out applied research leading to the development of science and technology. The Department of Computer Science provides a blend of curricular and extracurricular activities for the students.

Computer Labs:

The department is equipped with the most modern computer labs with the latest Intel Core i5 machines. The Computer Labs are linked through state-of-the-art network connectivity. All students & staff have access to the required information for processing under the appropriate security systems, through the available servers. The Computer Science Department provides a comprehensive range of facilities necessary for computer users. The following most modern Computer Labs have been developed for the students of Computer Science and Information Technology.

- Software Engineering Lab
- Network Technologies Lab
- Software Development Lab
- Databases Lab
- Electronics Lab

Video Conference Room:

The department has also a video conference room which provides the students an opportunity to get educational training and collaborate with other experts and professional organizations.

Internet Facility:

The main computing resource provided for students is a network of powerful Pentium machines, interconnected through Gigabit LAN. Ample ranges of software are available on the computers, including all common and specific packages. The Department is connected through W-LAN to provide modern teaching and learning environment and fast access to the Internet. The W-LAN caters to many important computing needs of the Department such as compilers of popular programming languages, RDBMS software (Oracle, SQL server), and communication facilities.

IEFR ACM Chapter at Computer Science Department NFC IEFR:

Association for Computing Machinery ACM, the world's largest educational and scientific computing

society, delivers resources that advance computing as a science and a profession. ACM provides the computing field's premier Digital Library and serves its members and the computing profession with leading-edge publications, conferences, and career resources. IE&FR ACM Chapter started in 2011; IE&FR ACM Chapter provides worldwide career and knowledge-sharing opportunities to the students registered in Computer Science Department. Students have access to the Digital Library and other Educational Activities in the Learning Center of ACM. The most distinguishing feature introduced last year under IE&FR ACM Chapter is the IEFR Computer Science Software Competition 2019 (ICSSC'19), in which the students of the Computer Science/Information Technology Departments from the most renowned universities of Pakistan participated in the event with great enthusiasm. ACM arranges every year two or more events for students. Students participate in various competitions to improve their interpersonal skills and abilities.

Career and Job prospects for Computer Science Graduates:

Computers are used in various areas going very deep into human lives and involve almost all sections of society unlocking the numerous doors of opportunities. From manufacturing finance, insurance, retail trade, consulting, academics, and



entertainment, every field is spiced up by the use of computer hardware and software vendors hire computer professionals for product development, quality assurance, customer support, sales and marketing documentation, and training. Every organization uses software products for instance; government organizations, hospitals, banks, insurance, and manufacturing companies, they hire computer professionals as system programmers, application programmers, system analysts, databases, and network administrations. The demand for people, who are skilled in the computing field, is massive, as an outcome of the existing information technology rumble. This demand is increasing unremittingly as the field's rapid augmentation persists. Some job titles in the computing industry simply do not exist 20 years ago like, business intelligence consultant, ERP and SAP manager, system analyst, computer scientist, database administrator, web designer, and many more.

B.Sc. Computer Science:-

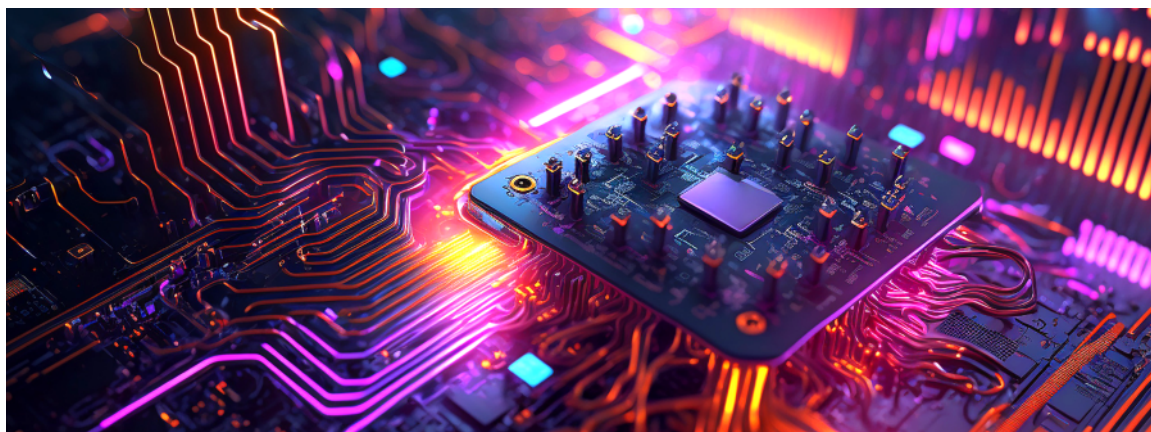
Overview:

The B.Sc. Computer Science Program owes its emergence to the relentlessly growing demand for professionals with expertise in Computer Science & information technology. It has been designed to offer a blend of Computer, Communication

technologies, and other information retrieving/processing tools to provide the students with the practical skills to entire the world of opportunities. Computer Science curriculum is allied to the application of computers to a wide range of problems. It aids to provide a solid technical foundation that prepares me for a career that can adapt to rapidly maneuvering technologies in computer science and telecom engineering. The course aims to provide an understanding of how software and hardware technologies can be harnessed to help with solving problems. Topics include the structure and organization of computer systems, the theory of computing, design, development, verification, and maintenance of various software. The course introduces examples that are drawn from a wide range of applications. No previous experience in computing or computer programming is assumed for these courses. The curriculum mainly addresses the built-in close liaison of different technologies to make our students a true IT professional.

NCEAC Accreditation:

The B.Sc. CS program is accredited by the National Computing Education Accreditation Council (NCEAC).



B.Sc. Computer Science

Curriculum
(Session 2020 and onward)

First Semester

Course Code	Title	Credit Hours	Prerequisites
CS-161	Programming Fundamentals	3-1	None
CS-102	Introduction to Computing	3-1	None
HU-102	Functional English	3-0	None
MA-123	Calculus	3-0	None
PHY-111	Applied Physics	2-1	None
ME-100L	Workshop Practice	0-1	None
Semester Credit Hours:		14-4	

Second Semester

Course Code	Title	Credit Hours	Prerequisites
CS-162	Object Oriented Programming	3-1	Programming Fundamentals
CMPE-222	Digital Logic Design	3-1	Applied Physics
HU-240	Psychology	3-0	None
HU-111L	Communication Skills (Lab)	0-1	None
MA-224	Multivariate Calculus	3-0	Calculus
MA-343	Applied Probability & Statistics	3-0	None
QT-101	Translation of the Holy Quran	1-0	None
Semester Credit Hours:		16-3	

Third Semester

Course Code	Title	Credit Hours	Prerequisites
CS-261	Data Structures and Algorithms	3-1	Object Oriented Programming
HU-221	Technical writing and Presentation Skills	3-0	None
CS-271	Computer Organization and Assembly Language	3-1	Digital Logic Design, Programming Fundamentals
MA-234	Linear Algebra	3-0	None
CS-270	Discrete Mathematics	3-0	None
Semester Credit Hours:		15-2	

Fourth Semester

Course Code	Title	Credit Hours	Prerequisites
CS-262	Database Systems	3-1	Data Structure and Algorithms
CS-263	Operating Systems	3-1	Data Structure and Algorithms
MA-228	Differential Equations	3-0	Multivariate Calculus
CS-272	Design and Analysis of Algorithms	3-0	Data Structure and Algorithms
CS-273	Theory of Automata	3-0	Discrete Mathematics
QT-201	Translation of the Holy Quran	1-0	None
Semester Credit Hours:		16-2	

Fifth Semester

Course Code	Title	Credit Hours	Prerequisites
CS-364	Information Security	3-0	Discrete Mathematics
CS-371	Artificial Intelligence	3-1	Data Structure and Algorithms
CS-301	Professional Practices in Software Development	3-0	None
CS-39x	Computer Science Elective-1	3-0	None
CS-365	Software Engineering	3-1	None
Semester Credit Hours:		15-2	

Sixth Semester

Course Code	Title	Credit Hours	Prerequisites
CS-373	Computer Networks	3-1	Operating Systems
CS-39x	Computer Science Elective-2	3-0	
CS-39x	Computer Science Elective-3	3-0	
CS-380	Graph Theory	3-0	Discrete Mathematics
CS-372	Parallel and Distributed Computing	3-0	Operating Systems
QT-301	Translation of the Holy Quran	1-0	None
Semester Credit Hours:		16-1	

Seventh Semester

Course Code	Title	Credit Hours	Prerequisites
CS-465	Final Year Project-I	0-3	None
CS-471	Compiler Construction	3-1	Theory of Automata and Formal Languages, Data Structures and Algorithms
CS-49x	Computer Science Elective-4	3-0	None
IS-101	Islamic & Pakistan Studies-I	3-0	
CS-49x	Computer Science Elective-5	3-0	
Semester Credit Hours:		12-4	

Eighth Semester

Course Code	Title	Credit Hours	Prerequisites
CS-466	Final Year Project-II	0-3	Final Year Project-I
MGT-414	Entrepreneurship & Business Management	3-0	None
IS-201	Islamic & Pakistan Studies-II	3-0	None
HU-XXX	International Language	0-0	None
MGT-424	Leadership Strategies	3-0	None
QT-401	Translation of the Holy Quran	1-0	None
Semester Credit Hours:		10-3	

Semester	I	II	III	IV	V	VI	VII	VIII	Total
Theory Hrs	14	16	15	16	15	16	12	10	114
Lab Hrs	4	3	2	2	2	1	4	3	21
Credit Hrs	18	19	17	18	17	17	16	13	135

List of Computer Science Elective Courses

Course Code	Title
CS-381	Computer Architecture
CS-481	Real Time Systems
CS-382	Operations Research
CS-383	Simulation and Modeling
CS-384	Introduction to Data Science
CS-385	Internet of Things
CS-482	Big Data Analytics
CS-483	Cloud Computing
CS-386	Database Administration
CS-387	Database Performance & Optimization
CS-388	Database Backup & Recovery
CS-389	Distributed Databases
CS-484	Data Warehousing
CS-581	Graph Databases
CS-582	Web semantics
CS-351	Computer Graphics
CS-485	Computer Vision and Image Processing
SE-325	UX/UI Design
SE-221	Human Computer Interaction
CS-487	Ethical Hacking
CS-353	Management Information Systems
CS-488	Information Retrieval
CS-354	Natural Language Processing
CS-355	Data Mining
CS-489	Machine Learning
CS-490	Soft Computing

Course Code	Title
CS-491	Wireless Networks
CS-492	Internetworking with Unix TCP/IP
CS-496	Linux Kernel Implementation
CS-390	System Programming
CS-391	Web Technologies
CS-392	Game Development
CS-393	Open Source Software Development
CS-493	Enterprise Application Development
CS-394	Mobile Application Development
CS-494	E-Commerce
CS-395	Introduction to Programming Languages
CS-396	Object Oriented Analysis and Design
CS-397	Design Patterns
CS-495	Software Design & Architecture
SE-211	Software Requirements Engineering
SE-331	Software Quality Engineering
SE-332	Software Measurement & Metrics
CS-497	Intro to Program Analysis
CS-498	Formal Methods
SE-442	Software Re-Engineering
SE-441	Software Project Management
CS-583	Leading Software Teams
CS-584	Habits of Highly Effective Software Engineer
CS-585	Personal, Team and Executive Software Processes
CS-586	Logical Paradigms of Computing

"Alumni in Professional Career"



Hafiz Fahad Javed
Computer Science 2016-2020
Organization: Crewlogix Technologies
Designation: Software Engineer & Team Lead (Flutter)

As an alumnus of NFC-IEFR Faisalabad, I am proud to look back on my journey since graduating in 2020 with the highest CGPA in my batch. NFC-IEFR gave me a top-notch education and a passion for technology. I'm grateful for the opportunities it provided.

Alongside fellow enthusiasts, I played a pivotal role in co-founding the Flutter Faisalabad open-source community. Our mission was to create a supportive platform that nurtures and trains students to learn this cutting-edge technology while fostering a collaborative environment for all members. It has been an exhilarating journey, witnessing the growth and success of our community.



Saif Ul Rehman
Computer Science 2018-2022
Organization: programmers profce pvt .ltd
Designation: associate software engineer(vue js, python & .net)

As NFC IEFR alumni, I can attest that the experience was incredibly rewarding. The university offered an exceptional education that equipped me with the necessary skills for a successful career. The faculty members were knowledgeable and readily available to provide assistance. I wholeheartedly recommend this university to anyone interested in pursuing an engineering degree. It's a fantastic environment for learning, personal growth, and preparing for a successful future.

BS Information Technology (4 years program)

The application of information technology (IT) is expanding rapidly in Pakistan and around the world. This is because in every aspect of our lives, whether at home, in industry, in the office, or the field, there are computer-based systems that run behind every machine.

Bachelor of Science in IT spans a four-year study period, distributed into a total of 8 semesters and coupled with internship opportunities in an appropriate business concern. Students are tested through quizzes, assignments, midterm, and final exams, their performance is gauged on the standard grading system. The courses follow the international grading system of grade point average (GPA). In addition to its permanent faculty, the faculty at NFC-IE&FR is drawn from a diversified pool of professional instructors, holding at least a master's degree. BS (IT) is a career build degree of studies in Pakistan. There is a world of computers, and those who work in it can have prosperous and satisfying careers. Graduates with a BS in IT can start stable, well-paying employment immediately away because there are many positions available in both public and commercial IT companies.

To provide hands-on experience, students undertake semester projects and write technical research papers as their semester work. To strengthen their theoretical skill, students are given practical exposure to industries by arranging visits to industries and by inviting guest speakers.

The culture of the department is instrumental in giving students technical versatility and a driving intellectual curiosity to carry out applied research leading to the development of science and technology. The Department also provides a blend of curricular and extra-curricular activities for the students.

B.Sc. Information Technology

The BS IT Program owes its emergence to the relentlessly growing demand for professionals with expertise in Computer Science & information technology. It has been designed to provide a combination of computers, communication technologies, and other information retrieval and processing tools which provides students with hands-on skills for the world of opportunities. Information Technology curriculum is allied to the application of computers to a wide range of problems. It aids to provide a solid technical foundation that prepares me for a career that can adapt to rapidly maneuvering technologies in computer science and information

technology. The courses aim to provide an understanding of how software and hardware technologies can be harnessed to help with solving problems. Topics include the structure and organization of computer systems, the theory of computing, design, development, verification, and maintenance of various software. The course introduces examples that are drawn from a wide range of applications. No previous experience in computing or computer programming is assumed for these courses. The curriculum mainly addresses the built-in close liaison of different technologies to make our students a true IT professional.

BS Information Technology (2 years program)

2-year BS-IT (5th Term/3rd Year Intake)(after 14-year education)

Introduction

The Department of Computer Science offers a 2-year Associate Degree Program in Computer Science which is equivalent to a 14-year Bachelor Degree. Computer Science is a dynamic field and most organizations are automating their existing systems to meet the challenges of the 21st century. The prime focus of the program is to equip students in the field of Computer Science so that they could grasp the in-built technicalities and hands-on experience in the fundamentals of Computer Science. During this study program, students will learn the basic skills required to develop software systems, databases, websites, and computer networks. These skills will enable students to capitalize on entry-level career opportunities in the Computer Science sector and to expand the limits of their knowledge by pursuing further studies. With an adequate grip on the more well-known programming languages, the graduates can land jobs in the rapidly growing tech sector in the country.

Program Objectives

1. Enlighten students with fundamentals of theoretical Computer Science.
2. Enhance the programming skills of students by exposing them to multiple programming languages, tools, paradigms, and technologies.
3. Enhance the analytical and problem-solving skills of students.
4. Enable students with technical expertise to add fruitful contributions to the software industry.
5. Provide students with a combination of knowledge, hands-on experience, and application of theory to information issues.
6. Empower students with the utility of Computer-aided analysis/design technology.

B.Sc. Information Technology

Curriculum (Session 2020 and onward)

First Semester

Course Code	Title	Credit Hours	Prerequisites
ICTC-101	Introduction to ICT	2-1	
CMPC-101	Programming Fundamentals	3-1	
ENGL-101	English Composition & Comprehension	3-0	
MATH-101	Calculus & Analytical Geometry	3-0	
PHYS-101	Applied Physics/Quantum Computing	3-0	
Total		14-2	

Fifth Semester

Course Code	Title	Credit Hours	Prerequisites
CMPC-301	Database Systems	3-1	Data Structures & Algorithms
CMPC-303	Information Security	3-0	
ITSC-305	Design and Analysis of Algorithms	3-0	
ITCC-301	System and Network Administration	3-1	Operating Systems
ITEC-303	Mobile Application Development	3-0	
Total		15-2	

Second Semester

Course Code	Title	Credit Hours	Prerequisites
CMPC-102	Object Oriented Programming	3-1	Programming Fundamentals
ENGL-102	Communication & Presentation Skills	3-0	
ITSC-102	Digital Logic Design	3-0	
MATH-102	Probability & Statistics	3-0	
BUSB-102	Business Economics	3-0	
BUSB-102	Principles of Management	3-0	
Total		18-1	

Sixth Semester

Course Code	Title	Credit Hours	Prerequisites
ITCC-302	Web Technologies	3-0	
BUSB-302	Human Resources Management	3-0	
ITEC-302	Cloud computing	3-0	
ITEC-304	Network Design and Management	3-0	
ENGL-302	Technical & Business Writing	3-0	
Total		15-0	

Third Semester

Course Code	Title	Credit Hours	Prerequisites
CMPC-203	Data Structures & Algorithms	3-1	Object-Oriented Programming
CMPC-205	Discrete Structures	3-0	
ITSCC-201	Professional Practices	3-0	
ITSC-201	Enterprise Systems	3-0	
MATH-203	Linear Algebra	3-0	
Total		15-1	

Seventh Semester

Course Code	Title	Credit Hours	Prerequisites
ITCC-403	Virtual Systems and Services	3-1	
CMPC-401	Final Year Project-I	0-3	
ITCC-407	IT Infrastructure	3-0	
ITEC-405	Mobile and Wireless Networks	3-0	
PKST-401	Pakistan Studies	2-0	
Total		11-4	

Fourth Semester

Course Code	Title	Credit Hours	Prerequisites
CMPC-204	Operating Systems	3-1	Data Structure and Algorithms
CMPC-206	Software Engineering	3-0	
CMPC-208	Computer Networks	3-1	
ITCC-202	IT Project Management	3-0	
BUSB-202	Entrepreneurship	3-0	
Total		15-2	

Eighth Semester

Course Code	Title	Credit Hours	Prerequisites
CMPC-402	Final Year Project-II	0-3	Final Year Project-I
ITCC-402	Cyber Security	3-0	None
ITEC-420	Data Warehousing	3-0	None
ITCC-406	Database Administration and Management	3-1	None
ISLS-402	Islamic Studies/Ethics	2-0	None
Total		11-4	None

Computing Core Courses-39 Credit Hours

#	Course Code	Pre-Req	Course Title	Credit Hours
1	CMPC-101	-	Programming Fundamentals	4(3+1)
2	CMPC-102	CMPC-101	Object Oriented Programming	4(3+1)
3	CMPC-205	-	Discrete Structures	3(3+0)
4	CMPC-203	CMPC-102	Data Structure and Algorithms	3(3+1)
5	CMPC-204	-	Operating Systems	4(3+1)
6	CMPC-206	-	Software Engineering	3(3+0)
7	CMPC-208	-	Computer Networks	3(3+1)
8	CMPC-301	-	Database Systems	4(3+1)
9	CMPC-303	-	Information Security	3(3+0)
10	CMPC-401	-	Capstone Project	6(0+6)

Mathematics and Science Foundation Courses-12 Credit Hours

#	Course Code	Pre-Req	Course Title	Credit Hours
11	MATH-101	-	Calculus and Analytical Geometry	3(3+0)
12	MATH-102	-	Probability and Statistics	3(3+0)
13	MATH-203	-	Linear Algebra	3(3+0)
14	PHYS-101	-	Applied Physics	3(3+0)

General Education Courses-19 Credit Hours

#	Course Code	Pre-Req	Course Title	Credit Hours
15	ENGL-101	-	English Composition & Comprehension (English-I)	3(3+0)
16	ENGL-102	ENGL-101	Communication and Presentation Skills (English-II)	3(3+0)
17	ENGL-302	ENGL-102	Technical and Business Writing (English-III)	3(3+0)
18	PKST-401	-	Islamic Studies	2(2+0)
19	ISLS-402	-	Pakistan Studies	2(2+0)
20	ICTC-101	-	Introduction to Information & Communication Technologies	3(2+1)
21	ITSCC-201	-	Professional Practices	3(3+0)

IT-Core Courses (24Credits Hours)

#	Course Code	Pre-Req	Course Title	Credit Hours
22	ITCC-402		Cyber Security	3(3+0)
23	ITCC-406		Database Administration & Management	
24	ITCC-202		IT Project Management	3(3+0)
25	ITCC-407		Information Technology Infrastructure	3(3+0)
26	ITCC-301		Systems and Network Administration	
27	ITCC-403		Virtual Systems and Services	4(3+1)
28	ITCC-302		Web Systems and Technologies	3(3+0)

IT-Supporting Courses (09Credits Hours-Any 3 Courses)

#	Course Code	Pre-Req	Course Title	Credit Hours
29	ITSC-201	-	Enterprise Systems	3(3+0)
30	ITSC-301	-	Operation Research	3(3+0)
31	ITSC-302	-	Object Oriented Analysis & Design	3(3+0)
32	ITSC-303	-	Optimization Techniques	3(3+0)
33	ITSC-102	-	Digital Logic Design	3(3+0)
34	ITSC-305	-	Design and Analysis of the Algorithm	3(3+0)

University Electives Courses (12 Credits Hours)

#	Course Code	Pre-Req	Course Title	Credit Hours
35	BUSB-102	-	Business Economics	3(3+0)
36	BUSB-302	-	Human Resource Management	3(3+0)
37	BUSB-202	-	Principles of Management	3(3+0)
38	BUSB-204	-	Entrepreneurship	3(3+0)

Information Technology Elective Courses

Regular Track IT Elective Courses (15 Credit Hours-Any 5 Courses)

#	Course Code	Pre-Req	Course Title	Credit Hours
39	ITEC-303	-	Mobile Application Development	3(3+0)
40	ITEC-405	-	Mobile and Wireless Networks	3(3+0)
41	ITEC-302	-	Cloud Computing	3(3+0)
42	ITEC-404	-	Internet of Every Thing	3(3+0)
43	ITEC-420	-	Data Warehousing	3(3+0)
44	ITEC-407	-	Knowledge Management	3(3+0)
45	ITEC-304	-	Network Design and Management	3(3+0)
46	ITEC-409	-	Business Intelligence and Analytics	3(3+0)

General Track IT Elective Courses (15 Credit Hours-Any 5 Courses)

#	Course Code	Pre-Req	Course Title	Credit Hours
47	ITEC-303	-	Mobile Application Development	3(3+0)
48	ITEC-401	-	E-Commerce Applications Development	3(3+0)
49	ITEC-405	-	Mobile and Wireless Networks	3(3+0)
50	ITEC-302	-	Cloud Computing	3(3+0)
51	ITEC-404	-	Internet of Every Thing	3(3+0)
52	ITEC-420	-	Data Warehousing	3(3+0)
53	ITEC-406	-	Semantic Web	3(3+0)
54	ITEC-407	-	Knowledge Management	3(3+0)
55	ITEC-304	-	Network Design and Management	3(3+0)
56	ITEC-409	-	Business Intelligence and Analytics	3(3+0)
57	ITEC-410	-	Data Mining	3(3+0)
58	ITEC-411	-	Enterprise Resource Planning	3(3+0)
59	ITEC-412	-	Network Programming	3(3+0)
60	ITEC-413	-	Information Systems and Audit	3(3+0)
61	ITEC-414	-	Routing and Switching	3(3+0)
62	ITEC-415	-	Business Process Management	3(3+0)
63	ITEC-416	-	Artificial Intelligence	3(3+0)

B.S Data Science

Affiliated with Khawaja Fareed University of
Engineering & Information Technology, Rahim Yar Khan

Overview:

Data is a precious asset for any organization. It helps businesses understand and enhance their processes, thereby saving time and money. The importance of Data Science brings together the domain expertise from programming, mathematics, and statistics to create insights and make sense of data. No business can imagine a world without data. Data Science is high in demand and explains how digital data is transforming businesses and helping them make sharper and more critical decisions. Data Science is also important for businesses because it has been opening marvelous solutions and intelligent decisions across many industry verticals.

Faisalabad is the 3rd largest city of Pakistan and it is also a hub of Pakistan's industries. The impressive way of using intelligent machines to use huge amounts of data and explore behavior and patterns to achieve maximum benefits. For example, big data helps industrialists to understand their customers' characters and improve their experiences by learning from historical purchase data.

Qualifying Data Sciences is one of the best choices as it will certainly open tons of opportunities. The program is suitable for students interested in either a career in industry or who wish to pursue more specialized graduate study. This program will prepare students for a career in data analysis, combining foundational statistical concepts with computational principles from computer science. Computer and software industries are now investing billions of dollars in data science to push the technology into the next step of smartness and computational intelligence. Industries are transforming rapidly due to the changing technologies such as finance, retail, and media which are just a few examples of industries that have been transformed by computing and the wide availability of data. Currently, the software industry is in a human resource crunch when it comes to expertise in the field of Data Science. The degree provides opportunities in different computing and data science fields.



BS Data Science

Curriculum

First Semester

Course Code	Title	Credit Hours
COSC-1101	Programming Fundamentals	3
COSC-1105	Introduction to ICT	2
COSC-1108	Fundamentals of Data Science	2
COSC-1201	Programming Fundamentals-Lab	1
COSC-1205	Introduction to ICT-Lab	1
ENGL-1118	Functional English	3
MATH-1100	Calculus	3
PHYS-1121	Applied Physics	3
	Total	18

Second Semester

Course Code	Title	Credit Hours
COSC-1102	Object Oriented Programming	3
COSC-1103	Discrete Structures	3
COSC-1202	Object Oriented Programming-Lab	1
ENGL-1119	Communication Skills	3
ISLS-1112	Islamic Studies/Ethics	2
MATH-2103	Linear Algebra	3
STAT-2104	Probability and Statistics	3
	Total	18

Third Semester

Course Code	Title	Credit Hours
COSC-1104	Software Engineering	3
COSC-2101	Data Structures & Algorithms	3
COSC-2103	Database Systems	3
COSC-2150	Python Programming for Data Science	3
COSC-2201	Data Structures & Algorithms-Lab	1
COSC-2203	Database Systems-Lab	1
MATH-2122	Differential Equations	3
PAKS-1113	Pakistan Studies	2
	Total	19

Fourth Semester

Course Code	Title	Credit Hours
COSC-2102	Operating Systems	3
COSC-2107	Stochastic processes	3
COSC-2202	Operating Systems-Lab	1
COSC-3107	Machine Learning	3
COSC-3115	Design & Analysis of Algorithms	3
COSC-3121	Introduction to NLP	3
COSC-3150	Data Acquisition and Preprocessing	2
COSC-3221	Introduction to NLP-Lab	1
	Total	19

Fifth Semester

Course Code	Title	Credit Hours
COSC-2110	Big Data Programming	3
COSC-2210	Big Data Programming-Lab	1
COSC-3101	Computer Networks	3
COSC-3116	Mobile Application Development	3
COSC-3201	Computer Networks-Lab	1
COSC-4101	Parallel and Distributed Computing	3
SSCI-1111	Introduction to Sociology	3
	Total	17

Sixth Semester

Course Code	Title	Credit Hours
COSC-3123	Image Processing and Analysis	3
COSC-3223	Image Processing and Analysis-Lab	1
COSC-4111	Visual Programming	3
COSC-4120	Web Programming	3
COSC-4121	Deep Learning and Applications	3
COSC-4221	Deep Learning and Applications-Lab	1
ENGL-4117	Technical and Business Writing	3
	Total	17

Seventh Semester

Course Code	Title	Credit Hours
COSC-2109	Exploratory Data Analysis and Visualization	3
COSC-2209	Exploratory Data Analysis and Visualization-Lab	1
COSC-3102	Information Security	3
COSC-4301	Final Year Project-I	3
LNGG-3150	Foreign Language	2
	Total	12

Eighth Semester

Course Code	Title	Credit Hours
COSC-4302	Final Year Project-II	3
ECON-2111	Economy of Pakistan	3
MSCI-3111	Entrepreneurship	3
SSCI-2111	Professional Ethics	2
	Total	11

Program Total Credit Hours = 131

BS Artificial Intelligence

Affiliated with Khawaja Fareed University of
Engineering & Information Technology, Rahim Yar Khan

Overview:

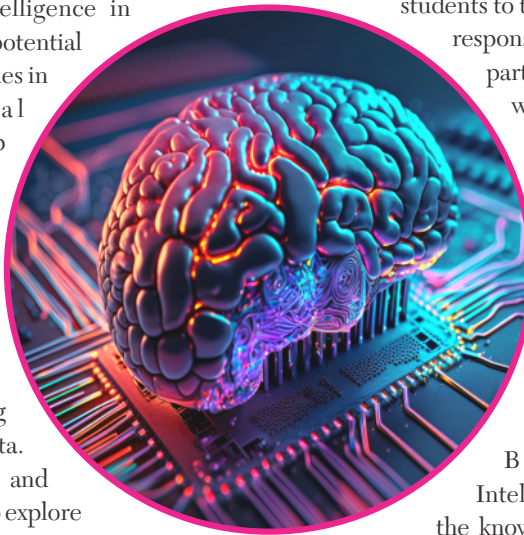
Artificial Intelligence (AI) is the attempt to build artificial systems that have intelligent behavior. There are two main directions of research. One is to understand natural intelligence through the use of computer models. The other provides techniques and technology for building systems capable of intelligent decisions and actions. Therefore, AI is both a science and an engineering discipline.

The scope of Artificial Intelligence in Pakistan is vast and has the potential to revolutionize many industries in the country. Artificial Intelligence can help automate many processes and tasks, making them more efficient and reducing the need for human labor. Additionally, Artificial Intelligence can also help improve decision-making processes by providing accurate and up-to-date data. Several different businesses and organizations are beginning to explore its potential. Pakistan has made great strides in the field of artificial intelligence. Many Pakistani startups are now working on developing AI-based solutions and products. And there is a growing demand for AI experts in the country.

The BS (AI) program gives the students the in-depth knowledge they need to transform large and complex scenarios into actionable decisions. The program and its curriculum focus on how complex inputs such as knowledge, vision, language, and

huge databases can be used to make decisions to enhance human capabilities. The curriculum of the BS (AI) program includes coursework in computing, mathematics, automated reasoning, statistics, computational modeling, introduction to classical artificial intelligence languages and case studies, knowledge representation and reasoning, artificial neural networks, machine learning, natural language processing, vision, and symbolic computation. The program also encourages students to take courses in ethics and social responsibility, with the opportunity to participate in long-term projects in which artificial intelligence can be applied to solve problems that can change the world for the better — in areas like agriculture, defense, healthcare, governance, transportation, e-commerce, finance, and education.

Students who complete the Bachelor of Artificial Intelligence (AI) program will have the knowledge and abilities needed to create software solutions that take advantage of the most recent developments in artificial intelligence (AI). The BS AI program allows students to gain practical experience by creating AI-driven software solutions with the aid of cutting-edge research labs and expert faculty supervision. We develop leaders in our students who take on difficulties, work through tough issues, meet professional standards, and foster interdisciplinary research.



BS Artificial Intelligence

Curriculum

First Semester

Course Code	Title	Credit Hours
COSC-1101	Programming Fundamentals	3
COSC-1105	Introduction to ICT	2
COSC-1201	Programming Fundamentals-Lab	1
COSC-1205	Introduction to ICT-Lab	1
ENGL-1118	Functional English	3
ISLS-1112	Islamic Studies/Ethics	2
MATH-1100	Calculus	3
PHYS-1121	Applied Physics	3
Total		18

Second Semester

Course Code	Title	Credit Hours
COSC-1102	Object Oriented Programming	3
COSC-1103	Discrete Structures	3
COSC-1202	Object Oriented Programming-Lab	1
ECON-2111	Economy of Pakistan	3
ENGL-1119	Communication Skills	3
MATH-2122	Differential Equations	3
PAKS-1113	Pakistan Studies	2
Total		18

Third Semester

Course Code	Title	Credit Hours
COSC-2101	Data Structures & Algorithms	3
COSC-2201	Data Structures & Algorithms-Lab	1
COSC-3101	Computer Networks	3
COSC-3112	Artificial Intelligence	3
COSC-3201	Computer Networks-Lab	1
COSC-3212	Artificial Intelligence-Lab	1
MATH-2103	Linear Algebra	3
STAT-2104	Probability and Statistics	3
Total		18

Fourth Semester

Course Code	Title	Credit Hours
COSC-1104	Software Engineering	3
COSC-2103	Database Systems	3
COSC-2107	Stochastic processes	3
COSC-2203	Database Systems-Lab	1
COSC-3115	Design & Analysis of Algorithms	3
COSC-3130	Programming Artificial Intelligence	3
COSC-3230	Programming Artificial Intelligence-lab	1
Total		17

Fifth Semester

Course Code	Title	Credit Hours
COSC-2102	Operating Systems	3
COSC-2106	Knowledge Representation and problem solving	3
COSC-2202	Operating Systems-Lab	1
COSC-2206	Knowledge Representation and Problem Solving-Lab	1
COSC-3107	Machine Learning	3
COSC-3131	Fuzzy Logic	3
COSC-3231	Fuzzy Logic-Lab	1
SSCI-1111	Introduction to Sociology	3
Total		18

Sixth Semester

Course Code	Title	Credit Hours
COSC-3102	Information Security	3
COSC-3110	Data Warehousing	3
COSC-3121	Introduction to NLP	3
COSC-3122	Fundamentals of Computer Vision	3
COSC-3221	Introduction to NLP-Lab	1
COSC-3222	Fundamentals of Computer Vision-Lab	1
ENGL-1113	Technical Writing	3
Total		17

Seventh Semester

Course Code	Title	Credit Hours
COSC-3108	Image Processing	3
COSC-4221	Deep Learning And Applications	3
COSC-4221	Deep Learning And Applications Lab	3
COSC-4301	Final Year Project	1
COSC-1101	Introduction To Cyber Security	3
SSCI-2111	Professional Ethics	3
Total		17

Eighth Semester

Course Code	Title	Credit Hours
COSC-4130	Re-enforcement Learning	3
COSC-4150	Routing & Switching	2
COSC-4302	Final Year Project-II	3
MSCI-3111	Entrepreneurship	3
Total		11

Program Total Credit Hours = 132

BS Cyber Security

Affiliated with Khawaja Fareed University of
Engineering & Information Technology, Rahim Yar Khan

Overview:

As Organizations and businesses across all domains increase their online and network footprint, cyber threats are becoming more critical than ever before. The Cyber Security program is designed to meet today's business requirements while focusing on designing secure infrastructure and developing hands-on experience and problem-solving capabilities among students.

Cyber Security careers are expected to grow 32% between 2018 and 2028 (worldwide), significantly higher than the average growth for all fields, as a result of increased cyber threats across all industries. Cyber Security job market is everywhere including financial organizations, Ethical Hacking, HealthCare, Smart cities, Cyber Warfare, the Internet of Things, Digital surveillance systems, Supply chain organizations, Crypto currencies, Digital and mobile Forensics, Mobile App and Web/Software development, Information Security Auditing.

Cyber security in Pakistan is an ongoing concern as the country is highly vulnerable to cyber-attacks. The country has been increasingly targeted by cybercriminals, as well as state actors, who seek to gain access to sensitive government and military information. As a result, the government of Pakistan

is focused and is taking steps to strengthen its cyber security framework and protect the country's critical infrastructure. Looking at the expansion in cyber security during recent years, this technology has become a vital part of data sensitive, Defense and Government organizations, Public access data networks where privacy matter like NADRA, FBR, WAPDA, SNGPL, Telecom Networks, Banks, Stock Exchange, Hospitals, Educational Institutes, Aviation, Law enforcement agencies, etc. and almost all fields of life.



The BS (Cyber Security) program is intended to produce skilled professionals to understand the processes that impact information security, safeguarding information assets, collection and preservation of digital evidence, analysis of data, and identification and fixing of security vulnerabilities. The program will equip students with the fundamental knowledge of computer science that forms the technical foundation of the field, with an essential focus on experiential learning through laboratory exercises in the security courses. This degree is a state-of-the-art course with a perfect blend of Cyber Security that is designed to set the graduates up for immediate industry success by combining and leveraging today's cutting-edge technology with real-world scenarios.

BS Cyber Security

Curriculum

First Semester

Course Code	Title	Credit Hours
COSC-1105	Introduction to ICT	2
COSC-1205	Introduction to ICT-Lab	1
COSC-1101	Programming Fundamentals	3
COSC-1201	Programming Fundamentals-Lab	3
ENGL-1118	Functional English	3
MATH-1100	Calculus	3
PHYS-1121	Applied Physics	3
ISLS-1112	Islamic Studies/Ethics	2
	Total	20

Second Semester

Course Code	Title	Credit Hours
COSC-1102	Object Oriented Programming	3
COSC-1202	Object Oriented Programming-Lab	1
INFS-1101	Introduction to Cyber Security	3
COSC-1103	Discrete Structures	3
ENGL-1119	Communication Skills	3
PAKS-1113	Pakistan Studies	2
MATH-2103	Linear Algebra	3
	Total	18

Third Semester

Course Code	Title	Credit Hours
ELEN-2100	Digital Logic Design	3
ELEN-2200	Digital Logic Design Lab	1
COSC-2101	Data Structures & Algorithms	3
COSC-2201	Data Structures & Algorithms-Lab	1
COSC-3101	Computer Networks	3
COSC-3201	Computer Networks-Lab	1
COSC-3102	Information Security	3
STAT-2104	Probability and Statistics	3
	Total	17

Fourth Semester

Course Code	Title	Credit Hours
COSC-2103	Operating Systems	3
COSC-2202	Operating Systems-Lab	1
COSC-3112	Artificial Intelligence	3
COSC-3212	Artificial Intelligence-Lab	1
INFS-2149	Information Assurance	3
INFS-2150	Digital Forensics	3
MATH-2122	Differential Equations	3
	Total	17

Fifth Semester

Course Code	Title	Credit Hours
COSC-3115	Design & Analysis of Algorithms	3
INFS-3104	Network Security	2
INFS-3204	Network Security - Lab	1
COSC-2102	Operating Systems	3
COSC-2202	Operating Systems-Lab	1
INFS-3121	Secure Software Design and Development	3
INFS-3221	Secure Software Design and Development-Lab	1
COSC-2108	Computer Architecture & Organization	3
	Total	17

Sixth Semester

Course Code	Title	Credit Hours
INFS-2151	Cyber Law and Cyber Crime	3
COSC-3114	Computer Organization & Assembly Language	3
COSC-3214	Computer Organization & Assembly Language-Lab	1
INFS-2152	Vulnerability Assessment and Reverse Engineering	2
INFS-2252	Vulnerability Assessment and Reverse Engineering-Lab	1
INFS-3122	Cryptanalysis	3
ECON-2111	Economy of Pakistan	3
LNNG-1111	Chinese Language	3
	Total	19

Seventh Semester

Course Code	Title	Credit Hours
INFS-4301	Final Year Project-I	2
COSC-1104	Software Engineering	3
COSC-4101	Parallel and Distributed Computing	3
MSCI-3111	Entrepreneurship	3
ENGL-1113	Technical Writing	3
	Total	14

Eighth Semester

Course Code	Title	Credit Hours
SSCI-1111	Introduction to Sociology	3
ENGL-4118	Professional Practices	3
INFS-4302	Final Year Project-II	4
COSC-4150	Routing & Switching	2
	Total	12

Program Total Credit Hours = 134



School of Business Management

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18 years of experience
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Mr. Muhammad Rashid Yousaf

Lecturer
MS Business Administration (Marketing),
MBA (Marketing)
13 years of experience

Mr. Zishan Amjad Khan

Lecturer
MS Business Administration (Marketing)
15 years of experience

Mr. Azam Waqar

Executive
MS Business Administration (HR)
06 years of experience



Program Educational Objectives (PEOs)

School of Business Management seeks to achieve below mentioned objectives.

PEO-1: To produce professional graduates in the fields of business administration, marketing, human resource and finance through the utilization of innovative educational processes in a modern, global and technological business environment.

PEO-2: Transform the business graduates to play a vital and leading role in the business community that enables them to contribute and solve problems through innovative thinking, self-development, reflection and collective work.

PEO-3: SBM focuses to link the academic programs and specializations with actual requirements of the surrounding market requirements by maintaining the effective participation and cooperation among the school of business management and local business organizations.

PEO-4: Conduct research activities to provide solutions for the persistent problems in the surrounding business environment via applied research and business consultation.

PEO-5: Grooming personalities of the SBM students by motivating and engaging them in co curricular and extra-curricular activities.

PEO-6: To provide a long-term return on investment for SBM students and alumni.

Departmental Mission

The mission of School of Business Management is to provide students a balance of academic perspectives with practical implications as per the demand of the modern business era. SBM aims to produce efficient and responsible business leaders and researchers equipped with modern professional skills. SBM focuses on engaging students in learning practical experiences that empower them to become knowledgeable, resourceful and motivated business professionals.

Whatever career path you choose, it will likely involve some aspects of business.

Consider any profession from artist to doctor, lawyer to pilot, welder to police officer: they all need to understand how business works. The Bachelor of Business Administration (BBA) is a bachelor's degree in business studies. The concept of business administration encompasses all aspects of owning and operating a business.

This includes everything from business management to marketing of the goods and services being offered. The BBA program aims at developing a student's intellectual ability, executive personality and managerial skills through an appropriate blending of business and general education. The study of business involves both theory and practice.

The program assists the student in understanding and developing the unique leadership qualities required for successfully managing business



functions, an organizational unit or an enterprise.

Successful business people must be able to analyze a situation, examine various alternatives and combine parts of solutions to solve the particular problem being faced.

In business, administration consists of the performance or management of business operations and thus the making or implementing of major decisions. Administration can be defined as the universal process of organizing people and resources efficiently so as to direct activities toward common goals and objectives.

- Administrators, broadly speaking, engage in a Common set of functions to meet the organization's goals. These “functions” of the administrator are Planning is deciding in advance what to do, how to do it, when to do it, and who should do it.
- Organizing involves identifying responsibilities to be performed, grouping responsibilities into departments or divisions, and specifying organizational relationships.
- Staffing means filling job positions with the right people at the right time. It involves determining staffing needs, writing job descriptions, recruiting and screening people to fill the positions.
- Directing is leading people in a manner that achieves the goals of the organization. This involves proper allocation of resources and providing an effective support system.
- Controlling is the function that evaluates quality in all areas and detects potential or actual deviations from the organization's plan. This ensures high quality performance and satisfactory results while maintaining an orderly and problem-free environment.

BBA at NFC IE&FR

The IEFR Bachelor of Business Administration provides participants with an opportunity to acquire fundamental knowledge and skills related to basic business functions. Participants also have an

opportunity to gain in-depth knowledge of a specific business function. The BBA program is focused on the areas of Accounting, Finance, Management, Operations Management, Marketing or Information Systems as well as in other areas such as Human Resource Management, Banking, Insurance, and Management of Non-Profit Organizations. Faculty is committed instructors who are passionate about communicating their knowledge about a subject and cultivating enthusiasm in the students learning it.

Objectives

The BBA Program at IE&FR prepares students for challenging jobs in a wide range of professions. We provide our students with areas of specialization that reflect the diverse needs of their potential employers as well as the interests of students. In addition, the BBA program enables our students to sit for professional examinations in the areas of Management, Human Resources, finance and Marketing.

The objectives of the BBA degree program are:

- 1) To provide students with the knowledge and the skills necessary to understand and function effectively in a business and Administrative organization; To familiarize students with the fundamental bodies of theoretical and applied knowledge of business represented in the core courses;
- 2) To provide students with an opportunity to concentrate their learning in areas such as Marketing, Management and Human Resource Management;
- 3) To enable students to integrate formal academic learning with their business related experiential learning, resulting in meaningful, personalized learning that relates to their personal or professional needs;
- 4) To encourage students to experience Self improvement and professional growth;
- 5) To expose students to the global business environment;

Career with BBA Degree

The BBA program prepares students for executive career in business and other organizations. The BBA degree is many a times referred to as the golden passport, since it gives its holder an edge in the job market by opening more doors of opportunity. The degree helps the graduate to fulfill potential for high earnings, increased responsibility, and greater personal development. The present decade has been labeled as the era of business, business administration and business graduates.

Placements

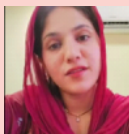
The BBA program also offers campus placements at the end of the program. Typically a BBA graduate could get employment opportunities in different segments of industry such as computers and peripherals, banks, retail sector, advertising firms, consulting firms, export houses, consumer products organizations, office automation companies to name a few. The placements may be offered in diverse areas such as marketing, finance, HR, operations and so on.

Comparison with Other Graduate Degrees

The BBA program opens new doors of opportunity to students. It is more applied than any other

undergraduate degree such as a simple BA/B.Com (Pass/Hons). Typically in a B.Com program, for instance one would look at making a balance sheet or P&L account or learn pure accounting. A BBA program in contrast teaches one as to how to improve the financial condition of an organization, identify sources of funding, better management of assets and inventory. One may learn pure economics in an economics module but in a BBA program you get exposed to Managerial Economics which means that one would study various competitive markets, impact on say pricing and production strategies, etc. In a BBA program, most knowledge is applied and is geared towards making you a successful manager and entrepreneur. There is overlap between the BBA and the MBA program. At the MBA level, you learn concepts at a higher level, for instance, you may have a specific module on Consumer Behavior or Marketing Research or Services marketing where as these may be parts of the Marketing module in a BBA program. In fact the program is so rigorous that one may prefer to pursue a one year Executive MBA program after acquiring this degree.

"Alumni in Professional Career"



Namia Naeem
2013-17 Batch
Assistant Director at
State Bank of Pakistan

Achievements, applauds, recognition, encouragement, opportunities that's all what I have gained from NFC. It is much beyond an institution for me. As it is because of this institute that I feel bold and confident and can compete with students from any other university. I truly feel blessed and honored for being a part of SBM under the supervision of some extra ordinary mentors who gave me confidence since the day I joined this prestigious institute. It has molded my personality and gave me immense chances to polish my skills either those are interpersonal skills or communication skills. I feel proud in saying that SBM had always held my back. Right after graduating in 2017, I joined Allied Bank as a Banking Service Officer.



M. Ausaf Rafique
Dy. Manager M-Tag
Operations,
Headquarters FWO,
SBM Batch of 2013-2017

The multicultural environment and capable faculty at NFC IEFRR furnished me with a solid academic foundation and skills for my current responsibilities. I am so certain that I would not have been able to step up to my current job and future promotion prospects without the guidance of my teachers I received, as well as the knowledge I gained from School of Business Management (SBM).

The important thing is to give your best always and not let the instances where you may have fallen short hold you back from continuing to work hard and reach your full potential.

Speaking more specifically about SBM, it is a massively rich campus with both great people and amazing opportunities.

Bachelor Of Business Administration

Curriculum

First Semester

Course Code	Course Title	Credits Hours
HU 102	Functional English	(3,0)
BIT 101	Digital Toolbox for Business	(3,0)
BUS 101	Microeconomics	(3,0)
BUS 111	Principles of Accounting	(3,0)
BUS 162	Business and Society	(3,0)
BUS 161	Academic and Professional Development-I	(1,0)

Second Semester

Course Code	Course Title	Credits Hours
HU 211	Business Communication	(3,0)
BUS 102	Macroeconomics	(3,0)
BUS 112	Financial Accounting	(3,0)
BUS 131	Principles of Management	(3,0)
IS 101	Islamic and Pakistan Studies-I	(3,0)
QT 101	Translation of Holy Quran-I	(1,0)

Third Semester

Course Code	Course Title	Credits Hours
HU 221	Technical Writing & Presentation Skills	(3,0)
MA 151	Business Mathematics	(3,0)
BUS 262	World Today	(3,0)
BUS 231	Human Resource Management	(3,0)
IS 201	Islamic and Pakistan Studies-II	(3,0)
BUS 261	Academic and Professional Development-II	(1,0)

Fourth Semester

Course Code	Course Title	Credits Hours
MA 257	Business Statistics	(3,0)
BUS 212	Cost Accounting	(3,0)
BUS 232	Organizational Behavior	(3,0)
BUS 241	Principles of Marketing	(3,0)
BUS 263	Law and Society	(3,0)
QT 201	Translation of Holy Quran-II	(1,0)

Fifth Semester

Course Code	Course Title	Credits Hours
BUS 321	Business Finance	(3,0)
BUS 342	Marketing Management	(3,0)
BUS 351	Production and Operations Management	(3,0)
BUS 362	Research Methods for Social Sciences	(3,0)
	Free Elective-I	
BUS 361	Academic and Professional Development-III	(1,0)

Sixth Semester

Course Code	Course Title	Credits Hours
BIT 301	Management Information Systems	(3,0)
BUS 322	Financial Management	(3,0)
BUS 343	Digital Marketing	(3,0)
BUS 352	Supply Chain Management	(3,0)
	Free Elective-II	
QT 301	Translation of Holy Quran-III	(1,0)

Seventh Semester

Course Code	Course Title	Credits Hours
BUS 411	Taxation Management	(3,0)
BUS 471	Entrepreneurship	(3,0)
	Minor-I	(3,0)
	Minor-II	(3,0)
BUS 498	Final Year Project-I	(3,0)
BUS 461	Academic and Professional Development-IV	(1,0)

Eighth Semester

Course Code	Course Title	Credits Hours
HU 400	International Language	(3,0)
BUS 431	Strategic Management	(3,0)
	Minor-III	(3,0)
	Minor-IV	(3,0)
BUS 499	Final Year Project-II	(3,0)
QT 401	Translation of Holy Quran-IV	(1,0)

Free Electives courses can range from 2 to 5 credit hours each

BS Tourism And Hospitality Management

Affiliated with Khawaja Fareed University of
Engineering & Information Technology, Rahim Yar Khan

Introduction:

The School of Business Management (SBM) is offering the degree program BS Tourism and Hospitality Management aimed to produce qualified manpower in the country and abroad. The Tourism and Hospitality Program aims to produce professionals with firm academic foundation in management and operation of most sectors in the travel, tourism and hospitality industry. Graduates will be multi-skilled with interdisciplinary managerial skills within the travel and tourism hospitality industry. The curriculum also incorporates general education courses to broaden the literary horizon of the student not only in domestic tourism but in international tourism as well.

Aims and objectives:

To prepare professional business leaders with diverse skills who can contribute as policy makers and young entrepreneurs. The specific aim of the degree is to expand new tourism and hospitality framework. The application of the studies is to explore diverse tourism attractions present in this region. To bridge the gap between academia & industry that could support the development of this

multimillion industry.

Vision:

To prepare professionals in the field of Tourism and Hospitality who could address challenging issues of the tourism and hotels industry. The department envisions the development of skilful human capital and professional business leaders to establish integrated tourism development in the region through research and innovative ideas.

Mission:

The Tourism & Hospitality program intends to create an intellectual, collaborative, ethical, and inclusive environment for students, faculty, industry, and community to produce innovative education, leadership, and research opportunities. This will be achieved by producing leaders and professionals in the field of Tourism and Hospitality Management using modern pedagogical approaches, intensive fieldwork, internships, community work, and hands-on experiences/extensive Lab. This practical work approach will equip the students with essential soft skills, critical thinking, and hospitality-specific content knowledge.



Research Facilities / Key Facts:

1. NFC IE&FR FAISALABAD Main Executive Club

2. NFC IE&FR FAISALABAD Guest House

Program Educational Objectives (PEOs):

1. The Tourism & Hospitality program intends to create an intellectual, collaborative, ethical and inclusive environment for students, faculty, industry and community to produce innovative education, leadership and research opportunities. This will be achieved by producing leaders and professionals in the field of Tourism and Hospitality Management using modern pedagogical approaches, intensive fieldwork, internships, community work, and hands-on experiences/extensive laboratory work.

2. An understanding of current ethical issues in hospitality and tourism management and be able to apply ethical principles in industries/research laboratories. To provide a contemporary grounding in professional responsibility and job-related skills in order to work in multi disciplinary teams.

Scope of the Programs:

To prepare professional business leaders with diverse skills who can work in future as policy makers and young entrepreneurs to develop new tourism/hospitality product and explore the diverse

tourism attraction which enhancing the opportunities for tourism in the region. To bridge the gap between the academia & industry that supports the development of the industry. To enable students to promote tourism for the sustainable development of the region. To prepare professionals in the field of Tourism and Hospitality who can cope

with arising issues in the field
Specific Student Learning Objective (SLO's) are: To equip students with all skills needed in tour operations. To equip students with all skills needed in the restaurants ranging from production, Bakery & Confectionary to culinary arts. To equip students with all the skills needed in the Hospitality industry e.g. Front Office, housekeeping. Work on the self-confidence, language proficiency and public dealing of the students to make them able to deal with international tourists as effective front office managers. To inculcate the creative thinking and innovation among students that could make them effective entrepreneurs in the tourism sector. The program envisages grooming future leaders in the tourism sector who could take lead for the growth of tourism sector and make it an effective tool for the growth of the region. Skill development to effectively manage Sanitation & Hygiene of the resorts. Sensitize the students of the tourism sector in context of cultural, social, and psychological behavior of people, to make them more hospitable and effective hosts.

Eligibility Criteria

- a) Higher Secondary School Certificate (HSSC) or equivalent with at least 45% marks.
- b) KFUEIT recognized aptitude test (KFAT / NAT / HAT / KFEAT) with minimum score of 40%.
- c) DAE in any field of study

BS Tourism and Hospitality

Curriculum

First Semester

Course Code	Title	Credit Hours
ENGL-1118	Functional English	3
MATH-1111	Mathematics-I	3
MSCI-1102	Principles of Management	3
PAKS-1113	Pakistan Studies	2
TOHY-1102	Cultural History of Pakistan	3
TOHY-1103	Introduction to Tourism & Hospitality	3
Total		17

Second Semester

Course Code	Title	Credit Hours
COSC-1105	Introduction to ICT	2
COSC-1205	Introduction to ICT-Lab	1
ENGL-1119	Communication Skills	3
FDST-1101	Introduction to Food Science and Technology	2
ISLS-1112	Islamic Studies/Ethics	2
TOHY-1104	Introduction to Archaeology	3
TOHY-1105	Pakistan ? Tourist Destinations	3
Total		16

Third Semester

Course Code	Title	Credit Hours
ENGL-2111	Technical Writing and Presentation Skills	3
HNAD-1101	Fundamentals of Human Nutrition	3
SSCI-4101	Principles of Psychology	3
TOHY-2106	Sustainable Tourism	3
TOHY-2107	Organizational and Consumer Behaviour	3
TOHY-2108	Cultural Tourism	3
Total		18

Fourth Semester

Course Code	Title	Credit Hours
MTH-404	Probability & Statistics	3
TOHY-2109	Hospitality Operations	3
TOHY-2110	Public Relations	3
TOHY-2111	House Keeping Operations and Management	3
TOHY-2112	Tourism Geography	3
Total		15

Fifth Semester

Course Code	Title	Credit Hours
TOHY-3113	Tourism Management	3
TOHY-3114	Tourism and Hospitality Laws	3
TOHY-3115	Front Office Operations and Management	2
TOHY-3116	Tourism: Concepts and Principles	3
TOHY-3117	Tourism Marketing	3
TOHY-3118	Heritage Management	3
Total		17

Sixth Semester

Course Code	Title	Credit Hours
TOHY-3119	Event Management	3
TOHY-3120	Logic & Critical Thinking	3
TOHY-3121	Sacred/Religious Tourism	3
TOHY-3122	Travel & Tour Operations	2
TOHY-3123	Sports and Adventure Tourism	3
TOHY-3124	Project Management	3
Total		17

Seventh Semester

Course Code	Title	Credit Hours
TOHY-4125	Restaurant Management	2
TOHY-4126	Accounting and Finance	3
TOHY-4127	Tourism Planning and Development	3
TOHY-4128	Meal Planning and Management	2
TOHY-4129	Culinary Art	2
TOHY-4130	Research Project-I	3
Total		15

Eight Semester

Course Code	Title	Credit Hours
TOHY-4131	Research Project-II	3
TOHY-4132	Emerging Trends in Tourism and Hospitality	3
TOHY-4133	Human Resource Management	3
TOHY-4134	Destination Branding	3
TOHY-4135	Tourism and Peace	3
Total		15

Program Total Credit Hours = 130



Research & Development



Mr. Shabeeb Ahmad Gill
Head of the Department
Head (Persl. & Admn.)
MS Business Managemant (HR)



Mr. Haider Ali
Research Officer (R&D)
M.Sc. (Hons.) Horticulture

Research & Development

The R&D programs at NFC-IEFR is committed to high level research and development in the broad field of engineering, science & technology, monitored in term of improvements to existing research and development activities as well as the growth in new activities. The department is providing services to the farming beneficiaries and national industries on NO PROFIT NO LOSS BASIS.

Research & Development plays an important role in the country's growth and development. Being an agricultural country, fertilizers play an important role in the development and expansion of agricultural sector in Pakistan. Recent food and fertilizer crisis have demonstrated that ensuring sustainable food security and growth of agricultural production are major challenges. To promote food security and environmental protection, agricultural productivity must be increased in a most effective and sustainable manner. Increased agricultural productivity requires due importance to optimum level and quality issues of fertilizers. In order to keep abreast with the latest technologies in the world and for the augmentation of agriculture sector, it was realized to develop facilities for fertilizer research & development. In 1986, Fertilizer Research & Development Institute (FR&DI) was established

with financial and technical assistance of UNDP and National Fertilizer Corporation of Pakistan.

The driving force for R&D programs was embodied in following strategic initiatives:

- Fertilizer Research Program
- Fertilizer Development Program
- Research Support Services

Fertilizer Research Program

The FRP encompasses all research functions related to fertilizer raw materials exploitation and finally fertilizer production. Activities included are:

- Mineral Resource Evaluation: Testing local and imported raw materials.
- Testing of chemicals lubricants and other auxiliary material used in fertilizer industry.
- Development of New Products: Production of experimental fertilizer products.
- Analysis and Identification of Fertilizer Products, Testing, Checking and evaluation of fertilizer products.
- Suggesting Technological Improvements to manufacturing units; bench-, laboratory-



and pilot-plant scale processing studies.

- Provide Technical Advisory Services to the chemical industry; process design; enhancement of production efficiency.
- Pre -Investment Analyses and Project Management; to promote and enhance indigenous technological capabilities.

New Research Horizons

To provide food for growing population of Pakistan demand exaggerated growth rates of agricultural productivity. Higher productivity and vertical integration needs a balanced fertilizer usage in fields of agricultural farmland.

R&D provoked an idea of acidic fertilizer to the Pakistan agriculture, keeping in view the current scenario of alkaline water and saline soils. These acidic fertilizers are really balanced by the ensured provision of NPK's and fortified with micronutrients. A large number of field trials all over Pakistan in different cropping zones from many years usage are proved and favored our idea of substituting the traditional fertilizers with hypo pH completely water soluble balanced fortified NPK fertilizers.

The voice about VC-10 in the farming community is so encouraging to get best results for usage of Urea and CAN (guara) fertilizers saving fifty percent of these fertilizers because of efficiency enhancement and to cater the negative effect of calcium carbonate present in CAN fertilizer.

The R&D products in near future will be listened as a paradigm shift in fertilizer use after the up gradation of R&D.

Areas of Upcoming FRP Program

Under the up gradation of R&D, erecting of a pilot plant of NPK+TE having capacity of 40 tons per day is under consideration in the Faisalabad locality.

Fertilizer Development Program (FDP)

FDP encompasses all those development activities and technical guidance to the farming community concerning the judicious use of fertilizer ingredients for crops, promoting the efficient use of fertilizer and advocating the use of safe and environmentally friendly fertilizer products. In order to provide technical assistance to the farmers, R&D staff conducted field trials or participated in training programs, workshops and meetings concerning agriculture, fertilizer use, fertilizer production and fertilizer safety. Technical assistance is also provided by answering requests for information and questions through the Internet, by posting literature, by telephone and through other forms of communication like farmer's gathering, farm visits, inspection of field trials, agricultural fair & festival events etc.

Fertilizer Development Section

Main objective of the fertilizer development section is to enhance the quality and productivity of the existing industries and maximize the utilization of indigenous resources. Following continuous bench scale units are installed in the section:

- Unit for the manufacturing of Phosphoric acid and fertilizers like Single Super Phosphate, Mono Ammonium Phosphate, Di Ammonium Phosphate, Triple Super Phosphate and Urea Nitrate Phosphate, Urea Phosphate and chelated micronutrient.
- Unit for the beneficiation of low-grade impure

phosphates rock.

New Development in Fertilizers

R&D developed stage specific and crop specific NPK grades both in liquid form and 100% completely water soluble like Starter Grade, Booster Grade, Terminator Grade, Seed Germinator, Anti Drought Grade, Anti Frost Grade, Micronutrients, soluble sulfur polysulfide and a soil reclaiming VC-10. These experimental products are effective, efficient, friendly, cheap and easy to apply.

synthesis/blending of chemicals used in chemical and fertilizer plants.

The section is equipped with a computer controlled corrosion measurement system and Infra-red spectrophotometer. This section is engaged in the development of new grades of completely water soluble balanced NP/NPK fertilizers;

Analytical Section

Main objectives of the analytical section are to



Research Support Services (RSS)

The R&D IEFr has expertise in Research Support Services on the following specialties.

- Special Chemicals Development Section
- Analytical Section
- Environmental Section
- Technical and Commercial Cell

Special Chemicals Development Section

Main objectives of the section are

provide analytical and testing services to R&D laboratories of the Institute and private industries. The section is equipped with sophisticated and most modern equipment e.g. Atomic Absorption Spectrophotometer, UV Spectrophotometer, I.R. Spectrophotometer, Gas Chromatograph High Performance Liquid Chromatography, Nutrient Analyzer, Crushing Strength Apparatus Set and other computerized automatic analytical instruments. The section consists of these major laboratories:

- Instrumentation laboratory
- Chemical analysis laboratory
- Physical testing laboratory
- Water Treatment Plant

Environmental Section

The Research and Development Laboratories has been registered with Environmental Protection Agency (EPA) Government of the Punjab as the reference Environmental laboratory for the liquid effluents/wastes.

Due to the registration with the EPA as Environmental laboratory, IE&FR has set up an environmental laboratory for the pollution impact assessment of liquid effluents, gaseous emissions and noise level. The laboratory is equipped with a gas analyzer / monitor, gas detector system, particulate matter, flame photometer, turbidity meter, noise meter, gas meter etc.

Technical & Commercial Cell

The R&D staff is rendering services on technical

and commercial parameters of fertilizers for the best interest of the farming community of Pakistan. Technical cell encompasses the expertise on fertilizer chemistry, fertilizer analytical inferences, drawing and agriculture extension and facilitation process. Institute has the expertise and knowledge to develop any kind of fertilizer; with all the micronutrients to fortify NPK's. Conducting of field trials of new grades and their inspection:

- Preparation of Newly developed fertilizer recommendations for different crops according to the soil and water conditions/quality;
- Providing awareness to farmers about experimental products to motivate farmers and getting feedback.
- Suggesting improvements in grades for the betterment of farming community;
- Arranging meetings with farmers to provide consultancy services in the institute or at agricultural events. While the commercial cell



remain engaged with the following activities:

- Procurement of ingredients required for the manufacturing of experimental products;
- Manufacturing of experimental products as per requirement of crop and demand of farmers;
- Packing of experimental products according to the specification;
- In time delivery of experimental products to the users at institute gate or their farm vicinity
- Experimental Product's Coordination with Private Firm

Recently R&D NFC IE&FR and Haq Sons Enterprises Burewala signed an agreement to coordinate mutually in order to disseminate R&D expertise and market R&D experimental products to the vast majority of the farming community. This experiment is the only way of hoping a favorable response from both sides. Main theme is to get

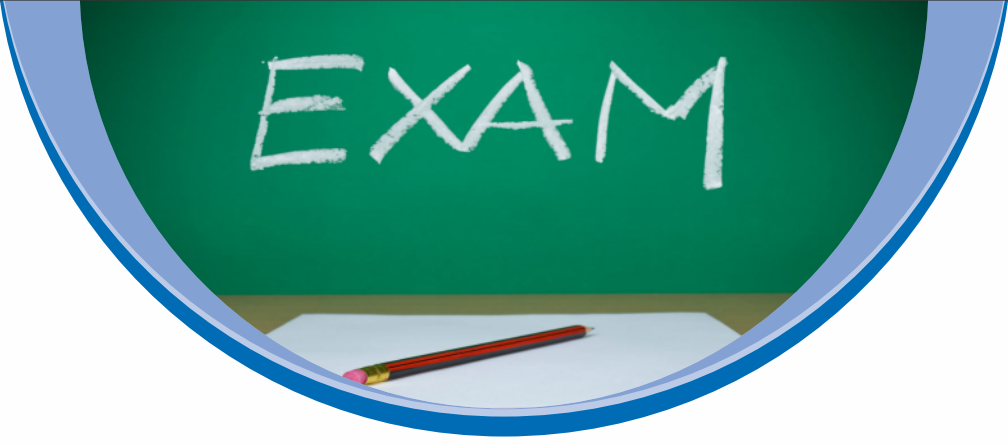
farmer feedback about experimental products of R&D.

Future Initiatives

In the vast interest of Pakistan's agriculture, there is a need to start those techniques of fertilizer application which require a lesser and lesser quantity of fertilizer providing full nutrition to the crops without disturbing the soil environment. Keeping in view the behavior of the farming community who took results and crop yield gained, there is dire need of making arrangements for large scale production units of experimental products like NPKs, VC-10 and CMM instead of producing at lab scale to meet the current and future demands.

The development of a centre of excellence for Water Research/ Waste Water treatment is also the near future plan in the R & D department. Also a proposal for budget allocation for Academic research is under consideration for fulfillment of OBE (different levels) requirement.





Examination & Evaluation



Mr. Ahtsham Razaque
Incharge Examination



Mr. Muhammad Idress Baloch
Deputy Controller Examination

1.0 Introduction

The following regulations govern the Semester System of teaching and examination for the Undergraduate degrees awarded by University of Engineering & Technology, Lahore through Institute of Engineering and Fertilizer Research, Faisalabad.

- a. The Undergraduate degrees offered at the Institute under Semester System are classified as Bachelor of Science (B.Sc.) degree in Chemical, Electrical, Mechanical, Civil Engineering and B.Sc. Engineering Technology disciplines are Electrical, Mechanical & Civil and B.Sc. in Computer Science and Business Administration.
- b. The medium of instructions and examinations shall be English for all subjects except Islamic Studies and Pakistan Studies for which the medium of instructions and examinations may be either Urdu or English.
- c. The term “Credit Hour” refers to a unit of academic credit during a semester. Each credit hour is related to one or more “Contact Hours per week” according to subject type and the semester in which it is offered as defined in these regulations.
- d. The term “Pre-requisites” refers to subjects that must be successfully completed prior to registration in a subject requiring these prerequisites.
- e. The term “Co-requisite” refers to subjects that must be registered simultaneously if studied for the first time. During repetition, simultaneous registration of such subjects is not necessary.

2.0 Degree Duration

- a. The minimum duration of the undergraduate degree programs shall not be less than four academic years in case of Engineering, Engineering Technology, Computer Science

and Business Administration.

- b. The maximum duration of the degree program shall not be more than six academic years in case of Engineering, Engineering Technology, Computer Science and Business Administration.

2.1 Extension beyond Maximum Duration

- a. The Vice Chancellor of UET, Lahore may grant extensions up to a maximum period of one year beyond the maximum duration for completing requirements for the award of degree. Students requiring extension may apply to the Vice Chancellor UET Lahore for this purpose through the Director IEFR.
- b. In this case the rule of UET Lahore for the requirement will be observed.

3.0 Student Status

- a. Students shall be classified (1) on the basis of number of credit hours registered in a semester and (2) on the basis of credit hours completed.
- b. The students are classified as per the following nomenclature on the basis of credit hours registered during a semester:
 - (i) Students registering at least 12 credit hours during fall and spring semesters and 6 credit hours during summer semester within the minimum duration of their respective degree program shall be called “Regular”.
 - (ii) Students shall be classified as “Casual” students if they register in less than 12 credit hours during fall and spring semesters and less than 6 credit hours during summer semester, Or they register in subjects after completion of their minimum degree duration period.
- c. The students are classified as per the following nomenclature on the basis of credit hours completed:
 - (i) “First Year” students if they have

successfully completed less than or up to 32 credit hours of prescribed syllabus;

(ii) “Second Year ” students if they have successfully completed than 32 credit hours but up to 68 credit hours of prescribed syllabus;

(iii) “ Third Year ”student s if they have successfully completed more than 68 credits hours but up to 104 credit hours of prescribed syllabus;

(iv) “Fourth Year” students, in the case of a five years degree program only, if they have successfully completed more than 104 credit hours but up to 136 credit hours of prescribed syllabus.

(v) “Final Year” students if they have successfully completed more than 104 credit hours, instead of a four degree program and more than 136 credit hours, in case of a five years degree program, if prescribed syllabus.

4.0 Credit Hours Requirements

The credit hours required for the award of degree may range from a minimum of 134 to a maximum of 140 for degree programs with a minimum duration of four academic years. These will include a minimum of 6 credit hours of “final year design project” or equivalent spread over two semesters.

5.0 Semesters Nomenclature, Duration and Registration Matters

- a. There shall be two regular semesters, namely Fall and Spring semesters, and an optional summer semester during each academic year.
- b. Fall and spring semesters will be spread over 16to 18 weeks including examinations with at least 15 study weeks during the semester. The duration of summer semester will be 8 weeks including examinations with weekly contact hours being double from those of fall and spring semesters.

- c. The maximum and minimum permissible number of students to be allowed registration in a subject section will be decided by the concerned Board of Studies.
- d. Student may consult their tutors for registration guidelines.
- e. Registration limits for students are given as under:
 - (i) First year and Second year students may be allowed to register in at most 19 credit hours during fall and spring semesters;
 - (ii) Students of third year and beyond may be allowed to register in at most 22 credit hours during fall and spring semesters;
 - (iii) At most 08 credit hours during summer semester such that the contact hours per week do not exceed 24.
- f. Registration will only be allowed in a subject if the prerequisites, if any, of this subject have been completed successfully.
- g. Registration in a subject section will be closed if the maximum permitted number of students has registered in it.
- h. A subject section will be closed if less than the minimum numbers of students register in that section. Such students who have been denied registration due to a closure of a section may add some alternate subject(s) during the add and drop period.
- i. During summer semester, selected subjects will be offered in accordance with departmental policy for summer semester.

6.0 Curriculum and Classification of Subjects

- a. Subjects are classified as:
 - (i) “Theory” wherein the primary mode of teaching shall be lectures given by teachers supplemented by home assignments. For the purpose of these regulations, subjects of this type shall be referred to as Type-A;

(ii) “Practical” wherein the primary mode of teaching shall be experiments, studio laboratory, designs, drawings, assignments and projects conducted/executed by students as specified in the syllabus. For the purpose of these regulations, subjects of this type shall be referred to as Type-B;

(iii) “Comprehensive Projects” wherein students engage in design and development of a project under direct supervision of teachers in a laboratory/ studio/ workshop/ industry, spread over one or two regular semesters in an academic year. For the purpose of these regulations, subjects of this type shall be referred to as Type-C.

7.0 Type -A Subjects Evaluation and Contact Hours

- a. In type subjects, there shall be a mid-term examination of at least one hour duration and a comprehensive final examination of at least one and a half hour duration. These examinations shall carry 30 and 40 percent weight respectively. The comprehensive final examination will include 20% questions from pre-mid-term syllabus. The teacher shall schedule additional assessment instruments such as quizzes, assignments, presentations, seminars, group discussions, field study reports etc. as specified in the syllabus or as determined by the teacher. These assessment instruments shall carry the remaining 30% weight of the subject
- b. There shall be one contact hour per week during Fall and Spring semesters and two hours per week during Summer semester for each credit hour assigned to Type-A subjects.

8.0 Type-B Subjects Evaluation and Contact Hours

- a. In Type-B subjects, each Experiment, Studio work, Jury Presentation, Design, Drawing, Project or Assignment shall be considered as

an independent assessment instrument. Cumulative performance in all independent assessment instruments shall form the basis for evaluating a student.

- b. There shall be two to three contact hours per week during Fall and Spring semesters and four to six contact hours per week during Summer semester for each credit hour assigned to Type-B subjects.

9.0 Type - C Subjects Evaluation and Contact Hours

- a. In Type-C subjects, each exercise, project or assignment shall be assessed for process during its lifetime (Continuous Assessment) while the end product shall be assessed, right after its submission, through Viva-Voce/ Jury examination (Terminal Assessment).
- b. Continuous Assessment and Terminal Assessment of Type-C subjects may carry 60 and 40 percent weight respectively.
- c. External Examiners/ Jurors shall be involved in the assessment of all Type-C subjects.
- d. There shall be two to four contact hours per week during Fall and Spring semesters for each credit hour assigned to Type-C subjects.

10.0 Award of Letter Grades

- a. The subject teacher, having interacted with the students, taught them and having assessed them over the semester, shall award letter grades to the students. Chairman of the concerned degree awarding department will be consulted while finalizing the letter grades. Letter grade in each Type-A subject shall be awarded on a Relative Scale whereas, letter grade in Type-B and Type-C subjects may be awarded on an absolute if deemed fit by the subject teacher.
- b. Following steps in awarding letter grades on a relative scale may be followed:

(i) Minimum marks threshold linked to content shall be established for award of a passing letter grade. Students earning marks below this threshold shall be awarded “F” grade;

(ii) Expected maximum marks threshold shall also be established. Student(s) crossing the maximum threshold, if any, will be awarded “A+” grade. The grade points of “A+” and “A” are the same. As such, it is expected that only exceptional students demonstrating outstanding results are given recognition by award of this grade.

(iii) Students earning marks between the maximum and minimum thresholds are listed in descending order of merit and the average and standard deviation is computed;

(iv) Passing letter grades are awarded according to the table given below, with “A” being the highest passing grade and “D” being the lowest passing grade.

(v) The cluster of students falling within half standard deviation of average marks may be graded as “C+” or “B-“;

(vi) Other passing letter grades may be awarded on the basis of clusters of students within narrow ranges for a population less than 100; Or on a normal curve basis if the population of students is more than 100;

(vii) It is not essential that every class should have all letter grades awarded, that is, it is possible that a class does not have any student below the minimum threshold; Or in another scenario in which no student, in the opinion of the instructor, is eligible for the award of “A” grade. There may be cases where no student qualifies for some intermediate grade.

(viii) An upper limit on the percentage of students in a subject who can earn a particular passing grade may be placed, if required.

- c. The letter grades and their corresponding grade points (GP) are given in the table below.
- d. Subjects repeated to improve grades, excluding “W” or “WF” grades, will be shown on the transcript with a suffix “R”.
- e. The subject teacher may award an “F” grade to a student if he is convinced, while checking the answer script of mid-term or final examination that the student has cheated. The subject teacher will give an opportunity to the student to defend himself before award of this “F” grade.

11. Result Computation Method

The Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) shall be computed according to the following formula:

$$GPA = \sum (GP_x \cdot CH_x) / \sum CH_x$$

$x = 1$ to n , where n is the number of subjects in the semester for which GPA is computed.

$$CGPA = \sum (GP_y \cdot CH_y) / \sum CH_y$$

$y = 1$ to m , where m is the number of total subjects covered in all semesters up to the semester for which CGPA is to be computed.

11.1 Authority to Compute Results Grade Points

(GP) in each subject, Semester Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) of each student shall be computed and notified by the Controller of Examinations at the end of each semester.

12.0 Award of “W”, “WF”, “I” and “IP” Grades

12.1 Withdrawal (“W” Grade); A student may be allowed to withdraw from a subject in which he is registered. Applications (Form 1) to withdraw from a subject shall be entertained latest up to the 6th study week during Fall and Spring semesters and up to 3rd study week during Summer semester. Withdrawn subjects shall appear in the transcript with a letter

Letter Grades & Corresponding Grade Points

A+	4.0	C-	1.7
A	4.0	D+	1.3
A-	3.7	D	1.0
B+	3.3	F	0
B	3.0	W	-
B-	2.7	WF	-
C+	2.3	I	-
C	2.0	IP	-

grade “W”, and shall not be used in computation of GPA. In the transcript, subjects repeated after withdrawal will not be suffixed with an “R”.

12.2 Forced Withdrawal (“WF” Grade); A student registered in a subject may be permitted to continue due to shortage or attendance or other disciplinary action. Such shall be awarded a “WF” (Forced Withdrawal) grade. It shall appear in the transcript as such, and shall not be used in computation of GPA. Subjects repeated after forced withdrawal will not be suffixed with “R”. A student who does not drop a subject nor appear in any assessment instrument will not be eligible for “WF” grade and will be awarded a “F” grade.

12.3 Incomplete “I” Grade A student, who because of illness or any other acceptable fails to complete the required instruments in any subject may be awarded an “I” (Incomplete) grade as an interim grade. Students having less than 50% attendance will not be eligible for award of this grade. This grade shall appear in the transcript temporarily until it is replaced by the actual grade and will not be treated as “F” grade. The student receiving such a grade shall make up the unfinished portion of his student to the satisfaction of the faculty member who awarded this grade, and is given a letter grade as per regulation 10 at the discretion of the faculty member without

prejudice to the previous grade “I”. In case, the student fails to complete the unfinished portion within the following semester his “I” grade would be converted to “F” grade by the Controller of Examinations. The responsibility for completing the unfinished portion and satisfying the faculty member lies with the affected student.

12.4 In Progress “IP” Grade

- Type “C” subjects, like thesis, projects, studio work etc., spread over more than one semester may be graded as “IP” until completion of these subjects. This grade shall be recorded in the transcript and will not be treated as “F” grade.
- Each portion of a Type “C” subject spread over two semesters may have been prescribed different nomenclature and different subject code. First portion of such a subject may be graded as “IP” upon completion, if the department decides to award the final letter grade upon completion of the second portion.
- It shall appear in the transcript as such, and shall not be used in computation of GPA. Grades assigned in the semester in which the subjects are completed will be used in computation of Semester GPA with total credit hours of the subjects being counted for this purpose.

13.0 Repetition of Subjects

- Students are permitted to repeat subjects to improve their grades in a semester within their maximum credit hours registration limit.
- Separate repetition of Type B part or Type A part of a subject, which is a combination of Type A and Type B, is permitted.
- In case of repetition of a subject, the new grade earned shall replace the previous grade, whether high or low.

14.0 Academic Probation and Separation

- a. A student will be placed on Warning if his GPA falls below 2.0 in any semester with his CGPA remaining greater than 2.0.
- b. A student will be placed on Probation if his CGPA falls below 2.0 after any semester.
- c. A student will be separated from the University and IEFRR if he remains on probation for two consecutive semesters.
- d. Separated students can apply to the Vice Chancellor UET, Lahore.

15.0 Award of Degree and Merit Position

- a. Student shall qualify for the award of undergraduate degree if they earn a minimum CGPA of 2.0 and they satisfy the following conditions:
 - i) Have no compulsory outstanding subject with “W”, “WF”, “I” and “F” grades during all semesters of a degree program.
 - ii) Have repeated elective subjects in which “W”, “WF”, “I” and “F” grades have been earned or have studied alternate elective subjects in lieu of these to fulfill the credit hours requirement.
 - iii) Have completed the prescribed number of credit hours.
- b. Students shall qualify for a “Degree with Honors” if they satisfy the following conditions:
 - i) Have earned CGPA of 3.70 or above out of a maximum of 4.00;
 - ii) Have not repeated a subject;
 - iii) Have not withdrawn from a subject with a “W” or “WF” grade;
 - iv) Have not earned an 'F' grade in any core or elective subject during the course of study.

17.0 Dean's Honor Roll

At the end of each semester, there shall be a “Dean's Honor Roll” of students earning a Semester GPA of 3.7 and above without any “W” or “WF” or “F” grade while registered in at least 15 credit hours during that semester. There shall not be any Dean's Honor Roll for summer semester results.

18.0 Grievance Committee and Grade Change Request

- a. The examination regulations provide sufficient transparency by mandating teachers to show the result of all assessment instruments including final examination to their students. Sufficient time is provided to students, even after finalization of the award list, to point out errors and omissions and get them rectified. As such, the following aspects will neither be reviewed nor discussed while interpreting the provisions of this regulation:
 - (i) Marks awarded by the teacher in any of the assessment instruments;
 - (ii) Letter grade thresholds;

19.0 Students Registration

- a. Regular and casual students may register for subjects being offered during that semester within their maximum permissible credit hours.
- b. The student may add or drop subjects within the first two weeks of Fall and Spring semesters and within the first week of Summer semester.
- c. A student, who is fulfilling requirements of an “I” grade in a semester, is not required to register in the subject in which he has been awarded an “I” grade.
- d. Students deciding not to register in a semester must inform the department of their decision. Failure to register without any prior intimation may result in separation from the University.

20.0 Deferment of Studies (Freezing)

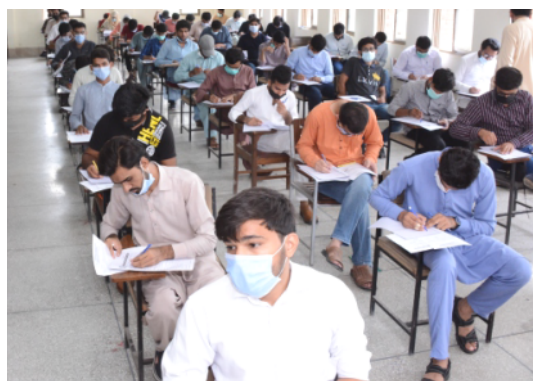
- a. Students enrolled in the first semester cannot apply for deferment.
- b. There shall be no relaxation in the maximum degree duration/period for students seeking deferment.
- c. A student may defer studies for at most two consecutive regular semesters, for medical or other circumstances beyond his control, with summer semester not being counted. In such cases, the student shall apply (Form-4) to the chairman concerned, at least 15 days before the commencement of the semester, for approval of deferment by the concerned Dean. CAC, after approval, shall notify deferment for a specified period.

21.0 Attendance Requirements

- a. Students failing to maintain a minimum attendance of 75% in a subject during a semester shall be awarded a “WF” grade. HOD in consultation with the respective Director shall review cases of students seeking relaxation of up to 10% in attendance requirement. The relaxation shall be allowed after approval by the Director. Any relaxation in excess of 10% shall be forwarded to the Director through the respective HOD for final decision.
- b. Leaves availed by a student after approval of the HOD will not be counted towards attendance;
- c. Students eligible for the award of an “I” grade will be awarded such a grade only if their attendance is at least 50%.
- d. Students not registering in a particular semester are required to intimate the department in writing about their decision. Failure to register without prior intimation may result in separation from the University.

22.0 Special Provisions

- 22.1 In all cases where the regulations are silent, the decision of the Director shall be final.
- 22.2 Interpretation of these rules and regulations by authorized officers of the UET Lahore shall be final.
- 22.3 The UET, Lahore authorities reserve the right to make any changes in the existing regulations, rules, fee structure and courses of study that may be considered necessary at any time without prior notice.
- 22.4 No student is allowed to maintain simultaneous enrollment in any other program of studies in the IEFr or any other educational institution within or outside Pakistan, unless permitted by the competent authority as an Exchange Student.
- 22.5 In case a student enrolled in this IEFr is found to be a regular student of some other University/institute on whether local or foreign, his admission in this IEFr shall be cancelled.
- 22.6 Students are required to know the rules and regulations mentioned in the prospectus and notified from time to time. Ignorance of rules and regulations does not absolve them of their responsibilities and shall not be treated as an excuse.





RULES & REGULATION

Students Discipline

The students are expected to conduct themselves in a disciplined manner, and to acquire that nature and responsible outlook about life which is expected of them when they graduate into their professional careers. In this regard they are required to abide by a code of honor and rules of discipline, except from which are reproduced below. Any violation of the rules of discipline can render a student liable to punishment ranging from exclusion from a class or a fine to rustication or expulsion from the Institute.

Code of Ethics

- a) He must be loyal, faithful in his religious duties and respect the conviction of others in matters of religion and custom.
- b) He must be loyal to his country and refrain from doing anything which might lower its honor and prestige.
- c) He must be truthful and honest in dealings with all people.
- d) He must respect the elder and be polite to all especially women, children, old people, the weak and helpless.
- e) He must respect his teachers and others in authority in the Institute.
- f) He must keep clean in body and mind, standing for clean speech, sport and habits.
- g) He must help his fellow beings especially those in distress.
- h) He must devote himself faithfully to his studies.
- I) He must observe thrift and protect property.

Smoking

Smoking in the premises of the Institute including class room, laboratory, workshop, library, examination hall, convocation hall and during studio work or academic functions is not allowed. A fine of **Rs. 5000/-** will be charged.

Functions/ Parties

Students are not allowed to organize or take part in any function within the Institute Campus or in a hall of residence, organize any club or society of students except in accordance with the prescribed rules and regulations.

Functions/ Parties

Students are not allowed to organize or take part in any function within the Institute Campus or in a hall of residence, organize any club or society of students except in accordance with the prescribed rules and regulations.

Collection of Money

Collection of money from students or receiving donations or pecuniary assistance for or on behalf of the Institute from any organization is not allowed except with the written permission of the Director.

Student's Activities

Students are not allowed to stage, incite or participate in any walkout, strike or other form of agitation against the Institute or its teachers and officers.

Check & Balance

Every member of the teaching staff shall have the powers to check disorderly or improper conduct or

any breach of the rules by students occurring in any part of the precincts of the Institute. Should such misconduct occur in room when the student is under the charge of demonstrator, he later shall report the matter without delay to the Head of the Department.

Timings

All students will put off the lights of their rooms by 0100 hours daily, failing which student will be penalized **Rs.100** per omission.

No male student will be allowed to go out/remain out after 2330 hours. In case of emergency, he will enter his name, reason to leave, entrance & exit timing, expected time of return along with signatures in the register placed at the gate office.

No student is allowed to keep any day scholar in his room beyond 2100 hours, failing which his hostel allotment will be cancelled.

If a day scholar is found within hostel between 21:00 hours to 06:00 hours, following action will be taken against them:-

Day scholar will be fined **Rs.500/-** Allotment of hostel resident will be cancelled.

Attendance in Classes

If a student does not attend classes for 6 (six) days

continuously while staying in the hostel, his room allotment will be cancelled. Final year students will vacate hostel room within three days after their last paper/viva examination.

Dues

If hostel dues are not paid by 10th January of the each year a fine @ **Rs. 50** per day shall be charged till 30th January after which his allotment shall be cancelled. The students will deposit their dues well in time to avoid any inconvenience.

In case of cancellation of allotment a sum of **Rs.1000/-** will be charged as re-allotment fee. Amount of security will be remitted to the hostel old student through cheques at his home/service address after the deposit of clearance certificates in Accounts department.

Female Residents

Girls students will have to enter their names in the register placed at the gate when ever going out. They are not allowed to remain out or go out after sunset. Girls would only be allowed to meet or go out with the persons as allowed by their parents / guardians in writing.





Hostel Management Office



Syed Shamim Raza
Sr. Hostel Warden



Mr. Tayyab Ali
Warden
(Jinnah Hall)



Mr. Muhammad Imran
Warden
(Iqbal Hall)



Mrs Faiza Tahir
Warden
(Fatima Hall)

HOSTEL RULES

1. All the rights of admission to the hostels are reserved with Senior Warden Hostels.

Note: Hostel dues will be considered on annual fee basis. Hostel dues will not be reimbursed to any resident after availing the hostel facility but if any resident want to leave the hostel after depositing the hostel dues then his/her hostel dues will be deducted on quarter basis.

2. A student, who violates the rules of the hostel or causes indiscipline, may be fined and/or rusticated from the hostel. If a student indulges in violent activity, he/she will be immediately suspended from the hostel and his/her entry to the hostel will be banned.
3. Admission to the hostel will be subject to the following rules:
 - a. Fresh Students: Merit in the qualifying exam on which admission is sought. However, this doesn't guarantee admission in hostel which is dependent on merit as well as availability of seats.
 - b. Old Students:
 - i. Behavior during stay in the Institute
 - ii. Who violates the rules and regulations during their stay will not be given accommodation in the hostel.
 - iii. Regularity in payment of dues of the hostel during previous years.
4. The Boys and Girls whose residence is within 40 kilometers and 25 kilometers respectively from the Institute Campus will not be entitled for accommodation in the hostel.

5. Admission in the Hostel shall be cancelled and /telephone number is given in the hostel admission form. (Note: If the parents of the hostel resident are alive, guardian's signatures will not be accepted)
6. Ignorance of hostel rules will not be taken as an excuse for avoiding any disciplinary action.
7. Guests are not allowed to stay overnight in the hostel.
8. Present or old students of the Institute cannot be the guest of the hostel resident.
9. Hostel residents or his/her guests are not allowed to take weapons of any kind in the hostel.
10. Hostel resident shall not be allowed to change his/her room during the session without prior approval of Senior Hostel Warden.
11. The Institute reserves the right to get the hostels vacated only under unavoidable circumstances.
12. Every hostel Resident shall be responsible for safety of the furniture and fan etc. provided in his/her room and these cannot be shifted from one room to another. It shall be duty of the hostel resident that the furniture handed over to him/her should not be damaged. He/she should not keep the furniture outside in the sun or rain. Defaulters will be fined.
13. Hostel residents are prohibited to take away the furniture from any room, canteen or mess to their room.
14. Before vacating the hostel, a hostel resident shall obtain clearance from the hostel office and shall personally hand over charge of the room and

other hostel properties to the authorities. He/she shall personally be responsible for the loss of the hostel property and shall also pay for the repairs of damage caused to the furniture fixtures/fittings and replacement in case of irreparable.

15. A hostel resident will be required to vacate the room within one week after his/her examination is over. No extension will be given to any hostel resident except for project thesis viva and attending classes at Campus which should be the part of syllabus.
16. Hostel residents are advised to keep the hostel identify cards always with them and should produce the same whenever asked by the concerned authorities.
17. Students can meet the Warden in office during specified time for official work.
18. Hostel residents are cautioned not to keep cash, ornaments and other valuable/costly articles in their rooms. They themselves will be responsible for the safety of mobile phones, laptops, and other valuable/costly articles. Institute authority will not be responsible in any kind of loss.
19. Indiscipline, misbehavior, gambling, use of drugs and keeping arms ammunition in hostel or the hostel room are strictly prohibited. Violations of above will make the hostel resident liable to disciplinary action that may include eviction from hostel.
20. A hostel resident may be asked to open his/her room, cupboard etc. for inspection by the Warden/Hostel Staff whenever required.
21. Smoking or drinking or use of any other intoxicants by the hostel residents or their guests is strictly prohibited.
22. Meetings or gathering cannot be held within the premises of the hostel without prior /written permission of the warden.
23. In case of non-payment of the hostel dues, warden can get the room vacated after informing the head of department.
24. If any hostel resident tries to enter in the room by breaking the lock or through the window or by smashing the windowpane he/she will be fined Rs.500/- and will also have to pay the cost of repair. Disciplinary action will be taken against him/her by the authorities.
25. In boy's hostel, residents can't come in or move out after **11:00 PM**.
26. In the boys' hostel, non-residents are not allowed to enter the hostel after **10:00 PM**.
27. If the Parents/Guardians of the hostel resident don't respond to the call of authorities in an emergent situation, the entire responsibility would fall upon the Parents/Guardians and the resident.
28. If any student is found stealing in the hostel, strict disciplinary action will be taken against him/her. He/ She can be expelled immediately from the hostel.
29. Senior Hostel Warden Student's Signature If any student is suffering from serious chronic disease, he/she must fill the same in hostel admission form. He/she will be allotted accommodation in the hostel only on recommendation of the senior medical officer.

SPECIAL RULES & REGULATIONS FOR GIRLS

1. Parents/Guardians should accompany their daughter to the Warden's Office, at the time of her admission in the Hostel to provide the list of relatives, who can visit the hostel to meet their child.
2. Only authorized guests can meet the residents from **10:00 am to 05:00 pm** in the guest room of the Girls Hostel, after proper identification and making their entry in the visitors register, placed in the Warden Office. No one is allowed to bring their guests to their room.
3. Hostel residents should obtain written permission from Warden for their night stay outside the hostel and make their entry in the leave register during office hours. In case of unauthorized absence from hostel, Warden shall bring the matter to notice of their

parents/guardians and recommend the case of habitual resident(s) to the management for appropriate action.

4. Ex-Students/Guests are not allowed to stay in the Hostel; only the mother and real sister of the resident are allowed to stay in the hostel after proper verification, for two days only without any charge in exceptional cases.
5. The Hostel gate will be closed at **08:30 pm** for students and **10:30 pm** for faculty/staff. No one will be allowed to enter the Hostel after closing time.

Note: In case of any violation of the above rules & regulations, disciplinary action shall be initiated against the involved resident(s).



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