Prospectus
2025

NFC Institute of Engineering and Technology Multan, Pakistan

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VICE CHANCELLOR'S MESSAGE

Lt. Gen. (R) Engr. Muazzam Ejaz
Vice Chancellor

It is my pleasure to welcome you to our NFC-IET, Multan for the Academic year 2025. As Vice Chancellor, I take immense pride in leading an Institution that stands at the forefront of innovation, technology, and creativity.

NFC-IET has established itself as a center of academic excellence, attracting bright minds from across the country, especially Southern Punjab. With a distinguished faculty, cutting-edge facilities, and an industry-driven curriculum, we ensure that students receive a holistic education that prepares them for the future. Our alumni is making remarkable contributions in Engineering, Computer Science, Architecture & Fashion Design and Management, shaping industries and pioneering new technologies.

We recognize the rapid advancements in technology and their impact on national & global industries. Our curriculum is continuously updated to integrate the latest trends, ensuring students develop strong theoretical foundations alongside hands-on practical experience. Our state-of-the-art campus offers advanced research labs, high-performance computing centers, digital design studios, and smart classrooms. Our innovation hubs and entrepreneurship centers provide resources for students to transform ideas into real-world solutions.

Our faculty comprises leading academics, researchers, and industry professionals dedicated to student success. Students have the opportunity to engage in groundbreaking research in fields like artificial intelligence, cyber security, robotics, and sustainable designs. We encourage students to think beyond conventional boundaries.

Our University embraces diversity, fostering an inclusive learning environment that promotes collaboration among students from different cultural and academic backgrounds.

Education is not just about academics. Our Campus offers numerous clubs, societies, and extracurricular activities, allowing students to explore their passions beyond the classroom. Whether you are interested in robotics, arts, music, or sports, there is something for everyone. Our leadership programs and career counseling services further ensure personal and professional growth.

Choosing the right university is a significant decision, and we are committed to providing an enriching educational experience that prepares you for a successful future. If you are passionate about technology, innovation, and making a difference, we invite you to join our dynamic community.

I look forward to welcoming you to our University and witnessing your journey towards excellence.

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NFC INSTITUTE OF ENGINEERING & TECHNOLOGY
FEDERAL DEGREE AWARDING INSTITUTE

NFC IET
MULTAN-PAKISTAN

Vice Chancellor Secretariat

Prospectus
2025

G E N E R A L

- **History of IET**
- **Academic Programmes**
- **Academic Setup**

www.nfciet.edu.pk

History

NFC-IET was established in 1985 to meet the technological training needs of production units of National Fertilizer Corporation of Pakistan in liaison with the industrial units of NFC with the collaboration of COSMO, Japan. Initially it trained managers, engineers, supervisors, operators and technicians through multi-dimensional programmes attuned to fertilizer and chemical process industry. The genesis of the Institute can be traced back to the early 90's when Dr. Saeed Ahmad Khan (late) emerged the idea that a centre of excellence in engineering and technology ought to be established in this region since there was no engineering institute from Lahore to Nawabshah, Sindh and the students hailing from these areas had to face huge difficulties to get admission in engineering universities as well as to pursue their education. The activities of the institute were diversified in 1994 in line with the education policy of Government of Pakistan and it was upgraded to the first dedicated engineering institute in Southern Punjab with engineering degree programmes offered in affiliation with Bahauddin Zakariya University, Multan. The under-graduate Engineering programme in NFC-IET was introduced in 1994 when a batch of 40 students was admitted in Chemical Engineering discipline. Since then, IET never looked back and grew with every passing year. In 2001, two new disciplines Electronic Engineering and Computer Systems Engineering were added. A four year B.S. Programme in Computer Science was introduced in 2008. The institution started a four year BS programme in Environmental Science in 2011.

In 2012, NFC-IET was awarded the charter of Federal Degree awarding Institute and Prof. Dr. Malik Akhtar Ali Kalrou was appointed as its first Vice Chancellor. Under his leadership, NFC-IET galloped at a rapid pace having launched new programmes including Mechanical Engineering, Civil Engineering, Architecture Design, BBA in 2013 and BS Engineering Technologies, in 2014 and B.Sc. Petroleum & Gas Engineering in 2015. The Institution has started MS Programmes in Electrical Engineering & Chemical Engineering in 2016, and MS Computer Science in 2017. In 2020, four new programmes, including three post graduate programs were launched. In 2024, BS Artificial Intelligence was launched. In November, 2024, Lt. Gen. (R) Engr. Moazzam Ejaz, HI(M) was appointed as Vice-Chancellor of NFC-IET. His vision and experience make NFC-IET, disciplined

and modern. He is transforming this institute into modern university. Under dynamic leadership of Vice-Chancellor PhD Program in Electrical and Chemical Engineering is launched in 2025.

All our Engineering programmes have been accredited by Pakistan Engineering Council (PEC), the apex body to regulate engineering education in the country. Over the years, the institute has produced more than 2800 bright, motivated graduates employed at some of the most respectable firms all over the world. We are proud that our graduates are not only strengthening the economy of Pakistan but also earning great respect for the institute. The practical engineering education facilities which are available in the Institute, such as Miniature Plant provide added benefits to students in learning actual plant operation, process control and plant optimization. These facilities are in no parallel with other engineering institutions/ universities of Pakistan. Another achievement of our institute in the field of engineering and technology is the establishment of Coal Research Centre which is a state of the art lab. The Coal Research Centre, established at a cost of Rs.80 Million, caters for coal gasification and combustion.

In today's competitive marketplace, NFC-IET is not only envisaged to grow as a modern centre of excellence in engineering and technology but also take heed in provided its students with industrial and science exposure since we strongly believe that science and engineering linkage between academic institutions, industry and elsewhere plays a critical role in raising our standard of living, quality of education, creating jobs and improving right knowledge, skills and attitude. We also believe in the harmony of academic and personal growth. Our societies have been playing their role in providing the students with various opportunities to indulge in their aesthetic interests and experience working in a professional environment. Moreover, these societies instil in their members the priceless qualities of teamwork and leadership.

Vision:

"NFC-IET committed to provide quality education and skills by providing conducive environment while maintaining self sustainability."

Mission:

"To pursue incorporation of academic evaluation standards in all strategic planning, policies and efficient management of financial resources at the Institute."

Goals:

➤ To produce graduates of market demand and social competence.

- ➤ Sustenance of Institute's employees confidence.
- ➤ Promotion of individual faculty research profile.
- ➤ Facilitation of international faculty and students' academics and R&D collaboration.
- ➤ Self assurance and compliance to all concerned academic regulatory bodies.
- ➤ To maximize resource mobilization of the Institute.

In present techno-driven world, institutions of engineering and technology education have got prime importance for a country to achieve distinguished position among the advanced nations. Investments on producing high tech professionals and experts can guarantee in transforming traditional businesses of a country to a knowledge based economy which is accredited as an effective measure of prosperity of a nation. NFC-IET is also serving for the same cause offering higher education in multi engineering and science disciplines to the aspiring youth of Pakistan. The Institute aims at producing such professionals by setting up a strong base of engineering education and research. It strives to produce graduates who can upgrade the existing technological enterprise and in whom professional excellence is inseparable from a commitment to the national ideals.

Location, Area and Locality

The Institute is situated in Multan, a city located in the orbit of world known as Indus civilization and is amongst the few ancient cities of Pakistan. Multan's history of religious-political activities is almost five thousand years old. Multan, once famous for "Sun-Worship" in the early centuries of Christian era was introduced to a completely new set of conquerors. The city turned into a great centre of Suhrwardia Silsillah established under the guidance of Sheikh Bahauddin Zakariya.

Exquisite relics of that era are the treasured possessions of The Khanqah (Shrine) of Shah Rukn-e-Aalam, a masterpiece of architecture which became the identity of Multan. During this period, immigrants from various cultural and intellectual centres of central Asia and Iran came to Multan. Today's city of Multan reflects a complete blend of

modern, planned metropolitan systems and old civilization.

The Institute is located on Khanewal Road in close proximity to Pak Arab Fertilizers Ltd., which is one of the biggest chemical process complexes in the country, and provides a strong technical backup to the Institute. Stretched over a land of 320 canals, NFC-IET is housed in a number of buildings having graceful exterior and elegant interiors with all the necessary amenities for its users. The location of the Institute offers many advantages. Perhaps the most important advantage is the invaluable opportunities it offers for establishing an interaction between industry and institute.

Academic Programmes

The Institute offers following undergraduate programmes:

1. B.Sc. Chemical Engineering
2. B.Sc. Electrical (Computer Systems) Engg.
   B.Sc. Electrical (Power) Engineering
   B.Sc. Electrical (Electronics) Engineering
3. B.Sc. Mechanical Engineering
4. B.Sc. Civil Engineering
5. B.Sc. Petroleum & Gas Engineering
6. B. Architecture
7. BS Computer Science
8. BS Software Engineering
9. BBA

10. BS Bio-Medical Engineering Technology
11. B.Des. Fashion Design
12. BS Environmental Science
13. BS Chemistry
14. BS Physics
15. BS Food Science and Technology
16. BS Artificial Intelligence

The Institute offers following postgraduate programmes;

1. MS Electrical Engineering
2. MS Chemical Engineering
3. MS Computer Science
4. MS Mechanical Engineering
5. MS Civil Engineering
6. MBA

From 2025, the Institute will offer PhD in two disciplines;

1. PhD in Electrical Engineering
2. PhD in Chemical Engineering

Curriculum for the degree in each discipline is designed to provide in-depth knowledge of engineering & technology to the graduates, develop their thinking ability in a manner that they become competent professionals with additional attributes of creative vision, innovative approach and managerial skills. The curricula are in line with PEC and HEC guidelines.

Academic Setup

Each semester shall be of five months duration with 16 weeks for teaching, and two weeks each for conduct of examination and vacations. The medium of instruction is English.

The Faculty

The existing teaching staff is highly qualified and rich in industrial experience and technical skills. IET is perhaps one of the few institutions in Pakistan, with a teaching staff of such a vast industrial experience. The faculty consists of professionals in the fields of Chemical, Mechanical, Civil, Electrical, Electronic, Instrumentation Computer Engineering, and Science and Architecture Design. The faculty includes 30 Ph.Ds in Engineering and Basic Sciences and over 69 Masters Degree holders. Under the faculty development plan of the Institute, as many as eight faculty members have gone abroad for Ph.D./M.S. Programme and an equal number is pursuing Ph.D./M.S. within the country.

The Institute also holds the services of competent professionals, senior academicians and experienced teachers as panel members who frequently visit the Institute during the academic year.

Outcome-based Education System

Outcome-based education is a model of education that rejects the traditional focus on what the Institute provides to students, in favor of making students demonstrate that they "know and are able to do" whatever the required outcomes are.

OBE reforms emphasize setting clear standards for observable, measureable outcomes. Nothing about OBE demands the adoption of any specific outcome. For example, many countries write their OBE standards so that they focus strictly on mathematics, language, science, and history, without ever referring to attitudes, social skills, or moral values.

The key features which may be used to judge if a system has implemented an outcomes-based

- Creation of a curriculum framework that outlines specific, measureable outcomes. The standards included in the frameworks are usually chosen through the area's normal political process. A commitment not only to provide an opportunity of

education, but to require learning outcomes for advancement. Promotion to the next grade or other rewards is granted upon achievement of the standards, while extra classes, repeating the year or other consequences entail upon those who do not meet the standards.

- Standards-based assessments that determines whether students have achieved the stated standard. Assessments may take any form, so long as the assessments actually measure whether the student knows the required information or can perform the required task.
- NFC-IET Multan adopted OBE System for Engineering Technologies programs according to the requirement of Pakistan Engineering Council and National Technology Council.

Benefits of OBE

Clarity

The focus on outcomes creates a clear expectation of what needs to be accomplished by the end of the course. Students will understand what is expected of

them and teachers will know what they need to teach during the course. Clarity is important over years of schooling and when team teaching is involved. Each team member, or year in school, will have a clear understanding of what needs to be accomplished in each class, or at each level, allowing students to progress. Those designing and planning the curriculum are expected to work backwards once an outcome has been decided upon; they must determine what knowledge and skills will be required to reach the outcome.

Flexibility

With a clear sense of what needs to be accomplished, instructors will be able to structure their lessons around the student's needs. OBE does not specify a specific method of instruction, leaving instructors free to teach their students using any method. Instructors will also be able to recognize diversity among students by using various teaching and assessment techniques during their class. OBE is meant to be a student-centered learning model. Teachers are meant to guide and help the students understand the material in any way necessary, study guides, and group work are some of the methods instructors can use to facilitate students learning.

Comparison

OBE can be compared across different institutions. On an individual level, institutions can look at what outcomes a student has achieved to decide what level the student would be at within a new institution. On an institutional level, institutions can compare themselves, by checking to see what outcomes they have in common, and find places where they may need improvement, based on the achievement of outcomes at other institutions. The ability to compare easily across institutions allows students to move between institutions with relative ease. The institutions can compare outcomes to determine what credits to award the student. The clearly articulated outcomes should allow institutions to assess the student's achievements rapidly, leading to increased movement of students. These outcomes also work for school to work transitions. A potential employer can look at records of the potential employees to determine what outcomes they have achieved. They can then determine if the potential employee has the skills necessary for the job.

Involvement

Student involvement in the classroom is a key part of OBE. Students are expected to do their own learning, so that they gain a full understanding of the material. Increased student involvement allows students to feel responsible for their own learning, and they should learn more through this individual learning. Other aspects of involvement are parental and community, through developing curriculum, or making changes to it. OBE outcomes are meant to be decided upon within a school system, or at a local level. Parents and

Facilities & Services

- Computing & Internet
- Libraries
- Students' Accommodation
- Vice Chancellor Secretariat
- Guest House
- Sports Facilities
- Laboratories
- Mosque
- FM Radio Broadcasting
- Transport & Parking Facilities
- Metro Bus Service

The Institute is spread over 40 acres of land. NFC IET include Dr. Akhtar Ali Kalrou Block, Old & new Chemical Engineering Blocks, Mechanical Engineering Block, Civil Engineering Block, Bio-Medical Block, Architecture Block and Electrical Engineering Block. In addition, the Institute has a Vice Chancellor Secretariat, Training Block and Central Workshop in the Academic premises. These buildings, apart from the class rooms and labs, include three libraries - one each for Chemical Engineering, Electrical Engineering & Basic Sciences, three Seminar Halls and six Committee Rooms. The Institute is housed in a number of buildings, which have a graceful exterior and an elegant interior with all the necessary amenities and conveniences for its users. The academic blocks have fully furnished, air-conditioned class rooms, lecture theaters, laboratories equipped with latest equipment and Instruments, Workshop, Faculty Rooms, Seminar Halls, Committee Rooms and a Library.

Computing & Internet Facilities

The Institute has high speed network setup for the faculty members and students who have an easy access to the internet services like web surfing, file transfer, chat and e-mail. The computer and Simulation Labs of Chemical Engineering Department have 70 computers while in the Electrical Engineering Department, in addition to different Lab Computers, there are 150 Core-i7 computers in Labs for the purpose of computing and internet facility, in particular Computer Science Department has five state of the art computer labs and computer equipped class rooms.

Libraries

A grand new building for Central Library completed recently. The main hall is well furnished, air-conditioned and has independent study cabins. It has textbooks, reference books, Science & Engineering Encyclopedias, Training Manuals, Technical Literature, Magazine and journals to meet the needs of the faculty and students. The library at the moment has over twenty five thousand books which are under use for study, training and research purpose. In addition, latest and contemporary issues of international journals and magazines of the relevant disciplines are also available for the pursuance of research activities.

The library has access to on-line digital library through HEC's PERN System, which is the flagship program of HEC. The Audio-Visual section of the library has over one hundred videocassettes on diverse topics like operation of different machines, pumps, compressors etc. maintenance of these machines and other technical and general engineering issues.

Students' Accommodation

Two boys' hostels were constructed in 2007 and 2015 having a capacity of 440 students each. The hostels are fully equipped with all residential and sports facilities required for male students. The hostel mess serves quality food at approved rates and the canteen offers break-fast, snacks, refreshments and remains open till late night.

Girls' Accommodation

The girls' hostel can accommodate over 100 female students. The hostel is fully equipped with all residential and sports facilities required for female students. In addition to furnished kitchen, mess facility is also available on membership basis.

Vice Chancellor Secretariat

The Vice Chancellor Secretariat of the institute includes offices of the Vice Chancellor, Registrar, Controller of Examinations, Admission, Administration, Finance and other allied offices.

Guest House

The first building which was constructed right at the inception of the Institute was the Guest house to accommodate guests for their short stay at the campus. It is lavishly furnished, has ten bed rooms and is currently used for visitors stay as well as to serve external examiners.

Sports

Extensive indoor and outdoor sports facilities are available within and around the Institute. A Gymnasium, Badminton courts and a football ground/cricket field are available in the Institute. Construction of new sports complex, having Basket ball, Lawn Tennis, Squash Courts and a Swimming pool, will start soon.

Laboratories

The Institute has a number of laboratories having latest equipment and a state of the art miniature plant. Fifteen new laboratories have been added to the laboratory facilities of the Institute to cater the needs of the engineering students. These lab facilities meet the international standards and are highly ranked among the institutions offering degree in engineering disciplines. Construction work for the upgradation of existing labs and addition of new ones is underway. The labs will not only be utilized at under-graduate level but also at post-graduate level for research and studies. Detailed list of the Labs with major equipment is given on subsequent pages.

Mosque

A mosque has been constructed near the boys' hostels to facilitate the students to offer their regular prayers.

NFC-IET Goes Live (FM Transmission)

NFC-IET has taken another congenial initiative by incorporating with PILAC (Punjab Institute of Language, Art & Culture) and established a specialized subject "Punjab Rung FM 99.4" radio station in the premises of the Institute. This incitingly zealous and spirited project aims for the development of the Education and culture of

Southern Pun jab.

FM 99.4 is benefitting NFC-IET with two hours exclusive On-Air time daily and free of cost for the presentation of education, and research to promote.

An independent floor is entrusted to FM in the Architecture department where FM owns an On-Air studio, Production Studio, Control Room, and a very well equipped digital recording and editing system.

The test transmission has already started from 24th May 2021. The initial coverage area is more than 200 KM all around Multan.

PARKING PLAZA
The expansion of the Institution with numerous new departments, and greater enrollment of students, had made the parking place rather insufficient. The

issue has been addressed and the innovative and the most awaiting facility of multi-story parking plaza has finally been built and functional at the present moment in the Institute.

It is a 3-story building consists of a basement, ground floor, and 1st floor covering 56000 sq feet with segregated entrances having the parking space of 300 Bikes and 150 Cars and still further floors can be constructed according to future requirements.

The students can get access to park their vehicles safely by having the parking-tokens while the faculty is allocated with exclusive stickers for parking.

This marvelous project was inaugurated by the reverend Vice-Chancellor NFC-IET Prof. Dr. Malik Akhtar Ali Kalrou in a ceremony. During the program, the Vice Chancellor recognized all the hard work to make this plan a success. In his speech, he further elucidated that the parking problem had been becoming a much more serious concern for NFC-IET. The Institute construe the issue resulted in another memorable accomplishment credited to the Institute.

Solar Power System:
In order to avoid load shedding and getting green energy, NFC-IET became first Institute to install Solar Power System of 500 kw. NFC-IET is the first Institute of Punjab who get Generation Licence and it will give

extra energy to MEPCO through Net Meter with the vision of Vice Chancellor.

Dr. Kamran Liaqat Bhatti, Project Director, completed the Solar Power System Project in record time of two months from the date of award of work.
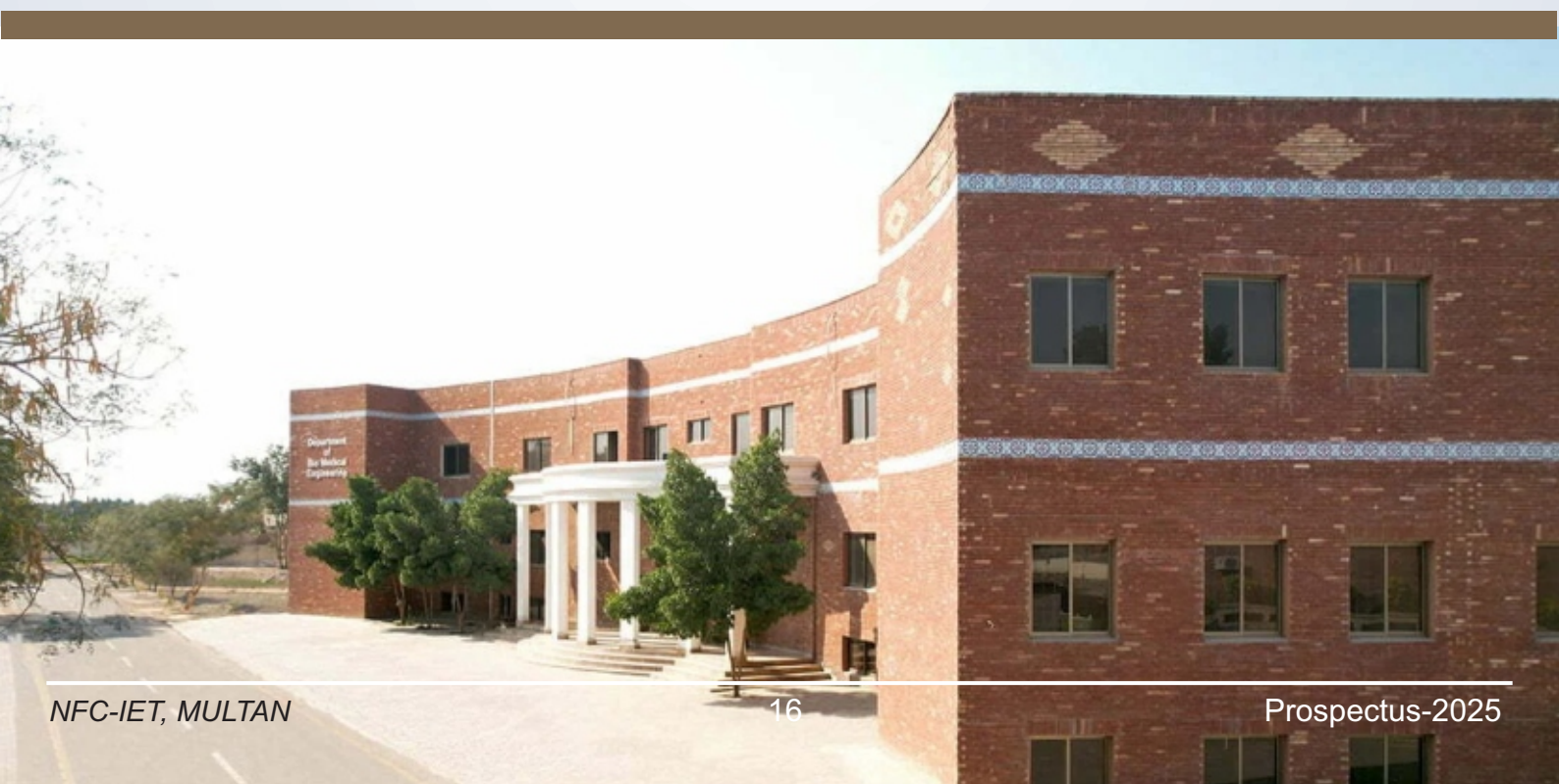
DEPARTMENT OF
Chemical
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Chemical Engineering

What do chemical engineers do? Although their backgrounds and professional skills are similar, chemical engineers work in a wide variety of industries, in addition to chemicals and petroleum, such as:

- Chemical Plant operational Engineer
- Energy Engineer/ Energy Auditor
- Manufacturing production Engineer
- Consulting Engineer
- Food Engineers
- Material Engineer
- Analytical Chemist
- Product development engineer
- Pharmaceutical manufacturer Engineer
- Project engineer
- Petroleum Engineer
- Safety Engineer
- Nuclear Engineer
- Utility Engineer
- Environmental Engineer
- Water Treatment Engineer
- Process Engineer
- Sale and Marketing of chemical products
- Control Engineer
- Simulation and Modeling Engineer
- Waste Management
- Universities as a Teaching faculty
- Quality Engineer
- Fuel Engineer (Airport)
- Technical Services Engineer
- Ministry of Environment
- Armed Forces
- Ministry of Defense, Defense industry, etc)
- Ministry of Production

- Textile Industry(Dying process/utilities)
- Ministry of Petroleum and Gas (SNGPL,SSGPL,OGDC,OGRA,
- Research and Process design
- Polymer Engineering

All the industries as mentioned above are involving numerous of chemical process unit. Therefore, chemical engineers play an important role on design, operation, control, troubleshooting, research and management in the chemical process. Chemical process is a combination of process equipment designed to efficiently convert raw materials into finished or intermediate products.

Internationalization of Chemical Engineering

Department of chemical engineering at NFCIET Multan has opted Out come Based Education (OBE) since 2017 and duly accredited by Pakistan Engineering Council (PEC). Outcome Based Education (OBE) is an approach of teaching and learning that focuses on what students should be able to attain at the end of the educational program. OBE is a student's centered system which concerns what the students will know and be able to do as learning outcomes. The curriculum development under OBE is therefore an integration of graduates attributes and stakeholders' feedback in cognizance with institution's Vision and Mission.

Integrated Approach of the Program:

The process of curriculum design and development constitutes various interconnected elements with the objective of achieving the intended purpose of the

program. The Plan-Do-Check-Act approach (PDCA).

Plan. This stage begins with an analysis of the stakeholders' needs of faculty, current and past students, employers and society in general. The stakeholders' needs are translated into human resource terminology i.e. graduate competencies which in turn translated into educational taxonomy and learning outcomes. Based on the learning outcomes, curriculum is designed backward to meet PLOs.

Do. The Do plan stage is implemented where curriculum is delivered and learning outcomes are assessed to gauge the achievement of PLOs.

Check. This stage involves the analysis of assessment results and feedback from students and faculty. Areas for improvement are also identified during this stage.

Act. When the learning outcomes are achieved, the curriculum, learning and teaching strategies and assessment methods are standardized. Best practices are shared and improvement is made for the next cycle of PDCA.

Mission

To nurture engineers for industry and academia with strong values of professionalism and scientific inquiry so as to enable them to achieve high standards of industry while maintaining sound financial health.

Program Educational Objectives (PEO)

The graduates of the program of Bachelor of Chemical Engineering are to be trained in such a way to solve the Industrial and Engineering problems using their scientific, mathematical, and soft skills. Hence, the program objectives are to produce:

PEO 1: Graduates with engineering, technology, analytical, innovative, and effective communication skills to solve industrial problems maintaining sustainable environment.

PEO 2: Graduates capable to handle industrial problems with effective leadership, teamwork, professional competency and maintaining high moral values.

PEO 3: Graduates capable of demonstrating their soft skills using modern tools.

Industrial Advisory Board (IAB)

IAB has been established in the chemical department to achieve the following objectives:

- Link the Institute to industry for benefit through memorandum of understanding/agreement
- Obtain support from industry for institute program and projects
- Involve industrial personnel for curriculum development
- Organize visits for institute-industry relationship
- Arrange internship for students every year
- Link institute academic staff to industry for collaboration research and consultancy work
- Obtain opportunities in industry for practical experience for NFC-IET students to carry out

their final year project thesis

♦ Establish partnership with community based projects and organization

♦ Solve funded industrial-based problems

Memorandum of Understanding with industry and Academia

Memorandums of understanding have been signed with several industrial and organizational entities, to offer the technical expertise of the department for techno-economic growth of industry and social sector. Some of these include,

- Century Paper and Board Mills Limited
- Velosi International
- Water Engineering and Management Services (WEMS)
- Chemical Kinetics
- Multan Chamber of Commerce and Industry
- BinRasheed Group
- Khawaja Mineral Industries
- National Cleaner Production Center
- National Productivity Organization
- Volka Foods International
- NUST

Departmental Quality Assurance Committee (QAC)

The role of QAC is to provide a comprehensive

strategy and planning to ensure, maintain and implement quality standards in the department. It will make sure that Annual Monitoring Report (AMR) is prepared and submitted to Head of Department. The committee will be responsible for defining criteria, standards and quality monitoring procedures as per HEC guidelines.

Societies of Chemical Engineering Department

Alumni Association

The mission of the Chemical Engineering Department Alumni Association is to create an environment in which alumni stay connected to the department through social, cultural, and educational activities, and support it with their work, wisdom, and wealth. The association has helped in strengthening the bond between the alumni and the department. The department keeps track of the alumni and helps them in job seeking and postgraduate studies even after passing out through the association. Several alumni have been invited to deliver technical and motivational lectures to the upcoming graduates which have been extremely beneficial. The Alumni Association implements its mission in partnership with the Institute's Office of Alumni.

Chemical Department Technical Society (CDTS):

CDTS was launched in the chemical department with the aim to conduct seminars, conferences and technical competitions and provide platform for the budding engineers to enhance their communication and presentation skills for a successful career. Another objective of CDTS is to expand the presence of chemical department on social media platforms. To achieve these, the society has been inviting

personnel from top managerial positions in industrial sector for the last three years which has helped in bridging gap between academic and industrial sector. CDTS has organized more than 12 seminars and webinars in a short span of three years. With the slogan "Will to build the future", CDTS is doing an excellent job of providing leadership to the students. Recently, CDTS has launched official YouTube Channel of the Chemical Department.

OUR ALUMNI - OUR PRIDE

Engr. Jahanzeb Tariq Baloch
(Session-1993)
General Manager
Administration & Corporate Affairs
Sapphire Group

Engr. Syed Manzar Mehdi Zaidi
(Session-1996)
Dy. General Manager,
Maple Leaf Cement

Engr. Dr. Waheed ur Rehman
(Session-1997)
Senior Engineer, PCSIR Laboratories
Complex, Peshawar

Engr. M. Atif Masood,
(Session 1999)
Staff Engineer Operations,
Fatima Fertilizer Co. Ltd.
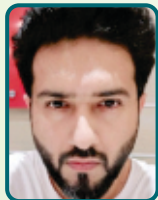
Engr. Talal Mustafa
(Session-2004)
Senior ProcessEngineer
OGDCL

Engr. Ahmad Saeed
(Session-2K5)
Assistant Executive Director,
OGRA

Engr. Salman Ahmad
Process Improvement Engineer
Sadara Chem. Company KSA
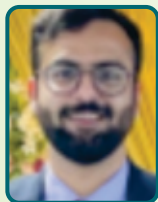
Engr. Usama Lodhi
(Session-2012)
Chem. Engineer
Veolia Water Tech. & Solutions
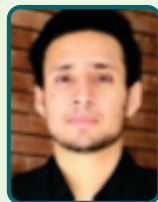
Engr. Gulzeb Khan Khakwani
(Session-2K16)
Chem. Process Engineer
Tangho Green Canada INC.

Chemical Department Literary Society (CDLS):

The literary societies are an important factor in the educational institutes. Our CDLS was introduced with the aim to promote healthy reading and writing habits among students. This helps the students to show their talent using the society as their platform. The society has organized different activities like Seerat-un-Nabi Conference, Motivational lectures, Sham e Ghazal and many more. It can also give charm to students during their busy schedule by conducting "funny poetic symposium". Under its platform, we have conducted English as well as Urdu debate competitions. Our focus is to release students from academic stress through social involvement, bring together students having similar interests and learn about activities. With the slogan **Touch the sky we give the way;** our literary society is doing a good job for providing better skills to the students.

Chemical Department Blood Donation Society (CDBDS):

Chemical Department Blood Donation Society (CDBDS) NFC IET was established in 2019 under the supervision of Engr. Dr. Sadiq Hussain, HoD of Chemical Engineering Department. CDBDS-NFC IET has a team of highly motivated faculty members and students, who maintain a complete database of blood donors that include volunteers from students and faculty/staff. This society helps in securing timely blood donations in emergencies as well as in routine requirements. The objectives of the society are: to create awareness of donating blood and conducting health awareness programs; to motivate students to donate blood; to develop a database of our students for blood donation; and to connect needy with volunteer blood donors.

Faculty Development

Faculty members from the Chemical Engineering department took part in one-month long faculty development training program held under the umbrella of National Outreach Program organized by the "National Academy of Higher Education" of "Higher Education Commission" Pakistan.

Department Facilities

Department has state of the art Ammonia Miniature Plant equipped with boiler, stripping tower, absorber, cooling tower, and compressor. This plant was installed by COSMO International Japan in 1985. Other facilities are given below:

- ◆ Particulate Technology Lab
- ◆ Physics Lab
- ◆ Chemical Lab
- ◆ Fluid Flow Lab
- ◆ Fuels & Combustion Lab
- ◆ Instrumentation & Process Control Lab
- ◆ Miniature Plant
- ◆ Heat & Mass Transfer Lab
- ◆ Thermodynamics Lab
- ◆ CPT/Unit Process Lab
- ◆ Chemical Reaction Engineering Lab
- ◆ Engineering Workshop
- ◆ Computer Lab
- ◆ Mass Transfer Lab
- ◆ Chemical Engineering Plant Design & Simulation Lab

Research Centers

NFC IET has established Coal & Sustainable Energy Research Center with the financial assistance of Ministry of Science & Technology (MOST) Govt. of Pakistan by spending Rs.67.34 million.

The objectives of this project are to carry out Research Work on Coal/biomass Combustion, Gasification and Beneficiation. State-of-the-art Center is equipped with analytical and experimental research rig facilities. The Research Center is currently providing research support for energy and environmental research programs. In addition to performing proximate and ultimate analysis, it provides a wide variety of testing. Calorific value of fuel, flue gas analysis, grindability index of coal, sieve analysis, size reduction, ash fusion temperature, analysis of refinery Gas/Natural Gas/Coal/Biomass Gases and Element Analysis of Drinking Water.

Our mission is to provide both high quality and reliable, physical and chemical analytical testing services and technical trained manpower to the energy, textile, sugar, and cement sector of the country.

TRIBUTE TO ENGR. TAFZEEL KHALIQ

Engr. Tafzeel Khaliq, a respected teacher, an exemplary professional and a wonderful human being, retired from Chemical Engg. Department after serving NFC IET for 17 years. He was a complete professional and a top administrator, admired by all the colleagues. His spotless professional career is a reflection of his honesty, dedication and determination.

We wish him all the best for all of his future endeavors

Recent Chemical Engineering alumni

MAKING US PROUD!

Continuing the legacy of Department of Chemical Engineering, our latest graduates are making us proud with their skills and hard work all across the country and worldwide

Zain ul Abideen
Fatima Group

Mudassir Hussain
Mari Petroleum

Inam ul haq
Osaka Batteries

Saiem Bin Ashfaq
Service Footwear

Ali Bilal
QAFCO Qatar

Iman Fatima
Nestle

Kabeer Ahmad
Service Tires

Hamza Ayub
Orient Ceramica

Anas Sami
Altammimi Group

M Ahmad
Plant Tech Arabia Saudi Arabia

M. Salman
Osaka Batteries

Umar Pitafi
Masters - University of Surrey

M Ahmad
Compliance Social Initiatives

Shaheer Hussain
Advance Chemicals

M Rohail
SM FOODS

Taimoor Khan
EBM

Ahmad Mazhar
MBA Anyang Uni Seoul

B.Sc. (CHEMICAL ENGINEERING) CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-001	Understanding of Quran	0+0	HQ-002	Understanding of Quran	0+0
HU-101	Islamic Studies/Ethics	2+0	HU-102	Ideology & Constitution of Pakistan	2+0
ENG-101	Functional English	3+0	ENG-201	Expository Writing	3+0
QR-101	Quantitative Reasoning-I	3+0	QR-102	Quantitative Reasoning-II	3+0
NS-101	Inorganic & Organic Chemistry	2+1	NS-102	Applied Physics	2+1
ID-101	Engineering Drawing & Graphics	0+1	ID-102	Workshop Practice	0+1
CS-101	Application of Information & Comm. Tech.	2+1	NS-112	Physical & Analytical Chemistry	2+1
ChE-101	Chemical Engineering Principles-I	2+0	ChE-102	Chemical Process Industries	3+0
	Total Credits	**17**		**Total Credits**	**18**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
HU-107	Professional Ethics	2+0	MA-102	Linear Algebra & Differential Equation	3+0
HU-201	Civic & Community Engagement	2+0	ID-202	Occupational Health & Safety	1+0
MA-101	Calculus & Analytical Geometry	3+0	CS-201	Programming & Data Science	2+1
ID-201	Engineering Materials	2+0	ChE-204	Chemical Engineering	2+0
ChE-201	Chemical Engineering Thermodynamics-I	2+1	ChE-205	Heat Transfer	3+1
ChE-202	Fluid Mechanics-I	2+1	ChE-206	Particulate Technology	3+1
ChE-203	Chemical Engineering Principles-II	2+0			
	Total Credits	**17**		**Total Credits**	**17**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
MS-201	Entrepreneurship	2+0	SS-202	Engineering Economics	2+0
ID-301	Applied Electrical Engineering	2+1	CS-301	Numerical Methods with Software Applications	2+1
ChE-301	Integrated Management System	3+0	ChE-305	Instrumentation & Process Control	3+1
ChE-302	Mass Transfer	3+1	ChE-306	Chemical Reaction Engineering	3+1
ChE-303	Fluid Mechanics-II	2+0	ChE-307	Transport Phenomena	3+0
ChE-304	Fuels & Energy	2+1			
	Total Credits	**17**		**Total Credits**	**16**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
ChE-401	Chemical Process Safety	1+0	ID-401	Maintenance & Utility Engineering	3+0
ChE-402	Separation Processes	3+1	MS-401	Project Management	2+0
ChE-403	Chemical Plant Design	3+0	ChE-407	Environmental Engineering	2+1
ChE-404	Process Modeling, Simulation & Optimization	3+1	ChE-408	Depth Elective-II	2+0
ChE-405	Depth Elective-I	2+0	ChE-409	Depth Elective-III	2+0
ChE-406	Design Project-I	0+3	ChE-410	Design Project-II	0+3
	Total Credits	**17**		**Total Credits**	**15**

Courses	Credit Hours
General Education/Non-Engineering Domain	41
Engineering Domain	84
Flexible	09
Total Program	134

NFC INSTITUTE OF ENGINEERING & TECHNOLOGY
FEDERAL DEGREE AWARDING INSTITUTE
NFC IET
MULTAN-PAKISTAN

DEPARTMENT OF
Electrical Engineering

2025
Prospectus

www.nfciet.edu.pk

Engr. Dr. M. Kamran Liaqat Bhatti
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PE, Reviewer of Elsevier Science Journals
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Head, Deptt. of Electrical Engineering

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PE
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Engr. Dr. Omer Ali
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MSc (Comm. Engg), UK
BSc (Computer Systems Engg)
CCIE Data Center (Written)
MS Certified Solutions Expert
MS Certified Educator
MS Certified Trainer, RE
19-years experience in
research and teaching

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B.Sc. Electrical Engg. (Power)
RE
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B.Sc. (Electronics Engineering)
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B.Sc. Electronics Engineering
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Industrial Advisory Board

Electrical Engineering

The Department of Electrical Engineering was established in 2001. Since its inception the department is serving the people of Southern Punjab. Our alumni hold esteemed positions in multitude of national and international organizations, while our students are leaving a lasting impact across diverse sectors including design and infrastructure, service industry, R&D and beyond.

Being one of the oldest and important degree program at NFC Institute of Engineering & Technology, Multan. The department preserves distinction in education and carries out diverse tasks for worldwide endorsement. The objective of the Electrical Engineering Program is as follows:

Program Educational Objectives

1. Proficiency in engineering knowledge and tools usage for the design, analysis and evaluation of complex engineering problems.
2. Enhance their knowledge and skills while providing effective solutions keeping in view the environmental and societal aspects.
3. Contribute as a team member or manager, demonstrating professionalism.

These PEOs are prominently displayed on several notice boards around the department.

Specializations

Department of Electrical Engineering at the institute offers BSc Degree in Electrical Engineering with specialization in the following three growing sub-areas:

- Computer Systems Engineering
- Electronics Engineering
- Power Engineering

Students enrolled in the program, study common subjects for the first four semesters. After that they are regrouped to a specialization, based on their preference and obtained Cumulative Grade Point Average (CGPA) up to that point. This approach not only provides enough prologue to the field of Electrical Engineering before they study specialized courses, but makes them eligible to compete for a wide spectrum of employment opportunities at both national and international levels.

Computer Engineering students are trained in the field of computing, software engineering, Artificial Intelligence, Bio-Informatics, Robotics and other

hardware development tools related to R&D. Electronic engineering is biased toward Power Electronics, Signal Processing, and VLSI Design. Power Engineering has been observed as neglected field in the country for the last one decade which has resulted in shortage of skilled persons in the field. The department has taken on this challenge and initiated this specialization in 2010 focussing on Power System Protection, Power Generation, Power Transmission and Distribution, and Efficient Transmission and utilization of Electrical Energy.

Elective subjects of each specialization are designed according to the latest job market requirements and are regularly updated with changing need of targeted market by the feed back of Industrial Advisory Board

Emerging Trends in Electrical Engineering:
We, at department of Electrical Engineering are aware of emerging subfields of Electrical Engineering and have designed our curriculum and planned our laboratory facilities accordingly. A few such fields are as under:
• Wireless Transmission of Electrical Energy
• Satellite Controlled Power Systems
• Intelligent Power System Protection Devices
• Utilization of Wireless Sensor Networks for Developing World
• 3-G Broad Band Networks
• Microelectronics
• VLSI Design

• Photonics
• Artificial Intelligence and Robotics

Curriculum:
The department has a history of revising curriculum right from the commencement of program in 2001. Presently, it is as per the latest guidelines of Higher Education Commission and Pakistan Engineering Council. It is regularly revised in consultation with experts of the field in the country. Course contents have been designed keeping in view the background knowledge of students and core electrical engineering concepts. Advanced courses are included and dropped as per the changing market and postgraduate requirement at both national and international level.

Faculty:
The department has ample number of qualified faculty members trained to deliver knowledge skilfully by teaching a variety of electrical engineering subjects in range and depth. In addition to having relevant higher qualification in the area, they have versatile educational and industrial experience within country and abroad.

The faculty is actively involved in ongoing research in various sub-fields of Electrical Engineering and has produced many good quality research contributions in international journals and conferences in the last few years.

Research:

NFC Institute of Engineering & Technology is visualised to grow as a modern center of excellence for research and development in the field of science, engineering and technology. The mentors of the institute ensure keen interest of faculty in tendering research publications in well-reputed national and international journals frequently.

Curriculum Components:

The major academic components of the undergraduate degree programme is described below:

Basic Courses

Courses in Physics, Chemistry, Mathematics and introductory engineering are common for students of all specializations before they move on to the major courses.

Humanities and Management Science Courses

Common courses in English language, social sciences and management are required for all students. They are meant to include the student's awareness of history and culture, to help them cultivate aesthetic and moral dimensions of their personalities and to equip them with interpersonal and managerial skills.

Core and Elective Courses

Students are required to take many core and elective courses for their specialization which are listed in the curriculum.

Interdisciplinary Courses

Students are required to select some courses offered by departments other than Electrical Engineering. Such courses aim at providing broader base to their studies, and widening their knowledge of allied fields, which is mandatory for their areas of specialization.

Final Year Project

In the final year, students have to take a 6-credit project. In consultation with their faculty supervisors. Students are encouraged to opt projects in the area of their specialization. They are expected to complete their projects and present their reports by the end of the 8th semester. Students are actively encouraged to participate in various FYP Competitions at national level, providing invaluable opportunities to refine their presentation and technical skills. Several outstanding groups revived FYDP functioning hosted by PEC and IGNITE is last 3 years.

Summer Internships

Every student must complete a practical training of four to eight weeks during the summer of second or third professional years at various relevant industries in the country and submit a formal written report. There is a departmental industrial liaison office to facilitate the students in this regard.

Laboratories:

To fulfil the requirements of the program, the department has a number of furnished laboratories which give students an opportunity to have hands on experience on the state of art equipment like field Programmable Gate Array, Digital Signal Processing

Trainer, Advanced Communication Trainers, Optoelectronics Trainers, Fibre Optic Splicing Machines and Satellite Communication Trainers. Laboratories of certain advanced courses meet industrial/ commercial requirements which enable our graduates to compete for challenging employment opportunities in the country and abroad just after graduation.

Following laboratories of the department are equipped with state of art equipment in sufficient quantity:
- Power Electronics Lab
- Signal Processing Lab
- Electronics Lab
- Microprocessor & Digital Electronics Lab
- Computer Lab
- Project Lab
- Communication Lab
- General Purpose Computer Lab
- Applied Physics and Electrical Machines Lab
- Instrumentation & Industrial Electronics Lab
- Computer Network Lab

Following Labs are added to further strengthen the department:
- Power System Protection Lab
- Power Transmission & Distribution Lab
- Control Lab
- ETAP Power Lab

PEC Accreditation:
Pakistan Engineering Council (PEC) is a legal body meant to accredit engineering programs run by various universities/institutions in the country on fulfilment of minimum requirement of land, building faculty, curriculum, budget and laboratories etc. Right from our first intake in 2001, the department got all the batches accredited by PEC which has helped our students a lot to compete for job opportunities in public sector and to get enrolled in various postgraduate's programs locally and abroad.

From Session 2016, our batches are accredited at Level-II of PEC. It means their degree is valid all over the world and they can work there as professional engineers without any test.

Opportunities for Employment & Higher Studies:
The department has produced thousands of graduates since 2001 which are either employed, self-employed or enrolled for higher studies in the country and abroad. Power generation & transmission, telecommunication, marketing & design, instrumentation & control, teaching at undergraduate level and research & development are some of the fields our graduates have excelled in. Organizations related to research & development in the field of Electrical and Electronic Engineering and software design visit the department every year to induct graduating students.

The degree offered by the department has national

and international acceptability. Many of our graduates are enrolled in while some of them have completed their postgraduate studies from reputed public-sector universities in Punjab, Sindh and Capital. Moreover, top ranked universities, in technologically advanced countries like Canada, Australia, UK, Germany and South Korea have accepted our graduates for M.Sc. and PhD degrees and have awarded postgraduates degrees to many of them. Our graduates who have completed their postgraduate studies are employed in reputed organizations related to R&D, services, manu-facturing, consultancy and teaching both within the country and abroad.

Job Placement Opportunities

The department extends its help to the student in career counseling. The job placement office also collaborates with prestigious organization such as PARCO, FATIMA GROUP and many others to host on-campus job drives providing graduating students with ample opportunities for career placement. In the past years more than 25 students secured jobs from campus drives in national organizations.

Industrial Advisory Board

The department gives utmost importance to developing and strengthening links with the local industry in order to seek their help in offering useful practical and industrial skills to our students via regular seminars and workshops. Moreover, such industrial linkages could result in job opportunities for the graduating students. Students and faculty members are encouraged to conduct projects which are relevant to the current needs of the industry.

The department has established an industrial advisory board including professional engineers working in various engineering organizations. Members of IAB are highly experienced engineer from different organizations which are potential employers of our graduate. Also, some Alumni which are successfully running their career are also members of the Board.

Feedbacks for PEOs Attainment

The department of the electrical engineering is striving hard to develop and strengthen link with the industry in order to get their feedback regarding our graduates working in the industry and improve our program based on their feedback. For that purpose, an employer survey form has been developed. The questions have been carefully designed so that feedback is then analyzed to ascertain whether a specific PEO has been attained or not. The feedback from employers is planned to gather once a year.

Additionally, alumni feedback is also gathered in order to get an assessment regarding their academic experience at NFC IET. For this purpose, an online alumni feedback form has been developed which covers most of the requirements of PEOs.

B.Sc. ELECTRICAL ENGINEERING
Specialization in
Computer Systems, Electronics and Power Engineering

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-001	Understanding of Quran-1	1+0	HQ-002	Understanding of Quran-2	1+0
ENG-101	Functional English	3+0	MT-201	Differential Equations	3+0
MT-101	Calculus and Analytical Geometry	3+0	NS-109	Discrete Mathematics (Natural Science Elective)	3+0
EE-101	Linear Circuit Analysis	3+1	GE-102	Electrical Workshop Practice	0+1
CS-101	Application of ICT	2+1	HU-102	Ideology & Constitution of Pakistan	2+0
GE-101	Engineering Drawing	0+1	CS-102	Computer Programming	3+1
NS-102	Applied Physics	2+1	EE-102	Electronic Devices and Circuits	3+1
	Total Credits	**17**		**Total Credits**	**17**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
MT-202	Complex Variables and Transforms	3+0	HU-XXX	Social Sciences (Elective)	2+0
HU-301	Arts and Humanities (Comm. & Presentation Skills)	2+0	MT-102	Linear Algebra	3+0
EE-201	Digital Logic Design	3+1	MT-203	Probability and Statistics for Engineers	3+0
CS-201	Data Structure and Algorithms	3+1	HU-101	Islamic Studies/Ethics	2+0
EE-202	Electrical Network Analysis	3+1	EE-203	Signals and Systems	3+1
HU-202	Occupational Health and Safety	1+0	EE-204	Electromagnetic Field Theory	3+0
	Total Credits	**18**		**Total Credits**	**17**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
EE-301	Electrical Machines	3+1	EE-304	Linear Control Systems	3+1
EE-302	Microprocessors and Interfacing	3+1	EE-305	Power Distribution & Utilization	3+1
EE-303	Communications Systems	3+1	XX-301	Depth Elective (Core-I)	3+0/1
HU-201	Civics and Community Engagement	2+0	MS-201	Entrepreneurship	2+0
GE-XXX	Multi-Disciplinary Engineering (Elective)	3+0	ENG-201	Expository Writing	3+0
	Total Credits	**17**		**Total Credits**	**16/17**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HU-103	Pakistan Studies	2+0	MS-401	Project Management	2+0
XX-401	Depth Elective (Core-II)	3+0/1	XX-XXX	Open Elective-II	3+0
XX-XXX	Depth Elective-I	3+0/1	XX-XXX	Depth Elective-III	3+0/1
XX-XXX	Depth Elective-II	3+0/1	XX-XXX	Depth Elective-III	3+0
XX-XXX	Open Elective-I	3+0	EE-425	Final Year Project-II	0+4
EE-415	Final Year Project-I	0+2			
	Total Credits	**16/19**		**Total Credits**	**16/17**

Arts and Humanities Electives

HU-104	History
HU-107	Professional Practices
HU-109	Philosophy
HU-110	Elementary Spanish
HU-111	Elementary Arabic
HU-112	Elementary French
HU-113	Elementary Chinese
HU-201	Civics and Community Engagement
HU-202	Occupational Health & Safety
HU-301	Communication and Presentation Skills

Electives for Social Science

SS-201	Sociology
SS-203	Organizational Behavior
SS-204	Psychology
SS-208	Critical Thinking
SS-210	Engineering Laws
SS-211	Engineering Economics
SS-213	Engineering Management
SS-216	Leadership and Personal Grooming

Electives for Natural Science

NS-104	Essential of Biology
NS-108	Multivariable Calculus
NS-109	Discrete Mathematics
NS-110	Numerical Analysis
NS-111	Applied Chemistry

DEPTH ELECTIVES

Electives for Power Stream

PE-301	Power Generation (Depth Core-I)
PE-401	Power System Analysis (Depth Core-II)
PE-402	Electrical Power Transmission (Depth Elective I)
PE-403	Power System Protection (Depth Elective II)
PE-404	Power System Operation & Control
PE-405	Electrical Machine Design & Maintenance
PE-406	High Voltage Engineering
PE-407	Renewable Energy Systems
PE-408	FACTS and HVDC Transmission
PE-409	Smart Grid
PE-410	Instrumentation and Measurement
EE-411	Power Electronics

Electives for Electronics Stream

EC-301	Electronic Circuit Design (Depth Core-I)
EC-401	Power Electronics (Depth Core-II)
EC-402	FPGA Based Digital Design (Depth Elective I)
EC-403	Digital Signal Processing (Depth Elective II)
EC-404	Analogue Integrated Electronics
EC-405	VLSI Design
EC-406	Optoelectronic
EC-407	Digital Control Systems
EC-408	Biomedical Instrumentation
EC-409	Wave Propagation and Antennas
EC-410	RF and Microwave Engineering
EC-411	Nanotechnology
EC-412	Micro Electro Mechanical Systems (MEMS)
EC-413	Industrial Electronics
EC-414	Application Specific Integrated Circuits Design
CS-411	Digital Signal Processing
CS-414	Artificial Intelligence
CS-415	Embedded system
CS-427	Internet of Things

Elective for Computer Systems Stream

CS-301	Computer Communication Networks (Depth Core-I)
CS-302	Operating Systems (Depth Core-II)

SET-A (Networking)

CS-401	Network Protocols and Standards
CS-402	Network Security
CS-403	Network and System Programming
CS-404	Cloud Computing
CS-405	Cyber Security Systems

SET-B (Automation)

CS-411	Digital Signal Processing
CS-412	Digital Image Processing
CS-413	Robotics
CS-414	Artificial Intelligence
CS-415	Embedded Systems

SET-C (General)

CS-421	Data Base Systems
CS-422	Data Communication
CS-423	Computer Graphics
CS-424	Computer Vision
CS-425	Image and Video Coding
CS-426	Digital Control
CS-427	Internet of Things (IoT)
CS-428	Computer Organization
CS-429	Computer Architecture
CS-430	Digital Systems Design
CS-431	Unmanned Aerial Vehicles (UAVs)
CS-432	Geo-Informatics

DEPARTMENT OF
Mechanical
Engineering

2025
Prospectus

www.nfciet.edu.pk

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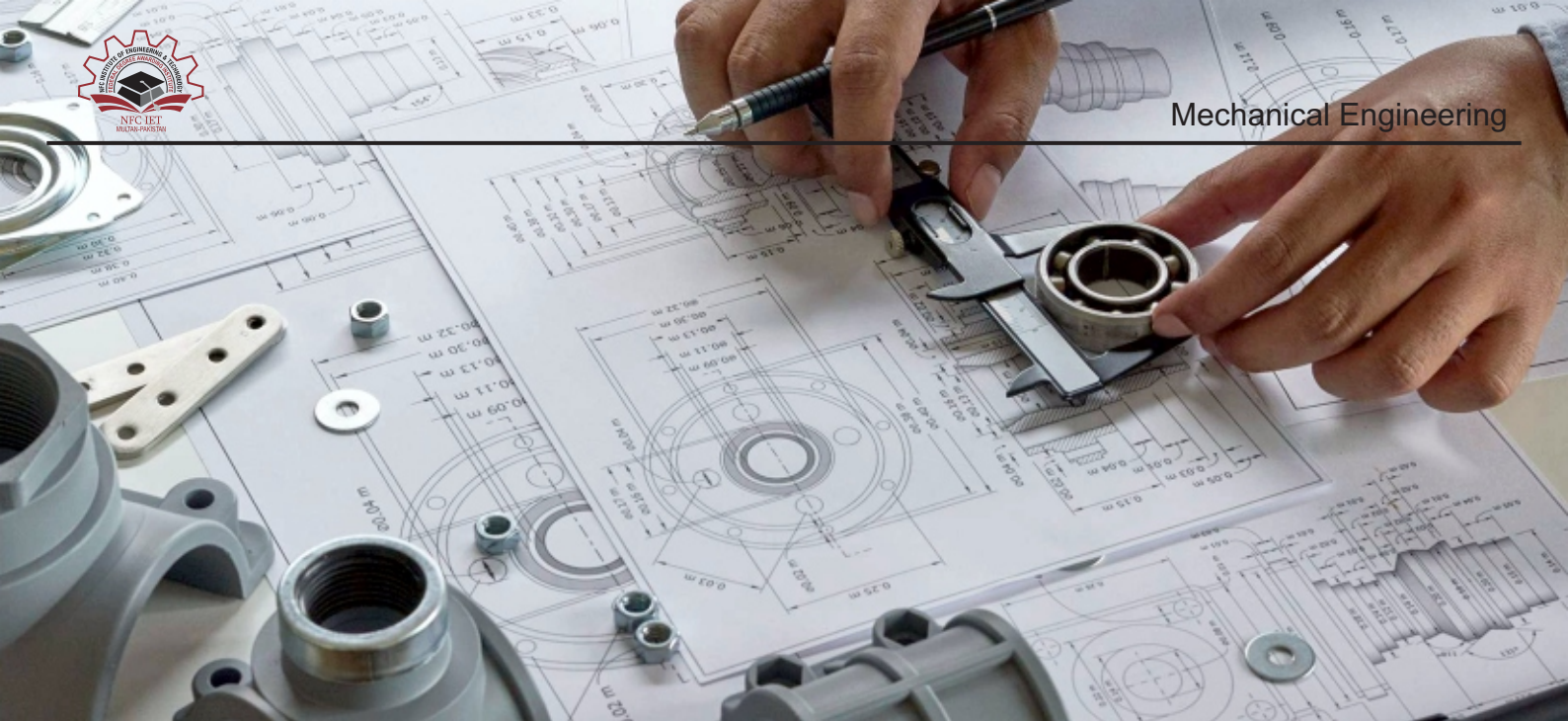
Mechanical Engineering

Mechanical Engineering is an exciting/thrilling field of Engineering because it encompasses all Engineering aspects of almost everything that moves in the universe. Mechanical Engineers are concerned with the principles at motion, energy and force. Generally, a machine converts one form of energy or movement into another. It is the responsibility of engineers to design machines whose parts and assemblies function in a safe and reliable, efficient, and predictable fashion. Indeed, the numerous laws and principles developed by scientists are the everyday tools of the mechanical engineer. Anything the engineer does that is related to the motion and dynamics of heat, gas, air, liquids and solid materials. Smart structures and robotics requires the understanding and application of the underlying basic science.

Mechanical engineering encompasses many specialties. Mechanical engineers analyze problems to see how mechanical and thermal devices might help to solve the problems, Design or redesign mechanical and thermal devices or subsystems, using analysis and computer aided design, investigate equipment failures, develop and test prototypes of devices they design and oversee the manufacturing process. Mechanical engineers design power-producing machines, such as electric generators, internal combustion engines, and steam and gas turbines, as well as power-using machines, such as refrigeration and air-conditioning systems.

Mechanical engineers design other machines inside buildings, such as elevators and escalators. They also design material-handling systems, such as conveyor systems and automated transfer stations.

Like other engineers, mechanical engineers use computers extensively. Mechanical engineers are routinely responsible for the integration of sensors, controllers, and machinery. Computer technology helps mechanical engineers create and analyze designs, run simulations and test how a machine is likely to work, interact with connected systems, and generate specifications for parts.

Mechanical engineers apply scientific methods to the solution of engineering problems. Mechanical engineering teaches design, analysis and simulation techniques to realize ideas and dreams to improve life on earth. It also teaches how to create and realize next generation products, systems and organizations.

Department

NFC-IET's Mechanical Engineering Department which is a new addition to the upgraded degree awarding institute is dedicated to the academic excellence in our course offerings. We intend to engage our students in challenging and rewarding work as soon as they decide to explore Mechanical Engineering. The Mechanical Engineering Department is an ideal environment for students who have proven to be the best and the brightest; those who are prepared and eager for the challenge.

Program

The Department offers 4 years B.Sc. Mechanical Engineering program. Its strong and interactive

curriculum, based on the recommendations of HEC and PEC, and hands on learning will make students capable of taking their career to the next level, whether it be in the professional engineering practice or in advance study. The Department aim to focus on high quality teaching along with integrated laboratory experience. It effectively connects teaching of engineering education to active research in different areas. It provides excellent education in the application of the traditional blend of the core areas of dynamics, vibrations, structural analysis, materials, thermodynamics, fluid mechanics and heat transfer and control theory for the analysis, design and manufacturing of a wide variety of mechanical system. The students undergo extensive course work, project work and laboratory experience during their studies.

Mission

To provide Research based education that builds within students a solid foundation in Mechanical Engineering Principles having critical and creative thinking, communication and problem-solving abilities and prepares motivated graduates possessing the ability of continuous social/professional growth.

Program Education Objectives (PEOs)

- Provide sustainable solutions to challenging mechanical engineering problems using acquired knowledge.
- Exhibit continual professional growth in learning modern engineering and its application.
- Work as efective team members with leadership qualities and communication skills.
- Work ethically and contribute towards socio-technical development of the country.

Laboratories

Mechanical Engineering Labs are designed to supplement the degree program. The department places utmost importance on laboratory courses, hence efforts have been made to have the laboratories equipped with modern state of the art equipment, which permits the students to apply his or her

theoretical knowledge to test engineering principles with effective test and measuring techniques. The laboratories are designed to provide hands on experience in basic measurements and instrumentation equipment and the application of classroom theory. The aim of the laboratory course is to conduct experiments in the major areas of MECHANICAL ENGINEERING. The experiments in this laboratory course are tailored towards a specific engineering discipline. For this purpose, IET has established the following labs

- Engineering Workshop
- Engineering Drawing Hall
- Mechanics Lab (Statics & Dynamics)
- Mechanics of Machines
- Mechanics of Materials
- Refrigeration & Air Conditioning
- Thermodynamics Lab
- Fluid Mechanics Lab
- Heat & Mass Transfer Lab
- IC Engine Lab
- CAD/CAM Lab
- Power Plant Lab
- Manufacturing Lab

LAB EQUIPMENT

B.Sc. (MECHANICAL ENGINEERING) CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
HU-101	Islamic Studies	2+0	HU-102	Ideology & Constitution of Pakistan	2+0
ENG-101	Functional English	3+0	HU-107	Professional Ethics	2+0
MA-101	Calculus and Analytical Geometry	3+0	CS-102	Computer System & Programming	2+1
NS-102	Applied Physics	2+1	MA-104	Vector & Complex Variables	3+0
CS-101	Applications of ICT	2+1	ME-121	Engineering Mechanics-II: Dynamics	2+0
ME-111	Engineering Mechanics-I: Statics	2+0	ME-122	Engineering Drawing & Graphics	1+1
ME-112	Workshop Practice	1+1	ME-123	Industrial Materials	2+0
HQ-001	Understanding of Quran	0+0	ME-124	Engineering Mechanics Lab.	0+1
			HQ-002	Understanding of Quran	0+0
	Total Credits	**18**		**Total Credits**	**17**

SEMESTER-3			SEMESTER-4		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
MA-103	Differential Equations	3+0	ENG-201	Expository Writing	3+0
EE-201	Electrical Engineering	2+1	HU-201	Civics & Community Engagement	2+0
ME-231	Thermodynamics-I	3+0	ME-241	Mechanics of Machines-I	2+0
ME-232	Mechanics of Materials-I	2+0	ME-242	Thermodynamics-II	3+0
ME-233	Manufacturing Processes	2+1	ME-243	Fluid Mechanics-II	3+0
ME-234	Fluid Mechanics-I	3+0	ME-244	Machine Design & CAD-I	2+1
HQ-003	Understanding of Quran	0+0	ME-245	Thermodynamics Lab.	0+1
			ME-246	Fluid Mechanics Lab.	0+1
			HQ-004	Understanding of Quran	0+0
	Total Credits	**17**		**Total Credits**	**18**

SEMESTER-5			SEMESTER-6		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
MA-301	Engineering Statistics	2+0	NS-110	Numerical Analysis	2+0
MS-101	Health, Safety & Environment	1+0	MS-201	Entrepreneurship	2+0
EE-302	Industrial Electronics	2+1	ME-361	Mechanics of Machines-II	2+0
ME-351	Machine Tools & Machining	2+1	ME-362	Refrigeration & Air Conditioning	3+0
ME-352	Machine Design & CAD-II	2+1	ME-363	Mechanics of Machines Lab.	0+1
ME-353	Mechanics of Materials-II	2+0	ME-364	Heat & Mass Transfer	3+0
ME-354	Mechanics of Materials Lab.	0+1	ME-365	Finite Element Analysis	2+1
ME-355	Metrology & Quality Assurance	2+1	ME-366	HMT & RAC Lab.	0+1
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
	Total Credits	**18**		**Total Credits**	**17**

SEMESTER-7			SEMESTER-8		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
CS-403	Applied AI & Machine Learning	2+1	MS-401	Project Management	3+0
ME-471	Power Plant	3+0	ME-481	Instrumentation & Control	2+1
ME-472	IC Engine	3+0	ME-482	Mechanical Vibration	2+1
ME-473	IC Engine & Power Plant Lab.	0+1	ME-4XY	Technical Electives-II	2+1
ME-4XY	Technical Electives-I	2+1	ME-499	FYDP-II	0+3
ME-499	FYDP-I	0+3	HQ-008	Understanding of Quran	0+0
HQ-007	Understanding of Quran	0+0			
	Total Credits	**16**		**Total Credits**	**15**

B.Sc. (MECHANICAL ENGINEERING) CURRICULUM 2024
TECHNICAL ELECTIVE COURSES

Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
ME-414	Renewable Energy Technology	2+1	ME-424	Computational Fluid Dynamics	2+1
ME-415	Maintenance Engineering	2+1	ME-425	Reverse Engineering & Inspection Techniques	2+1
ME-416	Automotive Engineering	2+1			
ME-423	Robotics	2+1	ME-426	Advance Manufacturing Systems	2+1

DEPARTMENT OF

Civil
Engineering

2025
Prospectus

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Introduction and Overview

The Sustainable Development Goals (SDGs) represent a comprehensive and timely framework for addressing pressing global issues such as poverty, hunger, gender inequality, lack of education, unemployment, and environmental degradation. Among these goals, education plays a critical role—not only in raising awareness about these challenges but also in instilling the knowledge, skills, values, and attitudes necessary to overcome them. Through the integration of SDGs in education, students and the wider public gain a deeper understanding of their societal and environmental responsibilities, ultimately shaping more informed, ethical, and capable citizens and professionals.

Such educational initiatives empower students to assess the consequences of their actions and better prepare for the multidisciplinary demands of the modern world. This is particularly relevant in the context of Multan, Pakistan, where addressing regional challenges requires an integrated understanding of sustainability, social responsibility, and innovation. The development of these competencies is essential for effectively managing classroom engagement as well as real-world socio-economic and environmental challenges. The present study aims to map and analyze the integration of SDG-related content across various course outlines, using logical and structured methods to establish the interconnections within the curriculum.

NFC Institute of Engineering and Technology (NFC-

IET), Multan, is a prominent institution dedicated to advancing engineering and technological education. Since 2020, NFC-IET has adopted a "One SDG per Course" initiative, targeting the integration of one SDG into one course annually, reaching over 1,000 students each academic year. In the 2020–2021 academic session, SDG content was delivered virtually using digital modules. Students undertook diverse projects aligned with **SDG 9: Industry, Innovation, and Infrastructure, in** collaboration with industry professionals across sectors such as power, transport, waste, water, sanitation, and energy.

Pakistan, recognizing the importance of sustainable development, was the first nation to formally adopt the 2030 Agenda for Sustainable Development through a unanimous resolution in its Parliament. National efforts are aligned to elevate Pakistan into the ranks of upper-middle-income countries by 2030. At the higher education level, institutions are playing a pivotal role in achieving the SDGs. Following the direction of the **SDGs Section, Ministry of Planning, Development, and Special Initiatives (MoP&SI), Government of Pakistan** (https://www.sdgpakistan.pk/), NFC-IET is aligning its academic programs (BS/MS/PhD) with the 17 SDGs. This initiative not only strengthens the nation's commitment to sustainable development but also supports future university rankings and global impact metrics.

Sustainable Development Goals (SDGs)

In September 2015, the United Nations marked a historic milestone as world leaders adopted the resolution **"Transforming Our World: The 2030 Agenda for Sustainable Development."** Enforced from January 1, 2016, this agenda embodies a unified global commitment to building a better,

more sustainable future for all by the year 2030.

At the heart of this agenda are **17 Sustainable Development Goals (SDGs)** and **169 targets**, addressing a wide range of urgent global challenges. These goals offer a strategic blueprint for countries to achieve progress in social, economic, and environmental domains. The SDGs aim to:

- **SDG 1:** End poverty in all its forms everywhere

- **SDG 2:** End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

- **SDG 3:** Ensure healthy lives and promote well-being for all at all ages

- **SDG 4:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

- **SDG 5:** Achieve gender equality and empower all women and girls

- **SDG 6:** Ensure availability and sustainable management of water and sanitation for all

- **SDG 7:** Ensure access to affordable, reliable, sustainable, and modern energy for all

- **SDG 8:** Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all

- **SDG 9:** Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation

- **SDG 10:** Reduce inequality within and among countries

- **SDG 11:** Make cities and human settlements inclusive, safe, resilient, and sustainable

- **SDG 12:** Ensure sustainable consumption and production patterns

- **SDG 13:** Take urgent action to combat climate change and its impacts

- **SDG 14:** Conserve and sustainably use the oceans, seas, and marine resources for sustainable development

- **SDG 15:** Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt biodiversity loss

- **SDG 16:** Promote peaceful and inclusive societies, ensure access to justice for all, and build effective, accountable institutions

- **SDG 17:** Strengthen global partnerships and mobilize resources to achieve the SDGs

B.Sc. (CIVIL ENGINEERING) CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
QR-101	Quantitative Reasoning-I	3+0	QR-102	Quantitative Reasoning-II	3+0
ENG-101	Functional English	3+0	HU-101	Islamic Studies/Ethics	2+0
HU-102	Ideology and Constitution of Pakistan	2+0	CS-101	Application of ICT	2+1
NS-111	Applied Phy. & Electro-Mechanical Fundamentals	2+1	CE-121	Engineering Surveying	2+1
CE-112	Civil Engineering Materials	2+1	CE-122	Engineering Mechanics	2+1
CE-113	Engineering Drawing and CAD	1+2	CE-123	Engineering Geology	2+0
HQ-001	Understanding of Holy Quran	0+0	HQ-002	Understanding of Holy Quran	0+0
	Total Credits	**17**		**Total Credits**	**16**

SEMESTER-3			SEMESTER-4		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
MA-201	Advanced Calculus	3+0	MA-202	Applied Mathematics	3+0
ENG-201	Expository Writing	3+0	HU-201	Civics and Community Engagement	2+0
CE-231	Construction Engineering & Economics	2+0	CE-242	Soil Mechanics	2+1
CE-232	Computer Aided Civil Engg. Design & Graphics	1+2	CE-243	Fluid Mechanics	2+1
CE-233	Mechanics of Solids-I	2+1	CE-244	Structural Analysis-I	3+0
CE-234	Advanced Engg. Surveying & Geoinformatics	2+1	CE-245	Mechanics of Solids-II	2+1
HQ-003	Understanding of Holy Quran	0+0	HQ-004	Understanding of Holy Quran	0+0
	Total Credits	**17**		**Total Credits**	**17**

SEMESTER-5			SEMESTER-6		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
MA-301	Numerical Analysis	3+0	CE-361	Programming, Simulation & Artificial Intelligence	2+1
CE-350	Occupational Health & Safety Management	1+0	CE-362	Highway and Traffic Engineering	2+1
CE-351	Engineering Hydrology	2+1	CE-363	Structural Analysis-II	3+0
CE-352	Reinforced Concrete Design	2+1	CE-364	Environmental Engineering	2+1
CE-353	Advanced Fluid Mechanics	`2+1	CE-365	Irrigation and Drainage Engineering	2+1
CE-354	Hazards and Disaster Management	1+0	CE-366	Advanced RC Design & Earthquake Engineering	2+1
CE-355	Geotechnical & Foundation Engineering	3+1	HQ-006	Understanding of Holy Quran	0+0
HQ-005	Understanding of Holy Quran	0+0			
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-7			SEMESTER-8		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
HU-107	Professional Ethics	2+0	MS-201	Entrepreneurship	2+0
MS-401	Project Management	1+1	SS-481	Contract Management and Law	2+0
CE-472	Research Methods & Digital Civil Engineering	1+1	CE-482	Architecture Design & Town Planning	1+1
CE-473	Hydraulics Engineering	2+1	CE-483	Quantity Surveying & Cost Estimation	2+1
CE-474	Transportation System Engineering	3+0	CE-484	Steel Structures	2+0
CE-475	Professional Field Training/Internship**	0+1	CE-485	Sustainable Structural Design & Retrofitting	2+1
HQ-007	Understanding of Holy Quran	0+0	HQ-008	Understanding of Holy Quran	0+0
CE-498	Final Year Project (Part-A)	0+3	CE-499	Final Year Project (Part-B)	0+3
	Total Credits	**16**		**Total Credits**	**17**

**   Professional Field Training/Internship (6th Sem. Summer) + Community Service can be conducted once after 4th & 6th Semester (Summer)
***   Internship (6-8 week),Survey Camp (2 weeks) are mandatory to fulfil the degree requirement.
****   Curriculum can be revised any time with approval of BoS based on AC/PEC/HEC recommendations.

Department of Petroleum And Gas Engineering
Coal Research Center

NFC IET
MULTAN-PAKISTAN

DEPARTMENT OF
Petroleum & Gas Engineering

2025
Prospectus

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Experience

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Engr. Noor Muhammad
M.E. (Petroleum & Natural Gas Engg.)
B.E. (Petroleum & Natural Gas Engg.)
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Teaching

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B.Sc. (Chem. Engg.)
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Engr. Tahir Zahoor
M.Sc. (Chem. Engg.)
B.Sc. (Chem. Engg.)
11 years of teaching and
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Engr. Waseem Javed
M.Sc. (Chem. Engg.)
B.Sc. (Chem. Engg.)
21 years of teaching and
industry experience

Engr. Muzaffar Riaz
Ph.D. (In progress)
M.Sc. (Chem. Engg.)
B.Sc. (Chem. Engg.)
06 years of teaching and
industry experience

Introduction

A key source of energy is oil and natural gas. The efficient recovery of these resources requires Petroleum Engineers with a sound knowledge of fundamentals and the latest technological developments relevant to this field. Upstream petroleum engineers are always in demand. Petroleum Engineering involves the production of oil and gas (hydrocarbons) from subsurface reservoirs which requires engineering to bring it to the surface, estimate its value and extract it, in other words, finding oil and gas, drilling and producing it. The mission of the Petroleum Engineering education is to produce graduates who can not only satisfy the current needs of the country's petroleum industry but are also able to develop technologies indigenously. Preparing effective and efficient professionals through research and to develop the methods to utilize all the available natural resources in order to fulfill the energy needs of Pakistan in coming years. This will contribute to the socio-economic development of Pakistan and the region.

Why Petroleum Engineering?

- Lectures are accompanied by the practical study in fluid and reservoir rock laboratories, geodynamic lab work and field trips to both service company offices and drilling sites.
- Petroleum engineers are among the highest-paid engineers in the world.
- Petroleum engineers are amongst the best-traveled professionals in the world.

- Excellent teaching staff, many with extensive academic and industrial experience and strong links with the national industries and international institutes.

Career Opportunities

Petroleum Engineer as a qualified petroleum engineer you will be well rewarded financially in one of the highest-paid engineering jobs, enjoy extensive travel opportunities and, as one of the most technically challenging jobs, benefit from being part of a prestigious worldwide community of professionals.

Mission

The mission is to produce qualified and well-versed Petroleum Engineers equipped with fundamental sciences, able to find viable solutions, and skills to enter executive technical positions in energy and public sector industry and organizations, R & D
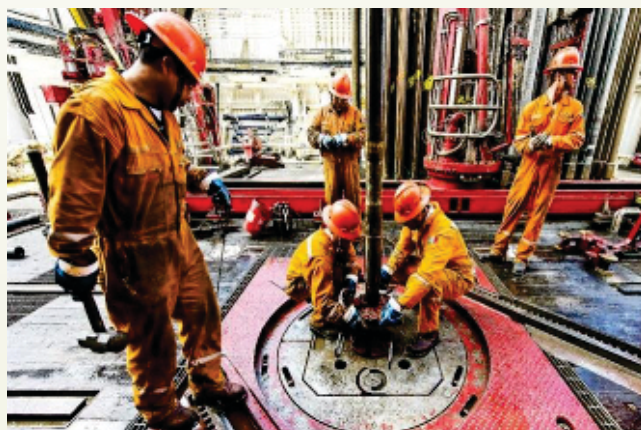
Institutes, and academia.

Program Objectives

The program emphasizes building a strong base in Petroleum Engineering discipline and a detailed understanding of core areas with practical knowledge that comprehended with the use of professional software and laboratory practices. The program is competent to enhance capabilities for higher education and to fulfill the requirements of the petroleum industry. It is also oriented towards the Outcome-Based Education (OBE). The main objectives are to develop:

i) To develop Petroleum engineers with comprehensive engineering and scientific knowledge and technical skills to solve complex engineering problems.

ii) To develop critical thinking in graduates so that they can identify, analyze, solve, and design new problems using modern tools and simulation techniques.

iii) To develop a sense of responsibility, effective communication skills, and the ability to work independently as well in a team.

iv) To develop ethical values, management qualities, and innovative ideas that can promote sustainable development among graduates to continue life-long learning to meet future challenges.

Facilities
Buildings:

The current buildings and facilities were developed with financial assistance (Rs. 67.33 million) of the Ministry of Science and Technology (MoST) government of Pakistan. The department has a well-furnished building constructed by spending about Rs. 12 million. It caters fully the requirements of students, faculty, and administration.

Laboratories:

The Petroleum Engineering Department is well equipped with laboratories and facilities that are very conducive to learning and research, which allows students and researchers to integrate the principles of petroleum engineering. Numerous are available to apply and practice the principles taught in traditional classwork through our specialized laboratories.

o Geology Lab
o Integrated Research Lab
o Petrophysics lab
o Computer Simulation Lab
o Drilling Engineering Lab
o Reservoir Engineering Lab

A. Geology Lab
- Mohs hardness tester
- More than 70 rock samples
- Automatic Planimeter
- Microscopes
- Brunton Compass
- Subsurface Geological Models

B. Integrated Research
- Thermo-gravimetric Analyzer (TGA)
- Differential Thermal Analyzer (DTA)
- CHNS Analyzer

- Inductive Coupled Plasma
- Ash Fusion Tester
- RGA-GC
- GC
- Auto bomb Calorimeter
- Furnace
- Oven
- Micro Digester
- Flue Gas Analyzer
- Laboratory Fume Hood

C. Petro-physics Lab
- Liquid Permeability Meter
- Gas Permeability Meter
- Gas Porosity Meter
- Artificial Core Synthesis apparatus
- Soxhlet Extractor
- Oven for Core
- Steady-state Gas Permeameter
- Dean Stark Apparatus
- Capillary Pressure Testing System
- Resistivity Meter
- Liquid Surface Tension Analyzer

D. Drilling Engineering Lab
- Digital Viscometer
- Mud Filter Press
- Mud Balance
- Marsh Funnel
- Sand Content Kit
- pH Meter
- Retort Kit
- Core Cutter and Grinder
- Consistometer

- Multimixer

E. Reservoir Fluids Lab
- Aniline Point Tester
- Cloud Point and Pour Point
- Flash Point
- Vacuum Desiccator
- Moisture Analyzer
- Point Load Compressibility
- Open and Close Cup Weighing Balance

F. Allied Lab Facilities of Chemical and Civil Engineering
- Workshop Facilities
- Fluid mechanics lab
- Physics/Mechanics Lab
- Computer simulation Lab
- Instrumentation and Control Lab
- Electrical Lab
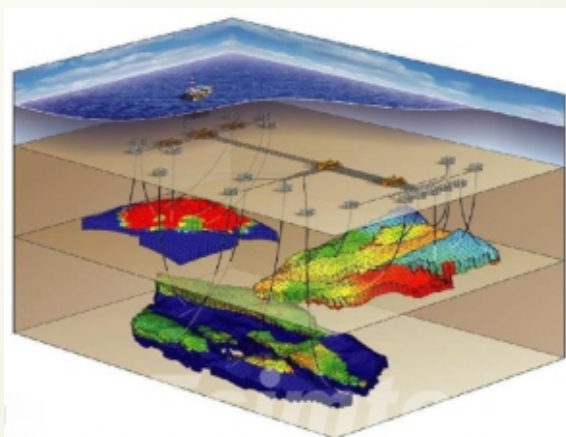
B.Sc. (Petroleum & Gas Engineering) CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-101	Understanding of Quran-I	1+0	HQ-101	Understanding of Quran-II	1+0
ENG-101	Functional English	3+0	QR-102	Quantitative Reasoning-II	3+0
HU-101	Islamic Studies	2+0	NS-102	Applied Physics	2+1
HU-103	Logic and Critical Thinking	2+0	MA-101	Calculus and Analytical Geometry	3+0
QR-101	Quantitative Reasoning-I	3+0	HU-114	Pakistan Studies	2+0
ID-102	Workshop Practices	0+1	Geo-107	Applied Geology and Structural Stratigraphy	3+1
CS-101	Application of Information & Comm. Technology	2+1	ID-103	Engineering Drawing	1+1
PET-101	Fundamentals of Petroleum Engineering	3+0			
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HU-102	Ideology & Constitution of Pakistan	2+0	MS-201	Entrepreneurship	2+0
ENG-201	Expository Writing	3+0	ID-219	Principles of Electrical Engineering	2+1
SS-201	Sociology	2+0	ID-218	Applied Thermodynamics	2+1
MA-103	Differential Equations	3+0	PG-202	Drilling Engineering-I	3+1
ID-216	Fluid Mechanics	2+1	PG-205	Properties of Reservoir Fluid	2+1
HU-201	Civics & Community Engagement	2+0	CS-201	Computer Programming and Data Science	2+1
PG-203	Petroleum Geology and Geophysical Exploration	3+0			
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
CS-321	Applied Numerical Methods	2+1	PG-310	Natural Gas Processing & Pipeline Management	3+1
ID-301	Environmental and Safety Management	3+0	PG-307	Well Logging	2+1
ID-220	Mechanics of Material	2+1	PG-308	Reservoir Engineering-I	3+1
PG-304	Petrophysics	2+1	PG-309	Petroleum Production Engineering-I	3+0
PG-306	Drilling Engineering-II	3+1	ID-	Elective-I	2+1
	Total Credits	**16**		**Total Credits**	**17**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
PG-411	Well Testing	3+1	PG-419	Field Development Planning & Project Mgt.	3+1
PG-412	Petroleum Production Engineering-II	3+1	PG-415	Principles of Enhanced Oil Recovery	3+1
PG-413	Reservoir Engineering-II	3+1	PG-417	Petroleum Economics	2+0
PG-	Elective-II	3+0	PG-416	Reservoir Simulation	3+1
PG-414	Final Year Project (Phase-I)	0+3	PG-418	Final Year Project (Phase-II)	0+3
PG-421	Professional Field Training/Internship**	0+0			
	Total Credits	**18**		**Total Credits**	**17**

** 6 to 8 weeks Internship or Field Training is mandatory for students to fulfill the degree requirement. It can be availed at least once during summer after 4th or 6th semester.

ELECTIVE-I			ELECTIVE-II		
Code	Course Title		Code	Course Title	
CH-325	Petroleum Refinery Engineering	2+1	PG-410	Unconventional Reservoirs	3+0
CH-326	Instrumentation and Process Control	2+1	PG-411	Reservoir Geomechanics	3+0

PLOs and SDGs
for all
Engineering Programs

Prospectus-2025

PLOs for all Engineering Programs

PLO-1: Engineering Knowledge:
Applying knowledge of mathematics, science, engineering fundamentals, and their specialization to solve complex problems.

PLO-2: Problem Analysis:
Identifying, formulating, and analyzing complex engineering problems using established principles.

PLO-3: Design/Development of Solutions:
Creating solutions for complex engineering problems, considering safety, cultural, societal, and environmental aspects.

PLO-4: Investigation:
Conducting research, designing and performing experiments, and analyzing data to draw valid conclusions.

PLO-5: Tool Usage:
Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering problems, with an understanding of the limitations.

PLO-6: Sustainability and Impact:
Understanding the sustainability and impact of engineering work in societal and environmental contexts.

PLO-7: Professional Ethics:
Understanding and upholding ethical principles and responsibilities within the engineering profession.

PLO-8: Teamwork:
Functioning effectively as a member or leader in diverse teams.

PLO-9: Communication:
Communicating effectively on engineering topics with both technical and non-technical audiences.

PLO-10: Management:
Demonstrating knowledge of management principles and applying them to project management in multidisciplinary environments.

PLO-11: Lifelong Learning:
Recognizing the need for and engaging in continuous learning and professional development.

Link With Sustainable Development Goals (SDGs)

Civil engineering plays a significant role in achieving several Sustainable Development Goals (SDGs) outlined by the United Nations. Here are some key links between civil engineering and the SDGs:

SDG 9: Industry, Innovation, and Infrastructure: Civil engineering is directly linked to this goal as it involves the planning, design, construction, and maintenance of infrastructure such as buildings, roads, bridges, water supply systems, and transportation networks. Developing sustainable and resilient infrastructure is essential for economic growth, innovation, and improving quality of life.

SDG 6: Clean Water and Sanitation: Civil engineers play a crucial role in designing and implementing water supply and sanitation systems. They contribute to the development of sustainable water management practices, wastewater treatment facilities, and infrastructure to ensure access to safe drinking water and improved sanitation for all.

SDG 7: Affordable and Clean Energy: Civil engineering is involved in the design and construction of renewable energy infrastructure such as solar and wind power systems, hydroelectric plants, and geothermal energy systems. Civil engineers work towards developing energy-efficient buildings, transportation systems, and smart grid networks to promote clean and affordable energy sources.

SDG 11: Sustainable Cities and Communities: Civil engineers contribute to the development of sustainable urban infrastructure, including transportation systems, green buildings, and resilient city planning. They focus on creating inclusive, safe, and resilient cities that provide access to basic services, efficient transportation, and sustainable housing.

SDG 13: Climate Action: Civil engineering plays a vital role in addressing climate change by developing infrastructure and technologies that reduce greenhouse gas emissions, enhance energy efficiency, and promote sustainable practices. Civil engineers contribute to climate adaptation strategies, such as coastal protection, flood management, and sustainable drainage systems.

SDG 15: Life on Land: Civil engineering helps in the conservation and sustainable management of natural resources, including land and forests. Civil engineers contribute to projects related to land reclamation, soil stabilization, and sustainable land development practices, aiming to minimize environmental degradation and protect biodiversity.

SDG 17: Partnerships for the Goals: Achieving the SDGs requires collaboration and partnerships between various stakeholders. Civil engineers often work in multidisciplinary teams, collaborating with governments, communities, NGOs, and the private sector to plan, design, and implement infrastructure projects that align with sustainable development objectives.

Civil engineering is an essential field for sustainable development, as it encompasses the design, construction, and management of infrastructure systems that directly impact communities and the environment. By integrating sustainability principles into engineering practices and considering the social, economic, and environmental aspects of projects, civil engineers can contribute significantly to the achievement of the SDGs.

DEPARTMENT OF COMPUTER SCIENCE

NFC INSTITUTE OF ENGINEERING & TECHNOLOGY
FEDERAL DEGREE AWARDING INSTITUTE
NFC IET
MULTAN-PAKISTAN

DEPARTMENT OF
Computer
Science

2025
Prospectus

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MISSION STATEMENT

The Department of Computer Science is dedicated to advancing the understanding and application of computing technology in today's fast-paced and ever-evolving digital world. We believe that computer science is at the forefront of solving some of the world's most complex problems and shaping the future.

Our mission is to provide students with a comprehensive education in computer science that combines theoretical foundations with practical experience. We strive to prepare students for careers in various fields, including software development, data science, cybersecurity, and artificial intelligence.

We are committed to fostering innovation and collaboration where students, faculty, and industry partners can collaborate to explore new ideas, test cutting-edge technologies, and bring about real-world impact. Our curriculum is designed to challenge students and inspire their creativity while providing a supportive and inclusive learning environment.

We believe that computer science has the power to transform our world for the better, and we are dedicated to producing graduates who are equipped to be leaders in this exciting and rapidly evolving field. Our ultimate goal is to ensure that our students are equipped with the skills, knowledge, and passion to shape the future of computing and positively impact society.

Degree Programmes Offered Under the Umbrella of Computer Science

I.   **BS Computer Science**
ii. **BS Software Engineering**
iii. **BS Artificial Intelligence**

Computing Science is a dynamic field that studies computers, computing systems, and computational processes. The above-mentioned computing science degree programs provide students with the knowledge and skills to understand, design, and build computer systems, software, and applications. A computer science degree is ideal for students interested in technology, with strong problem-solving skills and a passion for working with computers. With the growing demand for technology professionals, any of the above computing science degrees can lead to a rewarding and lucrative career.

The curriculum covers a range of technical courses such as computer programming, algorithms, and software engineering, as well as related fields like mathematics and statistics. Graduates of computer science programs can pursue careers in various industries like software development, data analysis, and cybersecurity.

What can I do with a Computer Science Degree?

If you have studied computer science, you will have gained many technical and non-technical skills that are highly valued by employers, from leadership to programming. The increasing scope of computer science means you have plenty of choices in a wide range of highly specialized areas. These include financial organizations, management consultancy firms, software houses, communication companies, data warehouse centers, multinational companies, government agencies, universities, hospitals, etc.

1- **Career Prospects for Computing Graduates:**
    - IT Consultant
    - Cyber Security Consultant
    - Information Systems Manager
    - Database Administrator
    - Systems Analyst
    - Games Developer
    - Technical Writer
    - Freelance

2- **Are Computer Science Graduates in demand?**
    Department of Computer Science at NFC-IET entertains students who possess the requisite intellectual caliber who are currently serving in the following organizations/ industries /software houses.
    - Micro-Tech industry Pvt Ltd.

- Descon Engineering
- Softronicx PVT Ltd
- Pak Elektron limited
- Safe-city Project
- Nextbridge
- App technologies
- Software Technologies
- Punjab Information Technology Board
- MEPCO
- MUX Soft Tech
- Habib Bank
- Defense Housing Authority

3- Program Objectives :

The department of computer science missions by pursuing the following objectives:

- To teach students lifelong learning skills, which will allow them to successfully adapt to evolving technologies throughout their professional career.
- To prepare students for employment and advanced studies.
- To teach students effective teamwork, communication, and interpersonal skills
- To continue to pursue a high level of research productivity.

4- OBE Based Education (PLO)

The Bachelor of Science (B.S) degree in computer science is appropriate for students desiring a somewhat stronger concentration in the sciences, with more courses in computer science and computer engineering. Recipients of a BS-Computer science degree at NFC-IET are expected to have the following skills and experiences:

Knowledge for Solving Computing Problems by applying knowledge of computing fundamentals, computing specialization, mathematics, science, abstraction, and conceptualization of computing models from defined problems and requirements

Skill for Problem Analysis by making the students learn Identifying, formulating, analyzing research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines

Design/ Development of Solutions for complex computing problems, design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety keeping in view cultural, societal, and environmental considerations.

Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations

Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and multi-disciplinary settings

Communication: Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions

Computing Professionalism and Society: Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice

Ethics: Understand and commit to professional ethics, responsibilities, and norms of professional computing practice

Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual

development as a computing professional

5- **Duration of the Program at NFC-IET:**
Bachelors in computer science (BSCS) this four–year degree program equips students with fundamental computing knowledge and the latest technology.

The department of computer science offers a four years program consisting of eight semesters. The program is designed to meet the growing need for computer science experts in the rapidly evolving 21st-century economy. This degree includes theory papers and laboratory practicals based on the mathematical and theoretical foundation of computing.

6- **STEM(Science, Technology, Engineering, and Maths) and Computer Science:**
Keeping the essential skills in view, the department of CS, at NFC-IET tries its best to inculcate the use of modern technology in students through seminars, conferences, and workshops that are conducted to boost up the problems sharing skills. These are:

- **Workshop – Graphic Design (by Mr. Noor Khan)**
  The workshop was organized by the Head of the Department, Dr. Naeem Aslam. In which the resource person conducts two different sessions keeping the purpose and assigning of the content. The children from 'SOS village Multan' and inter-university students were catered. They came to know about advanced features of adobe photoshop and adobe illustrate.

- **FIA - Cyber Crime Seminar by Muhammad Ali Hashmi**
  A seminar was conducted at NFC IET under the supervision of Dr. Naeem Aslam. The key features of the seminar were to aware the students and faculty about Cyber Crime, Cyber Laws, and how to keep oneself safe among the latest emerging social platforms.

- **Huawei - Cyber Security Seminar by Malik Muhammad Jawad**
  A seminar was conducted at the CS department under the Headship of Dr. Naeem Aslam. The key features of the seminar were to aware the students about the malware, ransomware attacks, data privacy, Cyber laws, and high-demand emerging technologies in these domains.

- **Welcome party**
  Every year, the welcome party for the new batch of students is a vibrant and exciting event that marks the beginning of an unforgettable journey. The party, held in a lively atmosphere, features music, dance, and engaging activities that help everyone bond and feel right at home. With speeches from faculty and senior students, the night is always filled with laughter, energy, and a sense of anticipation for the academic year ahead. It's the perfect way to kick off the new batch's college life, and it's a tradition that continues to thrive year after year.

- **Sports week**
  Sports Week has consistently been an action-packed and exhilarating event, bringing students together annually to showcase their athleticism and team spirit. Throughout the week, a variety of sports competitions, including volleyball, table tennis, football, basketball, and cricket, have energized the campus. Students have cheered for their teams, fostering a sense of camaraderie and healthy competition. The week has not only highlighted physical prowess but also promoted

teamwork, discipline, and school pride, making it a memorable and inspiring experience for everyone involved, year after year.

- **e-Rozgaar**

  In collaboration with Govt. of Punjab and PITB a State of the art lab 100 Computer System is established to train students for freelancing and new ways of online earning. The lab is fully equipped with high-speed internet and a co-working environment. The vision for this collaboration among PITB and NFCIET is to reduce unemployment and drive economic growth in Pakistan by increasing the inflow of foreign currency. This project is under the e-Rozgaar program of Govt. of Punjab.

  One of the major objectives of this project is to provide training opportunities to youth for self-employment using internet-based freelancing. Under the e-Rozgaar program, our center has graduated around 500 students in the recent sessions that are earning handsome amounts through freelancing. Many events have been organized for the awareness of e-Rozgaar and freelancing opportunities. The students have earned online more than 24000 USD during and after e-Rozgaar training since the start of this program.

- **NAVTTC**

  In collaboration with the Fedral Government under the vision of Prime Minister Kamiyab Nojvaan Program, NAVTTC has started its partner training program with NFC IET. It is free of cost technical training program for unemployed and unskilled

youth.

It has three domains of training programs designed such that to train the students to get them self-employed. Specifically for the first intake, there are three domains in which students are enrolled.

i.   Blockchain Programming
ii. Artificial Intelligence (Machine Learning & Deep Learning)
iii. Mobile/Web Development

DETAIL OF NAVTTC COURSES

Batch	Session	Courses	No. of Enrolled students	Total
1	2020	Blockchain Programming	50	185
		Artificial Intelligence	60	
		CIT Mobile Application & Web Development	75	
2	2021	Artificial Intelligence	25	50
		CIT Mobile Application & Web Development	25	
3	2022	CIT Cyber Security	25	125
		Industrial Automation (PLC)	25	
		Chemical Supervisor	25	
		CIT MobileApplication& Web Development	50	
4	2024	Advanced Python	40	80
		AI	20	
		Block Chain	20	
5	2025	Advance Python	20	40
		Mobile App Development	20	

7- Real-World Experience:

Real-world experience and project-based learning are crucial for students and help develop the lifelong skills they used to succeed. Giving students a chance to test their activities before learning to serve is optimum. The

department of CS at NFC-IET organizes different field trips and industrial tours for the students to broaden their practical knowledge. In addition to this, students avail themselves of the opportunities to serve as internees at different renowned institutes and departments, such as PITB, Software houses, and multinational companies.

On-Campus Recruitment Test & Interviews

The organizations mentioned below are in contact with the Department of Computer Science for recruiting young professionals of Computer Science from NFC IET Multan. In the recent past tests and interviews were conducted by these organizations and many of our graduates were recruited even before completion of their degree. Many of our students that have not completed their degrees are doing paid internships in these organizations.

DETAIL OF COMPUTER LABS

Lab Name	Number of Systems	Processor	Graphics	Discrete (External)	Internal Memory (RAM)	External Memory (HDD/SSD)	LED	Security
FYP Lab Room 109	50	Core i7 8th Gen	Intel HD Graphics 630	NVIDIA GeForce GT 730, 2GB	16 GB	256 GB SSD	24"	Lock slot; Trusted Platform Module (TPM)
CS Lab 1 Room 111	50	Core i7 7th Gen	Intel HD Graphics	NVIDIA GeForce GT 730, 2GB	16 GB	1 TB HDD	22"	Lock slot; Trusted Platform Module (TPM)
CS Lab 2 Room 112	30	Core i5 7th Gen	Intel HD Graphics 3000	-	8 GB	1 TB HDD	22"	Lock slot; Trusted Platform Module (TPM)
CS Lab 3 Room 114	30	Core i7 10th Gen	Intel HD Graphics 3000	-	8 GB	256 GB SSD	19"	Lock slot; Trusted Platform Module (TPM)
Research Lab Room 103	8	Core i7 7th Gen	Radeon Pro 560, 4GB	-	16 GB	1 TB SSD	21.5"	Kensington Lock Slot
E-Rozgar Room 209	100	Core i3	-	-	8 GB	256 GB SSD	15.6"	-
CS Lab. Room 209	50	Core i7 10th Gen.	-	-	8 GB	256 GB SSD	21.5"	Lock slot; Trusted Platform Module (TPM)
CS Lab. Room 11	50	Core i5 12th Gen.	-	-	8 GB	256 GB SSD 1 TB HDD	22"	-

BS COMPUTER SCIENCE CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-001	Understanding of Quran	0+0	HQ-002	Understanding of Quran	0+0
CS-101	Application of ICT	2+1	CC-121	Object Oriented Programing	3+1
CC-111	Programming Fundamentals	3+1	CC-122	Digital Logic Design	3+1
NS-102	Applied Physics	2+1	QR-102	Quantitative Reasoning-II	3+0
QR-101	Quantitative Reasoning-I	3+0	HU-102	Ideology & Constitution of Pakistan	2+0
HU-101	Islamic Studies	2+0	`HU-103	Professional Practices	2+0
ENG-101	Functional English	3+0	ES-121	Financial Accounting	3+0
MT-011	Basic Mathematics	0+0			
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
CC-211	Computer Organization & Assembly Language	2+1	CC-221	Operating Systems	3+1
CC-212	Data Structures	3+1	CC-222	Database Systems	3+1
CC-213	Information Security	2+1	CS-221	Theory of Automata	3+0
SS-201	Economics	2+0	MT-221	Linear Algebra	3+0
ENG-201	Expository Writing	3+0	MS-201	Entrepreneurship	2+0
MT-211	Multivariate Calculus	3+0	HM-201	Civics & Community Engagement	2+0
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
CC-311	Computer Networks	2+1	CC-321	Analysis of Algorithms	3+0
CC-312	Software Engineering	3+0	CS-321	Compiler Construction	2+1
CC-313	Artificial Intelligence	2+1	CS-322	Parallel & Distributed Computing	2+1
CS-311	Computer Architecture	2+1	CS-323	HCI & Computer Graphics	2+1
CE-311	Web Technologies	2+1	CE-321	Mobile Application Development-I	2+1
MT-311	Probability & Statistics	3+0	ENG-321	Technical & Business Writing	3+0
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
CC-411	Final Year Project-I	0+2	CC-421	Final Year Project-II	0+4
CS-411	Advanced Database Management Systems	2+1	CE-421	Software Testing & Quality Assurance	2+1
CE-411	Numerical Analysis	2+1	CE-422	Cyber Security	2+1
CE-412	Mobile Application Development-II	2+1	HU-421	Pak Studies	2+0
CE-413	Advanced Programming	2+1			
FE-401	Field Experience/Internship	3+0			
	Total Credits	**17**		**Total Credits**	**12**

SEMESTER 4-ADCS

Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-003	Understanding of Quran	0+0			
AE-201	Advanced Database Lab	0+2			
AE-202	Web Technologies Lab	1+2			
AE-203	Mobile Application Development Lab	1+2			
AE-204	Advanced Programming Lab.	1+2			
AE-205	Cyber Security Lab	1+2			
MS-201	Entrepreneurship	2+0			
HM-201	Civics & Community Engagement	2+0			
	Total Credits	**18**			

BS SOFTWARE ENGINEERING CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-001	Understanding of Quran	0+0	HQ-002	Understanding of Quran	0+0
CS-101	Application of ICT	2+1	CC-121	Object Oriented Programming	3+1
CC-111	Programming Fundamentals	3+1	CC-122	Digital Logic Design	3+1
NS-102	Applied Physics	2+1	QR-102	Quantitative Reasoning-II	3+0
QR-101	Quantitative Reasoning-I	3+0	HU-101	Islamic Studies	2+0
HU-102	Ideology & Constitution of Pakistan	2+0	HU-103	Professional Practices	2+0
ENG-101	Functional English	3+0	ES-121	Financial Accounting	3+0
MT-011	Basic Mathematics	0+0			
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
CC-211	Computer Organization & Assembly Language	2+1	CC-221	Operating Systems	3+1
CC-212	Data Structures	3+1	CC-222	Database Systems	3+1
CC-213	Information Security	2+1	CC-223	Software Engineering	3+0
SS-201	Economics	2+0	MT-221	Linear Algebra	3+0
ENG-201	Expository Writing	3+0	MS-201	Entrepreneurship	2+0
MT-211	Multivariate Calculus	3+0	HM-201	Civics & Community Engagement	2+0
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
CC-311	Computer Networks	2+1	CC-321	Analysis of Algorithms	3+0
CC-313	Artificial Intelligence	2+1	SC-321	Software Construction & Development	2+1
SC-311	Software Requirement Engineering	2+1	SC-322	Parallel & Distributed Computing	2+1
SC-312	Software Design & Architecture	3+0	SE-321	Mobile Application Development	2+1
SE-311	Web Engineering	2+1	SE-322	Object Oriented Analysis & Design	2+1
MT-311	Probability & Statistics	3+0	ENG-321	Technical & Business Writing	3+0
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
CC-411	Final Year Project-I	2+1	CC-421	Final Year Project-II	0+4
SC-411	Software Quality Engineering	2+1	SE-421	Software Verification & Validation	2+1
SC-412	Software Project Management	2+1	SE-422	Software Re-Engineering	2+1
SE-411	Advance Database Management	2+1	HU-421	Pak Studies	2+0
SE-413	HCI & Computer Graphics	2+1			
FE-401	Field Experience/Internship	3+0			
	Total Credits	**17**		**Total Credits**	**12**

DEPARTMENT OF

Architecture Design

2025
Prospectus

www.nfciet.edu.pk

Ar. Syeda Mahwish Zahra
(M-PCATP)
M. Arch. NED UET Karachi, 2014
B. Arch. Karachi University, 2006
11 years' Academic Experience
19 years field experience
6 years research experience

Ar. Muhammad Ashfaq
(M-PCATP)
M. Arch. UET Lahore 2000
B Arch. NCA Lahore, 1986
8 years Academic experience
10 research experience
35 years of field experience

Ar. Mohsin Iqbal Deo
(M-PCATP)
MS (Env. Design), AIOU, 2022
B. Arch. UOG, Gujrat 2014
7 years academic experience
10 years field experience
1 year research experience

Ar. Amna Malik
(M-PCATP)
M.Arch. Punjab University 2016
B.Arch. Punjab University 2014
1 years academic experience
8 years field experience

Ar. H. Muhammad Ahmed Nadeem
(M-PCATP)
M.Arch. Yasar University 2023
B. Arch. UMT Lahore 2019
1 years teaching experience
5 years field experience
3 years research experience

Ar. M. Israr Ali Mirza
(M-PCATP)
Msc Construction Management (in progress)
B. Arch. BNU Lahore, 2018
5 years academic experience
5 years field experience

Ar. Alishba Saleem
(M-PCATP)
M.Arch. UET Lahore (in progress)
B. Arch. NFC-IET, Multan, 2018
3 year academic experience
7 years field experience

Ar. Sidra
(M-PCATP)
MS (Env. Design), (on going)
B. Arch. NFC-IET, Multan, 2019
3 years academic experience
4 years field experience

Ar. Amna Ahmed Malik
(M-PCATP)
B. Arch. BZU, Multan, 2018
1.5 year teaching experience

Architecture Design at NFC-IET

Multan is a showcase for recent regeneration as well as rich historic context. Its history and age are characterized by the various names, rulers, invasions, cultures and religions, which span over a period of three thousand years. From the pre-Islamic era to modern times, culture of Multan has always been rich with literary and academic knowledge, which has caused it to be the center of learning throughout its history. The city recognizes the value of high-quality design, together with innovative and pragmatic approaches to resolving practical issues.

The Bachelor's degree of Architecture at NFC-IET Multan, introduces the various sub fields for architects. The scope of the program is broad. In five years,

students will learn all the basic skills and techniques combining theory and design with latest technological advances. Students's own creativity and spatial insight play a major reole in this. Various design projects, both individually and in groups, will help them to learn about the way technology, culture and the living environment interact with each other. Students will develop analytical and creativity skills along-with spatial aptitude and will benefit from the practical expertise of specialists alongside research-active lectures, who provide a rich and stimulating environment in which to study architecture. We combine traditional lecture-based teaching with workshop and design studio sessions.

Project learning is the basis of architecture education, and the studio is where this learning takes place. B. Architecture graduates are highly valued for their confidence and creativity, and benefit from our strong links with national and international architectural practices.

Core Topics in Architecture Design

Architecture education needs are different for different regions within Pakistan. Our curriculum provides a broad outline and framework of knowledge areas with a built-in-flexibility. List of core topics are as under:

- Architecture Design Studio

- History of Architecture
- Materials & Construction
- Structures for Architects
- Building Conservation
- Energy and Environment
- Urban Design
- Landscape Design
- Technical Studies
- Participatory Design
- Internship

First Year

The first year of B. Arch education at NFC-IET Department of Architecture is designed to integrate our students with a work-intensive, shared space learning environment (architecture design studio which is the key component of any architectural pedagogy. Through individual and group projects, students are encouraged to enhance their creativity, critical thinking abilities and communication skills. The foundation and fine arts studios are further supplemented through courses in design theory linked with how design has historically been responsive towards shifts in history, culture and philosophy.

2nd & 3rd Year Formative Level:

The basic design skills are further honed in the next two years of architectural education with focus on site, context, solar orientation, scale, functional relationships and design concept for small to medium scale buildings dominating the discourse in the four studios on offer. However, the prospective architects need to ground their ideas in architectural reality through a sound understanding of structures, tectonics, materials and construction details which is imparted through lecture courses that complement the architecture studios.

4th & 5th Year Consolidation Level:

The later years of architectural education at NFC-IET focus on urban and philosophical issues related to the field of architecture. Identity through architecture, sense of ownership and properiety, role of traditions in the face of impending globalization, conservation/adaptive re-use of historical buildings, urban growth patterns and holistic policy making are some of the key questions

that future leading professionals must seek an answer to; and the rigorous course structure connecting studios to architecture history, archaeology and preservation, research, participatory design and documentation techniques ensures that our prospective graduates are best suited to take on these complex concerns and are able to present their designs and research to multiple viewers in a didactic and eloquent manner.

We at NFC-IET believe that only when an architect is able to integrate the abstract with the tangible in a harmonious manner then architecture is able to express its values to the fullest. It is with this thought in mind that we expect our graduates to envelop their responses to complex philosophical question in well-articulated buildings that are thoughtful in their relationship with the immediate urban context, the occupant/user and are clear in their utilization of structure, material, services and engineering systems.

Departmental Resources
Computer Graphics Lab

The computer graphics lab is located in Department of Architecture. The facility has a total capacity of 50 students and is the best equipped in the NFC-IET. The lab is utilized for many training programs conducted for students. The computers are fully optimized to run latest versions of drafting, rendering, image & video editing software. Lab is further supplemented by the following equipments such as plotter, multimedia podium rostrum, sound system, internet facility.

Departmental Library

Departmental library is equipped with Architectural books, national and international magazines and journals. The modern collection is superbly stocked and it is kept up to date with regular purchases. We aim to support undergraduate-level study in all the principal subjects studied by NFC-IET under graduates.

Extracurricular Activities

Your education goes well beyond your coursework. Extracurricular activities can form a vital part of your experience here at NFC-IET, creating unique opportunities for learning.

Industrial tours, site visits and educational tours are organized to enhance the exposure of students. Workshops on various subjects are also often conducted in the department.

Applicants

We actively seek candidates for the undergraduates Program who share our view that architecture is a cultural-and not only professional - form of human activity, enquiry and knowledge. Students also need to display critical reasoning, holistic thinking, basic background knowledge and skills pertaining to the professional as well as genuine willingness to want to work, learn and grow in a setting that demands near-constant levels of engagement, exchange and communication with the world's most diverse, active and intelligent architectural community.

Employment Prospects

Architects can work in different public and private sectors. These include:
- Private practice or Design consultancy
- Academia
- Building Projects
- Research Institutes
- Conservation and Rehabilitation Projects

Accreditation

NFC-IET is the first institute recognized by Pakistan Council of Architects and Town Planners (PCATP) in South Punjab Region. The accreditation is in process.

Eligibility Criteria

- Intermediate FA, FSC and DAE (Architecture) with 60% aggregate marks.
- Minimum 60% Marks in departmental aptitude test (DAT), interview and drawing test. Candidates are also advised to bring in their drawing portfolio at the time test & interview.
- Port-folio: Student must showcase skills, mandatory for Architecture candidates.

AYDA AWARDS 2024/2025 NATIONAL WINNER
Architectural category

HOUSE TO HOME; ARCHITECTURE AS A REMEDY FOR HOMESICKNESS

The Project (*House to home*) aims to develop a comprehensive model to Create a home-away-from-home environment that integrates the co-living concept, accommodating both young people and the elderly.

- **Core Concept:** Integrate the co-living model to accommodate both young people and the elderly.

- **Community Focus:** Foster an intergenerational community where residents engage in shared responsibilities and support.

- **Innovation:** Transform the traditional hostel experience by introducing a multigenerational co-living approach.

- **Guiding Principle:** "Care and being cared for" — emphasizing reciprocal support across generations

Khansa Aqil
NFC-IET

SILVER WINNER

*"I'm deeply honored to receive the AYDA Award for my project. I'm grateful to Allah for His blessings, to my parents for their constant support and prayers, and I extend my sincere gratitude to the **Department of Architecture Design, NFCIET** and my mentors Ar. Mahwish Zahra and Ar. Israr Ali Mirza for being such an integral part of this journey."*

Commonwealth Association of Architects

International Thesis Competition

CAA AWARD 2024 WINNER

BEE XPLORE : THE MAJESTIC REALM OF HONEY BEE SANCTURIES AMPLIFYING LEARNING FOR AWARNESS & RESEARCH

In an era marked by increasing environmental challenges, the need to restore and protect the Earth's delicate ecosystems has become paramount. This introduction sets the stage for exploring the significance of honeybee habitats, the threats they face, and the transformative potential of a Bee Sanctuary project. This research aims to elevate our understanding of honey bee habitats, highlighting their critical role in ecosystems and agriculture. By creating dedicated sanctuaries, the project seeks to foster an environment for in-depth study and public awareness, promoting conservation efforts and inspiring future research. Join us on this journey to explore the wonders of honey bees &their indispensable contribution to our world.

Ar. Nouman Awan

NFC Institute of Engineering and Technology

BACHELOR IN ARCHITECTURE DESIGN CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
Arch-101	Foundation Studio-I	1+5	Arch-102	Foundation Studio-II	1+5
Arch-111	History of Architecture-I	2+0	Arch-112	History of Architecture-II	2+0
Arch-151	Visual Communication-I	0+2	Arch152	Visual Communication-II	0+2
HU-101	Islamic Studies/Ethics	2+0	HU-102	Ideology & Constitution of Pakistan	2+0
ENG-101	Functional English	3+0	NS-105	Ecology	2+1
HU-106	History of Ideas-I	2+0	CS-101	Applications of Info. & Comm. Tech. (ICT)	2+1
QR-101	Quantitative Reasoning-I	3+0	QR-102	Quantitative Reasoning-II	3+0
HQ-001	Understanding of Quran	0+0	QR-002	Understanding of Quran	0+0
	Total Credits:	**20**		**Total Credits**	**21**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
Arch-201	Architectural Studio-III	1+7	Arch-202	Architectural Studio-IV	1+7
Arch-231	Materials & Construction-I	1+1	Arch-232	Materials & Construction-II	1+1
Arch-241	Structures for Architects-I	2+0	Arch-242	Structures for Architects-II	2+0
Arch-211	History of Architecture-III	2+0	Arch-212	History of Architecture-IV	2+0
SS-205	Anthropology	2+0	HU-201	Civics & Community Engagement	2+0
ENG-201	Expository Writing	3+0	MS-201	Entrepreneurship	2+0
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
	Total Credits:	**19**		**Total Credits**	**18**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
Arch-301	Architectural Studio-V	1+7	Arch-302	Architectural Studio-VI	1+7
Arch-311	Theory of Architecture-I	2+0	Arch-312	Theory of Architecture-II	2+0
Arch-331	Materials & Construction-III	1+1	Arch-313	Architecture in Pakistan	2+0
Arch-341	Building Services & Systems-I	1+1	Arch-342	Building Services & Systems-II	1+1
Arch-351	Digital Tools for Architects-I	1+1	Arch-352	Digital Tools for Architects-II	1+1
Arch-314	Sustainable Design	2+0	Arch-315	Architectural Photography	1+1
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
	Total Credits:	**18**		**Total Credits**	**18**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
Arch-401	Architectural Studio-VII	1+7	Arch-402	Architectural Studio-VIII (Focus Studio)	2+8
Arch-411	Urban Design	2+0	Arch-112	Architectural Research Methods	1+0
Arch-431	Surveying and GIS for Architects	2+1	Arch-132	Specifications and Quantity Surveying	2+0
Arch-403	Project Management and BIM	2+1	Arch-413	Environmental Impact Assessment	2+0
Arch-404	Landscape Design	1+1	Arch-414	Building Conservation and Retrofitting	2+1
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
	Total Credits:	**18**		**Total Credits**	**19**

SEMESTER-9			SEMESTER-10		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
Arch-501	Thesis Design-I	2+6	Arch-502	Thesis Design-II	0+8
ENG-501	Technical English and Creative Writing	2+0	Arch-530	Building Laws and Professional Practice	2+0
Arch-503	Internship	3+0	Arch-512	Adv. Architectural Presentation Techniques-II	0+2
Arch-504	Participatory Design	2+0	HQ-010	Understanding of Quran	0+0
Arch-511	Adv. Architectural Presentation Technique-I	0+2			
HQ-009	Understanding of Quran	0+0			
	Total Credits:	**17**		**Total Credits**	**12**

* 6 weeks Internship is compulsory in Summer Break after 4th year as a pre-requisite for promotion to Final Year

Bu Ali Sina Block

Department
of
Business
Administration

Department
of
Basic
Science

NFC INSTITUTE OF ENGINEERING & TECHNOLOGY
FEDERAL DEGREE AWARDING INSTITUTE
NFC IET
MULTAN-PAKISTAN

DEPARTMENT OF

Business Administration

2025
Prospectus

www.nfciet.edu.pk

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Head,
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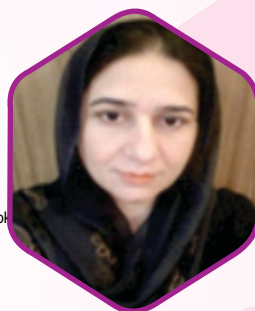
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Ms. Raisham Hayee
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Specialization in Finance)
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Mr. Mohsin Jamal
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Ms. Shajia Zaman
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03 years of experience in
teaching and industry
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Mr. Omer Farooq Khan
MBA (Finance)
01 year of experience in teaching
momer.farooq@nfciet.edu.pk

Introduction

Department of Business Administration at NFC-IET intends to impart broad knowledge of management and business in order to develop decision making capabilities among future managers and executives. Core focus of our business program is to develop critical thinking among students enabling them to gain strategic orientation to ensure organizational success and competitiveness. Students learn at NFC-IET essential management skills and conceptual framework necessary to apply them successfully in the field of Management and associated areas such as Marketing, Human Resource Management, and Finance.

Our students choose a specialization of their own interests, which further facilitate them to develop managerial skills in a particular sector. Moreover, the internship and industrial tours provide real-time organizational exposures to our students.

Vision:

Our vision is "to become a leading national business school that provides leadership skills, sustainable knowledge, innovative quality educational and research excellence to society."

Mission:

"Our mission is to contribute towards society's advancement by providing students excellent creative environment for innovation, entrepreneurship, and practical exposure. It aspires to achieve this goal as a coherent business school with cutting-edge research, modern and rigorous curriculum for business graduates."

Job opportunities / Future Prospects

Our comprehensive BBA program is designed to provide students with a thorough understanding of business administration's foundational, functional, and decisional areas. This rigorous four-year program equips graduates with the knowledge, skills, and expertise necessary to navigate the complexities of the ever-changing business landscape.

Completion of four year BBA program allows students to start their career as entry level managerial positions in for-profit or non-for-profit organizations or may start their own business as an entrepreneur. Moreover, our BBA program also provides a solid foundation for further academic pursuits. Graduates may choose to pursue postgraduate studies, such as an MBA or MS, at reputable institutions within Pakistan or abroad, further enhancing their career prospects and expertise.

Admission Eligibility for BBA

An individual holding a Higher Secondary School Certificate from a Pakistani Board or an equivalent certificate from any other Pakistani/ foreign recognized institution is eligible for admission to Bachelor of Business Administration (BBA) program of study at NFC-IET Multan.

BACHELOR OF BUSINESS ADMINISTRATION CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
ENG-101	Functional English	3+0	ECO-202	Macro Economics	3+0
BBA-101	Principles of Management	3+0	HU-103	Critical Thinking & Logic	2+0
HU-102	Ideology and Constitution of Pakistan	2+0	HU-101	Islamic Studie/Ethics	2+0
CS-101	ICT	2+1	QR-102	Quantitative Reasoning-II	3+0
QR-101	Quantitative Reasoning-I	3+0	BBA-202	Principle of Marketing	3+0
ECO-201	Micro Economics	3+0	BBA-203	Financial Accounting-I	3+0
HQ-001	Understanding of Quran	0+0	HQ-002	Understanding of Quran	0+0
	Total Credits	**17**		**Total Credits**	**16**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
SS-204	Introduction to Psychology	3+0	BBA-401	Marketing Management	3+0
ENG-201	Expository Writing	3+0	HU-201	Civics and Community Engagement	2+0
BBA-301	Introduction to Business Finance	3+0	NS-201	Environmental Management System	2+1
BBA-302	Introduction to Human Resource Management	3+0	MS-201	Entrepreneurship	3+0
BBA-303	Financial Accounting-II	3+0	BBA-402	Financial Management	3+0
HU-114	Pakistan Studies	2+0	BBA-403	Principles of Commercial Banking	3+0
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
	Total Credits	**17**		**Total Credits**	**17**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
BBA-501	Cost and Management Accounting	3+0	BBA-601	Invention in Job Skills	3+0
BBA-502	Business and Labor Laws	3+0	BBA-602	Business Ethics	3+0
BBA-503	Organizational Behavior	3+0	BBA-603	Consumer Behavior	3+0
BBA-504	Production and Operation Management	3+0	BBA-604	Management Information System	3+0
ECO-203	Major Issues in Pakistan Economy	3+0	BBA-605	E-Commerce and Digital Marketing	3+0
SS-201	Introduction to Sociology	2+0	BBA-606	Statistical Inference	3+0
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
	Total Credits	**17**		**Total Credits**	**18**

SUMMER SEMESTER		
Code	Course Title	Credit Hrs.
BBA-607	Internship	3+0
	Total Credits	**03**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
BBA-701	Business Research Method	3+0	BBA-704	Business Policy and Strategy	3+0
BBA-702	Total Quality Management	3+0	BBA-705	Project Management	3+0
BBA-703	International Business Management	3+0		Elective-III	3+0
	Elective-I	3+0		Elective-IV	3+0
	Elective-II	3+0	BBA-721	Capstone Project	3+0
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
	Total Credits	**15**		**Total Credits**	**15**

BACHELOR OF BUSINESS ADMINISTRATION CURRICULUM 2024
ELECTIVE COURSES

ELECTIVE COURSES OF MARKETING					
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
BBA-706	International Marketing	3+0	BBA-709	Industrial Marketing	3+0
BBA-707	Services Marketing	3+0	BBA-710	Distribution Management	3+0
BBA-708	Marketing Research	3+0			

ELECTIVE COURSES OF FINANCE					
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
BBA-711	Financial Institution	3+0	BBA-714	Principles of Auditing	3+0
BBA-712	Corporate Finance	3+0	BBA-715	International Finance	3+0
BBA-713	Financial Statement Analysis	3+0			

ELECTIVE COURSES OF HUMAN RESOURCE MANAGEMENT					
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
BBA-716	Performance & Compensation Management	3+0	BBA-719	Leadership & Team Management	3+0
BBA-717	Industrial Relations	3+0	BBA-720	Recruitment & Slection	3+0
BBA-718	Training & Development	3+0			

HEC REQUIREMENTS FOR BBA (HONS) PROGRAM			
Sr. No.	Types of Courses	No. of Courses	Credit Hours
1.	Major	27	81
2.	General	13	33
3.	Core	02	06
4.	Inter Disciplinary	05	15
	Total:	**47**	**135**

Note: Business Electives shall be offered subject to the availability of faculty.

NFC INSTITUTE OF ENGINEERING & TECHNOLOGY
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DEPARTMENT OF
Fashion
Design

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www.nfciet.edu.pk

Ms. Nazish Huma Khan
Assistant Professor/Hod
M.Phil Visual Arts, IUB
BS Communication Design
MCA-BZU, Multan.
12 years of teaching experience

Ms. Kiran Ijaz
Lecturer
BS Fashion Designing
2 year of teaching experience

Ms. Hamna Azam
Lecturer
MS in Fine Arts & Design
BS in Fashion Design & Technology
3 years of teaching experience

Mission

Nuturing individuals to transform potential into excellence, creativity and commercial savvy for success in the fashion industry.

Program Introduction

Make your creative designs stand out. The NFC Bachelor of Fashion Design provides you with the right skills to create innovative designs whether it be for the fashion shows of high couture or ready to wear garments. Participants gain the skills and knowledge necessary to work as a fashion designer and understand all aspects of the industry. Through challenging and studio-based projects, they can able to conceptualize their design, develop drawing skills, learn about texture, color and fabric, pattern making and garment construction, as they work towards turning raw materials into a unique finished product.

The degree focuses on the balance between theoretical and industry-relevant fashion design as you research and develop an innovative fashion design practice. Students are taught subjects related to fashion illustration, pattern making and cutting, sewing and stitching. The discipline put emphasis on strong communication and interpersonal skills to raise confident individuals, who can share their vision clearly and develop a better understanding of Fashion design.

I-   Graduates have the ability to produce designs in Pret-o-Porter and Haute Couture.

II-   Graduates can be able to work in the industry for import and export business in the garment as this domain is producing industry-oriented Designer as well.

III-   Graduates can be able to provide services as a fashion accessories designer.

IV-   Graduates can be able to work in the field of arts as a Textile Artist, Fabric Installation Artist, Digital Arts Sculptur, Pattern Maker and Fashion Illustrations.

V-   Graduates can have the ability to perceive designs and able to lead designs houses and studios.

VI-   Graduates can be able to work as a Communication Designer particularly for the textile sector and the ability to work as a Marketing expert and Visual

Merchandiser.

VII- Graduates are given the intense knowledge of Digital Technology and can work as computer Aided Designer in the market.

VIII- Graduates can have the ability to work interdisciplinary tasks in a team.

IX- Graduates can have the ability to play its role as a good citizen with code, conduct of society and religion.

Objective

The program focuses on the core objectives of providing the students with an integrated understanding and specialized perspective on the application of culture and professional practice in the fashion design industry. Throughout the degree course, the students are challenged to test their abilities from concept development to final execution of their design. Subjects like fashion illustration, pattern making and cutting, sewing and stitching help students to learn creative ways of developing their unique style in the field of fashion design. We aim to produce graduates who are creative, imaginative, innovative, versatile and competitive. This aim is achieved by:

I- Producing graduates who have acquired theoretical and practical knowledge of the fashion industry.

II- Producing graduates with critical and analytical problem-solving skills for the fashion design industry.

III- Preparing students for a broad range of related employment opportunities.

IV- Preparing students to show aesthetics and functionality at every phase of design sampling, marketing and merchandising.

V- Preparing students for quality research in advanced study related to the fashion design discipline.

VI- Preparing students to handle and run fashion brands.

VII- Preparing the students to learn the theoretical study of fashion design and its technical aspects.

VIII- To generate human resources in the field of design with the intense knowledge of technology and command on the creative process specifically to the sectors related to Fabric and Textiles to attire the look of the costume.

IX- To give knowledge of Research so they can apply it in further studies and advancement in the practical field.

X- To teach the students about the moral and Ethical values of the society so they can contribute well to designers and Human beings.

Career Paths

After formal education graduates the ability to work as a Fashion Designer, Stylist, Illustrator and Costume Designer in the Fashion Industry. Also one can opt for career paths as a fashion designer, product developer, fashion manager, design manager, fashion merchandiser and fashion brand owner. Other diverse careers you can choose from after completing a Bachelor's degree in Fashion Design are:

I- Fashion Designer (Clothing, Footwear, Accessory, Costume)

II- Fashion Merchandiser

III- Fashion Marketing

IV- PR Specialist

V- Fashion Journalist

VI- Fashion Product Manager

VII- Fashion Production and Management

VIII- Advertising

IX- Fashion Technology

Admission Criteria

1- Intermediate/A-Level with a minimum of 45% marks.

2- A-Level with (minimum three subjects, no subsidiary) and O-Level with 8-subjects including five compulsory subjects are required.

3- Intermediate students awaiting results are also eligible for provisional admission. They should attach the attested copy of the part-I result card and also part-II roll number slips of their respective boards.

4- A-level students awaiting results are required to submit the statement of entry. However provisional admission, if granted will not be confirmed without equivalence certificate issued by IBCC with 50% marks.

5- High school diploma holders must submit IBCC equivalence.

BACHELOR IN FASHION DESIGN CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
HQ-001	Understanding of Quran	0+0	HQ-002	Understanding of Quran	0+0
ENG-101	Functional English	3+0	HU-101	Islamic Studies	2+0
HU-102	Ideology & Constitution of Pakistan	2+0	FA-153	Basic Design-II	0+2
FA=1-2	Basic Drawing-I	0+2	CS-154	Digital Communication	0+2
CS-101	Applications of Information & Com. Tech.	2+1	DES-155	History of Art & Design	2+0
HU-103	History of Culture & Civilization-I	2+0	NS-105	Ecology	2+1
FA-106	Sculpture	0+2	DES-157	Fundamental of Design-II	0+2
DES-107	Fundamental of Design-I	1+1	QR-102	Quantitative Reasoning-II	3+0
QR-101	Quantitative Reasoning-I	3+0			
	Total Credits	**19**		**Total Credits**	**16**

SEMESTER-3			SEMESTER-4		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
FD-202	Flat Pattern-I	0+1	FD-252	Mathematics of Pattern-I	1+1
FD-203	Developments in Fashion Costume-I	0+2	FD-253	Digital Fashion-II	0+1
SEW-204	Sewing-I (Machine Sewing & Hand Sewing)	0+3	SEW-254	Sewing-II (Machine Sewing & Hand Sewing)	0+2
FD-205	Digital Fashion-I	0+1	MS-201	Entrepreneurship	2+0
FD-206	History of Costume-I	1+0	FD-256	History of Costume-II	1+0
DRP-207	Draping-I	0+2	DRP-257	Draping-II	0+2
FD-209	Human Anatomy & Portrait Drawing	0+2	FD-258	Developments in Fashion Costume-II	0+2
TD-208	Textile Basics & Fibers	2+0	TD-259	Textile Design-I	1+2
SS-201	Sociology	2+0	HU-201	Civics & Community Engagement	2+0
ENG-201	Expository Writing	3+0			
	Total Credits	**19**		**Total Credits**	**17**

SEMESTER-5			SEMESTER-6		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
FD-301	Mathematics of Pattern-II	1+2	FD-351	Mathematics of Pattern-III	1+2
FD-302	Fashion Design Studio-I	1+1	FD-352	Fashion Design Studio-II	1+1
SEW-303	Sewing-III	0+2	SEW-353	Sewing-IV	0+3
TD-304	Digital Fashion-III	0+1	FD-354	Digital Fashion-IV	0+1
FD-305	History of Costume & Fashion-III	1+0	FD-355	History of Costume and Fashion-IV	1+0
DRP-306	Draping-III	0+2	DRP-356	Draping-IV	0+2
TD-307	Textile Design-II	1+2	TD-357	Textile Design-III	1+2
HU-308	Fashion Marketing & Merchandising	2+0	HU-358	Costing & Planning	1+0
	Total Credits	**16**		**Total Credits**	**16**

SEMESTER-7			SEMESTER-8		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
FD-402	Mathematics of Pattern-IV	0+2	ENG-451	English (Dissertation)	2+0
FD-403	Fashion Design Studio-III	0+2		Collection/Final Project Product	0+10
SEW-404	Sewing-V	0+2	FD-452	Collection: Pattern	0+2
DRP-405	Draping-V	0+2	FD-453	Collection: Fashion Design Studio-IV	0+2
TD-406	Textile Design-IV	0+2	SEW-454	Collection: Sewing-VI	0+2
INT-407	Internship	0+3	DRP-455	Collection: Draping-VI	0+2
FD-408	Photography	1+2	TD-456	Collection: Textile Design-V	0+2
FD-401	Research Methods	1+0			
	Total Credits	**17**		**Total Credits**	**12**

NFC IET
MULTAN-PAKISTAN

NFC INSTITUTE OF ENGINEERING & TECHNOLOGY
FEDERAL DEGREE AWARDING INSTITUTE

DEPARTMENT OF
Artificial Intelligence

2025
Prospectus

www.nfciet.edu.pk

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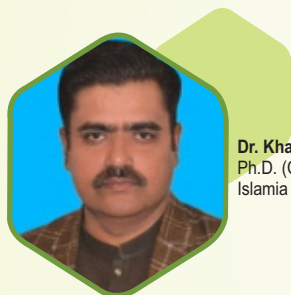
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M.Phil (Mathematics)

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MBA from air university
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Gold Medalist
BZU Multan

Program Vision

Envisioning the Future of AI

The BS Artificial Intelligence (AI) program is driven by a powerful vision: to foster innovation in learning environments and prepare graduates to become leaders in the field of AI. We recognize the rapid advancements in computer hardware, software, and communication technologies, and our curriculum is designed to integrate these emerging technologies, ensuring you graduate well-equipped for the future.

With the ongoing global digital transformation, AI is at the forefront of reshaping industries, from healthcare and education to manufacturing and transportation. The BS AI program envisions cultivating students who can drive this transformation ethically and innovatively, ensuring the application of AI technologies leads to societal benefit and sustainable development.

Program Mission

Cultivating AI Expertise

The mission of the BS AI program is to cultivate a new generation of AI professionals with exceptional critical thinking, intuition, and technical proficiency. Our program provides a comprehensive blend of theoretical knowledge and practical experiences. This combination empowers you to make sound professional decisions and assume responsible positions in various sectors like business, government, and education, at research, development, and planning levels.

Additionally, the program aims to:

- Equip students with skills in machine learning, data science, natural language processing, robotics, and intelligent systems.
- Foster innovation and entrepreneurship through project-based learning and industrial linkages.
- Encourage interdisciplinary research that addresses real-world problems.
- Develop ethical, socially responsible, and globally aware AI practitioners.

1. Department Prospects

The undergraduate AI program has been structured with the expectation that graduates will possess highly valuable technical and non-technical skills. These range from leadership and communication to advanced programming, data analytics, and problem-solving. The expanding scope of AI professionals means graduates have a wide range of career options in specialized areas including:

- Machine Learning based Technologies
- Financial technologies (FinTech)
- Natural language and speech processing
- Smart manufacturing and automation
- Cognitive and adaptive learning systems

- Government policy and defense AI systems
- AI-powered healthcare systems
- Intelligent transportation systems

2. Liaison with Industry and Research Institutions

The Department of Computer Science at NFC-IET maintains strong ties with local and international industries. These connections provide students with internship opportunities, real-world projects, and research collaborations. The AI program will extend these partnerships further by engaging in AI-focused research and development with organizations such as:

- PITB (Punjab Information Technology Board)
- Descon Engineering
- Micro-Tech Industry Pvt. Ltd.
- Safe-city Projects
- Nextbridge
- App Technologies
- Software Technologies
- PEL (Pak Elektron Limited)
- MEPCO
- DHA
- TopEdge Technologies
- Local startups in AI, automation, and analytics

3. Program Objectives

The objectives of the BS AI Program are:

- **Knowledge of the fundamentals of Computing and Artificial Intelligence** - A graduate who is performing his/her professional roles with understanding of fundamental and advance knowledge of computing and artificial intelligence acquired during his studies.
- **Ethical and Societal Responsibilities** - A graduate who is fulfilling his/her professional responsibilities taking into account ethical and societal concerns with special emphasis on artificial intelligence and its applications.
- **Communication Skills** - A graduate who is effective in oral and written communication of technical and managerial information.
- **Leadership** - A graduate who is effective in a leadership role of a group/team assigned to him/her or in an entrepreneurial environment.
- **Continuous Improvement** - A graduate who keeps on exploring new fields and areas in computing and artificial intelligence for his/her organization or conducts research for academic pursuits.

BS ARTIFICIAL INTELLIGENCE CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-001	Understanding of Quran	0+0	HQ-002	Understanding of Quran	0+0
CS-101	Application of ICT	2+1	CC-121	Object Oriented Programming	3+1
CC-111	Programming Fundamentals	3+1	CC-122	Digital Logic Design	3+1
QR-101	Quantitative Reasoning-I	3+0	QR-102	Quantitative Reasoning-II	3+0
HU-102	Ideology & Constitution of Pakistan	2+0	HU-101	Islamic Studies	2+0
ENG-101	Functional English	3+0	HU-103	Professional Practices	2+0
MT-011	Basic Mathematics*	0+3	ES-121	Financial Accounting	3+0
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
CC-211	Computer Organization & Assembly Language	2+1	CC-221	Operating Systems	3+1
CC-212	Data Structures	3+1	CC-222	Database Systems	3+1
CC-213	Information Security	2+1	CC-223	Artificial Intelligence	3+0
SS-201	Economics	2+0	MT-221	Linear Algebra	3+0
ENG-201	Expository Writing	3+0	MS-201	Entrepreneurship	2+0
MT-211	Multivariate Calculus	3+0	HM-201	Civics & Community Engagement	2+0
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
AI-311	Programming for AI	2+1	CC-321	Analysis of Algorithms	3+0
AI-312	Machine Learning	2+1	CC-322	Software Engineering	3+0
AI-313	Knowledge Representation & Reasoning	2+1	AI-321	Artificial Neural Networks & Deep Learning	2+1
AE-311	HCI & Computer Graphics	3+0	AE-321	Digital Image Process	2+1
CC-311	Computer Network	2+1	AE-322	Data Mining	2+1
MT-311	Probability & Statistics	3+0	ENG-321	Technical & Business Writing	2+1
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
CC-411	Final Year Project-I	0+2	CC-421	Final Year Project-II	0+4
AI-411	Computer Vision	2+1	AI-421	Parallel & Distributed Computing	2+1
AE-411	Natural Language Processing	2+1	AE-421	Swarm Intelligence	2+1
AE-412	Reinforcement Learning	2+1	AE-422	Knowledge Based Systems	2+1
FE-401	Field Experience/Internship	3+0			
	Total Credits	**14**		**Total Credits**	**13**

DEPARTMENT OF
Environmental
Science

2025
Prospectus

www.nfciet.edu.pk

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Mr. Abdullah Zamad
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Mr. Arbaz Madni
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of teaching

BS Environmental Science

Introduction

Environmental Science has been recognized as the science of sustainable development on earth. It is an emerging science of interdisciplinary academic fields that integrate physical and biological sciences to the study of environment. Environmental scientists bring a systematic approach to the analysis of environmental problems. They work on subjects like understanding of earth processes, development of alternate energy systems, pollution control and mitigation measures, cleaner production, environmental management systems, natural resources management, solid waste management and global climatic changes among others.

Importance

Achieving sustainable development by the coming years should be a top most agenda of Pakistan strategic planning to give birth to an environmentally sound and healthy nations. Introducing green economy, biodiversityand ecosystem services, conservation of natural resources and environmental governance are required to be incorporated in the management strata of the country to declare Pakistan an environmentally prosperous society. This entails a pressing need to start educating our young generation in environmental discipline and courses. Environmental professionals are on high demand in the world since countries have made mandatory employment of these professionals in order to meet international standards of environmental safeguards in their organizations and businesses.

Environmental Science at IET

Having realization of the fact that environmental discipline being a prerequisite for shaping a sustainable world, NFC-IET started BS-4 year Environmental Science Program (BSES) in 2011. IET having highly qualified faculty of Chemical Engineering and Basic Sciences Department with a blend of industrial and teaching experience proved a good supporting faculty to conduct environmental courses. Environmental Professionals trained by IET are already serving at good positions in many organizations of national and international worth.

Aims & Objectives

The overreaching aim of BS Environmental Science is to develop human resources in meeting environmental challenges and issues with a broader objective of achieving sustainable development of the earth.

Job Opportunities

Completion of the course will allow graduates to enter as Environmental Professionals with excellent career options in industries, commerce and public and private sector services. This course prepares graduates to joing organizations as Environmental Scientist and Manager, Environmental Auditor, Environmental Officer, Consultant & Advisor, Academician and Researcher. The program also enables graduates to continue their higher studies (Post-graduate Program) in environment and other relevant disciplines like Health, Safety and Environmental Management, Environmental Law, Environmental Policy & Management, Energy & Environment etc.

Program Structure

BS Environmental Sciences will lead to develop an understanding of earth systems, processes, problems and possible solutions. The program will be of 04 years duration consisting of 08 semesters. Students have to

complete minimum 126 credit hours of which 123 credit hours are for course work and 03 credit hours for project as per HEC requirement.

The program is designed to provide a strong base for students by offering courses from other discipline including Mathematics, Biology, Chemistry, Statistics, Economics, Earth Sciences, Law and Management. Student are also equipped with computing, research and presentation skills during their course work.

Laboratories:
- General Purpose Chemistry Lab.
- Environmental Lab.
- Microbiology & Wastewater Treatment Lab.
- GIS & Remote Sensing Lab.
- Physics Lab.
- Computer Lab.

Eligibility:
F.Sc. (Pre-Engineering/Pre-Medical) or equivalent with 45% aggregate marks.

PROTECTING OUR PLANET STARTS WITH YOU

BIKE MORE DRIVE LESS

reduce REUSE recycle
Cut down on what you throw away. Follow the three "R's" to conserve natural resources and landfill space.

choose sustainable seafood
Learn how to make smart seafood choices at www.FishWatch.gov.

Trees provide food and oxygen. They help save energy, clean the air, and help combat climate change.
PLANT A TREE

EDUCATE
When you further your own education, you can help others understand the importance and value of our natural resources.

CONSERVE WATER
The less water you use, the less runoff and wastewater that eventually end up in the ocean.

SHOP WISELY
Buy less plastic and bring a reusable shopping bag.

Don't send chemicals into our waterways.
Choose nontoxic chemicals in the home and office.

Volunteer!
Volunteer for cleanups in your community. You can get involved in protecting your watershed too!

Long-lasting light bulbs **- ARE A - BRIGHT IDEA**

Energy efficient light bulbs reduce greenhouse gas emissions. Also flip the light switch off when you leave the room!

BS ENVIRONMENTAL SCIENCES CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
ES-101	Introduction to Environmental Science	3+0	ES-102	Environmental Profile of Pakistan	3+0
NS-104	Essentials of Biology	2+1	ES-103	Environmental Physics	3+0
QR-101	Quantitative Reasoning-I	3+0	QR-102	Quantitative Reasoning-II	3+0
ENG-101	Functional English	3+0	CS-101	ICT	2+1
HU-108	History of Culture and Civilization	2+0	ES-104	Environmental Pollution	3+0
HU-101	Islamic Studies/Ethics	2+0	HU-102	Ideology and Constitution of Pakistan	2+0
HQ-001	Understanding of Quran	0+0	HQ-002	Understanding of Quran	0+0
	Total Credits	**16**		**Total Credits**	**17**

SEMESTER-3			SEMESTER-4		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
ENG-201	Expository Writing	3+0	ES-202	Environmental Chemistry	3+0
SS-201	Sociology	2+0	ES-204	Environmental Management System	3+0
ES-201	Biodiversity and Conservation	3+0	ES-206	Environmental Microbiology	2+1
ES-203	Natural Resource Management	3+0	ES-208	Fundamentals of Ecology	2+1
ES-205	Introduction to Earth Science	2+1	MS-201	Entrepreneurship	2+0
ES-207	Climatology	3+0	HU-201	Civics & Community Engagement	2+0
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
	Total Credits	**17**		**Total Credits**	**16**

SEMESTER-5			SEMESTER-6		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
ES-301	Environmental Toxicology	2+1	ES-302	Analytical Techniques in Environmental Science	1+2
ES-303	Health and Environmental Economics	3+0	ES-304	Climate Change	3+0
ES-305	Soil Conservation & Environmental Monitoring	2+1	ES-306	Environmental Law and Governance	3+0
ES-307	GIS & Remote Sensing	2+1	ES-308	Environmental Biotechnology	3+0
ES-309	Affordable and Clean Energy	3+0	ES-310	Sustainable Urban Planning and SDGs	3+0
ES-311	Environmental Biochemistry	3+0	ES-312	Research Methods & Digital Env. Science	3+0
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
	Total Credits	**18**		**Total Credits**	**18**

SEMESTER-7			SEMESTER-8		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
ES-401	Environmental Impact Assessment	3+0	ES-402	Disaster Risk Management	3+0
ES-403	Water & Wate Water Treatment	3+0	ES-404	Pollution Control Technologies	3+0
ES-405	Solid and Industrial Waste Management	3+0	ES-406	Occupational Health and Safety	3+0
ES-407	Field Experience/Internship	0+3	ES-408	Capstone Project	0+3
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
	Total Credits	**12**		**Total Credits**	**12**

DEPARTMENT OF

Bio-Medical Engineering Technology

2025
Prospectus

www.nfciet.edu.pk

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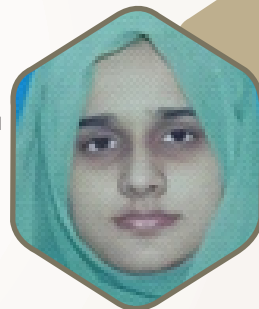**Head, Biomedical Engineering Technology**

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Introduction:

Biomedical engineering is one of the fastest-growing sectors in global health innovation and product development. In 2013, Forbes, a famous American magazine, placed biomedical engineering at the top of their "most valuable majors" list of university programs. The United States ranks the field first with USD 140-180 billion/year industry, which is more than one third of world market. Medical devices and technologies are growing at a rate of 10 per cent annually. Internationally, the medical devices market is a USD 327.7 billion industry whereas Canada ranks this field at number nine with USD 6.8 billion in estimated sales revenue.

Bio-Medical engineering applies the basic principles of engineering to the development of innovative methods for the diagnosis and treatment of diseases and injuries as well as playing a crucial role in the advancement of medical devices and technologies. It is an interdisciplinary subject, which combines wide-ranging scientific knowledge with technological processes and engineering skills to provide systems for important real world applications.

An undergraduate program in Biomedical Engineering Technology provides a strong foundation in basic sciences, mathematics, engineering and life sciences. The educational foundation, coupled with opportunities for extracurricular experiences, research/internship opportunities, teaching, advising and mentoring, provides a broad pathway for students to pursue a wide variety of post-graduate opportunities such as:

- Utilization and enhancement of the engineering and biological training to solve problems regarding health and health care based on ethically sound principles

- Development of leadership in the respective career in biomedical engineering and clinical practices

- Indulge in lifelong learning by continue education in graduate or professional school or by means of opportunities for professional training

- Graduates are trained to apply knowledge of biosciences, mathematics, and engineering in practical domains

- Biomedical engineers/technologists are able to design and conduct experiments as well as to analyze and interpret data

- They can lay out a system to meet desired needs with realistic constraints such as environmental ethical, health safety

- Graduates are professionals capable to function effectively on multidisciplinary teams

Keeping in view the gap between supply and demand of biomedical engineering/technology professionals, BSc (Biomedical Engineering Technology) program at NFC Institute of Engineering and Technology was commenced in 2016. The program is maiden in Southern Punjab region, providing students deep theoretical and practical understanding of the key areas with the help of qualified teachers from academia & industry and on state of the art biomedical engineering equipment.

Program Education Objectives (PEOs):

- Apply biomedical engineering knowledge to identify and address technical and societal problems.

- Be able to take initiative and/or develop innovative ideas for technological and professional growth keeping in view their societal and environmental impacts.

- Learn continuously and work effectively as a team lead in a multidisciplinary environment while demonstrating interpersonal and managerial skills with ethical responsibilities.

Accreditation:

All batches of the program are accredited by the National Technology Council (NTC), Pakistan. Accreditation with NTC grants graduates a license to enter in their professional career either through employment or with their own relevant business.

Curriculum:

Keeping in view the regularly updating market requirements, curriculum for BSc Biomedical Engineering Technology program is being regularly updated right from its commencement in 2016. Presently it is as per the latest guidelines of Higher Education Commission and National Technology Council. Advanced courses are included according to the changing field requirements at both national and international levels. These courses provide quantitative training, emphases on problem-solving and design the phenomena from the molecular to the system level.

Laboratories:

Department has recently equipped following 08 state-of-the-art labs with modern equipment:

i-   Human Physiology & Anatomy lab

ii-   Computer lab

iii-   Biomechanics lab

iv-   Biomaterials lab

v-   Electrical lab

vi-   Bio Physics lab

vii-   Bio Chemistry lab

Current Research Areas: Current research in this field encourages emerging areas by prominently discussing a wide range of topics, including but not limited to Biomechanics, Bio monitoring, Biomaterial engineering, Bioelectrical engineering, Biochemical engineering, Tissue engineering, Computational genomics and proteomics, Pharmaceutical engineering, Bio photonics, Medical devices, Novel Surgical Instruments, Medical imaging, Implants, Bionics, Clinical engineering, and Rehabilitation engineering.

Specialized Tracks in Biomedical Engineering Technology:

Neural Engineering:

This area applies fundamental and applied engineering techniques to help solve basic and clinical problems in neuroscience. At a fundamental level, neural engineering seeks a better understanding of the behavior of individual neurons, their growth, signaling mechanisms between neurons, and how populations of neurons produce complex behavior. Obtaining such information improves understanding of the communication that occurs between the various parts of the nervous system and the brain. Such knowledge can lead to the development of replacement parts and other treatments for impaired neural systems.
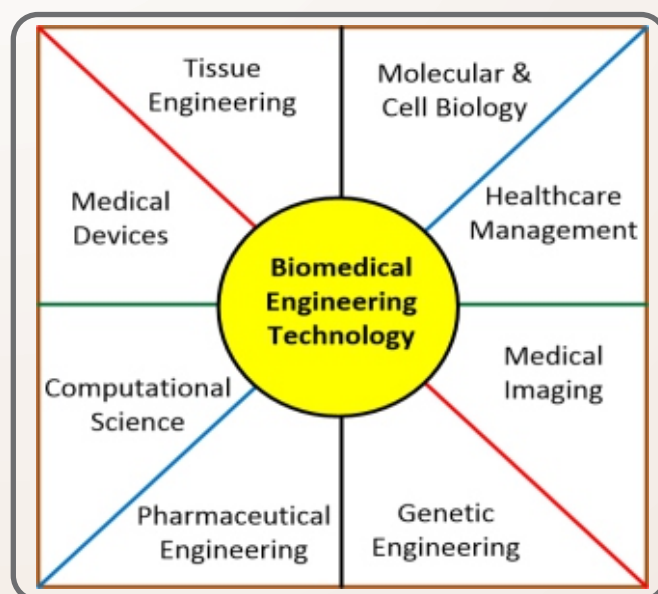
Medical Imaging:

Medical imaging encompasses a wide range of technologies (including MRI, CT, ultrasound, PET, etc.) that permit visualization of the internal structure and function of the human body. Medical imaging is an essential part of today's health care, biomedical research, and drug development, and is one of the most important contributions that engineering has made to patient care. Cutting-edge areas of medical imaging include development of new types of imaging, new hardware and computer software, and new ways of using, visualizing, and analyzing medical images.

Cell and Tissue Engineering:

This area seeks to understand and attack biomedical problems at the microscopic level and use such knowledge to engineer replacement tissues and organs from individual cells. Knowledge of anatomy, biochemistry and the mechanics of cellular and sub-cellular structures is needed to understand disease processes and to target interventions. Armed with such knowledge, new technologies have been, or are being, developed.
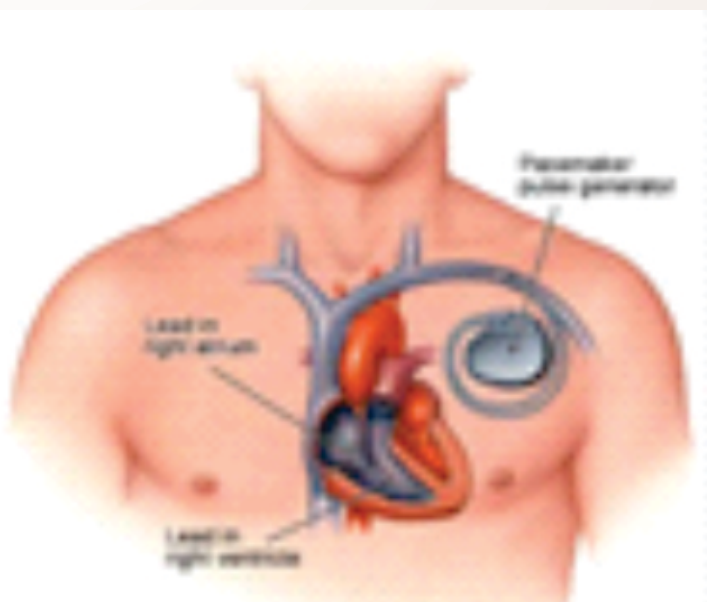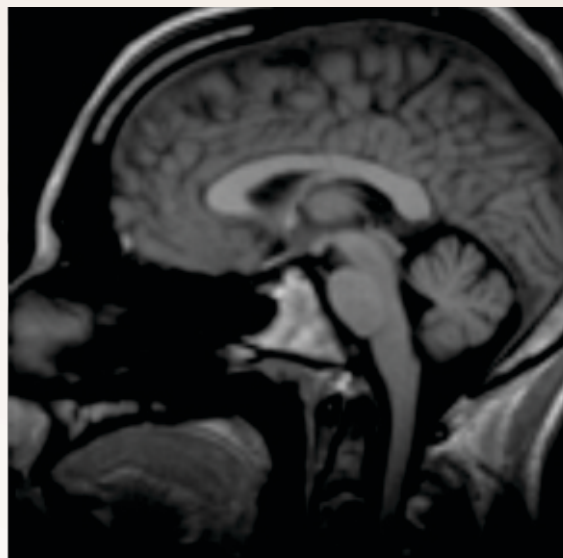
BACHELOR IN BIO-MEDICAL ENGINEERING TECHNOLOGY CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
HU-101	Islamic Studies	2+0	HU-102	Ideology & Constitution of Pakistan	2+0
ENG-101	Functional English	3+0	NS-102	Applied Physics	2+1
QR-101	Quantitative Reasoning-I	3+0	QR-102	Quantitative Reasoning-II	3+0
CS-101	Applications of ICT	2+1	BIT-121	Electrical Circuit Analysis	2+1
HU-107	Professional Practices	2+0	BIT-122	Human Anatomy & Physiology	3+1
NS-104	Essentials of Biology	2+1	BIC-121	Computer Programming	2+1
BIT-111	Workshop Practice	0+1			
	Total Credits	**17**		**Total Credits**	**18**

SEMESTER-3			SEMESTER-4		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
ENG-201	Expository Writing	3+0	MS-201	Entrepreneurship	2+0
SS-202	Economics	2+0	HU-201	Civics & Community Engagement	2+0
BIN-211	Biochemistry	2+1	BIT-221	Signals & Systems	2+1
BIN-212	Applied Mathematics	3+0	BIT-212	Digital Logic Design	2+1
BIT-112	Technical Drawing	0+1	BIT-224	Biomechanics	2+1
BIT-222	Electronic Devices & Circuits	2+1	BIT-225	Molecular Biology	2+1
	Total Credits	**15**		**Total Credits**	**16**

SEMESTER-5			SEMESTER-6		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
BIT-311	Biomaterials	2+1	BIT-321	Biomedical Imaging Devices	2+1
BIT-312	Biomedical Instrumentation	2+1	BIN-321	Probability & Statistics	2+0
BIT-314	Embedded Systems	2+1	BIT-322	Clinical Lab. Equipment	2+1
BIT-313	Biomedical Control Systems	2+1	BII-321	Electromechanical Systems	2+1
BIE-311	Technical Report Writing	2+0	BII-322	Industrial Biotechnology	2+1
BIT-315	Project-I	0+3	BIT-323	Project-II	0+3
	Total Credits	**17**		**Total Credits**	**17**

SEMESTER-7			SEMESTER-8		
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
SS-411	Project Management	3+0	BIT-421	Supervised Industrial Training	0+16
BIT-415	Troubleshooting of Medical Devices	0+1			
BIT-41X	Depth Elective-I	2+1			
BIT-41X	Depth Elective-II	2+1			
BIT-41X	Depth Elective-III	2+1			
BIT-41X	Depth Elective-IV	2+1			
	Total Credits	**16**		**Total Credits**	**16**

LIST OF DEPTH ELECTIVE COURSES					
Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
BIT-412	Medical Image Processing	2+1/3+0	BIT-419	Rehabilitation Techniques	2+1/3+0
BIT-413	Biotelemetry System	2+1/3+0	BIT-4110	Tissue Engineering Technology	2+1/3+0
BIT-414	Biomedical Signal Processing	2+1/3+0	BIT-4111	Drug Delivery Systems	2+1/3+0
BIT-415	Medical Device Quality System & Standards	3+0	BIT-4112	Artificial Intelligence	2+1/3+0
BIT-416	Medical Devices Regulatory Affairs	3+0	BIT-4113	Bioinformatics	2+1/3+0
BIT-417	Power Electronics	2+1/3+0	BIT-4114	Hospital Information System	2+1/3+0
BIT-418	Medical Robotics	2+1/3+0			

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FEDERAL DEGREE AWARDING INSTITUTE
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MULTAN-PAKISTAN

DEPARTMENT OF
Chemistry | 2025
Prospectus

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Head, Department of Chemistry

Introduction:

We are living in science of change where chemistry is an integral part of everything that teaches every material in existence is made up of matter. Chemistry is sometimes called "the central science", it acts as a bridge between different areas of natural sciences. This field covers chemical forms, the interaction of these chemicals with each other, define our existence on universe. By studying the basic properties of substances and the many transformations they undergo, the chemist finds solutions to scientific challenges and contributes to the development of new technologies.

In modern industrial societies, chemistry is one of the foundations of the economy. Like other sciences, the advancements in chemistry have proven a blessing to the world, and have brought with them challenges to overcome. The stimulating career options opened by chemistry are wide-ranging and cover different aspects of the field etc. education sector, environment, industry, forensic, and pharmaceutical industry.

Department:

The department of chemistry started regular functioning in 2020 that assist in understanding the chemistry among students. The department of chemistry offers suggestive ways to utilize the conceptual knowledge in all areas of chemical forms through course work and laboratory experiments besides student's research projects in final semesters. We have qualified faculty, diversified and established chemical laboratories and research facilities for our learners.

Honorable faculty of chemistry department

Vision:

The Department of Chemistry of NFC IET, Multan is determined to excel in chemistry education, research, and services.

Mission:
- To educate the students to investigate and solve the global environmental problems through the development of chemical education and research.
- To prepare competitive and professional undergraduates within an innovative, creative and, intellectually stimulating environment.
- To build proactive partnerships with industry and offer effective educational and technical services to the society.

Specialization:

Department of Chemistry offers BS degree in Chemistry with specialization in the following four sub-areas.
- Organic Chemistry
- Inorganic Chemistry
- Analytical Chemistry
- Biochemistry

The first three years of BS program will be same for all students where they will be entertained with knowledge of all the disciplines of Chemistry. However, from the seventh semester, students will take courses in specialized areas of chemistry in accordance with their choice. In eighth semester, students need to complete a research project related to his/her specialized areas of chemistry that helps to enhance the knowledge and to have a proper understanding of the subject.

Laboratories:

Laboratory experience is an essential part of the educational process and a key factor to prepare the students for real chemist's practical life. Hence, Department of Chemistry have laboratories, which are under establishing phase having necessary instruments and tools in the different chemistry areas

like organic, inorganic, analytical, environmental and biochemistry that provides hands-on practice for students. These labs have secure environment for experimentation and research having a privilege enjoyed by our students. These laboratories provide a platform to the students to understand the basic necessities and practical concepts of chemistry, that helps the students in designing and purification techniques which addresses the needs of industries and improves research capabilities.

The following is the list of laboratories of Department of chemistry.
1. Inorganic and Organic chemistry Lab
2. Analytical and Physical chemistry Lab
3. Biochemistry Lab
4. Environmental Lab

Department's key achievements:
Societies of Chemistry Department:
1. **Chemistry Department Literary and Chemical Society (CDLCS):**

Established in September 2021, this society offers students opportunities to participate in writing contests, article writing, and poetry competitions. It aims to inspire aspiring writers, cultivate creativity, and promote positivity. The society seeks to enlighten readers and writers alike through the power of words.

2. **Chemistry Department Media Society (CDMS):**

Founded in September 2021, the Media Society nurtures students' talents in media production and communication. It equips students with knowledge of media tools and distribution channels, enhancing their appreciation of campus life and technological advancements.

BS CHEMISTRY CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
ENG-101	Functional English	3+0	CHEM-101	Biochemistry-I	3+1
HU-108	History of Culture & Civilization	2+0	HU-102	Ideology & Constitution of Pakistan	2+0
QR-101	Quantitative Reasoning-I	3+0	QR-102	Quantitative Reasoning-II	3+0
CHEM-101	Applied Chemistry	2+0	NS-106	Functional Biology	2+1
CHEM-102	Inorganic Chemistry-I	3+1	CS-101	ICT	2+1
HU-101	Islamic Studies	2+0	HQ-002	Understanding of Quran	0+0
HQ-001	Understanding of Quran	0+0			
	Total Credits	**16**		**Total Credits**	**15**

SEMESTER-3			SEMESTER-4		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
CHEM-271	Analytical Chemistry-I	3+1	HU-201	Civic and Community Engagement	2+0
ENG-201	Expository Writing	3+0	CHEM-211	Analytical Chemistry-II	3+1
CHEM-221	Inorganic Chemistry-II	3+1	CHEM-231	Biochemistry-II	3+1
CHEM-261	Organic Chemistry-I	3+1	CHEM-251	Organic Chemistry-II	3+1
SS-204	Psychology	2+0	MS-201	Entrepreneurship	2+0
HQ-003	Understanding of Quran	0+0	HQ-004	Understanding of Quran	0+0
	Total Credits	**17**		**Total Credits**	**16**

SEMESTER-5			SEMESTER-6		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
CHEM-301	Biochemistry-III	2+1	CHEM-351	Industrial Chemistry	3+0
CHEM-302	Organic Chemistry-III	2+1	CHEM-352	Physical Chemistry	2+1
CHEM-303	Analytical Chemistry-III	2+1	CHEM-353	Inorganic Chemistry-III	2+1
Ch-300	Applied Thermodynamics	2+1	Arch-301	Visual Communication	0+3
PHYS-301	Modern Physics	3+0	EN-341	Environmental Management Science	3+0
CHEM-304	Polymer Chemistry	3+0	CHEM-354	Polymer Analysis & Characterization	2+1
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
	Total Credits	**18**		**Total Credits**	**18**

Specialization: Inorganic Chemistry

SEMESTER-7			SEMESTER-8		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
CHEM-401	Paper-I (Inorganic Reaction Mechanism)	3+0	CHEM-451	Paper-IV (Organometallics)	3+0
CHEM-402	Paper-II (B-Acceptor Ligands & Inorganic Polymers)	3+0	CHEM-452	Paper-V (Symmetry & Magneto-Chemistry)	3+0
CHEM-403	Paper-III (Inorganic Spectroscopy)	3+0	CHEM-453	Paper-VI (Radio and Nuclear Chemistry)	3+0
CHEM-404	Lab.-I (Inorganic Chemistry)	0+1	CHEM-454	Lab.-II (Inorganic Chemistry)	0+1
CHEM-405	Polymer Structure & Synthesis	3+0	CHEM-455	Advanced Polymer Chemistry	3+0
	Internship	3+0	CHEM-456	Capstone Project	3+0
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
	Total Credits	**16**		**Total Credits**	**16**

Specialization: Organic Chemistry

Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
SEMESTER-7			**SEMESTER-8**		
CHEm-411	Paper-I (Heterocyclic & Organometallic Compounds)	3+0	CHEM-461	Paper-IV (Natural Product)	3+0
CHEM-412	Paper-II (Reactive Intermediates)	3+0	CHEM-462	Paper-V (Organic Synthesis)	3+0
CHEM-413	Paper-III (Organic Spectroscopy)	3+0	CHEM-463	Paper-VI (Medicinal Chemistry)	3+0
CHEM-414	Lab.-I (Organic Chemistry)	0+1	CHEM-464	Lab.-II (Organic Chemistry)	0+1
CHEM-405	Polymer Structure & Synthesis	3+0	CHEM-455	Advanced Polymer Chemistry	3+0
	Internship	3+0	CHEM-456	Capstone Project	3+0
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
	Total Credits	**16**		**Total Credits**	**16**

Specialization: Bio-Chemistry

Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
SEMESTER-7			**SEMESTER-8**		
CHEM-421	Paper-I (Biomedical Chemistry)	3+0	CHEM-471	Paper-IV (Microbiology and Immunology)	3+0
CHEM-422	Paper-II (Molecular Biology)	3+0	CHEM-472	Paper-V (Bio-Nanotechnology)	3+0
CHEM-423	Paper-III (Physical Techniques in Biochemistry)	3+0	CHEM-473	Paper-VI (Nutritional Chemistry)	3+0
CHEM-424	Lab.-I (Biochemistry)	0+1	CHEM-474	Lab.-II (Biochemistry)	0+1
CHEM-405	Polymer Structure & Synthesis	3+0	CHEM-455	Advanced Polymer Chemistry	3+0
	Internship	3+0	CHEM-456	Capstone Project	3+0
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
	Total Credits	**16**		**Total Credits**	**16**

Specialization: Analytical Chemistry

Code	Course Title	Credit Hrs.	Code	Course Title	Credit Hrs.
SEMESTER-7			**SEMESTER-8**		
CHEM-431	Paper-I (Atomic Spectroscopy)	3+0	CHEM-481	Paper-IV (Luminescence Spectroscopy & Thermal Analysis)	3+0
CHEM-432	Paper-II (Electrochemical Techniques)	3+0	CHEM-482	Paper-V (Nuclear Analytical Techniques)	3+0
CHEM-433	Paper-III (Thermo-Chemical Techniques)	3+0	CHEM-483	Paper-VI (Food and Drug Analysis)	3+0
CHEM-434	Lab.-I (Analytical Chemistry)	0+1	CHEM-484	Lab.-II (Analytical Chemistry)	0+1
CHEM-405	Polymer Structure & Synthesis	3+0	CHEM-455	Advanced Polymer Chemistry	3+0
	Internship	3+0	CHEM-456	Capstone Project	3+0
HQ-007	Understanding of Quran	0+0	HQ-008	Understanding of Quran	0+0
	Total Credits	**16**		**Total Credits**	**16**

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DEPARTMENT OF
Physics

2025
Prospectus

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Introduction:

The department of Physics was established in June 2020. The department presently offer undergraduate degree programs in the subject of pure physics. But in near future, we will plan to start the M.Phil. (Physics) program with several inter-disciplinary areas. During this short span of time, special focus is placed on preparing students equipped with basic concepts and hands on laboratory training at undergraduate and graduate level. Students are specially exposed to practical training in the scientific organizations and industry through a meaningful internship program. They are fully trained to join the job market as a valuable asset soon after completion of their degree and take up further study without any difficulty.

Specializations:

- **Traditional Physics:** This specialization is developed with a focus on fundamental physics combining physics to unlock the physical world around us. It is recommended for students considering an advanced degree, such as BS/MS in physics or other STEM-related areas. Courses include Mechanics, Modern Physics, Classical Mechanics, Mathematical Physics, Quantum Mechanics, Optics, and Statistical & Thermodynamics.

- **Materials & Nanophysics:** Materials science and nanophysics lead to well-paying careers in the high-technical industry and energy fields. Our faculty study semiconductors, magnets, superconductors, nano sensors, magnetic/ photonic devices, and biomaterials which mean you have expert advice readily available when you launch your own career focused research. Courses include Quantum Mechanics, Electricity and Magnetism, Materials Science and Nanophysics, Modern physics, Optics and Lasers.

- **Computational Physics:** Physicists with a solid knowledge of computing are in high demand for various jobs, such as quantitative analyst and data scientist. The curriculum develops critical thinking, problem solving, and programming skills through physics and computer science classes. You might create a flight simulator program, or make computational models to study the ocean floor or stock market.

- **Biomedical Physics:** Medical physicists are scientists who work in healthcare to develop new medical technologies and radiation-based treatments. They might help to beat cancer, or develop a better MRI and other medical devices. They may deal directly with patients, test and maintain equipment. Students learn the physics behind the techniques and devices used in the life and medical sciences. The curriculum for this specialization includes courses in physics and Physical chemistry.

Program Mission:

- To develop a solid understanding of the fundamental principles of physics in students,

including: a firm conceptual grasp of the central principles of physics, an ability to work with the concepts of experimental physics and functional understanding of these ideas play out in the real world.

- To create a flexible and creative problem-solving ability in students.

- To develop an integrated understanding of the unity of physics.
- To create a functional understanding of symbolic and numerical computation.
- To offer rigorous and comprehensive courses that allow them to perform at a high-level fostering curiosity and excitement about the physical world.
- To provide an exciting learning opportunity for non-physics and non-science majors that provides basic understanding of physics and problem-solving skills.
- To develop expertise in experimental methodologies in students.
- To maintain a research environment, in which key scientific and technical innovation are generated.
- To maintain healthy level of external research funds allowing us to provide financial support for undergraduate research and prepare them to academic, research, and industrial carriers.
- To build faculty that bring exciting and current research perspectives to the classroom.
- To prepare undergraduate students for graduate studies and for the technical careers as well.

Aims and Objectives:

The main educational objectives of BS (4-year) degree program are:

- To impart students with a conceptual understanding of the fundamental principles of physics, natural laws and their interpretation, as well as mathematical formulation of the physical phenomena in nature.
- To develop critical skills necessary for solving unknown problems from our physical surroundings.
- To develop the capability of analyzing, addressing and posing solutions to problems of natural importance and to instill a deep appreciation of the need for optimum utilization of natural resources and environment.

- To instill in students the habit of independent thinking, deep inquiry, and motivation for self-education.
- To sharpen our students' mathematical prowess making them capable of modeling, analyzing and predicting the behavior of physical processes.
- To enhance our students' skills in scientific communication and the ability to clearly present physics and science in simple and clear language.
- To introduce students the spirit of working in interactive groups with the necessary requirements of scientific and professional ethics.
- To develop hands-on experience in different laboratory techniques and modern instrumentation.
- To enhance students' competence in design, conduct of experiments, analysis and presentation of experimental data and results.
- To provide an in-depth understanding of some specialized area of physics through the option of elective courses.
- To equip students with the necessary skills set for pursuing careers in physics education, research and industry in government.

Content areas

At the simplest level, we have a list of all the topics that are covered somewhere in the major curriculum. Broadly speaking, the central topics match the required courses: classical dynamics, thermal physics, quantum physics, electricity & magnetism, and experimental methods. A more highly-specified list of essential topics for each course is provided in the appendix. We can then state our learning goals in a straightforward manner. Physics majors will have a good understanding of the topics included in this list.

Experimental methodologies:

In addition to an understanding of presently known results, our students should also know the methods by which new knowledge is acquired and evaluated. Thus, along with a deeper understanding of physical principles, the laboratory component of our curriculum should also impart methodological knowledge and skills. For example, an understanding of how to use basic scientific equipment (multimeters, oscilloscopes, power supplies etc.) and an understanding of experimental uncertainty analysis are the learning goals of our curriculum.

About Physics labs:

The Physics labs at NFC-IET are well designed and establish to supplement degree course. The experiments in the Physics lab are providing to student's practical perspective to the theories and models that they study in the class. An integral part of the course is to develop critical thinking skills in students as they learn about trouble shooting problems in experiments. The lab experience will allow the students to further develop the ability to determine themselves what techniques and procedures students have to follow, what questions to ask, what the acquired data means, how reliable it is and what to do when things do not work as expected. They are continuously exploiting the data to derive interesting information from the experiments and increase scope and capacity. We often allow students to perform their own independent study on experiments if they have interesting ideas. As a result of these exercises, the Physics lab does not become stagnant but rather improves its standard and rigor after every semester.

For this purpose, NFC-IET establish following labs:

- Mechanics lab
- Electricity & Magnetism lab
- Thermodynamics lab
- Optics lab
- Modern physics lab
- Electronics lab
- Electromagnetic lab

Admission Criteria

F. Sc (pre-engineering & pre medical, general Group with Physics), ICS, DAE or equivalent with minimum 45% marks from an accredited institution.

Career Opportunities:

After completing the degree, the graduates will avail the opportunity to work with the following:

- R&D Organization
- Multinational Industries
- Atomic energy Commission
- Khota Research Labs
- SUPARCO
- Aviation
- All engineering related areas
- Aerospace
- Teaching & Research

BS PHYSICS CURRICULUM
SEMESTER SYSTEM

SEMESTER-1			SEMESTER-2		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
ENG-108	Functional English	3+0	NS-103	Geo Informatics	2+1
HU-108	History of Culture and Civilization	2+0	HU-102	Ideology and Constitution of Pakistan	2+0
QR-101	Quantitative Reasoning-I	3+0	QR-102	Quantitative Reasoning-II	3+0
CS-101	Applications of Information & Comm. Tech.	2+1	PHYS-102	Electricity & Magnetism	4+0
PHYS-101	Mechanics	4+0	CS-102	Computer Programming	2+1
PHYS-103	Physics Lab.-I	0+1	PHYS-104	Heat & Thermodynamics	3+0
HU-101	Islamic Studies/Ethics	2+0	PHYS-106	Physics Lab.-II	0+1
HQ-001	Understanding of Quran	0+0	HQ-002	Understanding of Quran	0+0
	Total Credits	**18**		**Total Credits**	**19**

SEMESTER-3			SEMESTER-4		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
ENG-201	Expository Writing	3+0	MS-201	Entrepreneurship	2+0
PHYS-203	Waves & Oscillations	3+0	PHYS-251	Mathematical Methods of Physics-I	3+0
PHYS-204	Modern Physics	3+0	MATH-224	Differential Equation	3+0
SS-204	Psychology	2+0	PHYS-205	Optics	3+0
MATH-223	Introduction to Linear Algebra	3+0	HM-201	Civics and Community Engagement	2+0
PHYS-202	Physics Lab.-III	0+1	PHYS-207	Physics Lab.-IV	0+1
HQ-003	Understanding of Quran	0+0	PHYS-211	Classical Mechanics	3+0
			HQ-004	Understanding of Quran	0+0
	Total Credits	**15**		**Total Credits**	**17**

SEMESTER-5			SEMESTER-6		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
PHYS-352	Mathematical Methods of Physics-II	3+0	OB-300	Organizational Behavior	3+0
PHYS-321	Electromagnetic Theory-I	3+0	PHYS-322	Electromagnetic Theory-II	3+0
PHYS-352	Introduction to Relativity	3+0	PHYS-392	Electronics-II	3+0
PHYS-391	Electronics-I	3+0	PHYS-361	Statistical Physics	3+0
PHYS-301	Thermodynamics	3+0	PHYS-331	Quantum Mechanics-I	3+0
PHYS-306	Physics Lab.-V	0+1	PHYS-307	Physics Lab.-VI	0+1
HQ-005	Understanding of Quran	0+0	HQ-006	Understanding of Quran	0+0
	Total Credits	**16**		**Total Credits**	**16**

| SEMESTER-7			SEMESTER-8		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
PHYS-471	Methods of Experimental Physics	3+0	PHYS-476	Nanomaterial and Application	3+0
PHYS-441	Solid State Physics-I	3+0	PHYS-477	Computational Physics	3+0
PHYS-433	Atomic and Molecular Physics	3+0	PHYS-442	Solid State Physics-II	3+0
PHYS-474	Introduction to Nanoscience & Nanotechnology	3+0	PHYS-493	Nuclear Physics	3+0
PHYS-406	Physics Lab.-VII	0+1	PHYS-500	Research Project	0+3
PHYS-400	Field Experience/Internship	0+3	HQ-008	Understanding of Quran	0+0
HQ-007	Understanding of Quran	0+0			
	Total Credits	**16**		**Total Credits**	**15**

DEPARTMENT OF
Food Science and Technology

2025
Prospectus

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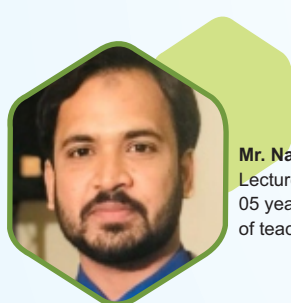13 years' experience in Chemical Industry, research & academia
msazeem@nfciet.edu.pk
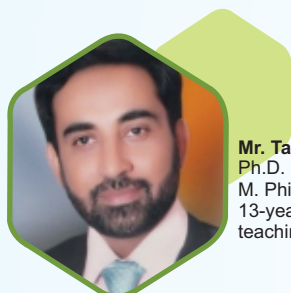
Mr. Tahir Mehmood
Ph.D. (In progress)
M. Phil (Islamic Studies)
13-years experience of teaching

Dr. Adila Naseem
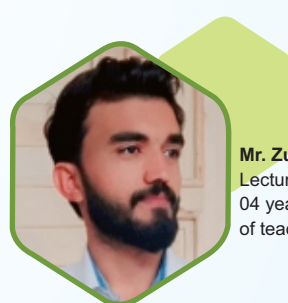Assistant Professor
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Lecturer
04 years' experience of teaching

Mr. Nasir Saleem
Lecturer
05 years' experience of teaching

Ms. Saeeda Batool
Lecturer
06 years' experience of teaching

Mr. Zulkarnain Khan
Lecturer
04 years' experience of teaching

Ms. Irza Saif
Lecturer
01 year experience of teaching

Introduction:

Food science and technology is not merely a scientific discipline; it's a powerful driver of change within the food industry. It harnesses the power of chemistry, biology, engineering, and other scientific fields to guide the selection, preservation, processing, and packaging of food products. At its core, this field strives to ensure the safety and quality of the food we consume.

Our mission at the Institute is to educate the next generation of highly qualified food science and technology professionals. These graduates will be equipped to navigate and contribute to the rapid evolution of the Pakistani food industry, ultimately driving industrial and economic progress. We believe in fostering integrity, excellence through teamwork, discipline, and commitment to work – values that underpin our academic journey.

Recognizing the immense potential of Pakistan's food industry, we continuously invest in teaching and research initiatives. By staying attuned to the dynamic needs of the sector, we meticulously curate courses that provide students with a solid foundation in essential food technology areas.

Our distinguished faculty combines extensive teaching, training, research, and industry experience.

Coupled with our state-of-the-art scientific equipment and functional laboratories, this ensures students receive a hands-on learning experience that prepares them for successful careers in the food science and technology sector.

Mission of the Program:

We are endeavoring to produce outstanding professionals equipped with quality knowledge, skills and attitudes that prepare them to become leaders and innovators in the field of Food Science and Technology.

Program Education Objectives (PEOs)

- Apply Food Science and Technology knowledge to identify and address technical and societal problems related to the food system.
- Demonstrate entrepreneurship skills and take the initiative to develop innovative ideas for professional growth keeping in view their environmental impacts.
- Learn continuously and work effectively as a team lead in a multidisciplinary environment while demonstrating interpersonal and managerial skills with ethical responsibilities.
-

Nurturing Passionate Professionals: We offer a stimulating and engaging learning environment where students can explore diverse career paths in food science, technology, processing, and agro-business. Whether you're drawn to research, product development, or entrepreneurship, we'll help you shape your future in food.

- **Building In-Demand Skills:** Our curriculum is designed to provide you with the knowledge and practical skills that are highly sought-after by the food industry and labor market. We offer flexible learning opportunities to ensure you acquire the expertise you need to succeed.

- **Fast-Track to Employment:** We understand the importance of a seamless transition into the workforce. Our program provides young people and career changers with the skills and resources needed to secure rewarding jobs quickly.

- **Global Outlook with Local Impact:** We combine the best of international knowledge and practices with a deep understanding of the local context. This ensures our graduates are equipped to address skill gaps within the Pakistani economy and contribute to its growth.

By choosing our program, you are not only investing in your future but also in the future of our food systems. Join us and make a lasting difference

Laboratories

The department has recently equipped the following state of the art labs with modern equipment

- ➢ Food Analysis Lab
- ➢ Human Physiology and Anatomy Lab
- ➢ Assessment of Nutritional Status
- ➢ Computer Lab
- ➢ Bio Chemistry Lab
- ➢ Food Processing and Preservation Lab
- ➢ Food Microbiology Lab
- ➢ Fluid Mechanics Lab
- ➢ Instrumental Techniques in Food Analysis Lab

Facilities:

Food Science and Technology department is a purpose-built building that offers ample space for laboratories, training rooms, spacious classrooms, meeting and discussions rooms, video conference rooms, and faculty offices.

Facilities in the labs are for better learning and to prepare them to fulfill future job requirements. The following facilities are available in our lab:

➢ Air-conditioned classrooms
➢ Access of Free Wifi
➢ Highly Equipped computers for specialized applications
➢ Research clusters

Jobs & Career:

➢ Government Food Departments (Food Inspector)
➢ Punjab Food Authority
➢ Health and Safety Inspector
➢ Entrepreneurs
➢ Food technologist: Production/Operation/ QA/QC
➢ M/S Nestle
➢ Beverage Industry
➢ Baking Industry
➢ Continental Hotels
➢ R&D : New Product & Process Development
➢ Marketing & Sales, Business Development & Marketing Analysis
➢ Procurement & Supply chain management

CURRICULUM FOR SEMESTER SYSTEM
BS FOOD SCIENCE AND TECHNOLOGY
MINOR: HUMAN NUTRITION & DIETETICS

SEMESTER-1			SEMESTER-2		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
FST-101	Essentials of Food Sciences	2+1	HU-101	Islamic Studies	2+0
NS-101	Basic Biology	3+0	FST-103	Stoichiometric Calculations	3+0
HU-102	Ideology and Constitution of Pakistan	2+0	QR-102	Quantitative Reasoning-II	3+0
CS-101	Applications of Information & Communication Tech.	2+1	FST-104	Fundamentals of the Food System	3+0
FST-102	Physical Properties of Food	3+0	ENG-101	Functional English	3+0
QR-101	Quantitative Reasoning-I	3+0	HU-108	History of Culture and Civilization	2+0
HQ-101	Understanding of Holy Quran-I	1(0+1)			
	Total Credits	**18**		**Total Credits**	**16**

SEMESTER-3			SEMESTER-4		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
MS-201	Entrepreneurship	2+0	FST-205	Instrumental Techniques in Food Analysis	2+1
FST-201	Unit Operation in Food Processing	2+1	ID-201	Food Process Engineering	2+1
FST-202	Food Additives	2+0	FST-206	Fluid Mechanics	2+1
FST-203	Basic Agriculture	2+1	FST-207	Food Chemistry	2+1
FST-204	Physiology & Biochemistry of Nutrients	3+0	ENG-201	Expository Writing	3+0
SS-201	Sociology	2+0	HU-201	Civics and Community Engagement	2+0
HU-114	Pakistan Studies	2+0			
	Total Credits	**17**		**Total Credits**	**17**

SEMESTER-5			SEMESTER-6		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
FST-301	Cereal & Baking Technology	2+1	FST-306	Occupational Safety, Health & Environment	2+0
FST-302	Sugar, Confectionary & Beverage Technology	2+1	FST-308	Research Project and Scientific Writing	1+1
FST-303	Fruit and Vegetable Processing	2+1	FST-309	Principles of Human Nutrition	3+0
FST-304	Food Microbiology	2+1	FST-	Elective-I	3/2+1
FST-305	Food Laws and Regulations	3+0	ID-302	Public Health Nutrition	3+0
ID-301	Nutritional Education and Awareness	3+0	ID-303	Dietetics	3+0
	Total Credits	**18**		**Total Credits**	**16**

SEMESTER-7			SEMESTER-8		
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
FST-401	Meat & Diary Technology	2+1	FST-403	Food Plant Layout	3+0
FST-402	Field Experience/Internship	0+3	FST-404	Food Safety & Toxicology	3+0
FST-	Elective-II	3+0	FST-405	Capstone Project	0+3
HND-401	Meal Planning and Management	2+0	FST-	Elective-III	3/2+1
HND-402	Human Anatomy	2+1	HND-404	Human Physiology	2+1
HND-403	Assessment of Nutritional Status	2+1	HND-405	Nutrition Through Life Cycle	2+0
	Total Credits	**17**		**Total Credits**	**17**

ELECTIVE COURSES					
Code	**Course Title**	**Credit Hrs.**	**Code**	**Course Title**	**Credit Hrs.**
Elective-I			**Elective-II**		
FST-310	Food Quality Management	3+0	FST-410	Food Packaging	3+0
FST-311	Food Biotechnology	3+0	FST-411	Food Product Development	3+0
FST-312	Sea Food Processing	2+1	FST-412	Food Supply Chain Management	3+0
Elective-III					
FST-413	Sensory Evaluation of Foods	2+1			
FST-414	Poultry and Egg Processing	3+0			
FST-415	Process Control in Food Industry	3+0			

NFC INSTITUTE OF ENGINEERING & TECHNOLOGY
FEDERAL DEGREE AWARDING INSTITUTE

NFC IET
MULTAN-PAKISTAN

Vice Chancellor Secretariat

Prospectus
2025

Allied Offices

- Registrar Office
- Treasurer Office
- Controller of Examinations Office
- Quality Enhancement Cell
- ORIC
- Admission Office
- Students' Affairs
- Document & IT Department
- Sports Department
- Commercial Department

www.nfciet.edu.pk

REGISTRAR OFFICE

Engr. Nadeem Hassan
Registrar

Mr. Nazir Ahmad Chishti
Legal Consultant

Syed Nadeem Ahmed
Executive Admin

Khurhseed Khan Babar
Assistant Admin.

Mr. Muhammad Nadeem Sial
Assistant Admin.

Mr. Muhammad Azhar
PA to Registrar

Services

The Office of the Registrar Supports Teaching and Learning at NFC-IET by Maintaining the integrity of academic & research policies and serves as central administrative office of students, faculty and alumni. We provide data to internal and external constituencies, enabling these offices to make informed enrollment management and policy decisions. This office ensures adherence to academic policy, preserving academic integrity and safeguarding academic records. The office of the Registrar Provides exceptional service by valuing student and staff engagement, adapting to the needs of the campus community, and aligning our goals with "uplifting to the whole people."

Our mission philosophy is built upon providing quality education in a respectful manner. We believe in diversity of people, thought and opinion as we build community and explore, create and shape the future with innovative educational support strategies.

The Registrar's Office is located on the first floor of the Vice Chancellor Secretariat.

Responsibilities:

The Major responsibilities of the Registrar:

- To conduct of meetings of statutory bodies of the institute, viz: The senate, Syndicate, Academic Council, Affiliation Committee and selection Board.
- Monitoring and control of quality management system of the department for the betterment of the Institute.
- Management of all academic activities of the institute including admissions, enrolment and maintenance of student records.
- Monitoring and control of the security and general administrative matter to keep the environment smooth for the students, faculty members and other staff.
- Human resource management of Institute employees and related matters.
- Correspondence with external agencies.
- Formation of Senate and Syndicate.
- Maintenance of Graduate register and holding their elections.

TREASURER OFFICE

M. Maghfoor Anwer Chughtai
MBA-Finance
Treasurer

Services

The Finance Department works under the supervision of "Treasurer". This office is responsible for all Financial matters i.e receipt of fee & dues, payments, internal & external audit & preparation of financial Statements & Final Accounts.

Contact Information

M. Maghfoor Anwer Chughtai Treasurer	061-9220012-16 Ext: 5555 061-6302799 (Direct)
Faisal Amin Internal Auditor	061-9220012-16 Ext: 2276
Ahsan Javed Accounts Assistant	061-9220012-16 Ext: 2204
Ms. Ishrat Maqsood Accounts Assistant	061-9220012-16 Ext: 2303
Hafiz M. Wasif Hassan Accounts Clerk	061-9220012-16 Ext: 2204
Muhammad Tahir Fee Clerk (Fee Section)	061-9220012-16 Ext: 2203

Mr. Faisal Amin
Internal Auditor

Ahsan Javed
Accounts Assistant

Ishrat Maqsood
Accounts Assistant

Hafiz Wasif Hassan
Accounts Assistant

M. Waseem Akram Shah
Accounts Assistant

Umair Hassan
Accounts Clerk

Muhammad Tahir
Fee Clerk

Qalab Ali
Fee Clerk

Muhammad Nadeem
Fee Clerk

Aamir Iqbal
Fee Clerk

Dues & Fee Structure*

Detail of Fees & Dues (for all categories)

(a) Fees & Dues to be deposited with Application Form:

Fee Type	All Engg. Programs & Architecture Design	BS Computer Science, Software Engg. & BS Artificial Intelligence	BBA, Bio-Medical Engg. Technology	BS Food Science & Technology, and BS Fashion Design	BS Chemistry, Physics, & Environmental Science
Admission Fee *	Rs. 30,000	Rs. 30,000	Rs. 15,000	Rs. 15,000	Rs. 15,000
Application Processing Fee*	Rs. 2,000	Rs. 2,000	Rs. 2,000	Rs. 2,000	Rs. 2,000
Sub-Total-I	Rs. 32,000	Rs. 32,000	Rs. 17,000	Rs. 17,000	Rs. 17,000

(b) After confirmation of Admission (after display of Merit List):

Fee Type	All Engg. Programs & Architecture Design	BS Computer Science, Software Engg. & BS Artificial Intelligence	BBA, Bio-Medical Engg. Technology	BS Food Science & Technology, BS Fashion Design	BS Chemistry, Physics, & Environmental Science
Tuition Fee (for Three Months)	Rs. 42,000	Rs. 33,000	Rs. 24,000	Rs. 21,000	Rs. 15,000
Caution Money (Refundable)	Rs. 6,000	Rs. 6,000	Rs. 6,000	Rs. 6,000	Rs. 6,000
Registration Fees	Rs. 2,000	Rs. 2,000	Rs. 2,000	Rs. 2,000	Rs. 2,000
Alumni Contribution	Rs. 1,000	Rs. 1,000	Rs. 1,000	Rs. 1,000	Rs. 1,000
Student Functions	Rs. 6,000	Rs. 6,000	Rs. 6,000	Rs. 6,000	Rs. 6,000
IET Welfare Trust Contribution	Rs. 2,000	Rs. 2,000	Rs. 2,000	Rs. 2,000	Rs. 2,000
Annual Dues	Rs. 22,000	Rs. 22,000	Rs. 22,000	Rs. 22,000	Rs. 22,000
Sub-Total-II	Rs. 81,000	Rs. 72,000	Rs. 63,000	Rs. 60,000	Rs. 54,000
Grand Total (at the time of Admission)	Rs. 113,000	Rs. 104,000	Rs. 80,000	Rs. 77,000	Rs. 71,000

* Civil Engineering (after confirmation of Admission) Rs.91,000/- and Total Rs.123,000/-

Annual Dues:

For all programs except Civil Engineering Rs.22,000/-
For Civil Engineering Rs.32,000/-.(22,000/- Annual Fund + 10,000/- Survey Camp)

Tuition Fee:

- For all Engineering & B. Architecture is Rs.14,000/- per month.
- For BS(CS), BS (AI) and Software Engineering is Rs.11,000/- per month.
- For BBA & Bio-Medical Technology Program is Rs.8,000/- per month.
- For BS Fashion Design, and Food Science & Tech.is Rs.7,000/- per month
- For BS Physics, Chemistry, and Environment Science is Rs.5,000/- per month

Increase in Fee:

* The dues are subject to review from time to time. Tuition Fee will be increased @5% of its existing rate every year for all students.

Examination Fee:

Paper Money per semester per student Rs.4,000/-

Hostel Charges:

Hostel Fee for one year allotment will be 35,000/- per student per year.
Electricity charges for Home Appliances are given below:

(a)	Room-Coolers	(1 May - 30 Sep)	Rs. 3,000/month/room
(b)	Refrigerator	(1 Jan - 30 Dec)	Rs. 2,000/month/room
(c)	Dispenser	(1 Jan - 30 Dec)	Rs. 300/month/room
(d)	Microwave Oven	(Jan 01 to Dec 31)	Rs. 500/month/room

Note:
I) Mess security and mess dues are in addition to above charges.
ii) Maximum stay of a student in the hostel shall be as per the degree period from the date of his/her admission in IET.

Appearance in Examination:

No student shall be allowed to appear in the Mid Term and End-Term Examinations without formal clearance of the Accounts Department (Fee Section).

**Subject to production of original receipt.

Category "K & S" Candidates

An additional amount in Lump sum as overseas/self-supporting fees:

- Civil, Mechanical Engineering   Rs. 500,000/-
- BS (Computer Science), BS(AI), BS Software Engg.   Rs. 240,000/-
- Electrical, Chemical, Petroleum Engineering, BBA, B. Architecture and Bio-Medical Tech.   Rs. 100,000/-
- All other programs   Rs. 50,000/-

Note: (i) This Fee will be paid in 4 installments, 25% at the time of Admission, 25% each at 2nd, 3rd and 4th quarters respectively.
(ii) Students admitted in "K & S" category will also pay taxes as per Govt./FBR policies.

Dues payable alongwith Application Form*

All categories except "K & S":

- All Engg., Arch, BS(CS), BS(SE) and BS(AI) programs   Rs. 32,000
- All other Programs   Rs. 17,000

With "K & S" Categories

"K & S" Category for Civil and Mechanical Engineering	Rs.	157,000
"K & S" Category for Electrical, Chemical & Petroleum Engineering and B.Architecture	Rs.	57,000
"K & S" Category for BS (CS), BS(AI) and BS Software Engg.	Rs.	92,000
"K & S" Category for Bio-Medical Technology, BBA	Rs.	42,000
"K & S" Category all other programs	Rs.	29,500
Candidates applying all programs (all categories) (Subject to revision any time without notice)	Rs.	157,000

Schedule of Fee Payment

Quarter	Last Date
1st quarter	At the time of admission
2nd quarter	before December 10, 2025
3rd quarter	before March 10, 2026
4th quarter	before June 10, 2026

* **Note:** (i) Dues are to be paid between the 1st and the 10th of each quarter. A late fee will be charged for payments made after the due date, as follows:
- 1st to 10th day after due date   Rs.50/- per day
- 11th day to till end of 1st month, after due date   Rs.500/-
- 2nd month, after due date   Rs.750/-
- 3rd month, after due date   Rs.1,000/-

CONTROLLER OF EXAMINATIONS OFFICE

Engr. Rasool Ahmad
M.Sc. (Chem. Engg.)
Controller of Examinations

Engr. Sadaqat Ali
MSc (Electrical Engg)
Deputy Controller of Examinations

Services

The Examinations Office works under the supervision of Controller of Examinations. This office is responsible for preparing date sheets, holding semester examinations, maintenance & compilation of results, issuance of degrees, transcripts, result cards, and the general academic setup.

Contact Information

- Controller of Examinations:

  Tel: 061-9220012-16 Ext: 2249
  Direct: 061-6302788

- Deputy Controller of Examinations
  Tel: 061-9220012-16 Ext: 2349

- Office
  Tel: 061-9220012-16 Ext: 2244 & 2375

Syed Zeeshan Saleem
Sr. Assistant Examination

Tahawar Hussain
Assistant Examination

Amjad Ali
Data Entry Operator

Muhammad Zafar
Computer Operator

Syed Umair Kaleem Ahmad
PA to Controller

STUDENTS CONDUCT & DISCIPLINE

Rules Relating to Discipline
No student shall;
(i)   utter, do, or propagate anything repugnant to Islam within and outside the precincts of the Institute,
(ii)   say or do anything which might adversely affect the honour and prestige of Pakistan or Institute and Teachers,
(iii)   smoke in the Classroom, Laboratory, Workshop, Library and Examination Hall.
(iv)   form, or associate with an organization/ Society/Club, or any other body, promoting cast distinctions and inciting parochial/linguistic/ regional feeling,
(v)   organise, or hold any function within the precincts of the Institute except with prior approval of the Competent Authority,
(vi)   collect money or receive donations or pecuniary assistance for or on behalf of the Institute except with the written permission of the Competent Authority,
(vii)   stage, incite, or participate, in a walkout, strike or any other form of agitation which might create or is likely to create law and order problem for the Institute and affect or is likely to affect its smooth functioning,
(viii)   indulge in immoral activities, use indecent language, wear immodest dress, make indecent remarks, jokes or gestures or behave in an improper manner,
(ix)   cause disturbance to others,
(x)   keep or carry weapons, narcotics, immoral or subversive literature,
(xi)   disturb peace and tranquility of the Institute,
(xii)   use insalutary or abusive language or resort to violence against a fellow student or employee of the Institute,
(xiii)   attend the class work/practical without wearing prescribed dress / Protective during the course of his studies at the Institute.
(xiv)   indulge himself/herself in copying during the Examination/Tests and unlawful help to any other person during the Examinations/Tests.

Disciplinary Action
Disciplinary action by the Vice Chancellor of the Institute/ Disciplinary Committee against the students may be taken in one or more of the following forms depending upon the severity of the offence;
(i)   A written warning may be issued to the students concerned and a copy of the same may be displayed on the Notice Board.
(ii)   The matter may be reported to the Parents/ Guardians and they may be called, if necessary.
(iii)   A student may be fined. The fine imposed shall have to be deposited with the Treasurer under intimation to the Vice Chancellor/Chairman Disciplinary Committee (constituted by the Vice Chancellor) as the case may be.
(iv)   A student may be placed on probation for a fixed period not exceeding 6 months. If during the period of probation he/she fails to improve his/her conduct,

he/she may be rusticated or expelled.

Rustication and Expulsion
Rustication, whenever, imposed on a student, shall always mean the loss of one academic year in so far as his/her appearance at a University examination is concerned. the period of absence from the Institute will, however, depend upon the time of the year when the penalty is imposed. The student under rustication may at the discretion of the Vice Chancellor of the Institute be permitted to rejoin the class in the beginning of the next academic year.

Notwithstanding anything to the contrary contained in the regulations above, a student shall continue to be under the disciplinary jurisdiction of the Vice Chancellor of the Institute till the completion of his final year examination including the practicals and submission of the thesis research report, design project etc. and final clearance from the Institute.

Cancellation of Admission
* If a student fails to attend classes for one week continuously after the start of the session, his/her admission shall stand cancelled automatically without any notice, and his/her seat will be offered to candidate next in merit.
* If a student is unable to attend classes for ten days or more during the session without getting prior permission from the head of department, his/her admission shall also stand cancelled.
* The NFC-IET Management reserves the right to cancel the admission of any student if he fails to abide by the disciplinary rules and regulations of the Institute issued by the Institute's Management from time to time.

Code of Honour
1. All Muslim Students must show, in words and in deeds, their full faith in Islam.
2. All students must have faith in and respect for the deology of Pakistan.
3. All students must in matters of religion, respect the convictions of others.
4. Every student is expected to;
   (i)   be loyal to Pakistan,
   (ii)   obey the law of the Land as well as the Rules and Regulations of the Institute.
   (iii)   maintain law and order as well as the dignity and prestige of the Alma Mater,
   (iv)   have respect for morality and personal honour and rights of others.
   (v)   practice honesty and integrity in dealings with fellow students, teachers and all others both on and off the Institute.
   (vi)   help in protecting the life, dignity, honour and the property of the Institute and that of the employees and fellow students,
   (vii)   respect teachers, all elders and persons in authority in the Institute.
   (viii)   work hard and complete the course of study within the prescribed period, and
   (ix)   endeavour to positively contribute towards

creating an atmosphere conducive to healthy academic pursuit.

Uniform

All the students from session 2015 onward should come to the Institute in approved uniform. During practical in laboratories students of B.Sc. Chemical Engineering are required to wear white cotton overalls. The students are expected to wear white Safety Helmets while working at Miniature Plant and Safety Goggles while working at Engineering Workshop. Overalls, Helmets and Goggles are available at prescribed stores in Multan city.

Punctuality

The Institute expects its students to keep excellent record of class attendance. However, in case of emergency/ sickness, students may take leave from the Head of the department by submitting an application supported by Medical Certificate in case of sickness, and by requesting him/her in writing in case of urgent work. Any unauthorized absence from class work may attract a fine of Rs.20/= per period.

Abbreviation/Definitions

(a) 'BZU' is an abbreviation for the Bahauddin Zakariya University, Multan.
(b) 'IET' is an abbreviation for the NFC Institute of Engineering & Technology, Multan.
(c) 'VC' is an abbreviation for the Vice-Chancellor of IET.
(d) 'Faculty' means the academic staff of the IET.
(e) 'Subject' means a course of studies as prescribed in the detailed Syllabi, whose successful completion shall be the requirement of B.Sc. Engineering degree in the relevant discipline. It shall consist of Part-I (Theory) and/or Part-II (Sessional Work, Practical and Viva-Voce). Each part shall be considered a separate paper for the purpose of Examination.
(f) 'internal examiner' normally means the teacher/person appointed by the Competent Authority who has been teaching the subject to the class/section during the semester for which the examination is being conducted.
(g) 'External Examiner' means a person appointed by the Competent Authority, holding suitable qualifications in the relevant discipline who is neither a teacher in the IET nor has taught the subject to the class/section during the semester for which the examination is being held.
(h) The person 'he' and its derivatives are used for both male and female persons.

MIGRATION RULES.

Subject to the provision of Regulations, the Vice chancellor may admit a student to the Institute by migration from other Universities or Institutions according to the regulations.

1. No student shall be admitted to First Year and Final Year classes by migration. In terms of semesters, migration is only permissible into the 3rd, 4th or 5th semester.
2. A migrated student is required to complete at least 50% curriculum, required for award of the degree, at NFC-IET in order to be eligible for NFC-IET''s degree.
3. Admission by migration shall not be allowed ordinarily after the expiry of three weeks from the commencement of the session.
4. No student shall be admitted by migration from a University or Institution in Pakistan unless he produces a "No Objection Certificate" and Good Moral Character Certificate to the effect that the student has not been debarred from taking University examinations and suspended or not expelled or rusticated from the University or Institution from which he intends to migrate and that no disciplinary action is pending against him.
5. The applicant must have appeared in the Combined Entry Test conducted by UET Lahore of the session in which he intends to migrate. Or, he must have appeared in the Entry Test of parent institution.
6. The applicant must have passed Intermediate (Pre-Engineering) or its equivalent with at least 60% marks OR as prescribed by the relevant regulatory body (PEC HEC PCATP etc) and 60 % weighted aggregate based on 70% weight to Intermediate marks and 30% weight to Entry Test marks.
7. An application for admission by migration shall be accompanied by a detailed marks certificate showing the examinations passed by the applicant at his parent university. The applicant is required to be in good standing with a minimum CGPA of 2.5 out of 4.0.
8. No student admitted to any University or Institution against seats reserved for special categories shall be eligible for admission by migration.
9. Only those students who possess academic record comparable with admission requirements of this Institute (for their particular Entry Session) shall be considered for admission by migration subject to availability of seats in the concerned department.

10. No applicant shall be admitted by migration who

possesses less than 1% of admission merit of this Institute as well as the sub-campuses of that year in which he was admitted in his parent institution.

11. No student shall be migrated to the Institute who carries any of his papers of his previous years.

12. The grounds for migration shall constitute changes in circumstances which render it practically impossible for the student to continue his studies in his Parent University or Institution.

13. No migration shall be allowed to and from constituent/ affiliated campuses/colleges.

14. No applicant shall be admitted by migration whose parent institution is within the same city. However, he may be considered for admission by migration to sub-campuses of this Institute.

15. Migration application will only be entertained on the prescribed application form, obtainable from NFC-IET website http://www.nfciet.edu.pk. Migration form fee of Rs. 500/- will be paid at the time of submission of application form.

16. Migration fee shall be charged from the candidates allowed to migrate to the Institute from other Universities/Institutions under the rules at the following rates: -

1) Rs: 3,00,000/- (Rupees Three Lacs only) in case of candidates of Universities/ Institutions abroad.

II) Rs: 2,00,000/- (Rupees Two Lacs only) from applicants admitted elsewhere in Pakistan on Self Finance Basis.

III) Applicant not covered in above two cases has to pay semester fee as applicable to the students of the session or class he joined at NFC IET Multan.

Note: The genuine and deserving cases falling under category (III) mentioned above would be submitted to the Syndicate for waiver of the fee.

17. A student desiring to leave this Institute in order to join another University or Institution shall apply to the Vice-Chancellor on the prescribed form after payment of prescribed fee of Rs. 500/- for ordinary case and Rs. 1000/- for urgent case (non-refundable).

18. No migration certificate shall be issued unless the student has cleared all Institute dues.

19. In case of student who has been debarred from taking Institute examination or has been expelled or rusticated, no migration certificate shall be issued so far as the punishment is in force.

20. The Vice-Chancellor shall be competent to issue a migration certificate on the prescribed form.

21. A student who has obtained Migration Certificate from the Institute but has not secured admission in another institution may be re-admitted to the

Institute in the class to which he can be admitted under the regulation provided that his absence from the current teaching session of that class does not exceed four weeks and further that he surrenders the Migration Certificate.

22. Any change / addition/ modification, if made, in the above regulations, will also be applicable.

TRANSFER OF CREDITS OF SUBJECTS FOR MIGRATED STUDENTS

Students from other HEC approved universities and programs accredited by PEC or PCATP, may apply for migration to this Institute in the same programs, in accordance with Institute's Migration Rules. Following conditions shall govern transfer of subjects (credits) to the Institute for subjects studied elsewhere. Subjects that do not satisfy these conditions shall not be transferred nor given any credit.

i. The course must correspond to a course offered by NFC-IET or be deemed equivalent in depth and intensity.

ii. Applicant must have received at least "40%" marks in case of absolute grading system or a minimum of "C" grade or higher in a letter grading system similar to the one in this Institute.

In case of any other grading system, the department shall decide with the above minimum limits in perspective. In case, both letter grades and marks are mentioned on the transcript, only letter grade will be considered for the purpose of transfer of semester credit. The accumulative credits accepted for transfer in any program should not exceed one-half (50%) of the total credits required to complete that particular program, in any case.

The credits transferred are counted towards the degree requirements of the student. However, GPA of transferred credits shall not be counted towards the calculation of CGPA, and that only "Transferred" shall be written against those subject(s) in which transfer of credits was allowed. In addition, migrated students shall not be eligible for a merit position nor Honors degree.

Migrating student may be deficient in subjects as compared to the class which he has joined. Such a student shall repeat these subjects. In case, he is studying a particular subject for the first time, it will not be classified as repeated subject for him.

IMPORTANT DOCUMENTS TO BE ATTACHED WITH APPLICATION

1. Application for admission by migration should be addressed to the Worthy Vice-Chancellor NFC-IET, Multan stating sound/genuine reasons along with valid documentary evidence
2. Migration form duly filled and complete in all respect from all concerned
3. Attested photocopy of Matric or equivalent Certificate
4. Attested photocopy of Intermediate or equivalent Certificate
5. Attested photocopy of Combined Entry Test Certificate
6. Attested photocopy of Domicile Certificate
7. Attested photocopy of Computerized National Identity Card of applicant
8. No Objection Certificate issued by the Parent Institution/University
9. Detailed Marks Certificates showing the examinations passed at Parent Institution/ University
10. Detailed Syllabi/Courses of Reading of Parent Institution/University
11. Migration Form Fee Rs.500/- will be paid in HBL/UBL, NFC-IET, Multan Branch on Bank Challan (Please attach copy no 1 of paid Bank Challan with the application).

QUALITIY ENHANCEMENT CELL (QEC)

Engr. Dr. Sadiq Hussain
QEC Director

Engr. Dr. Syyed Adnan Raheel Shah
Addl. Director

Engr. Dr. Syed Safdar Raza
Deputy Director-I

Engr. Dr. Saad Saeed
Deputy Director-II

Dr. Ahmed Naeem
Assistant Director-I

Dr. Sidra Ashraf
Assistant Director-II

Engr. Saulat Jillani
Assistant Director-IIII

Engr. Danish Iqbal
Assistant Director-IV

Engr. Tahir Zahoor
Data Analysis Expert

Introduction

Quality assurance at universities is a growing problem all around the world. Pakistan likewise saw the need to evaluate and enhance its higher education system in order to become more internationally competitive and to ensure that its academic programmes and research were up to par. To this end, the Pakistani government's Higher Education Commission set up the Quality Assurance Agency (QAA) to take the lead in improving the country's university system. Concerning its operations and the formulation of policies and initiatives to improve educational quality, the Quality Assurance Committee advises QAA. All colleges and universities, both public and private, have been able to set up Quality Enhancement Cells (QECs) because to the QAA's assistance. The National Quality Assurance Committee advises QECs on how to execute quality initiatives and policies. As part of its mission to provide excellent higher education, NFC IET established a Quality Enhancement Cell to oversee all initiatives pertaining to quality. In addition, separate quality assurance cells have been set up in every department.

VISION

Maintaining a level of education at NFC IET that is both excellent and competitive on a global scale by implementing best practises in quality assurance.

MISSION

To raise NFC IET educational and research standards to the most attainable levels on a global scale by developing & implementing quality enhancement policies and processes, evaluation & review of the existing policies and processes, and capacity building of the faculty / staff.

OBJECTIVES

- Adherence to the Higher Education Commission's Quality Assurance Framework in order to fulfil the requirements of high-quality research and education on a global scale.
- Establishment of an effective system of self-assessment of institute programs with the purpose of Quality Enhancement.
- Creating and carrying out protocols for NFC IET Institutional Internal Quality Audits.
- Conducting internal audits to guarantee that the quality of student and faculty support services, as well as research, continues to rise.
- Taking measures for capacity building of faculty / staff involved in quality assurance measures.
- Collection & provision of institute statistics for ranking by national / international agencies.
- Promoting collaboration with national and international universities / organizations.

RESPONSIBILITIES

- Dealing with Higher Education Commission in matters related to:
  - Quality Enhancement Policies and Programs
  - Self-Assessment Process: Reports, Executive Summaries, Corrective Actions, and Implementation Plan
  - Internal / External reviews and audits
  - Recognition of institute programs by HEC
- Providing data for Institute Ranking to QS, THE, and HEC
- Bench Marking Database & Institute Statistics on Education
- Facilitating the Accreditation Councils for department visits.
- Correspondence with International Quality Assurance Networks
- Processing the nominations for the National/ International Awards

the Political Map Reading Competition, an event aimed at promoting geopolitical awareness and educating young minds about the evolving political landscape of the world.

At our university, we believe that participating in sports not only promotes physical health and wellness, but also builds character, leadership, and team spirit. We organize various sports events throughout the academic year to provide opportunities for students to showcase their athletic abilities and enhance their overall university experience. At our university, we believe that sports play an important role in shaping the character and personalities of our students, and we are committed to providing them with the best opportunities to excel in this a

Financial Assistance

All the scholarships in the following categories are available for engineering students:

IET Merit Scholarships

IET has instituted merit scholarships for top position holders on the basis of results in all programs. In addition to merit scholarships, financial assistance is also available to needy students who excel in their studies and in their examinations. In addition to IET Scholarships, efforts are underway to attract talent scholarships from the industry for the top students to be awarded on the basis of their performance in engineering examinations.

Other Scholarships

These scholarships are awarded to such students who are needy and also show excellent results in their examinations. Some of the organizations offering financial assistance, in addition to NFC-IET, are:

M/s. Punjab Workers Welfare Board, Lahore.
M/s. Fauji Foundation Welfare Division, Rawalpindi
M/s. Gurmani Foundation, Lahore
Zila Council, Multan
Zila Council, Muzaffargarh
National Bank of Pakistan offers Qarz-e-Hasna to deserving students

Some other organizations that support needy students of NFC-IET are as follows:
Suncrops Group, Multan
Al-Hilal Vegetables, Multan

Though there are some possibilities for financial assistance, as mentioned above, IET does not guarantee any financial aid. The students and their guardians should note very clearly that they have to make their own arrangements for all financial obligations.

OFFICE OF RESEARCH, INNOVATION, & COMMERCIALIZATION (ORIC)

Steering Committee

Vice Chancellor	Convener
Engr. Dr. Kamran Liaqat Bhatti	Deputy Convener
Engr. Dr. Sana Saeed	Member
Engr. Dr. Zulqarnain Abbas	Member
Ar. Syeda Mahwish Zahra	Member
Registrar	Secretary

Innovation & Commercialization

Engr. Dr. Furqan Memon	Manager
Mr. Haroon Chughtai	Deputy Manager

Research Operation & Development

Engr. Dr. Hidayatullah Mahar	Manager
Engr. Dr. Serosh Kareem	Deputy Manager

Intellectual Property

Engr. Dr. Abdul Manan	Manager
Engr. Dr. Syed Adnan Raheel	Deputy Manager

Administrative & Industrial Linkage

Engr. Mujtaba Ashraf	Manager
Engr. Tahir Zahoor	Deputy Managert

Introduction

Under the guidance of the Higher Education Commission (HEC), NFC IET created the Office of Research, Innovation & Commercialization (ORIC) in January 2022. Academic and research units are required to have all funded research activities overseen by ORIC. Researchers at NFC IET, as well as sponsors and funders from across the world, may connect via the ORIC. Memorandums of Understanding (MoUs), unrestricted funds, travel grants, sponsored conferences, workshops, and seminars; consulting assignments; educational and service activities; and any other contracts for initiatives supported externally are addressed here.

VISION

To evolve NFC(IET) into a world class Centre of Excellence among Higher Education Institutions, leading the transformation of Pakistan towards a rapidly developing Knowledge Economy to realize the national objective of a progressive and prosperous country among comity of nations.

MISSION

- To develop NFC-IET as a Comprehensive, Academic and Research led university with a focus on Creativity, Innovation and Entrepreneurship so as to amicably negotiate Social, Economic and Environmental challenges faced by the country.
- Empower students to develop their full potential, acquiring leadership and social skills, to act as agents of change within the society.
- Improve global visibility by enhancing mutually beneficial linkages with international organisations and partner universities.
- Ensure conducive learning and working environment for students and staff at par with international standards.

CORE VALUES

- **Pursuit of Excellence**
- **Integrity**
- **Diversity & inclusivity**
- **Social impact**
- **Roles, responsibilities and services offered at ORIC**

ADMISSION OFFICE

Engr. Rasool Ahmad
Chairman, Admission Committee

Services

The Admission Committee works under the supervision of Chairman Admission Committee. This office is responsible for collection of Admission Forms, display of Merit List and all functions related to the Admission.

Dr. Kamran Liaqat Bhatti
Associate Professor

Dr. Naeem Aslam
HoD, BSCS Deptt.

Engr. Dr. Serosh Karim
Assistant Professor

Contact Information

- Engr. Rasool Ahmad
  Tel: 061-9220012-16   Ext: 2372

  Engr. Muhammad Omer
  Tel: 061-9220012-16   Ext: 2231

- Admission Cell

  - Mr. Muhammad Arshad Malik
    Tel: 061 -9220012-16   Ext: 2223
    Tel: 061-9220286

  Mr. Qamar Hussain Bhatti
  Tel: 061-9220012-16   Ext: 2278

  Mr. Babar Masoomy
  Tel: 061-9220012-16   Ext: 2278

  Email: admissions@nfciet.edu.pk

Engr. Muhammad Omer
Lecturer

Mr. Muhammad Rashid Khan

Mr. Qamar Hussain Bhatti

Mr. Babar Masoomy

Mr. Muhammad Zahid

ADMISSION
ELIGIBILITY CRITERIA

Program	Qualification Required	Minimum % Marks	Entry Test
B.Sc. Engineering Programe	F.Sc. Pre-Engineering (Physics, Chemistry, Math), Pre-Medical, ICS or D.A.E. in relevant Discipline.	60% in F.Sc. or D.A.E.	ECAT/HEC/ETA/ NED/BUTEM/ IET Entry Test
B. Architecture	F.Sc. Pre-Engineering, Pre-Medical, ICS, General Science or DAE (Civil/ Architecture) on Reserved Seats	50% aggregate (Inter + DAT)	IET Test Only
BS Computer Science, BS Software Engineering , BS Artificial Intelligence	F.Sc. Pre-Engineering, Pre-Medical, ICS, General Science or DAE in any discipline	50% in Intermediate or equivalent	ECAT/NAT/HEC/ IET Entry Test
BS Bio-Medical Engineering Technology	F.Sc. Pre-Medical, Pre-Engg., ICS, General Science or DAE in Relevant field	50% in F.Sc. or D.A.E.	ECAT/NAT/HEC/ IET Entry Test
BS Food Science & Technology	F.Sc. Pre-Engineering, Pre-Medical, or D.A.E. in Food Technology.	50% in F.Sc. or D.A.E.	ECAT/NAT/HEC/ IET Entry Test
BD Fashion Design, BBA	F.Sc., ICS, F.A., or I.Com General Science	45% in Intermediate	ECAT/NAT/HEC/ IET Entry Test
BS Chemistry, Physics & Environmental Science	F.Sc. Pre-Medical, Pre-Engg., ICS, General Science or DAE in Relevant field	45% in Intermediate	ECAT/NAT/HEC/ IET Entry Test

Note: (i) In case any candidate did not attempt ECAT for engg., he shall be provided an opportunity to appear in NFC-IET Entry Test.
(ii) In case any candidate attempted both ECAT or NAT Test, the higher score shall be considered for merit determination for non-engineering programs.
(iii) Provisional Admission will be offered on First Year basis subject to providing undertaking that candidate completely qualifies the eligibility criteria for admission. The Admission Committee will reserve the right to cancel all such admissions that do not meet the prescribed eligibility criteria.
(iv) Students from other than Punjab can provide Entry Test of main UETs of their provinces/region (for detail contact Admission Cell)

Determination of Merit

1) Matriculation marks (15% weightage)
2) Intermediate marks (50% weightage)
3) Entry Test marks (35% weightage)

Note: Provisional admissions based on F.Sc. or equivalent (First year marks will be offered.
In case of two or more applicant have equal percentage of marks (upto three places of decimal) in the comparative merit, the order of merit between them shall be determined in following preferences:
a) Matriculation marks
b) Intermediate marks
c) Entry Test Marks
d) Age (candidate older in age being treated as higher in merit)

Entry Test
• NFC-IET will conduct two Entry Tests for admission session 2025 **(Second Entry Test: 01 June, 2025 and Second Entry Test: 28-29 May, 2025)**
• For all programs, ECAT (conducted by UET, Lahore) and NAT (conducted by NTS) for non-engineering programs.
• B-Architechture Program department aptitude test conducted in NFC-IET.
• If a student attempted more than one Entry Test, highest %age will be counted to merit determination.

RELEVANT DISCIPLINES OF DAEs
FOR ADMISSION IN BACHELOR OR ENGINEERING PROGRAMS

Sr. #	Engineering Programs	Relevant Disciplines			
1.	Civil Engineering	i.	Civil	iii.	Architecture
		ii.	Land & Mine Surveying		
2.	Mechanical Engineering	i.	Mechanical	v.	Auto & Diesel Technology
		ii.	Mechanical (Power)	vi.	Dies & Mould
		iii.	Mechanical (Production)	vii.	Refrigeration and Air Conditioning
		iv.	Precision Mechanical & Instrument	viii.	Automation
3.	Electrical Engineering - Power - Electronics - Computer Systems	i.	Electrical	v.	Instrumentation
		ii.	Telecommunication	vi.	Information Technology
		iii.	Electronics	vii.	Precision Mechanical & Instrument
		iv.	Avionics		
4.	Chemical Engineering	i.	Chemical	iv.	Petrochemical
		ii.	Chemical Processing Technology	v.	Petroleum
		iii.	Chemical (Sugar Technology)		
5.	Petroleum & Gas Engineering	i.	Chemical		
		ii.	Petrochemical		
		iii.	Petroleum		

Choice of Disciplines
Candidate will have to mention his/ her preference for different programs. In case candidate is interested in only one or two of the programs then he/ she should indicate on the application form accordingly. Preference once given will not be ordinarily changed except in inevitable cases provided merit is not disturbed. A re-processing fee of PKR. 1000 will have to be paid in each case. Please put a cross (X) against discipline in which you are not interested.

Category "A" through "J"
It is based on comparative merit against domicile of candidate. The candidates applying on these categories must submit an attested copy of their domicile certificate along with the application form; otherwise their application form will be rejected. For Category-H (Balochistan) candidates who are under 21

years of age must submit an attested copy of domicile certificate of their father showing the candidates name and age along with the application form, failing which their application form will be rejected. Those applying against B categories must also apply against category 'A'.

Category "K" (Foreigners/Overseas Pakistanis)
It is based on comparative merit irrespective of Nationality or domicile. Foreign Nationals can also apply against this category and are required to provide proof of equivalence of their qualifications and also clearance from Economic Affair Division, Govt. of Pakistan.
Candidate with Pakistani nationality applying on overseas category (K) shall have to provide copy of Passport with valid working visa of his/her parents/Guardian or real brother/sister and submit it

along with the application form failing which he/she not be considered for admission on category "K" overseas. Overseas Fee for Engineering & BS programs are as follows:

- Civil, Mechanical Engineering   Rs.   500,000/-
- BS (Computer Science), BS(AI), BS Software Engg.   Rs.   240,000/-
- Electrical, Chemical, Petroleum Engineering, BBA,   Rs.   100,000/-
  B. Architecture and Bio-Medical Tech.
- All other programs   Rs.   50,000/-

Note:
1. Candidate in this category will pay above mention fee plus Normal Fee of the programs and Govt. Taxes as per FBR policies.

Category "N" (Professional Engineers)
It is also based on comparative merit within the category. Valid registration of Pakistan Engineering Council is required from father/Mother in order of priority of candidate applying against category "N".

Category "O "
These seats are reserved for real sons/daughters, real brothers/sisters, real nephew/nieces (son and Daughter of real brother and sister) and nephew/nieces (son and daughter of first cousins) in order of priority of NFC IET regular/Deputation/ Contract basis, working/ex-Employees in order of priority. Minimum Service for in service employee/Ex-employee is 5 years of service at NFC IET Multan. Candidates must fill in a Performa (available at Admission Cell of NFC IET) and submit it along with the application form. Also such application should be duly signed by the IET Employee and verified by Registrar.

Category "P"
Reserved for nominee of children of employee of armed forces. GHQ shall nominate the candidates for admission after verification of their credentials which shall be sent to admission committee for final approval two weeks before commencement of class work.

Note:
a. All nominations on category of "P" should be received two weeks before start of class work, otherwise IET reserved the right to fill these seats amongst the remaining candidates of Categories.
b. Candidates applying against category M, N, O & P seats must also apply against respective provincial open seats.
c. For "O" category fee of real son or the daughter of employee will be normal fee and for all other nominees will be self-supporting fee.

Category "Q" (B.Tech (Hons) & BS Technology)
For admission against seats reserved for B.Tech (Hons) & B.S. Technologies the applicant should have passed the D.A.E. examination from a Board of Technical

Education in the relevant technology with 60% Marks or F.Sc. Pre Engineering with 60% Marks. The seats reserved in this category are on all Pakistan bases in engineering programs. Candidate admitted in this category are eligible for admission to 3 Semester of B.Sc. Engineering in relevant discipline. Such candidates wait for start of 3rd Semester in the session in which he/she admitted.

Category "R" (Special Person/Disability)
These seats are reserved for students with disabilities who provide a valid disability certificate issued by the District Social Welfare Board, Government Hospital, or an equivalent authority. Applicants must meet the minimum academic eligibility criteria for the program. If more applications are received than available seats, admissions will be granted on merit among eligible candidates. All documents will be verified, where applicable.

Category "S" (Self Supporting)
Some seats are offered on self-support basis. The eligibility for Self-finance seats is payment of under noted schedule in addition to meeting other eligibility conditions. This amount is not refunded in case of candidate is offered admission against the category. Fee for Engineering & BS programs are as follows:

Note:
1. Candidate in this category will pay above mention fee plus Normal Fee of the programs and Govt. Taxes as per FBR policies.

Application Procedure
The application form for all programs are enclosed as in a prospectus. The candidate may apply against many categories as he/she desires. In such case he/she must indicate preference on the application form.

Un-Utilized Seats
Decision regarding un-utilized seats in each category shall be made by the admission committee.

Variation in Seats
The Admission Committee may exercise their right at any time to increase or decrease the number of seats allocated to any category or create/abolish any category and there shall be no appeal against such a decision. Rules applicable to admission will also be applicable to such variation.

Equivalent Examinations
The following examinations are considered as equivalent to the Higher Secondary School Certificate Examination with Chemistry, Mathematics and Physics of the Pakistan boards of intermediate and secondary education:
1. Intermediate (Pre-engineering) examinations of the board of intermediate and secondary Education, Azad Kashmir.

2. Cambridge Overseas Higher Secondary Certificate with Physics, Chemistry and Mathematics.
3. British General Certificate of Education (Advanced Level) with physics, chemistry and Mathematics.
4. F.Sc. (Pre-Medical) with mathematics as an additional subject.
5. 12th Grade of American school

Provisions about admission on the basis of B.Sc. degree

Given the qualifications and restrictions stated below, a person who is not over age, is eligible for admission to the Bachelor's course at IET on the basis of degree of Bachelor of Science. A person possessing a B.Sc. degree is NOT eligible for admission to the Bachelor degree engineering course at the IET unless he has also passed F.Sc. (pre-engineering) securing at least 60% marks.

Scope of Eligibility for B.Sc.'s with F.Sc. (Pre-Engineering)

For admission to the B.Sc. course in engineering an applicant may have passed B.Sc. examination with any combination.

Age Restrictions Criteria

A candidate must not have attained the age given below on the last date fixed for receipt of applications for admission to all undergraduate disciplines:
i. 26 years (On the basis of FSc or equivalent)
ii. 28 years (On the basis of Bsc)
iii. 42 years (On the basis of DAE, B.Tech (Hon) or B.S. Technology)

Employee Candidates

Employed candidates shall have to take full leave from their organization and provide NOC for confirmation of admission.

Medical Fitness

All candidates will furnish a certificate from a registered medical practitioner, declaring that they do not have any serious disease with may be harmful to them or others during the course of their studies at IET.

DETERMINATION OF MERITS

Examination Treated Par

for purposes of admission to the bachelor degree courses and the determination of merit the following examination are treated at par;
a) F.Sc. (pre-engineering)
b) Cambridge overseas Higher School Certificate with physics, chemistry and mathematics
c) British General Certificate of Education (advance level physics, chemistry and mathematics). The comparative merits of the applicant are determined on the basis of marks obtained by them in these examinations plus marks obtained in entry test.

Highest percentage of marks counted

If an applicant has passed more than one of the above examinations/Entry Test, his position on the merit list is determined on the basis of the examination in which he has the highest Percentage of the marks

Deduction of marks For examination passed by part/subject improved

If an applicant has passed an examination by parts or subject improve, (5) marks has deducted from his aggregate marks. While determining his/her merit Merits of F.Sc.'s (Pre-Medical) with Mathematics in determining the merit of an applicant having F.Sc. (Pre Medical) with mathematic as an additional subject;

a) It is deemed that he has passed the examination by parts as such 5 marks shall be detected from his/her aggregate marks for the determination of his/her merit.
b) The marks obtained in the subject of biology are replaced by those obtained in the Mathematics

Merits of 12th Grade of American School

To determine the merit of applicant who has passed the 12th grade of the American (with mathematics, physics, and chemistry) the aggregate marks obtained by him are reduced to 85/100 (as per IBCC equivalent)

Merits of B.Tech (Hons) Through Semester System

Candidates having passed their B.Tech (Hons) degree through semester system must get their CGPA's converted to %age marks from their respective institutes. The %age marks shall be multiplied by 0.85 to calculate the marks for the merit list. Candidate who submit their CGPA's without getting them converted to %age marks shall not be considered for admission on B.Tech (Hons) basis.

Credit for Hafiz-e-Quran

A Hafiz-e-Quran will be credited 10 marks for determining the overall merits. A certificate from recognized institution and passing oral test arranged by NFC IET Multan is required.

Determination of merits in case of equal percentage

If two or more applicants have equal percentage of marks (upto three places of decimal) in the comparative merit, the order of merit between them shall be determined in following preferences:
1) Matriculation Marks
2) Age (older in age) treated higher in merit.

Seat Break-up of Engineering Program
(Subject to approval of the Admission Committee)

	Category	CHEMICAL	ELECTRICAL with specialization in: (Computer, Electronic & Power)*	MECHANICAL	CIVIL	PETROLEUM & GAS
Punjab	A	16	24	08	08	08
Multan, Bahawalpur & DG Khan Division	B	08	12	04	04	04
Sindh	E	06	09	03	03	03
Khyber Pakhtoonkhawa	G	04	06	02	02	02
Baluchistan	H	04	06	02	02	02
FATA	I	04	06	02	02	02
AJK/PATA	J	02	03	01	01	01
Overseas Pakistanis	K	06	09	02	02	02
Female (All Pakistan Basis)	M	02	03	01	01	01
Professional Engineers	N	02	03	01	01	01
NFC-IET Employees	O	04	07	04	04	04
Armed Forces	P	02	02	01	01	01
B. Tech (Hon)/BS Technologies	Q	02	03	01	01	01
Special Person/ Disability	R	01	02	01	01	01
Self Supporting	S	17	25	07	07	07
TOTAL		**80**	**120**	**40**	**40**	**40**

*　Admission in Electrical Engineering will be overall basis. Distribution in specialization will be after 2nd year on the basis of overall performance in 2 years and preference given by student within their categories.

Seat Break-up of
B.S. Engineering Technologies
(Subject to approval of the Admission Committee)

	Category	Bio-Medical Engg. Technology	BS Food Science & Technology
Punjab	A	12	12
Multan, Bahawalpur & DG Khan Division	B	08	08
Sindh	E	04	03
Khyber Pakhtoonkhawa	G	03	02
Baluchistan	H	04	04
FATA	I	02	01
AJK/PATA	J	01	01
Overseas Pakistanis	K	01	01
Female (All Pakistan Basis)	M	01	01
IET Employees	O	04	03
Special Person/ Disability	R	01	01
Self Supporting	S	04	03
TOTAL		**45**	**40**

Seat Break-up of
Science Programs
(Subject to approval of the Admission Committee)

	Category	Archi-Tecture Design	BS(CS)	BBA	B. Fashion Design	BS(ES)	BS Physics/ Chemistry	BS Soft.Engg.	BS (AI)
Punjab	A	09	40	14	08	08	08	18	18
Multan, Bahawalpur & DG Khan Division	B	05	20	10	06	06	06	12	12
Sindh	E	02	12	04	02	02	02	04	04
Khyber Pakhtoonkhawa	G	01	10	02	01	01	01	02	02
Baluchistan	H	02	20	04	02	02	02	04	04
FATA	I	02	08	02	02	02	02	04	04
AJK/PATA	J	02	08	02	01	01	01	02	02
Overseas Pakistanis	K	01	12	05	01	01	01	04	04
DAE	L	05	-	-	-	-	-	-	-
Female (All Pakistan Basis)	M	02	15	04	01	01	01	03	03
IET Employees	O	05	15	05	05	05	05	05	05
Armed Forces	P	01	05	01	01	01	01	02	02
Special Person/ Disability	R	01	03	01	01	01	01	02	02
Self Supporting	S	12	97	24	09	09	09	38	38
TOTAL		50	250	80	40	40	40	100	100

CALENDAR OF ACTIVITIES

Admission Schedule

✉ Last date for First Entry Test Registration	31 March, 2025
☞ First Entry Test	05-06 April, 2025
✉ Last date for Second Entry Test Registration	28 May, 2025
☞ Second Entry Test	01 June, 2025
✉ Last date for Third Entry Test Registration	26 June, 2025
☞ Third Entry Test	28-29 June, 2025

LAST DATE FOR RECEIPT OF APPLICATIONS WITH DUES
01.08.2025

Note:
1. The schedule can be revised on sole description of IET Admission Committee, if so required

COMMENCEMENT OF CLASS
01.09.2025

ACADEMIC SCHEDULE

*	First Semester	September 2025 - January 2026
*	Second Semester	February - June 2026
*	Summer Semester	July - August 2026

CALENDAR OF ACTIVITIES POST GRADUATE PROGRAMS

Admission Schedule

✉ **Last date for receipt of applications with dues**	**08.09.2025**
☞ **Entry Test**	**21.09.2025**
☞ **Interview**	**24.09.2025 to 28.09.2025**
☞ Display of Merit List	10.10.2025
☞ Start of Classwork	19.10.2025

* Email: admission@nfciet.edu.pk

Whatsapp: 0319-666 5706

TERMS & CONDITIONS

1. The candidates who are not overage and are seeking admission in Engineering Program and scoring 60% marks or more in F.Sc., Pre-Engineering/DAE/ICS/ B.Tech (Hons) or equivalent examinations and appeared in ECAT/NTS/ NFC-IET Test becomes eligible for admission. **As such, the eligible candidate should deposit the dues alongwith his application form on time. No application form shall be accepted without the dues.**

2. A candidate seeking admission in engineering program and securing less than 60% in F.Sc./DAE etc. becomes ineligible. Applications of ineligible candidates shall not be accepted.

3. The candidates seeking admission in BD Fashion Design, BS Criminology, BS Sciences, and BBA programs and scoring 45% or more in F.Sc. Pre-Engineering/Pre-Medical/ DAE/Intermediate with Computer Science/General Science/Commerce or equivalent and appeared in ECAT/NAT (NTS) becomes eligible for admission. The eligible candidate should deposit the dues alongwith the application form on time. Application forms shall not be accepted without the dues.

4. Overseas candidates may send their Application Forms through online/e-mail till last date and provide photocopies of the draft and testimonials besides showing original certificates at the time of admission.

5. All Candidates should bring their original testimonials for submission on or **before 01.08.2025** also deposits remaining dues for admission.

6. **Erroneous admission due to typographical/ computer error will be corrected accordingly and candidate is bound to accept the decision.**

7. **It should be clearly understood that the dues deposited shall be refunded strictly in accordance with refund policy under lined below.**

8. **It will be candidate's own responsibility to get registered in relevant Entry Test.**

9. **Candidates applying in engineering as well as non-engineering programme could give NFC-IET Entry Test.**

REFUND POLICY

As per HEC policy: Letter No.10-1/HEC/A&C/2015/6542
Dated: December 7, 2015

Up to 10th day of the commencement of classes	100% Fee Refund
Up to 15th day of commencement of classes	80% Fee Refund
Up to 20th day of commencement of classes	60% Fee Refund
Up to 30th day of commencement of classes	50% Fee Refund
31st day onwards of commencement of classes	No Refund

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

CHECK LIST OF
Documents to be attached with the Application Form

1. Attested photocopy of Matric/Equivalent Certificate ☐

2. Attested photocopy of F.Sc./Equivalent Certificate. ☐

3. Attested photocopy of B.Sc./Equivalent Certificate (for MS Programs) ☐

4. Recent Passport Size Photograph (3 Nos.) with your name and Form No. on the back of photo. ☐

5. Medical Certificate from a Registered Medical Practitioner declaring the Candidate Fit (physically & mentally) for the course. ☐

6. Attested photocopy of Hafiz-e-Quran Certificate ☐

7. **a) Attested photocopy of Domicile Certificate. The candidate must submit an attested photocopy of his/her domicile certificate alongwith the application form, otherwise his/her application form will be rejected.** ☐

   b) For candidates who are under 21 years of age and are applying on Balochistan seat (category H), an attested copy of domicile certificate of their Father, showing the candidates name and age must be submitted with the application form, otherwise their application form will be rejected. ☐

8. **For the candidates applying on the overseas seats (category-K) attested photo copies of the passport and work permit of their parents/brother/sister/guardian must be attached with the application form, failing which their admission will not be considered on category-K seats.** ☐

9. Proof of Registration of parent with Pakistan Engg. Council (for category N). ☐

10. **For category-O (IET employees) duly filled in performa must be attached. Performa is available in the admission cell of NFC-IET, Multan.** ☐

11. **NOC from employer/organization in case of any employment.** ☐

12. Attested copy of Entry Test Result ☐

STUDENT'S AFFAIRS

Engr. Zeeshan Raza
Assistant Professor
Director Student Affairs

Engr. Tahir Mehmood Bhatti
Dy. Director Student Affairs

Engr. Serosh Karim
Assistant Professor
Dy. Director Student affair

Directorate of Student Affairs

By acting as a liaison between students, teachers, and the university administration, the Directorate of Student Affairs (DSA) at NFC-IET actively strives to organize the multiple facets of student life and development. The Student Affairs staff collaborates with students in a comprehensive way, offering advice and assistance as they pursue their academic goals and grow personally in preparation for taking on the obligations of responsible adults.We want to streamline the process for students to incorporate their academic experiences with all other dimensions of university life.

SERVICES
Counselling and Guidance

The Student Affairs Office serves as a liaison between students, faculty, and administration. The Student Affairs Office is the central place for students to get assistance and confidential help with any problem they encounter on campus. It oversees student counseling, housing, societies, and discipline, with two Deputy Student Affairs available for counseling and guidance.

Extracurricular Activities

We offer a range of extracurricular activities to help students unwind and explore their interests. The Student Affairs Office promotes co-curricular activities that enrich our graduates and help them build strong relationships with peers, faculty, and administration. From literary and artistic events to sports and games, our activities provide healthy outlets for multi-dimensional growth.

Student Societies

NFC-IET provides a thriving platform of student societies that aim to nurture students' talents beyond the classroom. These dynamic societies, some of which are mentioned below, encourage leadership and professional development in the students.

- · DSA Team
- · Business Administration Literati Society(BALS)
- · NFC Computing Society
- · Chemical Department Technical Society
- · Electrical Media and Tech Society
- · Society for Civil Engineering and Technology
- · Mechanical Literary Society

Major Events

NFC-IET offers a diverse range of events and festivities to provide students with opportunities to broaden their horizons, enhance their skills, and foster a sense of community spirit. Our goal is to provide the best possible educational experience for future leaders to achieve their full potential.

Celebrating Culture, Creativity, and Awareness: Festivities and Events at Our Institute

Our Cultural Festival and Spring Funfair promote aesthetics, creativity, and cultural awareness. These events highlight the rich diversity of Pakistan and promote national integration amongst students, while instilling a sense of pride in our heritageHeld in October and April, they highlight Pakistan's diversity and promote national integration, with activities such as concerts, exhibitions, and talent expos.

Our awareness sessions cover a wide range of topics, from health and wellness to social justice and environmental sustainability. We invite experts from various fields to share their knowledge and expertise with our students and encourage them to ask questions and engage in thoughtful discussions. Through these sessions, we aim to cultivate a sense of responsibility and empathy in our students towards the world around them.The institute oftentimes organizes

DOCUMENT & IT DEPARTMENT

Engr. Dr. M. Kamran Liaqat Bhatti
Incharge Document/IT Sections

Engr. Dr. Muhammad Siddique
Focal Person Website

Engr. Ali Raza Manzoor
Programmer

Engr. Muhammad Junaid Tahir
Programmer

Muhammad Imran Khan
Assistant Network Admin.

Nazar Abbas
Assistant Document Section

Introduction

The IT Division is focused on delivering a wide range of high-quality IT Services throughout the campus to all Academicians, Staff & Students. Providing a smart & robust environment where everyone has easy access to all IT services round the clock. The IT Division also ensures a secure, reliable, and efficient IT environment where optimized results would be attained.

Vision

Our vision is to provide instant, efficient & reliable cutting-edge wireless information technology solution and services up to the satisfaction of our potential users.

Mission

The IT Division mission is to provide highest quality technology-based services & solutions that will elevate mission vision and goals of NFC-IET.

Services

We are responsible for installing and managing the IT infrastructure across the university, to maximize the throughput of university employees and learning of students.

The facilities under the umbrella of IT Division are:
- ❖ Network Administration
- ❖ System Administration
- ❖ Web Administration
- ❖ Email Administration
- ❖ Audio Visual Facilities
- ❖ Video Conferencing
- ❖ Committee Rooms connectivity
- ❖ Seminar Hall connectivity
- ❖ Internet Connectivity (PERN-II)
- ❖ Wireless Connectivity between Blocks
- ❖ Service Request Forms
- ❖ Biometric Attendance System
- ❖ Admission System
- ❖ Registration System
- ❖ Fee Vouchers Generation
- ❖ Examination Management System
- ❖ Online Admission System
- ❖ Budget Management System

SPORTS DEPARTMENT

Dr. Abdul Mannan
Chairman Sports Committee

Members of Sports Committee

Mrs. Shahida Rehman
Member

Engr. Tahir Mahmood Bhatti
Member

Mr. Khushnood Ali
Member

Services of Sports Department

"A healthy body keeps a healthy mind"

To achieve this target sports exercises are essential. The sports Committee provides the facilities required for the games like Cricket, Football, Badminton, Table Tennis etc. For the healthy and active life style of students a Fitness Gym is well equipped with Electric Trade Mill, Butterfly Machine, Recumbit Bike, Multiple Exercise Machine, Chest Press, Ab-king Machine and Dumble weight set etc.

The Sports Committee also organizes the annual sports week according to the scheduled academic calendar.

1. Engr. Dr. Abdul Mannan   Chairman
2. Engr. Tahir Mehmood   Member
3. Mrs. Shahida Rehman   Member
4. Mr. Khushnood Ali   Member/Secretary

COMMERCIAL DEPARTMENT

Engr. Sadaqat Ali
Chairman Purchase Committee/
Incharge Commercial

Services of Commercial Department

The Commercial Department is responsible for buying goods & services from external source to IET. In addition to finding supplies and negotiating contracts for the supplies, Commercial department is also responsible for monitoring the supplier's performance, monitoring delivery times, quality, and maintains cost control strictly . The Commercial department is also responsible for all aspects of the bidding process.

Contact Information:

-       Engr. Sadaqat Ali
        Incharge Commercial
        Direct: 061-630 2499,
        PABX: 061-9220012-16   Ext: 2317

Mr. Sabahat Wazir Bukhari
Jr. Clerk

Mr. Ali Aon Muhammad
Jr. Clerk