OUR VISION
We are a prestigious institution of higher education recognized
for academic excellence and research. Ziauddin University
aims to nurture ethical and intellectual curiosity in the students
by motivating them to positively contribute towards the
development of a knowledge-based society in Pakistan. A
society that can understand global challenges, and effectively
mold itself in accordance to the changing political, economic,
and social paradigms.

OUR MISSION
Ziauddin University seeks a holistic approach in imparting
knowledge, skills, and confidence in students. The curriculum
inculcates in them critical abilities, wisdom and values which
are necessary to form a forward-looking coherent civil society
where knowledge is disseminated and services are rendered
with the highest sense of moral uprightness and social responsi-
bility to the nation, region and the world at large.
SIR DR.
ziauddin Ahmad

M.A (Corpus Christi College),
D.Litt, Dist. MLA (Calcutta),

Ex-Vice Chancellor and Rector of Aligarh Muslim University.

Sir Dr. Ziauddin Ahmad is an individual who left a lasting impact on the subcontinent. He was an eminent educationist, scholar, orator, and an exemplary individual who serves as an inspiration to those willing to make a difference in the world.

Born in 1873 in Meerut, India, his journey of success started at the age of 13 when he attained the first division in high school. Dr. Ziauddin also received a long medal along with a government scholarship at Aligarh M.A.O College. In 1895 he secured the first position in Bachelor of Arts (B.A.), and received the coveted Shafeeley Gold Medal at Aligarh M.A.O College.

However, this was just a glimpse of his intellectual prowess. After completing B.A in Mathematics, Dr. Ziauddin Ahmad was appointed as the assistant lecturer in Aligarh M.A.O College – the same educational institute that aided him in expressing his brilliance. He then attained a Master of Arts (M.A) degree from the University of Calcutta.

In 1901, he achieved a Doctor of Science (D.Sc. degree in mathematics from the University of Allahabad. He then enrolled himself in the Trinity College of Cambridge University and achieved the prestigious Sir Isaac Newton scholarship – an honour no other Indian had attained. The final jewel in his list of educational triumphs was the PhD in Mathematics that Dr. Ziauddin Ahmad earned from the internationally renowned, Gottingen University, Germany.

After his own journey of attaining the highest level of education was completed, Dr. Ziauddin Ahmad aspired to raise the standard of education within the subcontinent. He also worked as an Assistant Secretary for the Sir Syed Memorial Fund, established for the purpose of founding a Muslim University.

Since the educationalist was inspired by Sir Syed Ahmad Khan’s approach towards modern education, he dedicated himself to creating a liberal teaching system for the Muslims of India. Dr. Ziauddin was appointed as the very first Vice Chancellor of Aligarh Muslim University. He took over as Vice Chancellor in 1933.

His journey of spreading literacy, higher education, and the ability to critically analyze information ended in December 23, 1947, when Sir Dr. Ziauddin Ahmad died in London. He was buried beside Sir Syed Ahmad Khan in the Aligarh Muslim University Mosque premise, thus fulfilling his pledge of serving Aligarh for life.
MESSAGE FROM THE CHANCELLOR

Ziauddin University was formed with the aim of spreading knowledge across the world, and most importantly, empowering the youth of Pakistan with education equivalent with international standards. The university’s primary emphasis is on providing a positive learning environment that empowers students to achieve heights of success.

Apart from motivating our apprentices, Ziauddin University offers an array of programmes and state-of-the-art facilities that ensure academic excellence. Thus, we often see our students conducting researches that can change history as we know it. From practical experiments to journal studies - the students at the university are involved in all aspects of the advancement of the nation.

Our aim now is to uphold a standard of excellence and to keep creating opportunities that break barriers in terms of knowledge, research, and development.

DR. ASIM HUSSAIN
SEMI-EMPLOYMENT & RESEARCH DIRECTOR
CHANCELLOR, ZIAUDDIN UNIVERSITY
MESSAGE FROM THE VICE CHANCELLOR

I am pleased to present the Prospectus of Ziauddin University for 2020. I feel proud of the fact that this is the 25th year of existence of Ziauddin University, a very prominent seat of learning in the Private Sector of Pakistan. In the last few years, we have entered and diversified into various areas of higher learning by establishing a full-fledged Faculty of Engineering, Science and Technology, Faculty of Law, Faculty of Liberal Arts and Human Sciences, and the Faculty of Medical and Natural Sciences. This has opened vast opportunities for students to gain training in important areas.

I am extremely pleased to mention that we have maintained excellent academic discipline in Ziauddin University. The focus on teaching methodologies to provide the best possible environment of teaching and learning.

I am sure that the training and education of Ziauddin University is making an impact at a national and international level. I hope that our Alumni will endorse these facts about the very special environment which exists at this University.

PROF. DR. PIRZADA QASIM RAZA SIDDQUI
CHANCELLOR, ZIAUDDIN UNIVERSITY
GOVERNING BODY

Dr. Asim Hussain S.I., N.I.
Chancellor, Ziauddin University
Dr. Nida Hussain
Pro Chancellor, Ziauddin University

MEMBERS
Prof. Dr. Pirzada Qasim Raza Siddiqui
Vice Chancellor
Justice Aaziz-ur-Rehman
Honorable Judge, High Court of Sindh
Prof. Dr. Sarosh Ledhi
Vice Chancellor NED University & Nominee of
Chairman HECSinda
Prof. Dr. Munir Ahmed
Professor of Emeritus, University of Karachi
Sardar Yaseen Malik, MS, SI
Chairman, Hilton Pharma
Lt. Gen (Retd) Syed Perwaz Shahid
Former Corp. Commander Bahawalpur
Muhammad Saleem Khan
Former Federal Secretary,
Ministry of Ports & Shipping,
Government of Pakistan

Mr. Anwar Mansoor Khan
Sr. Advocate Supreme Court of Pakistan
Chairman, Federal IEC or his nominee
Prof. Dr. Khadid Izzi
Vice Chancellor, University of Karachi
President KCCI
Chamber of Commerce & Industries
Prof. Abbas Zafar
Dean, Faculty of Health Sciences
Engr. Capt. (Retd) Syed Waqar Hussain
Registrar, Ziauddin University

ACADEMIC COUNCIL

CHAIR
Prof. Dr. Pirzada Qasim Raza Siddiqui
Vice Chancellor, Ziauddin University

MEMBERS
Dr. Nida Hussain
Pro Chancellor
Prof. Dr. Abbas Zafar
Dean, Faculty of Health Sciences
Prof. Dr. Anwar Ejaz Beg
Advisor to Chancellor/Pro. Pharmacy
Prof. Dr. Rafique Alam Khan
Dean, Faculty of Pharmacy
Prof. Talat Mirza
Executive Director Research
Ms. Shazia Iqbal
Dean, Faculty of Law
Prof. Dr. Faiza Shahim
Dean, Faculty of Liberal Arts & Human Sciences
Prof. Dr. Tabibun Tsaneem Qureshi
Dean, Faculty of Eastern Medicine & Natural Sciences
Engr. Dr. Taslim Azim
Dean, ZCEN
Dr. Pamela Marshall
Dean, Ziauddin College of Nursing
Prof. Dr. Mirynn Hosein
Director, College of Pharmacy
Prof. Dr. Nafisa Hasnain
Acting Principal, Ziauddin Medical College
Ms. Aamina S. Siddiqui
Principal, Ziauddin College of Speech Language & Hearing Sciences
Ms. Sumaira Iqbal
Principal, Ziauddin College of Rehabilitation Sciences
Ms. Humera Rashid
Acting Principal, Ziauddin College of C.L.S & Medical Technology
Ms. Tehmina Lodhi
Principal, Ziauddin College of Media Sciences
Ms. Rana Hussain
Principal, College of Education
Prof. Dr. Ejaz Ahmed Vohra
Director, Post Graduate Studies (Clinical)
Prof. Dr. Khaolud Hussain Mahida
Associate Director Academics (Clinical),

SECRETARY
Engr. Capt. (Retd) Syed Waqar Hussain
Registrar, Ziauddin University

Prof. Dr. Ahmed Fawad
Associate Director Academics (Clinical)
Rahmat-ud-din
Prof. Dr. Umaima Gheewali
Associate Director Academics (Clinical)
Clifton Campus
Prof. Dr. Arslan Hussain
Assistant Dean, Allied Health Sciences
Prof. Dr. Safaullah Beig
Head of Department, Biochemistry
Prof. Dr. Jawad Usman
Head of Department, Family Medicine
Mr. Suhail Ahmed Khattak
Controller of Examinations
Dr. Amna Khurshid
Director, Department of Educational Development
Mr. Faisal S. Syed
Advisor to Chancellor on Finance/Media
Mr. Shaukat Iqbal
Director Finance
Dr. Ammar Farooq
Director, Continuing Professional Education & Student Affairs
Syed Atif Ulah Shah
Chief Librarian
Engr. Muhammad Ali
Director CEC
Dr. Saad Javed Khan
Chairperson, Bio Medical Engineering
Prof. Dr. Munaf Rashid
Chairperson, Software Engineering
Engr. Syed Fraz Iftikhar
Acting Chairperson, Civil Engineering
Dr. Zafar Umar
Director ORC
Dr. Yasmin Ansari
Advisor to Chancellor on Nursing
Ms. Farhana Tabassum
Director Undergraduate
ZIAUDDIN UNIVERSITY

Sir Dr. Ziauddin Ahmad's vision was transformed into reality in the late 1990s when his daughter, Dr. Ejaz Fatima, and his son-in-law, Dr. Tajammul Hussain, started a small maternity home in Nazimabad. Over the years, this small maternity home took shape of a busy 100-bed hospital that serves the densely populated area of Nazimabad.

In 1992, the family of Dr. Ziauddin Ahmad established Dr. Ziauddin Hospital Trust, where in the same year the Trust established a second hospital in North Nazimabad as Dr. Ziauddin Hospital, which is now a 300-bed tertiary care hospital, catering to a large population. This hospital provides an opportunity for students to gain knowledge and skills in assessing and evaluating a wide range of problems in a tertiary care setting. The hospital is equipped with state-of-the-art equipment necessary to diagnose and manage problems effectively and efficiently.

In August 1994, through an Ordinance XVII of 1994), the Government of Sindh granted the permission to establish Dr. Ziauddin Postgraduate Institute of Medical Sciences. By virtue of this Ordinance, the Institute could grant its own postgraduate degrees and diplomas.

In October 1995, the Sindh Assembly passed an Act (VI of 1995) for the establishment of Ziauddin Medical University. At this time the university also established an association with the neighboring community to set up a health centre, and entered into mutual partnership with the Karachi Municipal catchments population by providing healthcare services & educational support.

In December 2005, Ziauddin Medical University was given the Charter as Ziauddin University vide "The Ziauddin University" (Amendment) ACT 2005 dated December 13, 2005.
Presently, following faculties/colleges are successfully running under the umbrella of Zaouli University:

**Faculty of Health Sciences**
- College of Medicine
- College of Dentistry
- College of Speech Language & Hearing Sciences
- College of Medical Technology
- College of Rehabilitation Sciences
- College of Nursing
- Faculty of Pharmacy
- Faculty of Engineering Science & Technology
- Faculty of Liberal Arts & Human Sciences
- College of Media Sciences
- College of Languages, Literature & Culture
- College of Education
- The Language Center
- Faculty of Eastern Medicine & Natural Sciences
- College of Eastern Medicine
- College of Horticulture
- College of Natural Sciences
- Faculty of Law

**PROFESSIONAL ACCREDITATIONS**
Zaouli University is accredited from the following bodies:
- Pakistan Medical and Dental Council (PMDC)
- Pakistan Council of Pharmacy (PCP)
- Pakistan Nursing Council (PNC)
- Pakistan Engineering Council (PEC)
- Pakistan Bar Council (PBC)

**UNIVERSITY LIBRARIES**
The Zaouli University has 11 libraries in different faculties and colleges at different campuses. The primary goal of these libraries is to provide quality information and literature to support and strengthen the university and hospitals' academic, research and patient care programmes.

**CLIFTON CAMPUS**
- Prof. Naan Am Jaffrey Central Library provides services to:
  - College of Medicine
  - College of Dentistry
  - Faculty of Pharmacy
  - College of Medical Technology
  - College of Rehabilitation Sciences
  - College of Nursing
  - College of Liberal Arts and Human Sciences
  - Faculty of Law

**LIBRARY SERVICES**
- Current Content Service, ZU Faculty Publication Information, Creating Anti-plagiarism Environment (Turnitin), Public Services, Circulation Services, Printing, Article Searching, Reference Services and Reference Management.

**TRAINING**
- Literature Search, Reference Management, Turnitin Software

**LIBRARY OPERATIONS**
- KOA for the automation of library literature and services.
- ILM and LC Scheme for Literature Classification
- AACR2 and MARC 21 cataloguing
- OPAC for Literature Search

**LIBRARY TIMINGS**
The NAJ Library (Clifton Campus)
8:30 am to 4:30 pm (Monday to Friday)

The Hospital Library North Nazimabad
8:30 am to 4:30 pm (Monday to Friday)

The ZUJS Library
8:30 am to 5:30 pm (Monday to Friday)

Libraries of ZCRS, ZUFEST, ZCN, ZCSUHS
8:30 to 4:30 (Monday to Friday)

**LIBRARY STAFF**
- Qualified Professional Staff

**Dr. Naan Am Jaffrey Library (Clifton Campus)**
- Syed Aftab Ali Shah
- Shereen Shah
- Syeda Khawar Zafar
- Shereen Ali
- M. A. Shah
- Syed Fouzas Ali Shah

**Hospital Library North Nazimabad**
- Syed Mohsin Ali
- Assistant Librarian
- Arif Ali
- Assistant Librarian
- Shereen Ali
- Assistant Librarian
- KDL (Komal)
- Shereen Ali
- Assistant Librarian

**ZUFEST Dr. Aijaz Fatima Library (Education City, Link Road)**
- Farzana Ali
- Assistant Librarian

**ZUFEST Library (North Nazimabad)**
- Faiza Ali
- Assistant Librarian

**ZCSUHS Library**
- Rukhsar Ali
- Assistant Librarian

**ZCRS Library - North**
- Shereen Ali
- Assistant Librarian

**ZCRS Library - Clifton**
- Mohamad Ali
- Assistant Librarian

**Nursing Library**
- Shereen Ali
- Assistant Librarian

Library Website: http://library.zu.edu.pk
Library Email: library@zu.edu.pk
Tel: 92-21-39620399 Ext: 2563 - 2567
FACULTY OF HEALTH SCIENCES
As yet another chapter in my life comes to a close, I cannot help but contemplate what an immense role this entire journey has played in shaping me into the person I am today. Being an extremely introverted person for as long as I can remember, I am pleasantly surprised by the growth I have seen in myself over these past five years, both academically and personally. I am so thankful to be graduating from Ziauddin University. This place has given me countless memories and lifelong friends. It gave me the opportunity to meet some of the nicest professors ever-ready to address any and all of our concerns. I clearly remember writing, “Medicine is an honourable profession that demands never-ending hard work and innumerable hours of studying” in my personal statement. At that time, I was unable to understand the depth of my words. Today, I do. I believe the overall effort will always be worth it when someday I hear the words ‘thank you for helping me, doc’.

ARMEENA ANIS
MBBS
VISION
Contributing to the improvement of the health status of the people of Pakistan and other developing countries by producing human resources skilled to function optimally within the available resources of the health systems.

MISSION
Develop in each student, the virtues and values of humanity, dignity and worthiness; a desire and capacity for critical reasoning; an appreciation and understanding of the social sciences; and the ability to communicate. Special emphasis is placed on promoting self-directed learning and developing lifelong learners and leaders in the health professions, with the skills to acquire new knowledge and meet the challenges of an exponential growth of information.

COMPETENCIES OF ZU GRADUATES:
• Provide safe patient care holistically
• Integrate basic science concepts to clinical situations
• Communicate effectively
• Collaborate with other team members
• Contribute as researchers
• Evidence based practice
• Role model professionalism

INTRODUCTION
Ziauddin Faculty of Medicine was established in 1996. It is strategically located within the University site at Clifton, Karachi. Medical teaching programmes are spread over three main tertiary care hospitals in different parts of the city. These hospitals are well-equipped with advanced diagnostic, monitoring and treatment facilities. Ziauddin Group of hospitals includes:
• Dr. Ziauddin Hospital, North Nazimabad Site: a 300-bedded hospital
• Dr. Ziauddin Hospital, Clifton Site: a 150 bedded hospital
• Dr. Ziauddin Hospital, Kemari Site: a 130 bedded hospital

Other clinical learning sites include:
• Primary Health Care Centre, Sanderaodad.
• Dr. Ziauddin Cancer Hospital, North Nazimabad.
• Dr. Ziauddin Maternal and Child Health Centre, Gol Market Nazimabad.

Ziauddin Faculty of Medicine prepares its students to become skilled practitioners, researchers, and teachers with leadership potential. They develop skills to deal with health problems holistically and solve them at individual, family, and community levels, through an innovative programme that emphasizes an individual's attention in small teaching/learning groups. The undergraduate clinical programmes are community-oriented and address primary healthcare needs of the country. This enables students to acquire the art and skill of probing scientifically into health and related problems of individuals and communities. Students are exposed to a variety of learning strategies to provide experiential learning through a multi-disciplinary approach to patient care.

To meet the challenges posed by the exponential growth of information, students assume responsibility of their own learning, using student-centered learning strategies such as Problem-Based Learning (PBL) and Case-Based Discussions, which also promote self-learning and teamwork. Research projects relevant to national and community needs are also encouraged.

PROGRAMMES OFFERED
Ziauddin Faculty of Medicine offers the following undergraduate MBBS programme which is recognized by the Pakistan Medical Commission (PMC), the regulatory body responsible for issuing license to practice medicine and the Higher Education Commission (HEC).

MBBS
At the Ziauddin College of Medicine, a student is identified as an adult learner and is expected to utilize inborn capabilities to adopt and understand the rapidly changing academic atmosphere in the world.

The academic schedule for the MBBS degree programme reflects the innovative system-based course. The first three years of training, a semester programme has been introduced and each year comprises two semesters. For the clinical training and experience the students are rotated through all three hospitals affiliated with the University.

The course content is presented with a Body System based Modular approach which is in line with regulations of the Pakistan Medical Commission (PMC) for MBBS degree. Emphasis is given to the development of conceptual understanding and the ability to construct knowledge for oneself. The students are actively involved in their learning process, and the assessment involves examining the learner's entire conceptual network, not just discrete facts and principles.

Curriculum reviews take place critically on a regular basis to incorporate content updates in the form of themes for quality improvement purposes. Patient Safety is one of these integrated themes introduced in the MBBS curriculum.

Faculty from Basic Health Sciences (BHS), Community Health Sciences (CHS) and Clinical Sciences are collaboratively engaged in teaching programmes. As a result, students develop a comprehensive understanding and holistic approach to recognize and solve healthcare problems.

The primary healthcare programme run by the university (PHC) serves as an educational site for community-based training. The PHC programme is a unique prototype of partnership between academic, local NGOs, government and international NGOs for education, research and service.

ELECTIVES
For MBBS students, elective experience is mandatory. It should be acquired from institutions which may not be a part of the Ziauddin University system. Students have an option to take this in Pakistan or overseas. This experience allows them a wider exposure and enables them to discover their specialized field of interest. The financial responsibility of completing electives is undertaken by the students. The Dean's Office facilitates placement of students for this purpose.

LEARNING AND TEACHING STRATEGIES
SELF-DIRECTED LEARNING
The College prepares students to become independent, self-directed, lifelong learners. The introduction of student-centered learning strategy is a step towards promotion of critical thinking and problem-solving skills. Students are encouraged to consult from a wide selection of learning resources including books, journals, models, computer-assisted learning programmes and the internet.

PROBLEM-BASED LEARNING (PBL)
PBL is the leading strategy adopted for learning at the Ziauddin College of Medicine. This approach is characterized by:
• Providing students an opportunity to learn how to deal with problems they may face in later in their professional practice.
• Emphasis on self-motivation and responsibility for learning.
• Training for learning professional skills such as leadership and teamwork.

The aim of problem-based learning is to overcome various drawbacks in the traditional methods of instruction, for instance passive role of students during lectures, irrelevant subject matter in the curriculum, lack of integration between disciplines, insufficient preparation of
students for higher education after completing MBBS and in particular, the difficulties experienced by many medical graduates in applying what they have learned.

**CLINICAL TRAINING**

A balance between hospital, ambulatory care, and community settings is essential for a meaningful exposure to curative, preventive, and rehabilitative aspects of healthcare. Learning at the Ziauddin group of hospitals provides a unique experience of exposure to patients from different geographical and economic backgrounds.

A squat market settlement adjacent to the university, in Skanderabadd, provides community-based setting and the outpatient care for patients belonging to a lower socio-economic class. Family Medicine Health Centre (FMHC) is a low-cost outpatient clinic for the underprivileged population living close to the Clifton site. These sites provide better opportunities for learning for students as they come in contact with a very varied range of people and patients with health problems.

Students begin their clinical experience from the third year. After an introductory course they gain an experience in emergency, PHC clinics as well as outpatient and inpatient clinics.

The fourth year is mainly spent at Kemari site with fully developed BM, Orthopedic departments and clinical disciplines of Medicine and Allied, Surgery and Allied, Pediatrics and Gynaecology and Obstetrics.

In the fifth year, students are based in North Nazimabad site where a comprehensive attachment in Medicine, Surgery, Pediatrics and Gynaecology and Obstetrics aims at a professional problem oriented approach to make them ready for taking care of patients when they graduate. They are encouraged to make their own presentations and participate in discussions as well as gain knowledge from dedicated lectures and group tutorials on selected topics. The hospital’s state of the art diagnostics and intensive care facility helps polish their clinical learning.
STUDENT ASSESSMENT

MODES OF ASSESSMENT
Assessment of knowledge, skills and attitudes is accomplished through various modes of assessment. MCQs are best type, modified essay questions & Viva (oral examination) are mainly used to assess levels of knowledge including recall of basic facts, clinical interpretation and application. However, Objective Structured Practical/Clincial Examinations (OSCE/ OSCP) are used to assess skills (practical/clinical) & attitudes with undetermined knowledge background.

CONTINUOUS ASSESSMENT POLICY
Securing minimum passing in an academic year requires consistency in Continuous Assessment. The minimum level is determined by a student's achievement in module examinations, which include written tests, practical assignments and other academic activities. Student eligibility for summative examinations is determined by an individual's attendance and performance in a test and examination in a semester or academic year. Each student requires at least 80% attendance. Student performance in each year is judged by formative (continuous) and summative (end of year) assessment.

PROFESSIONAL EXAMINATIONS
The first three academic years are semester based which are in line with the PMDC/HEC. The following two years are currently based on an annual examination system. A consistent record of satisfactory performance is necessary for eligibility to MBBS. The assessment is reviewed by the concerned department, which also determines eligibility for the qualifying examination. Progression to second, third, fourth and fifth year is regularly determined by achieving satisfactory performance in the respective academic year.

ADMISSION POLICY
Admission to Ziauddin College of Medicine for a five-year MBBS degree is open to all individuals who meet the selection criteria as per PMDC policy.

NOTIFICATION OF ADMISSION
The Registrar of the university will notify students who are successful in the admission process. Successful applicants are given a deadline to accept the offer of admission. Others not accepted by the given deadline are cancelled.

REQUIREMENTS FOR SELECTED STUDENTS
Successful students selected for the MBBS programme are expected to fulfill the following:
1. Verification of Educational Testimonials: Original transcripts, mark-sheets, certificates to be brought for attestation by the university.
2. Medical Examination: The undergraduate medical programme is both physically and mentally demanding. Students offered admission are required to undergo a comprehensive medical examination including laboratory investigations and chest X-ray before they are allowed to join classes.
3. Immunization: Clinical experience carries a small personal risk of infection. In their own interest, and also in the interest of patients and others, students must provide evidence of immunization against the following:
   - Tuberculosis (BCG), Poliomyelitis, Pertussis Hepatitis B, Tetanus, Measles/Mumps and Rubella (for females).

FINANCIAL POLICY
Students seeking admission in the MBBS first year at Ziauddin University are expected to pay the fee approved by the Governing Body of the University and as per guidance provided by PMDC. Admission fee is submitted only once, at the time of admission. For local students, fee will be paid in Pakistani currency and for overseas students in US dollars. Parents/guardians are advised to ensure that the fee for each academic year is paid by the due date. The university reserves the right to cancel admission if the fees are not paid by the due date.

DIPLOMA IN HEALTHCARE MANAGEMENT

VISION
Revolutionize healthcare through a structured program focusing on management, research, education, systems improvement, training and development

MISSION
To inculcate managerial competencies in healthcare professionals and bring them at par with the changing global scenario.

OBJECTIVES
Develop, monitor, evaluate, review and maintain a Postgraduate course that provides:
1. An essential core of knowledge and skills, concepts, tools and techniques of management and administration.
2. Basic concepts and techniques of problem-solving, data evaluation and assessment.
3. Computer application to health information.
4. Relevant correlations between management, finance and IT application to healthcare, through inter-disciplinary courses and through early and continuous exposure to health care delivery facilities.
5. A thorough grounding in professional ethics in Health System Management needed to interact appropriately with other care-providers, administrators, patients, and their families.

WHO SHOULD APPLY?
Hospital Administrators, Medical Directors, Unit Head of Hospitals, Doctors, Dentists, Nurses, Health technicians, Pharmacists, Doctors in Public sector health system, HEC/HEC Personnel

TIMING & MODUS OPERANDI
- A student should undertake 4 courses per Semester
- Saturdays (2 pm to 9 pm) and Sundays (10 am to 5 pm)

ELIGIBILITY CRITERIA
The applicant must have a Bachelor's degree from HEC recognized educational institution in Medicine and Allied (nursing, pharmacy, biomedical engineering, etc.)

- Sixteen years of schooling or 4 year education (124 credit hours) after HSSC/F.Sc./Grade 12 equivalent will be required for admission in the MBBS/MS.

Entry Test:
To be conducted by the Ziauddin University and Preliminary Interview

COURSE OUTLINE OF DIPLOMA IN HEALTHCARE MANAGEMENT

SEMESTER 1
1. Managing Healthcare Organization
2. Epidemiology and Demography
3. Biostatistics
4. Communication Skills for Healthcare Workers

SEMESTER 2
1. Research Methodology
2. Financial Management
3. Human Resource Management
4. Health Information System (HIS)

SEMESTER 3
1. Introduction to Healthcare Systems
2. Ethics, Law and Jurisprudence
3. Organizational Development, Organizational Behavior and Leadership
4. Continuous Quality Improvement (CQI)

PEDAGOGY
The learning process will be through a mix of lectures, case based sessions, small group sessions, exercises, assignments and internet based teaching.

Mandatory electives in the field of choice will allow students to sharpen their skills through application of theoretical learning.

PROGRAMME OUTCOME
After successful completion of the programme, the participants will be able to:
1. Analyze contemporary healthcare systems
2. Incorporate research as a mandatory tool for learning and sharing new information.
3. Use scientific and evidence-based approach for provision of quality healthcare, which is efficient and cost-effective.
4. Apply epidemiological and statistical concepts for better planning and management of health-related issues.
5. Apply principles of financial management, allocation of resources, priority setting and decision making.
6. Demonstrate use of health information systems and technology for effective management of healthcare organization.
7. Market healthcare services focusing on consumer behavior and needs.
8. Apply concepts of human resource management in order to optimize performance.
9. Effectively manage healthcare systems at different levels of care to achieve organizational.

DIPLOMA IN MEDICAL JURISPRUDENCE

INTRODUCTION
Diploma in Medical Jurisprudence is a two-year postgraduate diploma program to train and equip medical graduates with the relevant professional and ethical knowledge to perform in the medico-legal section of a primary or tertiary care hospital, or to serve in the academic arena as faculty of Forensic Medicine & Toxicology.

MISSION
To produce physicians having the legal and ethical insight to serve as better Medico-Legal experts and to improve the medico-legal system of the country by academic contribution.

OBJECTIVES
The training will develop the academic insight and competency within the enrolled candidates to:
- Conduct medico-legal examinations and autopsies fulfilling all the requirements of the legal system of Pakistan.
- To understand DNA fingerprinting, its application and limitations in resolving, the cases of legal importance.
- To understand the pathological basis of injury and signs that may provide clue to the cause of death.
- To identify common lapses and limitations within the prevailing Medico-legal system of the country and being able to provide suggestions to improve the system in the light of advancements in the field of Forensic Medicine.
- To understand the laws governing the practice of healthcare provision along with the ethical concerns.
- To serve as a medico-legal expert.

ELIGIBILITY CRITERIA
MBBS + One year House Job + Valid PM&DC Registration with one year of teaching experience as demonstrator in the Department of Forensic Medicine & Toxicology, of a PM&DC recognized institute/or one year experience as Medico-Legal Officer.
- Eligible Candidates will have to pass the entry test held by Jauddin University.
- Short-listed candidates will be interviewed.
- Final Selection will be made on cumulative basis (Experience + Entry test + Interview).

REQUIRED DOCUMENTS
Documents required for the admission
- Completed DMJ application form
- Copy of MBBS degree with mark sheets of professional examinations and certificate of number of attempts in the professional examinations.
- Copy of PMDC registration certificate
- Three latest passport-size photographs
- Reference letters from two consultants, with whom the applicant has worked
- Certificates of completion of required experience
- NOC to attend the course from the institute (if currently employed)

ASSESSMENT
DMJ Course consists of 2 parts of one year each that is PART I and PART II.
After completion of each session (1 year), Jauddin University, Karachi will conduct examinations, as per schedule announced by the Controller of Examination. Examinations will consist of two components.

Components:
1. Theory Examination
2. OSCE & Viva Examination.

BPS attendance is mandatory to be eligible in the exam.

SCOPE
After going through the course, successfully, the candidate will be able to serve on the government positions within the Medico-legal system of the country. The successful candidates serving as faculty members will have a better opportunity to be promoted as per rules and regulations of PM&DC.
POSTGRADUATE PROGRAMME IN BASIC HEALTH SCIENCES MPhil/PhD

The Postgraduate Programme in Basic Health Sciences started at ZU in 1997. This integrated programme is divided into semesters and provides extensive experience and training to the candidates who acquire knowledge, skills and an attitude required for teaching and research. The curriculum is covered through problem-based learning, lectures, seminars and journal club. Systems are placed for evaluation and performance concerning the candidate's performance and proper guidance for appropriate grown in all areas of training and professional experience.

MASTER OF PHILOSOPHY (MPhil)

MPhil candidates in Basic Health Sciences will have to be full time research students for a minimum period of two academic years. The degree shall be awarded based on both, course work and thesis. The course work is covered in three semesters followed by 1 year of research and advanced technique. The programme is recognised by Pakistan Medical Commission (PMC) and Higher Education Commission (HEC) and follows regulations for registration to research studies leading to a degree of MPhil in the following subjects:
- Anatomy
- Biochemistry
- Physiology
- Pathology
- Pharmacology

ADMISSION POLICY

ELIGIBILITY CRITERIA

a) Candidates possessing MBBS/BDS/equivalent degree from a HEC recognised university.
b) MPhil GAT exam by university
c) NTS/GAT
d) Interviews of candidates shortlisted on the basis of performance in the MPhil GAT exam by university.

Final selection of candidates will be based on the previous academic record and experience, entry test and an interview.

POSTGRADUATE PROGRAMMES IN CLINICAL SUBJECTS

Jauddin University offers MD/MS programme of a 4 to 5 year duration in various disciplines. The course is designed to produce skilled practitioners, researchers and teachers with exceptional proficiency in the chosen clinical field. The course comprises core subjects and also focuses on clinical research practices.

The programme is supervised by qualified faculty and has support of allied disciplines. The University hospitals are modern and fully equipped with diagnostic services, imaging facilities including Intensive Care Units and also fully equipped Radiology department with an intervention treatments facilities. The library is well provided with latest journals and also has multimedia facilities including internet.

For medical graduates interested in pursuing a research degree, the University offers the following programmes:

DOCTOR OF MEDICINE (MD)
- Cardiology
- Critical Care
- Dermatology
- Emergency Medicine
Masters in Healthcare Management

Vision
Revitalize healthcare through a structured program focusing on management, research, education, systems improvement, training and development.

Mission
To inculcate managerial competencies in healthcare professionals and bring them at par with the changing global scenario.

Objectives
Develop, monitor, evaluate, review and maintain a Postgraduate curriculum that provides:
1. An essential care of knowledge and skills, concepts, tools and techniques of management and administration.
2. Basic concepts and techniques of problem solving, evaluation and assessment.
3. Computer application to health information.
4. Relevant courses in management, finance and IT application to health care, through interdisciplinary courses and through early and continuous exposure to health care delivery facilities.
5. A thorough grounding in professional ethics in Health System Management needed to interact appropriately with other care providers, administrators, patients and their families.

Who Should Apply?
Hospital Administrators, Medical Directors, Unit Heads of Hospitals, Doctors, Dentists, Nurses, Health technicians, Pharmacists, Doctors in Public sector health system, NGO Personnel

Timing & Modus Operandi
- A student should undertake 4 courses per semester
- Saturdays (2 pm to 9 pm) and Sundays (10 am to 5 pm)

Eligibility Criteria
The applicant must have a Bachelor's degree from a HEC recognized educational institution in Medicine and Allied (nursing, pharmacy, biomedical engineering etc.)
- Sixteen years of schooling or 4 year education (124 credits hours) after HSSC/FSc/Grade 12 equivalent will be required for admission in the MPhil/MS.

Entry Test
To be conducted by the Ziauddin University and Preliminary interview

Course Structure of Masters in Healthcare Management

<table>
<thead>
<tr>
<th>Institute</th>
<th>MSc in Healthcare Management Credit</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>22</td>
<td>66</td>
</tr>
<tr>
<td>Thesis</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>72</td>
</tr>
</tbody>
</table>

Pedagogy
The learning process will be through a mix of lectures, case based sessions, small group sessions, exercises, assignments and internet based teaching.

Program Outcome
After successful completion of program the participants will be able to:
1. Analyze contemporary healthcare systems
2. Incorporate research as a mandatory tool for learning and sharing new information
3. Use scientific and evidence based approach for provision of quality healthcare, which is efficient and cost-effective
4. Apply epidemiological and statistical concepts for better planning and management of health related issues
5. Apply principles of financial management, allocation of resources, priority setting and decision making.
6. Demonstrate use of health information systems and technology for effective management of healthcare organization
7. Market healthcare services focusing on consumer behavior and needs.
8. Apply concepts of human resource management in order to optimize performance.
9. Effectively manage healthcare systems at different levels of care to achieve organizational

Diploma Programmes
The University offers Postgraduate Diplomas in the following disciplines:
- Anaesthesia
- Cardiology
- Dermatology
- Family Medicine
- Medical Oncology
- Paediatric Medicine
- Psychiatry
- Gynaecology and Obstetrics
- Clinical Pathology

Postgraduate Training
Ziauddin University is recognised for postgraduate training by the College of Physicians and Surgeons Pakistan for the following programmes:

MCPS
- Chemical Pathology
- Clinico-pathology
- Pathology
- Microbiology
- Neurology
- Gynaecology and Obstetrics
- Radiology
- Paediatrics
- Surgery
- Nephrology
FACULTY MEMBERS

PRO CHANCELLOR
DR. NOOR HUSSAIN

DEANS
DEAN, FACULTY OF HEALTH SCIENCES
PROF. DR. ABBAS ZAFFAR

PRINCIPAL, ZIAUDDIN COLLEGE OF MEDICINE
PROF. DR. NIZHAT HASSAN

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MBBS, M.MPhil
BAHEDA SADIQ
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MUBINA LAKHANI
BEd, MPhil

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MBBS

YUVAI KARIM BNO
MBBS

MARIA ALI
MBBS

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BIOCHEMISTRY
PROFESSOR
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M.Sc, PhD

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MBBS

SHEHZAD
MBBS

HARIR SYED OSAMA JAFRI
MBBS

AYA (SHADAM)
MBBS

SYEDA TEHREEM KANWAR
MBBS

FAHAD AZHAR
MBBS

AYSHA ZAIN QAR
MBBS

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PROFESSOR
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SOFIA AMjad
MBBS, MPhil

ASSOCIATE PROFESSOR
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MBBS, MPhil

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SIDRA PATIMA
MBBS

SADIA AHMED WOOGAR
MBBS

AMERIBAI BAI
MBBS

HANNAH JAWAD
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TALAT Mirror
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MARVIRAZA
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SADIA ARIF
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FAKHI HABIBA ASLAM
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AKHTAR ALI
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DAABERAN ZEHR
MBBS
NIGHA ZAIDI
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SOHA HAQUE
MBBS
HAROON UR RASHEED
MBBS
RAFI QA DEER
MBBS

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HAIER ALI NAWAI
MBBS, FCPS

SENIOR REGISTRAR
SANGEETA ALEXANDRA
HAIRAM FATIMA

DERMATOLOGY
PROFESSOR
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REGISTRAR
FATIMA AHMED
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GENERAL SURGERY
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MBBS, FCPS
MUHAMMAD JAVAID
MBBS, FCPS, FCPS

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MBBS, FCPS
SUYA JAINTIA
MBBS, FCPS

ONCOLOGY/RADIOTherapy/NUCLEAR MEDICINE
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FAROQ SIDDIQUI
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AFTAB AHMED
MBBS, FCPS
SAJID SAILAR
MBBS, MD

ASSISTANT PROFESSOR
CURRUL AH BADAAR
MBBS, FCPS
ABDU QA SAAID
MBBS, FCPS

ASSISTANT PROFESSOR
SABA RAZA
MBBS, FCPS
from carving teeth on wax blocks to extracting teeth of patients, we finally added the word “Doctor” to our names. The past four years have been, and the coming years will be, devoted to honouring this title.

Here, at Dauddin University College of Dentistry, we acquired the clinical knowledge and the necessary skill set deemed worthy of a good dental practitioner. Apart from the clinical training, we were encouraged to participate in poster competitions, researches and case presentations. Furthermore, we took part in dental screening camps in a few underprivileged areas which helped us realize how much of a difference we can make in people’s lives. All of this helped us in shaping the people we are today; your future dentists.

Thankfully, all the late nights, the sleep deprivations, the doubts and the struggles finally paid off. Getting a chance to work something on behalf of my fellow students has been such a huge honour for me. Achieving this position in something that has been my dream all along. In addition to my hard work, there were our faculty members always pushing us to do better and my parents who remain a constant support. None of this would have been possible if it were not for these individuals.

At last, a new chapter of our life begins; our professional life.

Cheers to a new beginning!

SHIZA AHMED
BDS
MISSION
To develop each student, the virtues and values of humanity, dignity and worthiness, a desire and capacity for critical reasoning; an appreciation and understanding of the social sciences; and the ability to communicate. Special emphasis is placed on promoting self-directed learning and developing lifelong learners and leaders in the health professions with the skills to acquire new knowledge and meet the challenges of an exponential growth of information.

COMPETENCIES OF ZU GRADUATES:
- Provide safe patient care holistically
- Integrate basic science concepts to clinical situations
- Communicate effectively
- Collaborate with other team members
- Contribute as researchers
- Evidence based practice
- Role model professionalism

INTRODUCTION
Zauudin College of Dentistry started its BDS programme in January 2010 with the mission to prepare confident dental professionals who are committed to excellence in the field of patient care and research that widens the horizon of knowledge regarding to community health problems.

At Zauudin College of Dentistry, a student is identified as an adult learner and is expected to develop as a responsible individual by taking care of the community’s dental problems.

PROGRAMMES OFFERED
Zauudin College of Dentistry offers BDS undergraduate programme, recognised by the Pakistan Medical Commission (PMC). PMC is the regulatory body responsible for issuing a license to practice dentistry.
BACHELOR OF DENTAL SURGERY (BDS)

Ziauddin College of Dentistry offers a four-year undergraduate degree programme leading to Bachelor of Dental Surgery (BDS).

COURSE DETAILS
The BDS programme is divided into four academic years, each comprising a number of modules related to specific scientific information, in accordance with PMC recognised curriculum. Ziauddin College of Dentistry has taken the initiative of developing and implementing a horizontally integrated curriculum. The curriculum makes use of the latest teaching strategies, which are aimed at providing better quality of education to the students.

LEARNING AND TEACHING STRATEGIES
The college recognises the challenges met by students once they enter into professional lives. Therefore, students are empowered to adopt to the different ways of absorbing information and take responsibility of their own learning using student centered learning strategies such as Problem Based Learning (PBL) and Case Based Sessions (CBS). Community Oriented Education is also given its due importance in the College of Dentistry.

Students are actively involved in the learning process by interacting in small groups and by collecting, analysing and synthesising information relevant to the problems they are going to face in their professional lives.

PROBLEM-BASED LEARNING
PBL is one of the strategies adopted for learning at the Ziauddin College of Dentistry. This approach is characterised by:

- Opportunities to deal with problems students face in later professional practice.
- Emphasis on self-motivation and responsibility for learning on their own.
- Training for learning professional skills, leadership qualities and team work.
- The aim of problem based learning is to overcome various drawbacks in the traditional methods of instruction, i.e., the passive role of students during lectures, irrelevant subject matter in the curriculum and lack of integration between disciplines.

LABORATORIES
Basic Dental and Medical Science laboratories and Dental OPDs are fully equipped with state of the art equipment, models and other teaching aids ensuring an excellent academic environment for students.

STUDY GUIDE BOOK
On the commencement day, students are given course/study guides which contain the course objectives and teaching strategies for the first year of BDS with the planner for the entire academic year. The study guide also identifies all rules and regulations that the students are required to abide by. Likewise, for subsequent academic years, study guides are supplied to all promoted students on the respective orientation days.

CLINICAL TRAINING
In addition to the theoretical knowledge, it is important that the students have a significant exposure to the curative, preventive and rehabilitative facets of oral and general healthcare. The first exposure of the dental students to a clinical environment starts in their 2nd professional year, where students are first trained on phantom heads about the clinical aspects of treatment and soon after it, they are taken for field visits to the community settings as part of their community dentistry training; they are primarily trained for detailed history taking and dental records.

Third year BDS students receive clinical training for General Medicine, General Surgery and other Clinical subjects of BDS curriculum at the following hospitals:
- Dr. Ziauddin Hospital, Clifton Site – 150 bedded Hospital

- LCD Hospital, Clifton Site – 125 bedded Hospital.
- Clinical Departments, OPDs for Ziauddin College of Dentistry, Clifton Site Site-75 dental units.

The students attend OPDs and wards where they obtain first-hand knowledge by dealing with patients under faculty supervision. Apart from clinical training under the supervision of Faculty of Health Sciences, the students also work in the clinical departments of Periodontology, Oral Medicine, Oral Surgery, Operative Dentistry and Prosthodontics where they gain experience with patients and are trained in different clinical procedures.

In the final year, students spend most of their time in Dental OPDs in the department of Oral Prosthodontics, Operative Dentistry and Orthodontics. Their training not only includes performing procedures on patients, but also learning crucial skills that help to groom their interpersonal and professional behaviour and attitudes.

STUDENT ASSESSMENT
GENERAL PRINCIPLES
It is recognised that the methods of assessment have a strong influence on shaping students’ learning approach. At Ziauddin College of Dentistry, the structure, content and process of all assessments are designed to reflect and reinforce the specified learning objectives at each stage of the programme. Assessments serve the purpose of providing feedback to the students and the faculty as well as certification.

EXAMINATIONS
Examinations are conducted by the examination department of Ziauddin University. Continuous Assessment Tests (CAT) are held at the end of each module. At least 85% attendance in each course is mandatory for eligibility to appear in the final examination. Promotion to the next class is based on clearance in all the courses scheduled in a year.

TOOLS OF ASSESSMENT
- ECO, and Multiple Choice Questions (MCQs/MBQs).
- Short essay questions (SEOs).
- Objective Structured Clinical/Practical Examinations (OSCE/PSE).
- Viva voce is used to assess knowledge mainly at a higher level.

BDS GRADUATES REGISTRATION
As per Pakistan Medical Commission (PMC) rules, registration of BDS graduates is mandatory for dental practice and postgraduate education in Pakistan and abroad.

HOUSE-JOB TRAINING
Ziauddin University Hospitals offer a house job to its graduates. A structured training programme has been designed that allows appropriate training for house officers in all domains of dentistry. In addition, house officers have the opportunity to participate in multidisciplinary seminars and academic or clinical conferences. House job training is conducted strictly according to PMC guidelines.

ADMISSION POLICY
BDS
Admission to Ziauddin College of Dentistry for a four-year BDS degree course is open to all individuals who meet the selection criteria.

NOTIFICATION OF ADMISSION
The Registrar of the university will notify students who are successful in the admission process. Successful candidates are given a deadline by which to accept the offer of admission. Offers not accepted by the given deadline are cancelled.

REQUIREMENTS FOR SELECTED STUDENTS
Successful students selected for BDS programme are expected to fulfill the following:

a) Verification of Educational Testimonials
Original transcripts, mark sheets and certificates are to be brought for verification by the university.

b) Medical Examination
The undergraduate medical programme is both physically and mentally demanding.
Students offered admission are required to undergo a comprehensive medical examination including laboratory investigations and chest X-ray, before they are allowed to join classes.

c) Immunisation
Clinical experience carries a small personal risk of infection. In their own interest, and also in the interest of the patients and others, students must provide evidence of immunisation against the following:
- Tuberculosis (BCG)
- Diphtheria
- Poliomyelitis
- Pertussis
- Hepatitis B
- Tetanus
- Measles
- Mumps
(and Rubella for females).

FINANCIAL POLICY
Students seeking admission to BDS 1st year of Ziauddin University are expected to pay the fee approved by the Governing Body of the University and as per guidance provided by PUC. Admission fee is submitted only once, at the time of admission.

For local students, fee will be paid in Pakistani currency and for overseas students in US dollars.

Parents/guardians are advised to ensure that the fee for each academic year is paid by the due date.

The university reserves the right to cancel admission if the fee is not paid by the due date.

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MPhil

The postgraduate programme for basic dental science subjects started at Ziauddin College of Dentistry in 1971. The programme is recognised by Pakistan Medical Commission (PMC) and follows regulations for registration to research studies leading to the degree of MPhil in the subjects of Oral Biology and Oral Pathology.

MPhil programme at Ziauddin University has been devised with a view to produce self-motivated individuals who wish to further their career by gaining a higher qualification.

LEARNING AND TEACHING STRATEGIES

At Ziauddin University, candidates are given an opportunity to learn the fundamentals of Educational Methodology while participating in an undergraduate programme. This is achieved by means of regular meetings and workshops held by the Department of Education. In addition to this, candidates are encouraged to gain an job experience by giving lectures, taking part in problem-based learning (PBL) sessions, practical and tutorials. Following are the teaching strategies used to improve student learning:

- Seminars, demonstrations and presentations
- Case discussions
- Rotations in Clinical laboratories for relevant training
- Update of knowledge through study of recent journals and internet browsing Journal and group discussion.

SEMESTER SUMMARY

CURRICULUM

The curriculum of MPhil in Basic Dental Sciences is covered in three years. First two years comprise of two semesters in each year.

YEAR ONE

The curriculum content of two semester of year one are arranged in different modules. The student evaluation is carried out at the end of modules and at the end of each semester.

YEAR TWO

As recommended by HEC, second year of MPhil is spread over 48 weeks of course/ laboratory work and research in the second year students are required to submit their synopsis in the field of their interest.

YEAR THREE

In year three candidates are required to carry out their thesis work and are exposed to advance techniques and finally present their thesis for defense.

EVALUATION

Semester examinations include written as well as Viva Voce/Oral components.

ADMISSION POLICY

ELIGIBILITY CRITERIA

- Candidates possessing BDS degree from a HEC recognised university
- MPhil entry test / HEC GAT
- Interviews of candidates short-listed on the basis of performance in the MPhil entry test. Final selection of the candidates is based on the previous academic records, experience, entry test and interview.

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PROFESSOR & HOD

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FD RCSI, FDS RCS, FDS RCS

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BDS, MPhil
DR. SAHRA AKRAM
BDS, MPhil

LECTURER

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DR. HIRA BATOOL
BDS

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DEPARTMENT OF ORAL MEDICINE

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SR. REGISTRAR

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DR. TAJIRA HAFEZ
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DR. AYESHA HANIF
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YEAH
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DR. FARWA SHAH
BDS
"Doctors save lives, but Speech Language Therapists make life worth living". Speech and Language Pathology is one of the most enduring and expanding professions that makes my heart fill with joy. It is rewarding when your patients make progress, become functional and improve their quality of life. The satisfaction of truly making a positive impact on someone’s life is empowering and immeasurable.

After spending 4 years at CSUHS, I am incredibly gratified with my decision to opt for this profession. The experienced clinicians at CSUHS gave me inspiration to strive for perfection. Yes, there are challenges yet every day is an adventure that I look forward to. It is pertinent to mention that the organisation provides hands-on experience to improve clinical practice. It is a major honour to be a student within these walls and I have learnt new things, undergone multiple experiences that taught me resilience, patience and strength and at the end of it all, I can proudly say I'm a good professional and a better individual.

I keenly look forward to many decades of devoting myself wholeheartedly to serve people with my chosen profession and make their lives better and provide meaning to mine simultaneously.

MEHAK AILAF HUSSAIN
BS SSL
INTRODUCTION
Pakistan with a population of over 195 million individuals has an estimated over 23 million suffering from communication, swallowing and/or hearing disorders. To cater to this huge demand there are less than twenty Speech Language Therapists/Pathologists (SLTs/SLPs) in our metropolises, Karachi, qualified internationally and locally at the CSLSH. This was made possible because the Speech and Hearing Association of Pakistan (SHAP) and Dow University of Health Sciences (DUHS) collaborated to establish the ‘College of Speech Language & Hearing Sciences (CSLSH)’ in order to launch our nation’s first 4-year Bachelor’s programme in Speech Language Therapy in 2007.

The college successfully launched a dual degree programme of Bachelors in Audiology and Speech Language Therapy (BS ASLT) with a postgraduate MS Speech Language Pathology (MS SLP) proposed for commencement, as it joyously celebrates its first decade in Ziauddin University, Karachi. The programme aims to equip graduates to independently and proactively serve hearing and swallowing disorders, conduct research and contribute to the development of the profession, nationally and in the world at large. It cultivates critical thinking to analyse and act in response to contexts that shape policy and practice in the fields of Audiology and Speech Language Pathology.

College of Speech Language & Hearing Sciences (CSLSH) is the country’s foremost and only institute of its kind, established to equip Pakistani youth with a new career in the fields of Audiology and Speech Language Pathology, which have unlimited scope in Pakistan and across the globe.

In addition to this, CSLSH also offers a diploma course in Childhood Development and Psychopathology.

Thus, CSLSH also aims to surmount the tremendous dearth of qualified Speech Language Therapists and the subsequent neglect of individuals suffering from communication, hearing and swallowing disorders. The Clinical Services offered at CSLSH are for the following:

- BALES WITH
  - Feeding and swallowing difficulties
  - Cognitive and language delays
  - Mid, moderate or severe learning difficulties
  - Specific language impairment
  - Specific difficulties in producing sounds (Articulation & Phonological Disorders)
  - Hearing Impairment
  - Cleft Palate
  - Stammering
  - Autism
  - Social interaction difficulties (PDD)
  - Dyslexia
  - Voice disorders
  - Selective mutism
  - Motor Speech Disorders (dysarthria, dyspraxia)

- AIDS WITH
  - Swallowing disorders (dysphagia)
  - Language disorders (e.g., aphasia after stroke)
  - Voice disorders (e.g., vocal fold nodules, paralysis, hoarseness)
  - Cognitive language deficit due to Traumatic Brain Injury
  - Communication Issues after Laryngectomy
  - Physical disabilities
  - Stammering (dysfluency)
  - Motor Speech Disorders (dysarthria, apraxia)

WHAT'S NEW FOR 2020
The College of Speech, Language and Hearing Sciences, Ziauddin University will provide Academic Collaboration to ICD (an institute engaged in diagnostics, teaching, therapies and Vocational training of children and adolescents with special needs - ACELP), Karachi, wherever required for the Diploma. This diploma will be conducted in cooperation for teachers, therapists, relevantly eligible persons, engaged in teaching/caring children with special needs. ICD is a non-profit organisation managed by ACELP, a registered NGO and CSLSH, ZU is a non-profit institution indulging in academic and clinical training of students, at undergraduate level.

The college has collaborated with institutes for 3rd and 4th year students for their supervised practical work with:
- The Indus Hospital
- ACELP
- Kinder Academy
- ACHIP - Institute of Physical Medicine & Rehabilitation, DUHS
- Dar-ul-Ushra
- Ujala School for Special Children

This programme will provide students with an opportunity to work towards a career as an audiologist and/or speech language therapist.

The fields of Audiology deals with the non-medical management of the auditory and balance systems, and focuses on the study of normal and impaired hearing, prevention of hearing loss, identification and assessment of hearing and balance problems and rehabilitation of persons with hearing and balance disorders.

PROGRAMMES OFFERED
- A four-year BS in Audiology & Speech Language Therapy (BS ASLT)
- A one year Diploma in Childhood Development & Psychopathology (DCDP)
- 6 to 12 Months Accelerated BS in Audiology & Speech Language Therapy (A BS ASLT)
- 2-year MS in Speech Language Pathology (MS SLP)
BS AUDIOLGY & SPEECH LANGUAGE THERAPY

The fields of Speech Language Pathology and Audiology remained neglected here, so far. Our students graduating from the college are the torch bearers of these professions in Pakistan and are able to provide their valuable services in a multitude of settings, working collaboratively with ENT specialists, neurologists, pediatricians, psychologists, occupational and physical therapists in hospitals and rehabilitation units. They can also work at schools or have their private practices.

The CSUHS encourages students to acquire broad concepts, knowledge and skills beyond those gained through their specialist professional study. This is achieved through the requirement that all students complete at least one elective as part of their undergraduate programme of study.

The MAKATON Language and Pakistan Sign Language (PSL) have been recommended as suitable electives by the college. Coursework is designed to provide students with essential, foundational, Pakistan sign language skills, familiarity with deaf culture and an introduction to the discipline of education. It also equips the students to understand Alternative and Augmentative Communication strategies that are implemented with people who have a marked impediment in expressing themselves verbally. In addition to this Sensory Integration Therapy has also been introduced as an elective.

LEARNING AND TEACHING STRATEGIES

Currently BS - ASLT is structured around a modular curriculum: which is knowledge and skill oriented. The curricula emphasize in-depth training both theoretical and clinical with clinical training (i.e. observation and performance of clinical work) within CSUHS, in the hospital, in special schools, and in mainstream schools.

Our College has many links within, as well as outside the University, to ensure specialized teaching of all courses that are comparable to those offered worldwide.

SEMESTER SUMMARY

BS ASLT is a 4 year long degree, consequently, having 8 semesters in the degree program. All courses have been grouped into modules, which constitute 42 courses of various duration. The core and associated courses are thoroughly integrated to ensure complete understanding of the field and its various disciplines.

The Modules are:
- Speech Pathology
- Language Pathology
- Audiology
- Biological and Medical Sciences
- Linguistics
- Psychology
- Information Technology
- Clinical Procedures
- Research Methodology
- Social Sciences

STUDENT ASSESSMENT

ASSOCIATE & FOUNDATION/CORE COURSES

CONTINUOUS ASSESSMENT

(40% of the final grade)
- Tests
- Assignments
- Presentations
- Project

SEMESTER EXAM

(60% of the final grade)
- Written Examination
- Practicum
- VIVA

CLINICAL PROCEDURE COURSES

CONTINUOUS ASSESSMENT

(60% of the final grade)
- Tests
- Assignments
- Presentations
- Project

SEMESTER EXAM

(40% of the final grade)
- Written Examination
- Practicum
- VIVA

ADMISSION POLICY

BS ASLT

Eligibility Criteria:
- Minimum requirement of "A" levels/intermediate students of all disciplines
- Minimum aggregate marks of 55%
- Fluency in written and spoken English
- Pre-requisite for students from a non-pre-medical background:
  - Biology in CIE O-levels or sciences with Biology in Matriculation is mandatory for all candidates (A "D" semester shall be held as a foundation course in Biological Sciences for applicants from a non-pre-med background)
- Commitment towards a helping profession

FEE STRUCTURE

Application Fees: Rs. 3,000/-
Admission Fees: Rs. 50,000/-
Student Fund: Rs. 6,000/-
Library Fee: Rs. 9,000/-
Lecture Fees: Rs. 330,000/-
Examination Fees: Rs. 22,000/-

Note: Any additional fines imposed by the government will be the liability of the students/parents/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. A 2% surcharge per month will be levied on outstanding fees after the due date.
ACCELERATED BS IN AUDDIOLOGY & SPEECH LANGUAGE THERAPY (A BS ASLT)

INTRODUCTION
The College of Speech Language & Hearing Sciences is proud to introduce a new Postgraduate Bachelor of Science in Speech Language Pathology (A BS ASLT) in the year 2013-14. Following the success of the BS-51 programme which was upgraded to the BS-51 in 2013.

DURATION
6 months

ELIGIBILITY
A 4 years bachelor's degree in speech language therapy / pathology

LEARNING AND TEACHING STRATEGIES
Deficiency core courses in audiology including sound and hearing shall be fulfilled through lectures. Programmes include a compulsory supervised clinical practicum of 100 hours of audiological evaluations.

FEE STRUCTURE
- Application Fee: PKR 5,000/-
- Course Fee: PKR 35,000/-
- Clinical Practicum Fee: PKR 40,000/-
- Examination Fee: PKR 6,000/-

MS SPEECH LANGUAGE PATHOLOGY

INTRODUCTION
The College of Speech Language & Hearing Sciences is proud to introduce a new Postgraduate Bachelor of Science in Speech Language Pathology (MS- SLP) in the year 2013-14. Following the success of the BS-51 programme which was upgraded to the BS-51 in 2013.

OBJECTIVES
The graduates of the MS- SLP programme will learn and train undergraduates in the field of speech-language pathology and conduct awareness and advocacy for the profession in Pakistan, upholding its professional ethics and dignity. They shall actively engage in research and development for construction of assessment and therapeutic tools that are culturally and linguistically appropriate for the Pakistani population.

a) The students will show a complete understanding of biological and medical sciences, social and behavioral sciences as well as basic statistics and research methods.

b) The students are well versed with the human communication, the feeding and swallowing processes in children and adults, as well as the biological, neurological, psychological, social, linguistic and cultural bases to them.

c) The student should demonstrate the ability to integrate and differentiate between the normal and abnormal human development across the lifespan, and the disorders and differences thereof.

d) The students must be well versed with the etiologies of the communication and swallowing disorders and their relevant anatomy/physiological disorders of voice and resonance, as well as respiration and phonation.

e) Such as disorders in receptive and expressive language (phonology, morphology, syntax, semantics, pragmatics, prelinguistic communication and paralinguistic communication) in speaking, listening, reading, writing in children and adults;

f) Hearing impairment and its impact on speech and language development;

g) Disorders in the functions of feeding and swallowing (oral, pharyngeal, esophageal), and related functions, including oral function for feeding, oro-facial myology;

h) Disorders of cognition in all aspects of communication (attention, memory, sequencing, problem-solving, executive functioning);

i) Social-communicative disorders (including challenging behavior, ineffective social skills, and lack of communication opportunities);

j) The selection and utilization of augmentative and alternative communication modalities.

k) For all items from (a) – (j) above, the students must exhibit knowledge current procedures of intervention including assessment, evaluation, and treatment; as well as demonstrate knowledge of ethical procedures within. (Details for knowledge and skills in professional practice have been adapted from the ASHA policies of evaluation and examination see below (k) to (a)).

EVALUATION
a. Conduct screenings and prevention procedures (including prevention activities);

b. Collect case history information and integrate information from clients/patients, family, caregivers, teachers, and relevant others, including other professionals.

c. Select and administer appropriate evaluation procedures, such as behavioral observations, non-standardized and standardized tests, and instrumental procedures.

d. Adapt evaluation procedures to meet client/patient needs.

e. Interpret, integrate, and synthesize all information to develop diagnosis and make appropriate recommendations for intervention.

f. Complete administrative and reporting functions necessary to support evaluation.

h. Refer clients/patients for appropriate services.
INTERVENTION
a. Develop setting-appropriate intervention plans with measurable and achievable goals that meet clients/patients needs. Collaborate with clients/patients and relevant others in the planning process.
b. Implement intervention plans (involve clients/patients and relevant others in the intervention process).
c. Select or develop and use appropriate materials and instrumentation for prevention and intervention.
d. Measure and evaluate clients/patients’ performance and progress.
e. Modify intervention plans, strategies, materials, or instrumentation as appropriate to meet the needs of clients/patients.
f. Complete administrative and reporting functions necessary to support intervention.
g. Identify and refer clients/patients for services as appropriate.

INTERACTION AND PERSONAL QUALITIES
a. Communicate effectively, recognizing the needs, values, preferred mode of communication, and cultural/linguistic background of the client/patient, family, caregivers, and relevant others.
b. Collaborate with other professionals in case management.
c. Provide counseling regarding communication and swallowing disorders to clients/patients, family, caregivers, and relevant others.

THE STUDENT MUST DEMONSTRATE KNOWLEDGE OF THE FOLLOWING
Intervention, assessment, and evaluation procedures with patients/clients. (adapted from ASHA)

Eligibility Requirement of Programme or Eligibility for admission into MS SLP.

Candidates with a 4-year BS (Speech Language Therapy/Pathology) degree from any recognized University are eligible for admission to the course.

Candidates with a 2.5-year Undergraduate BS SLT or BS ASLT degree.

Candidates must pass GAT (General). In case GAT (General) is not done at the time of entry into the programme, they must complete the second semester as recommended by HEC.

There is no upper age limit for admission to the course.

SCOPE
a. (Market and social employment perspective) Candidates graduating with the MS SLP degree shall be eligible for clinical practice in a hospital, and rehab setting as well as at mainstream and special schools, where in they shall independently assess, assess, evaluate, diagnose, and treat all disorders of speech, language, hearing, feeding, and swallowing in children and adults as well as provide feedback and counseling to the caregivers, and other support personnel.

b. The graduates shall successfully utilize AAC tools (Augmentative Communication) as and when required after a complete assessment of the needs of the patient.

c. The graduates shall indulge in research and development nationally and internationally towards strengthening their own knowledge and skills as well as for establishing their profession in Pakistan.

d. The graduates shall develop indigenous tools of assessment and therapy that are culturally and linguistically appropriate to the Pakistani fabric and to the Indian sub-continent.

They shall be eligible to teach and train students in a college/university setting.

Graduates shall also teach and train educators and special educators and for identification and classroom management of children

DURATION OF THE PROGRAMME
a. 4 Semesters/2-years (with additional 1 year for students unsuccessful in either semester)

Note: Each semester shall extend over a period of 16-18 weeks.

The MS SLP programme shall be of not more than 48 months in duration.

with speech, language, hearing and feeding disorders.

They shall teach and train parents for management of the child at home.

The graduates shall work in a team of professionals wherever and whenever required, wherein other members of the team shall include: neurologists, pediatricians, otolaryngologists, maxillofacial surgeons, dentists, orthodontists, prosthodontists, psychologists, audiologists, occupational therapists, physical therapists, special educators, special teachers, clients’ aides and parents.
DIPLOMA IN CHILDHOOD DEVELOPMENT AND PSYCHOPATHOLOGY

The CDHP commenced a Diploma in Childhood Development and Psychopathology (CDDP) in August 2013. The programme caters towards teachers, remedial and early childhood educators, and parents who want to enhance their knowledge in this area of early childhood development.

CDDP follows a modular curriculum, which emphasizes an in-depth training and 7 modules covering human development from conception through Adolescence and Child Development disorders are taught. In addition 16 hours of observations (practical component) is mandatory at CDHP recommended schools. Assistance is provided for the observation placement.

This programme examines the physical, cognitive and social development with diagnostic and intervention techniques for early childhood disorders.

LEARNING AND TEACHING STRATEGIES

The following teaching/learning methods/strategies are used to promote better understanding:

- Lectures
- Case studies
- Small group discussions
- Observation of children in mainstream and special schools shall be a mandatory component of the course.

SEMESTER SUMMARY

The programme comprises two semesters, 1st semester: August – December 2nd semester: January – May

STUDENT ASSESSMENT

Examinations:

- 
  - Final Exam - 40% of final grade
  - Admission Policy
    - Intermediate / A level from all disciplines
  - Fee Structure
    - Application Fee: Rs. 5000/-
    - Tuition Fee: Rs. 13,000/-
    - Examination Fee: Rs. 18,000/-
  - Miscellaneous: Any additional fees imposed by the government will be the liability of the student's parents/guardian.
  - The University reserves the right to increase the fee if required according to the recommendation of the Governing Body.
  - Advance fees to be paid semester-wise. All fees need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

CAREER OPPORTUNITIES

The diploma programme is framed to endow students with the foundational knowledge needed to work with children and adolescents that are identified with development delays and disorders. The course is structured to provide students with a wide range of knowledge (both theoretical and practical) to improve screening techniques, thereby promoting early intervention.

After completion of the diploma, trainees can utilize their expertise in counseling and assessment of children's behavior and help them cope with their problems and grow into successful, well-adjusted adults.

FACULTY MEMBERS

PRINCIPAL – ASSOCIATE PROFESSOR
MS. AMINA SIDDIQUE

FULL TIME ASSISTANT PROFESSOR
MR. SHAHID ALI

PART TIME ASSISTANT PROFESSOR
MS. AASIA SACHWANI
MS. SAMINA MASOOD
MS. FAIZA WAIAB

FULL TIME SENIOR LECTURERS
MS. FATIMA YOUSUF
MS. SONIA SHAH
MR. ALI RANJANI
MS. MEHSA IRSAID
MS. ANUSHAY HUSSAIN
MS. SABREEN IOMAL RAJPUT
MS. RABBIYAH BITE SOHAIL
MS. SUHIDRA RAHIM
MS. TALEAH TAIIB

PART TIME SENIOR LECTURERS
MS. MEHAR OZHEER
MS. FATIMA NAZIR
MS. MAHNOOR HASAN
MS. SABREEN NOOR ALI
MS. MARYAM REHMAN

PART TIME LECTURERS
MS. SAMREEN ZUBAIR

FULL TIME LECTURERS
MS. INSIYA SAIFUDDIN
MS. ZAINAB SADQI
MS. MEHAR JIWANI

VISITING FACULTY
DR. HABBIB HASSAN
DR. ABDUL MUGHIR
MR. NABEEH MUKHTAR
MS. SABAH HABIB FAYIZ

INTERNATIONAL VISITING FACULTY
MS. MAHNOOR MUSHTAQ
MS. MUSHIRAH HASSAN
MS. TASNHEEM ALI
MS. ISHAQA SAIMA IJAB HASSAN
MR. ABDUL SAMAD MUKHTAR
MS. MAHNOOR MUSHTAQ
MS. SABAH HABIB FAIZ

MS. MAHNOOR MUSHTAQ
MS. SABAH HABIB FAIZ

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MS. MAHNOOR MUSHTAQ
MS. SABAH HABIB FAIZ
COLLEGE OF MEDICAL TECHNOLOGY

KEY INFORMATION

ACTING PRINCIPAL
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Ziauddin Hospital Block B,
North Nazimabad.

College of Medical Technology
E401, 3rd Floor, Warda Colony near
CNG Station, North Nazimabad.

PROGRAMMES OFFERED

BS MEDICAL TECHNOLOGY (3.5 YEARS)

My journey here at Ziauddin University from the time I enrolled here has been nothing short of fascinating. This university has secured a salient place in my heart for which a lot of credit goes to our strong and competent faculty. The college of Medical Technology is a confluence of aptitudes and effactual training that has always given me a prime learning locus. Teaching laboratories are the facets of this department that dispense the learner opportunity of hands-on practices and students are prepared to face the real time challenges in the field of Medical Technology therefore, I chose ICMT as my first and foremost choice without any hesitation.

"Behind every doctor, there is a great Medical Technologist"

The wonderful part of this college is the autonomy allowed for personal growth and responsibility. The freedom of environment and less restricted areas in ICMT uplifts you to impart a control and maintenance as this is a worthier learning of your life.

Being a part of ICMT not only renders you a tremendous number of opportunities in order to inflate your skills and talent in front of others but also fosters strong qualities that groom your personality in positive manners. In this college you are highly appreciated and motivated under the indoctrination of professional and experienced trainers, professors and instructors. In all fairness your passion, dedication and courage are imperative if you are taking a plunge in this course. I would highly recommend ICMT because this is not only about gaining knowledge and skills but much more than that. You will experience a real change in your academic achievements.

"Only Med Technologist can see things beyond the capacity of the naked eye"
HISTORY OF COLLEGE OF MEDICAL TECHNOLOGY

Jauddin University laid the foundation of College of Medical Technology in 1998. It was then named College of Allied Health Sciences which initially offered Bachelor’s degree in Medical Technology (B.Sc. MT). Since then, it has successfully enrolled sixteen batches. Recognizing the growing challenges, the college was renamed as Jauddin College of Medical Technology in 2014. Jauddin University initiated the BS programme in Medical Technology in March 2011, to pace with modern techniques and knowledge. Jauddin will be commencing a MS programme in Medical Technology in the academic year.

ABOUT MEDICAL TECHNOLOGY

Technology plays an eminent role in today’s world. It is the need of almost every field. Similarly, the Medical Technology Industry has a significant role in the Healthcare sector. It functions on modern electronic medical devices that simplify the diagnosis, analysis, and treatment of diseases. Physicians, surgeons, and pathologists rely on the skills and expertise of the medical technologists and therefore they have a responsibility of diagnosing, analyzing, and reporting findings to the treating doctors.

MISSION

The College of Medical Technology, commits to bring forth an excellent learning environment to the students in order to attain global competencies in the specialized fields of Medical Technology. The Bachelor of Studies in Medical Technology Programme provides students with scientific and conceptual understanding. In addition, it aims to train, up skill and edify medical technologists by empowering their clinical skills and by providing in-depth training on laboratory-diagnostic procedures as well as practical and management concerning the patient’s needs and healthcare team.

SCOPE/ AIM

The Medical Technology Programme in Jauddin University strives to produce international standard medical technology professionals by imparting specific knowledge, skill-based training, and an active clinical practice in a disciplined environment to instill professional ethics for better global employment opportunities.

PROGRAMMES OFFERED

- BS Medical Technology (4 years)
- MS Medical Technology (1.5 years)

BS MEDICAL TECHNOLOGY
4 YEAR PROGRAMME

OVERVIEW OF SPECIALISED FIELDS IN MEDICAL TECHNOLOGY:

CARDIOVASCULAR SCIENCES

A cardiovascular science is a study of the heart and its function, blood vessels in human beings, cardiac disorders and diseases associated with cardiovascular systems. The students are taught and trained in diagnostics, treatment and preventive techniques used in Cardiovascular Sciences and its application in clinical and healthcare settings.

Cardiovascular Professionals or Technologists work with cardiac physicians to assist in providing treatment, monitoring and diagnosing patients with cardiac problems. They can also enrich students with knowledge through their teaching and producing researches. Furthermore, cardiovascular technologists pursue their career as in diagnostic and interventional cardiac catheterization labs in acute care hospitals, electrophysiology, and echocardiography.

Cardiovascular Technology is a challenging and growing profession. The BS MT in Cardiovascular sciences programme trains students with advance didactic basic and specialized courses and clinical training mandatory to excel at their major studies.

Courses Taught
1st Year
1. Basic Health Sciences I
2. Basic Infection Control
3. Physics
4. Basic Health Sciences II
5. Medical Terminology
6. Radiation
7. Professional Ethics & Behavior
8. English Language
9. Biochemistry
10. Mathematics
11. Pakistan Studies
12. General Microbiology
13. Biostatics
14. Computer Literacy
15. Communication Skills

2nd Year
1. Cardiovascular Anatomy
2. Cardiovascular Pathophysiology
3. Radiation Protection
4. Cardiovascular Physiology
5. Principles of Patient Care
6. Cardiovascular Pharmacology
7. Basic Hematology
8. Body Fluid Management
9. Electrocardiography (EGG)
10. Mathematics in Cardiovascular Technology
11. Exercise Tolerance Test (ETT)
12. Cardiac Pathophysiology in Pediatrics
13. Hemodynamic Evaluation
3rd Year
1. English (Communication Skills)
2. Vascular System and Diseases
3. Stress Cardiology
4. Procedures for Inpatients
5. Cardiovascular Emergencies
6. Technical and Business Writing
7. Principles of Ultrasound
8. Basic Immunology
9. Basic Principles of Doppler Ultrasound
10. Invasive Cardiac Methodologies
11. Principles of Critical Care

4th Year
1. Quality and Risk Management
2. Cardiac Interventional Procedures – I
3. Invasive Imaging, Cardiac Catheterization Laboratory – I
4. Cardiac Catheterization Laboratory – II
5. Vascular Ultrasound – I
6. Echocardiography in Cardiac Myopathies
7. Biostatistics – II
8. Pediatric Echocardiography
9. Cardiac Care Unit Management
10. Echocardiography – II
11. Cardiac Interventional Procedures – II
12. Vascular Ultrasound – II
13. Cardiac Catheterization Laboratory – II

NOTE: Scheme of studies can be changed as per requirement and advancement in the clinical field.

Clinical Training
The study of cardiovascular sciences centers on the working of heart, its diagnosis and treatment. Therefore, the CVS technologists are placed at Ziauddin Hospital for their clinical practice, where they utilize their knowledge of cardiovascular principles and functions in the operation of CVS equipments, such as EKG, exercise stress tests and Cardiac Device Follow up, Ambulatory E.P. monitoring and EKG Event/Loop Monitoring. The in-house training enables the trainee to apprehend the operation of machineries used while performing any test. These trainings start after every semester examination and the cycle continues till the final year of the undergraduate programme.

Clinical Laboratory Sciences
Clinical Laboratory Science Professionals provide laboratory services required for the diagnosis and treatment of the disease. These technologists, by performing a number of tests, discover the diseases and send a hand to the physicians to give quick treatment to the patients. Such critical procedures require strong analytical skills and the ability to work under pressure. The Programme and courses offered at Clinical Laboratory Sciences put great emphasis on students acquiring these skills by a combination of didactic sessions, group discussion, supervised training, competency assessments and clinical practicum in order to make student adept at performing tests, analyses and interpretations.

Clinical Laboratory Scientists can set off their careers in medical and healthcare professions. Placements are also offered at scientific equipment companies, chemical and pharmaceutical companies. They can also contribute in the educational sector as a faculty member or as a researcher.

Courses Taught
1st Year
1. Basic Health Sciences I
2. Basic Infection Control
3. Physics
4. Basic Health Sciences II
5. Medical Terminology
6. Nutrition
7. Professional Ethics & Behaviour
8. English Language
9. Biochemistry
10. Mathematics
11. Pakisitan Studies
12. General Microbiology
13. Biostatistics
14. Computer Literacy
15. Communication Skills

2nd Year
1. Haematology – I
2. Physiostomy
3. Chemical Pathology – I
4. Blood Banking – I
5. Parasitology
6. Bacteriology
7. Chemical Pathology – II
8. Blood Banking – II
9. Histotechnology

3rd Year
1. Body Fluid Analysis
2. Blood Banking – III
3. Basic Immunology
4. Haematology – III
5. Chemical Pathology – III
6. Mycology
7. English Communication
8. Blood Banking – IV
9. Basic Coagulation
10. Advanced Mathematics for Clinical Laboratory
11. Molecular Biology
12. Clinical Immunology & Serology
13. Histology
14. Technical and Business Writing
15. Histotechnology

4th Year
1. Clinical Laboratory Management
2. Clinical Laboratory Automation
3. Biostatistics – II
4. Quality Control in Clinical Laboratory (Advanced)
5. Histotechnology/Blood Banking/Haematology

NOTE: Scheme of studies can be changed as per requirement and advancement in clinical field.

Clinical Training
The in-house training of CVS technologists encompasses observation and analysis of both manual and automated testing which involves Immunology, Bacteriology, Blood and urine culture, Blood Grouping and Cross matching, manual and automated cell counting. The in-house training enables the trainee to master the operation of tools and equipment used while performing any test. These trainings start after every semester examination and the cycle continues till the final year.
DENTAL HYGIENE AND TECHNOLOGY

Dental hygiene and technology is a multimodal course in the field of dental laboratory where dental hygiene is complemented with dental technology. It is the study of dental diseases, preventive therapy, and patient’s counseling. The course is coupled with technical sides of dentistry where technologist makes prosthesis, orthodontic and maxillofacial appliances. Dental technologists work in dental laboratories and create fabricated dental materials, using their artistic skills in fabricating the form and colour of an individual’s teeth. Besides dental laboratory, technologists are also welcome in academicians to hold a faculty position.

The College of Medical Technology started this programme in the year 2017 with a comprehensive course plan and in-house training of the technologists preparing them to meet the challenges of the developments in the field.

Courses Taught

1st Year
1. Basic Health Sciences I
2. Basic Infection Control
3. Physics, Basic Health Sciences II
4. Medical Terminology
5. Islamiat
6. Professional Ethics & Behaviour
7. English Language
8. Biochemistry
9. Mathematics
10. Pakistan Studies
11. General Microbiology
12. Biostatistics
13. Computer Literacy and

2nd Year
1. Fundamentals of Dental Hygiene
2. Dental Anatomy
3. Sterilization and Disinfection
4. Periodontology – I
5. Dental Terminology
6. Tooth Morphology
7. Operative Dentistry – I
8. Dental Radiography – I
9. Periodontology – II
11. Prosthodontics – I

3rd Year
1. Prosthodontics – II
2. Operative Dentistry – II
3. Orthodontics – I
4. English (Communication Skills)
5. Dental Radiology – II
6. Oral and Maxillofacial Surgery – I
7. Periodontics
8. Oral and Maxillofacial Surgery – II
9. Technical and Business Writing
10. Operative Dentistry – III
11. Orthodontics – II
12. Prosthodontics – II

4th Year
1. Orthodontics – III
2. Quality Assurance in Dentistry
3. Prosthodontics – IV
4. Biostatistics – II
5. Oral Pathology
6. Prosthodontics – V
7. Geriatric Dentistry
8. Dental Implantology
9. Dental Health Management
10. Public Health Care Management – II

NOTE: Scheme of studies can be changed as per requirement and advancement in clinical field.

Clinical Training

The teaching and learning scheme at Ziauddin University provides its learner in-house training where they can acquire the skills necessary for Dental technologists. Among these skills are community disease prevention, tooth morphology, dental materials, and oral pathology. During clinical sessions, students will have hands-on technical experience on how to perform root planing, apply fluoride therapy, and develop x-rays at Ziauddin hospital under the supervision of dental physician and senior technologists. These trainings start after every semester examination at Dental Department of Ziauddin University. Clinical and the cycles continue till the final year of the undergraduate programme.
**RADIOLOGICAL IMAGING**

Radiological Imaging is the study of techniques and procedures of medical images used for diagnosis of various diseases. Radiologic technologists are specialists in the use of medical imaging such as X-rays, Magnetic Resonance Imaging (MRI), Computed tomography (CT) scans, ultrasound, sonography and fluoroscopy. They have an acute understanding of anatomy, positioning, radiation protection and radiographic exposure.

Radiologic technologists are responsible for producing quality diagnostic images. They act as an expert to the physician by providing them proper examination of the disease, interpreting the resulting medical images. The doors of radiological technologists are opened at various technical departments in hospitals followed by physicians, medical laboratories or patient imaging centres.

Radiological Imaging is a demanding profession therefore the college of Medical Technology has designed a programme with intensive coursework along with the technical handling throughout the 4 year of studies.

**Courses Taught**

**1st Year**
1. Basic Health Sciences I
2. Basic Infection Control
3. Physics, Basic Health Sciences II
4. Medical Terminology
5. Islam
6. Professional Ethics & Behavior
7. English Language
8. Biochemistry
9. Mathematics
10. Pakistan Studies
11. General Microbiology
12. Biostatistics
13. Computer Literacy
14. Communication Skills

**2nd Year**
1. Introduction to Sectional Anatomy
2. Imaging Positions
3. Radiation Protection
4. Introduction to Radiographic Instrumentation
5. Radiation Physics and Radiobiology
6. Positioning and Projection Terminology
7. Patient Care in Radiography
8. Advance sectional Anatomy
9. Radiographic Procedures
10. Bio-safety

**3rd Year**
1. English (Communication Skills)
2. Orthopedic X-ray
3. Radiopharmacy
4. Mammography Techniques
5. Technical and Business Writing
6. Doppler Ultrasound Techniques
7. Quality Control of Imaging Equipment
8. Ultrasound Techniques

**4th Year**
1. Picture Archiving and Communication System
2. Patient Care in Magnetic Resonance Imaging (MRI)
3. Contrast Media and Medications
4. CT Instrumentation
5. Patient Care in Computed Tomography (CT)
6. Quality Management System (ISO & JCI)
7. MRI Instrumentation
8. Emergency Conditions in Radiation
9. Advance Techniques in Radiology (PET)
10. Radiology Techniques
11. Magnetic Resonance Imaging Techniques

**NOTE:** Scheme of studies can be changed as per requirement and advancement in the clinical field.

**Clinical Training**

The programme offers training to the students at Jaudd in hospital under the guidance of supervisors and experienced technologists who coach students to perform X-rays, MRI, CT scans, mammography, fluoroscopy, ultrasound, sonography and fluoroscopy. These trainings help students to become experts in their relevant fields before entering into professional life. These trainings start after every semester examination and the cycle continues till the final year of the undergraduate programme.
RADIATION THERAPY

Radiation Therapy is a field of radiation oncology that administers radiation treatment prescribed by a physician.

The scope of practices of radiation therapists include delivering radiation therapy to the patients of cancer and operating and examining linear accelerators that treat patients with radiation.

In BS MT, Radiation therapy, students are taught the fundamentals of human anatomy, physiology, pathology, radiobiology, radiation safety and techniques, radiation oncology in addition to management electives to enable students to become competent and skilled radiation therapists.

Courses Taught
1st Year
1. Basic Health Sciences I
2. Basic Infection Control
3. Physics, Basic Health Sciences II
4. Medical Terminology
5. Womiat
6. Professional Ethics & Behaviour
7. English Language
8. Biochemistry
9. Mathematics
10. Pakistan Studies
11. General Microbiology
12. Biostatistics
13. Computer Literacy
14. Communication Skills

2nd Year
1. Imaging Positions
2. Radiation physics and equipment
3. Introduction to Sectional Anatomy
4. Radiation Protection
5. Principles of Patient Care
6. Radiation Physics and Radiobiology
7. Positioning and Projection Terminology
8. Patient Care in Radiography
9. Advance sectional Anatomy
10. Radiotherapy Procedures
11. Radiation Dosimetry

3rd Year
1. English (Communication Skills)
2. Radiation Oncology Techniques
3. Radiopharmacy
4. Basics of Clinical Oncology
5. Technical and Business Writing

4th Year
1. CT Instrumentation
2. Radiation Therapy Methodology
3. Contrast Media and Medications
4. Patient Care in Computed Tomography (CT)
5. Quality Management System (QS & QC)
6. Clinical Simulation
7. Emergency Conditions in Radiation Therapy
8. Interprofessional Collaboration,

NOTE: Scheme of studies can be changed as per requirement and advancement in the clinical field.

Clinical Training
The BS RT programme offered at Jauddin University gives students practical skills by providing in-house training after every semester to build a strong foundation of the course. During their clinical practicum, students are taught to assist oncology patients by delivering chemotherapy to them. Moreover, the training also involves working on radiation equipment and producing a diagnosis. These trainings start after every semester examination and the cycle continues till the final year of the undergraduate programme.
CARDIAC PERFUSION

Cardiac perfusion is the study of extracorporeal medical procedures during open-heart surgeries and transplantation in order to support, regulate and temporarily replace the patient’s respiratory and circulatory system. The cardiac perfusionists are core members of the open-heart surgery team. Their role is to prepare and operate heart-lung machines and other complex machinery during cardiovascular surgeries in highly stressful situations. To perform these tasks, perfusionists are taught comprehensive courses to develop an in-depth knowledge of respiratory and circulatory systems. Cardiac perfusionists use their expertise during cardiovascular surgeries in assisting surgeons and physicians and can also work as a teacher and researcher in research institutes. placements of perfusionists are at hospitals, and at times they are hired by individual surgeons. Moreover, perfusionists are appointed by industries that manufacture supplies and equipment related to perfusion.

Keeping in view the local and global needs, the College of Medical Technology initiated the B.S. Medical Technology in Cardiac Perfusion—a well-balanced comprehensive programme in which students are exposed to extensive learning and practice clinical skills, academic activities and research studies. After the completion of the programme, students can utilise their skills in healthcare as Cardiac Perfusionists.

Courses Taught
1st Year
1. Basic Health Sciences I
2. Basic Infection Control
3. Physics, Basic Health Sciences II
4. Medical Terminology
5. Islamiat
6. Professional Ethics & Behaviour
7. English Language
8. Biochemistry
9. Mathematics
10. Pakistan Studies
11. General Microbiology
12. Biostatistics
13. Computer Literacy
14. Communication Skills

2nd Year
1. Cardiovascular Anatomy
2. Introduction to Cardiopulmonary Bypass Circuit— I
3. Cardiovascular Physiology
4. Basic Hematology
5. Cardiovascular Pharmacology
6. Mathematics in Perfusion Technology
7. Body Fluid Management
8. Introduction to Cardiopulmonary Bypass Circuit—II
9. Clinical Applications of Perfusion Technology
10. Perfusion Hematology

3rd Year
1. Monitoring in Cardiopulmonary Bypass— I
2. English (Communication Skills)
3. Advances in Cardiopulmonary Bypass
4. Diagnostic Techniques in Perfusion Technology
5. Invasive and Non-invasive Procedures
6. Devices in Perfusion Technology
7. Technical and Business Writing
8. Cardiac Pathophysiology in Pediatrics
9. Basic Immunology
10. Monitoring in Cardiopulmonary Bypass— II

4th Year
1. Extracorporeal Membrane Oxygenation
2. Non-cardiac Surgical Applications of Cardiopulmonary Bypass
3. Perioperative Pediatric Perfusion
4. Cardiac Theatre Organisation and Management
5. Quality Risk Management
6. Anesthesia Management for Cardiac Surgery
7. Standards and Guidelines for Mechanical Circulatory Support
8. Cardiac Care Unit Management
9. Biostatistics— II
10. Intraoperative Pediatric Perfusion
11. Introduction to Cardiovascular Emergencies

NOTE: Scheme of studies can be changed as per requirement and advancement in the clinical field.

Clinical Training
Ziauddin University offers cardiac perfusionists to practice their skills at Ziauddin Hospital under the supervision of laboratory heads, anesthesiologists and instructors during their undergraduate studies. The degree requires completion of hands-on clinical training, during which candidates must perform a certain number and variety of clinical perfusion procedures. This experiential learning is critical to the preparation of perfusionists who must be able to respond to a wide variety of situations that may arise in the operating room. The in-house training enables the trainees to apprehend the operation of machinery used during the surgeries. This training starts after every semester examination and the cycle continues till the final year of the undergraduate programme.
NUCLEAR MEDICINE

Nuclear Medicine is the study of nuclear properties of stable isotopes that enables the technologist to diagnose and treat the complexity of diseases and to suggest improved treatments to a variety of diseases. The technologists primarily work on the isotopes present in human body.

Graduates of Nuclear Medicine are called Nuclear Medicine Technologists who study basic science subjects required for patient education and effective including radiopharmaceuticals and radiological imaging, and to work directly with patients during imaging procedures.

Nuclear Medicine Technologists work in hospital and laboratories in the diagnosis of various diseases such as cancer, heart diseases, gastrointestinal, endocrine, neurological disorders and other abnormalities within the body. Furthermore, they perform bone scanning, PET and Nuclear cardiology stress tests. They can also contribute in the field of teaching and research.

Courses Taught

1st Year
1. Basic Health Sciences I
2. Basic Health Sciences II
3. Physics
4. Medical Terminology
5. Isotopes
6. Professional Ethics & Behavior
7. English Language
8. Biochemistry
9. Mathematics
10. Pakistan Studies
11. General Microbiology
12. Biostatistics
13. Computer Literacy
14. Communication Skills

2nd Year
1. Introduction to Sectional Anatomy
2. Introduction to Instrumentation
3. Radiation Protection
4. Basics of Nuclear Medicine
5. Radiopharmacy
6. Patient Care
7. Image Processing

3rd Year
1. English (Communication Skills)
2. Patient
3. Radiology
4. Introduction to Nuclear Cardiology
5. Radiopharmaceuticals Therapy
6. PET/CT Scanner
7. Technical and Business Writing
8. Nuclear Cardiology
9. Advanced Nuclear Cardiology
10. Standard Drug Intervention
11. Advanced Instrumentation

4th Year
1. Nuclear Endocrinology Techniques
2. Patient Release Method
3. Quality Control in Nuclear Medicine Equipment
4. Nuclear Oncology Techniques
5. Bone Mineral Density
6. Quality Assurance in Nuclear Medicine
7. Nuclear Endocrinology Therapies

NOTE: Scheme of studies can be changed as per requirement and advancement in the clinical field.

Clinical Training

The curriculum of B.S. H.I.E. includes supervised education which offers a sufficient and well-balanced variety of nuclear medicine procedures, examinations, and equipment. Various rotations include supervised clinical education such as general nuclear medicine imaging, cardiology imaging, SPECT/CT, PET/CT, radiation-sensitive cameras, and dosage meters, radio pharmacy and radiation safety. These trainings are provided at the Dr. Ziauddin hospital and aim to strengthen students’ theoretical and practical understanding of nuclear medicine sciences. These trainings start after every semester examination and the cycles continue till the final year of the undergraduate programme.

NEUROSCIENCES

Neuroscience is a multidisciplinary study of the brain systems including the brain, spinal cord and nerve cells throughout the body. It examines the complex interaction of multiple neuronal systems that underlie the emergence and rich diversity of cognitive functions, the regulations, and expressions of all forms of human behaviour.

Neuroscientists also work on operating EEG and EMG in clinics or hospitals to evaluate and monitor patients. Furthermore, they can work as a faculty member in the field of education.

In the B.S. H.I.E. Neurosciences programme, students are educated and trained in neurosciences techniques like EEG, EMG, evoked potentials, etc. During their bachelor’s studies, students are exposed to analysing and the diagnosis of neural system diseases in human beings in addition to extensive courses and practices in neurosciences.

Courses Taught

1st Year
1. Basic Health Sciences I
2. Basic Health Sciences II
3. Physics
4. Basic Health Sciences III
5. Medical Terminology
6. Isotopes
7. Professional Ethics & Behavior
8. English Language
9. Biochemistry
10. Mathematics
11. Pakistan Studies
12. General Microbiology
13. Biostatistics
14. Computer Literacy
15. Communication Skills

2nd Year
1. Neuroanatomy
2. Neuro-Physiology
3. Neuro-Physiology
4. Principles of Patient Care
5. Bio Safety
6. Fundamentals of Neurosciences
7. Techniques Fundamentals of Neurosciences
8. Techniques Anatomical & Physiological Basis of Electrophysiology (EEG)
9. Introduction to Electrophysiology (EEG)

3rd Year
1. Clinical Applications of Electrophysiology (EEG)
2. Communication Skills
3. Introduction to Evoked Potentials
4. Basic Neurophysiology
5. Technical and Business Writing
6. Fundamentals of Electrophysiology
7. Fundamentals of Nerve Conduction Studies
8. Advanced Evoked Potentials
9. Advanced Neurophysiology

4th Year
1. Clinical Applications of Electrophysiology (EEG)
2. Communication Skills
3. Introduction to Evoked Potentials
4. Basic Neurophysiology
5. Technical and Business Writing
6. Fundamentals of Electrophysiology
7. Fundamentals of Nerve Conduction Studies
8. Advanced Evoked Potentials
9. Advanced Neurophysiology

NOTE: Scheme of studies can be changed as per requirement and advancement in the clinical field.

Clinical Training

Ziauddin University facilitates its neurosciences technologists by providing in-house training in the areas of neuroscience intensive care, neuromedicine and neurosurgery, EEG and EMG, where students exercise their trainings. These trainings start after every semester examination and the cycle continues till the final year of the undergraduate programme.
TEACHING AND LEARNING STRATEGIES
Ziauddin University, College of Medical Technology promotes a culturally inclusive, and constructive learning environment giving specific consideration to students' own psychological and sensory status and recognizing, nurturing and developing their strengths. The learning process emphasizes the importance of learning from each other and sharing knowledge. The teaching-learning process is therefore designed to promote learning through small group discussions, case studies, and seminars. The curriculum is designed to provide a comprehensive education that prepares students for careers in the field of medical technology.

FACILITIES
Ziauddin University, College of Medical Technology offers spacious, well-equipped facilities to its students. The hospital is located in a state-of-the-art building that is modern and equipped with state-of-the-art facilities. The classrooms are equipped with multimedia facilities that enhance teaching-learning processes. The library is fully equipped with electronic resources, including e-books and academic journals. The library also has a reading room and study areas.

The College of Medical Technology is a skill-oriented program that emphasizes practical training. The students are provided with hands-on training in the hospital, where they are exposed to real-world scenarios. The program is designed to prepare students for careers in the field of medical technology.

ADMISSION POLICY
The College of Medical Technology is a four-year undergraduate program that is designed to provide students with a comprehensive education in the field of medical technology. The program is open to students who have completed their secondary education and have met the minimum admission requirements.

The College of Medical Technology is also available for students in any unforeseen circumstances. Moreover, students have access to make an appointment at the hospital for a doctor's consultation.

ASSESSMENT POLICIES AND PROCEDURE
Enrolled candidates are assessed and examined for their academic and clinical performance. The assessment process includes both formative and summative assessments. The formative assessments are designed to provide feedback to the students, while the summative assessments are designed to evaluate the students' knowledge and skills.

WEIGHTAGE FOR THE FINAL EXAMINATION
- Attendance: 10%
- Continuous assessments: 40%
- Final Examination: 50%

ATTENDANCE
Attendance in classes is mandatory. Students who fail to attend classes regularly will be at risk of being disqualified from the program.

ADMISSION GRID
0.75% marks per 10% attendance until 30%, i.e., for every 10% attendance, 0.75% marks will be awarded in that course up to 30% attendance, for example:
- 6 marks will be awarded for 60% attendance,
- 25 marks per 10% attendance will be awarded in that course.

- For 90% attendance: 8 marks
- For 100% attendance: 10 marks

Minimum passing level for all subjects (Theory & Practical) is 55% (O.D.P)

CAREER OPPORTUNITIES
Medical Laboratory Technicians have a huge demand both nationally and internationally. A survey conducted recently suggests that the demand for medical travelers is projected to grow by 21% from 2014 to 2024, much faster than the average of all the occupations due to the greater need of diagnosis and medical conditions through medical procedures.

Medical Technologists have the opportunity to join:
- Hospitals and clinical laboratory positions
- National and international diagnostic companies
- Pharmaceutical firms
- Management positions
- Academic Positions
- Public Health Agencies
- NGOs
FACULTY MEMBERS

ADVISOR TO THE PRINCIPAL
DR. AYESHA IQBAL

ACTING PRINCIPAL AND ASSISTANT PROFESSOR
MS. HUMERA RASHID

ASSISTANT PROFESSOR
MS. MEHNAZ ZEESHAN

LECTURER
MS. QAMAR UN NISA NAZ
MS. Yusra Ameen
MS. NAZEH KASHIF

INSTRUCTOR
MS. WAJHA SHUAAT
MS. SYEDA TABASIMA ALI
MS. MALVA ALI
MS. SHOAIB AHMED
MS. SARA ZAKI

CLINICAL FACULTY
CLINICAL LABORATORY
DR. ADNAN MUSLIM A. JUBAIR
MBBS, DCP, FCPS, HOD CLINICAL LABORATORY
DR. FOUZIA LATEEF
MBBS, MDCPS, FCPS, HISTOPATHOLOGY
DR. FAIZAN ISLAM AFRQUI
MBBS, FCPS, MICROBIOLOGY
DR. AZIZ UN NISA
MBBS, FCPS, HISTOPATHOLOGY
DR. ZULFAREH IMRAN
MBBS, FCPS, HEMATOLOGY
DR. NOREEN
MBBS, FCPS HEMATOLOGY
DR. ISMAI ALI
MBBS, FCPS CHEMICAL PATHOLOGY
DR. Aamina Qamar
MBBS, FCPS HEMATOLOGY
DR. IMRAN AFRQUI
MBBS, FCPS RESIDENT
DR. SABA RAZA
MBBS, FCPS RESIDENT
DR. AYESHA HABIB
MBBS, FCPS RESIDENT

MR. AHSAN UL HAQ
M.SC. MBBF, BIOCHEMISTRY, PRINCIPAL LAB OFFICER
MS. MAZHA KHAN
M.SC. BLOOD BANKING, SUPERVISOR BLOOD BANK

CARDIOVASCULAR SCIENCES
DR. JAWAD ANSARI
CONSULTANT CARDIOLOGIST
DR. SYED SHUAAT HUSSAIN
MBBS, DIPLOMATE AMERICAN BOARD OF CARDIOLOGY, CONSULTANT CARDIOLOGIST
DR. MIREA YOUSUF BAIG
MBBS, MD CARDIOLOGY
DR. SHAHZAD
RESIDENT CARDIOLOGY DEPARTMENT

NEUROSCIENCES
DR. RASHID A. SOOMRO
MBBS, FCPS NEUROLOGY, CONSULTANT NEUROLOGIST
DR. SULEMAN MUHAMMAD
MBBS, FCPS, CONSULTANT NEUROLOGIST
DR. SYED SABA ZAIDI
MBBS, FCPS, CONSULTANT NEUROLOGIST
DR. NADEEM A. MIRAN
MBBS, FCPS (NEUROLOGY), POST FELLOWSHIP, IN CLINICAL NEUROLOGY (AKU- HAMIDAN) AMERICAN USA
CONSULTANT NEUROLOGIST
DR. SHAZIA KHAN
MBBS, FCPS, CONSULTANT NEUROLOGIST
DR. IQRA ALI
MBBS, FCPS RESIDENT
MR. MUHAMMAD SAEWAR
NEUROPHYSIOLOGIST

RADIATION THERAPY
DR. SAAD JAMAL
MBBS, RESIDENT RADIATION THERAPY
MR. AZHARuddin SODDIO
M.SC. PHYSICS, DIPLOMA IN RADIATION SAFETY
FROM MQF, FRANCE
CHEF RADIATION PHYSICIST
MR. ARAZ HAHEED
M.SC. PHYSICS RADIATION PHYSICIST

NUCLEAR MEDICINE
DR. JAVAID AFTAB
M.D.D AND CONSULTANT NUCLEAR MEDICINE
DR. SAJJAD QATTAR
MBBS, MD NUCLEAR MEDICINE, CONSULTANT NUCLEAR MEDICINE
DR. ASAD JALAL
MBBS, RESIDENT NUCLEAR MEDICINE
DR. HIRA BIN
MBBS, RESIDENT NUCLEAR MEDICINE

RADIOLOGICAL IMAGING
DR. KAMRAN HAMID
MBBS, FCPS, FCPS, ASSISTANT PROFESSOR, HOD RADIOLOGY DEPARTMENT
DR. HIRA PATHAN
MBBS, FCPS II TRAINEE, RESIDENT RADIOLOGY DEPARTMENT

DR. ANAM HAZ
MBBS, FCPS II TRAINEE, RESIDENT RADIOLOGY DEPARTMENT
DR. ZULAIHA TARQ
MBBS, FCPS II TRAINEE, RESIDENT RADIOLOGY DEPARTMENT
DR. MUBASHIR JAVED
MBBS, FCPS II TRAINEE, RESIDENT RADIOLOGY DEPARTMENT
DR. SYED SAAD AHMED
MBBS, FCPS II TRAINEE, RESIDENT RADIOLOGY DEPARTMENT
DR. ABDUL REHMAN
MBBS, FCPS II TRAINEE, RESIDENT RADIOLOGY DEPARTMENT
DR. SABIR IQBAL
MBBS, FCPS II TRAINEE, RESIDENT RADIOLOGY DEPARTMENT
As I choose to enter my professional world, Ziauddin College of Rehabilitation Sciences seemed to be the best choice for sure. My 5 years in Ziauddin have been excellent and a memory to cherish for a lifetime. The years spent have been full of learning opportunities that were fun and frantic and sometimes with the academic grind that one has to go through. It was a wonderful time in my life, and the best educational experience I have had. UCMS helped me discover my inner potential in the field of Physical Therapy which I did not realise I had. My mentor and peers challenged me to stretch and grow. I would like to express my gratitude towards my teachers, without them this all could not be possible. The teachers are well experienced and always willing to help the students to go that extra mile in their educational journey. I have grown as an individual and now a better version of myself. I see myself as a skilled and well-groomed Physiotherapist. all thanks to this prestigious institution. For those students who are keen to achieve more. I would highly recommend UCMS because the place is not only about gaining knowledge and skills but much more than that. They will experience a real change in their academic achievements.

The world in one place is not only a slogan, but a lived reality. I am fortunate and proud to be a ZCRIian.

MUNEEDA NASIR
DPT
DOCTOR OF PHYSICAL THERAPY

Doctor of Physical Therapy is a five-year semester-based degree programme.

LEARNING AND TEACHING STRATEGIES
Both national and international qualified teaching faculty is involved to promote better understanding through:
- Presentation/Assignment/Seminar
- Tutorials
- Skill-based labs
- Projects
- Clinical Practice (Supervised/Independent)

CLINICAL TRAINING
Students of Jauadain College of Rehabilitation Sciences have an exclusive advantage to be a part of an organization with a large setup of tertiary care hospitals. The clinical training provides a better chance of learning and practicing the skills in the field hence, prepares future therapists to play an important role in the improvement of healthcare quality in society. Students of 3rd, 4th & 5th Professionals complete their clinical training in physical therapy at all three sites of Dr. Jauadain Hospital and the Primary Health Care Centre (PHCC), Sialkot for community services. In addition, Jauadain College of Rehabilitation Sciences (JCRS) started their clinical collaboration with other major healthcare institutions like Dow University of Health Sciences - OJHA campus (DUHS), Abbott Shami Hospital, National Institute of Child Health (NICHD), National Institute of Cardiovascular Diseases (NICVD), Sindh Govt. Hospital, Tabba Heart Institute, AUJheed Rehabilitation Association (AUPA), Rabita Noon Trust, and Association for Children with Emotional and Learning Problems (ACELP).

SEMESTER SUMMARY
a. Basic Health Sciences
   - Anatomy
   - Physiology
   - Exercise Physiology
   - Biochemistry
   - Pharmacology

b. Clinical Sciences
   - Medicine
   - Surgery
   - Radiology & Diagnostic Imaging
   - Emergency Procedures & Primary Care in Physical Therapy

c. Physical Rehabilitation Sciences
   - Manual Therapy
   - Physical Agents & Electrotherapy
   - Musculoskeletal Physical Therapy
   - Health & Wellness
   - Neurological Physical Therapy
   - Integumentary Physical Therapy
   - Therapeutic Exercises
   - Cardiopulmonary Physical Therapy
   - Gerontology and Geriatric Physical Therapy
   - Osteopathic Physical Therapy
   - Evidence Based Practice
   - Clinical Decision Making and Differential Diagnosis
   - Sports Physical Therapy
   - Prosthetics & Orthotics
   - Obstetrics & Gynaecological Physical Therapy

d. Social Sciences and Research
   - Sociology
   - Human Growth & Development
   - Community Medicine & Rehabilitation
   - Scientific Inquiry & Research Methodology
   - Ethics & Administration
   - Biostatistics
   - Research Synopsis & Project

e. Compulsory Subjects
   - English
   - Pakistan Studies
   - Introduction to Computers
   - Islamic Studies/Ethics

STUDENT ASSESSMENT EXAMINATION POLICY
a. MCQs
b. Short answer written examination

c. Viva, OSPE/COSPE

d. Group or individual presentation/assignments

e. Student log books or written reports

Students are continuously assessed during the semester by the aforementioned methods. This carries 30% weightage for each course.

ADMISSION POLICY
Doctor of Physical Therapy is a five-year semester-based degree programme which is open to all science stream (Pre-Medical) students with minimum 50% marks from an accredited institution in Pakistan or equivalent to international standards.

Therefore, candidates with GPA Levels must acquire equivalency before taking admission. All candidates are selected on merit, according to the following criteria:
- SSC Marks
- HSC Marks
- Entrance Test Marks
- Interview

Applications are invited to both Clifton and North Site. (The final allocation of the site will be at the discretion of Jauadain University depending upon the number of applications.)

CAREER OPPORTUNITIES
The Doctor of Physical Therapy Programme is popular both nationally and internationally. The incorporation of research and evidence-based practice in the curriculum has opened doors for autonomous practice.

FEE STRUCTURE

Doctor of Physical Therapy (North & Clifton)
Admission Fee: Rs. 30,000/-
Semester Tuition Fee: Rs. 90,000/-
Security Deposit: Rs. 25,000/-

Doctor of Physical Therapy (Link Road)
Admission Fee: Rs. 30,000/-
Semester Tuition Fee: Rs. 95,000/-
Security Deposit: Rs. 25,000/-
ACCELERATED DOCTOR OF PHYSICAL THERAPY

Accelerated Doctor of Physical Therapy is a one-year semester based degree programme for professional physical therapists keen to upgrade their degree for their professional growth.

LEARNING AND TEACHING STRATEGIES
Both national and international qualified teaching faculty promote better understanding through:
- a. Presentation/Assignment/Seminar
- b. Tutorials
- c. Projects

SEMESTER SUMMARY
- Semester - I
  a. Anatomy
  b. Physiology
  c. Microbiology
  d. Introduction to Computers
  e. Evidence Based Clinical Decision Making
  f. Human Growth and Development/Behavioral Sciences
  g. Synopsis Submission

- Semester - II
  a. Emergency Procedures And Radiology
  b. Health and wellness/Ergonomics
  c. Pediatric/Adult Health/Geriatric Rehabilitation
  d. Manual Therapy/Integumentary Rehabilitation
  e. Genetics
  f. Teaching Methodologies and Professional Practices
  g. Research Project

STUDENT ASSESSMENT EXAMINATION POLICY
- a. MCQs
- b. Short answer written examination
- c. Viva
- d. Group or individual presentation/assignments

The course is offered at the Faisal Location.

FEES STRUCTURE
- Application Fee: Rs 5000/-
- Admission Fee: Rs 25,000/-
- Security Deposit: Rs 10,000/-
- Student Fund: Rs 12,000/-
- Academic/Transport: N/A
- Tuition Fee (per semester): Rs 50,000/-
- Examination Fee (per semester): Rs 6,500/-
- At the time of Admission: Rs 74,000/-
- Programme Fee: Rs 1,33,000/-
- Note: Any additional taxes imposed by the government will be the liability of the student/parents/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

CAREER OPPORTUNITIES
Professional physical therapists will be able to deliver evidence-based physical therapy treatment and evolve with changes in the healthcare system.

MS/MPHIL IN PHYSICAL THERAPY

ZCRS is aiming to create a dynamic research community, enabling physical therapists to fully equip themselves with the skills they require to excel in this field through higher degree programmes such as MPhil. ZCRS is offering MPhil in Rehabilitation Sciences in the following Specialties:
- a. Musculoskeletal Rehabilitation
- b. Cardiopulmonary Rehabilitation
- c. Neuromuscular Rehabilitation
- d. Exercise Physiology and Sport Sciences
- e. Women Health and Paediatric Rehabilitation
- f. Applied Biomechanics and Anatomy

LEARNING AND TEACHING STRATEGIES
Both national and international qualified teaching faculty promote better understanding through:
- a. Presentation/Assignment/Seminar
- b. Tutorials
- c. Skill based labs
- d. Projects
- e. Clinical Practice (Supervised/Independent)

SEMESTER SUMMARY
- Semester I
  a. Applied Biomechanics
  b. Research, Biostatistics and Clinical Appraisal in Physical Therapy
  c. Neuromuscular Rehabilitation
  d. Exercise Physiology and General Systemic Embryology

- Semester II
  a. Cardiopulmonary Rehabilitation
  b. Women Health and Paediatric Rehabilitation
- c. Musculoskeletal Rehabilitation
- d. Teaching Professional and Scientific Practice

STUDENT ASSESSMENT EXAMINATION POLICY
- a. MCQs
- b. Viva
- c. Group or individual presentation/assignments
- d. Directly observed Clinical Skills
- e. Group or individual presentation/assignments
- f. Semester Examination

Students are continuously assessed during the semester by the above methods. This carries 40% weightage for each course.

ADMISSION POLICY
Physical therapy graduates who have completed their 4-year BPT or 5-year DPT or equivalent from an accredited institution in Pakistan or equivalent to international standards. All candidates are selected on merit, fulfilling the following criteria:
- a. DPT/BPT or equivalent
- b. Interviews of short listed candidates
- c. GAT General (50% cumulative score)

Applications are invited to both Clifton and North locations. (The final allocation of the site will be at the discretion of Ziauddin University depending upon the number of applications.)
**FEE STRUCTURE**

- Security Deposit: Rs. 25,000/-
- Admission Fees: Rs. 25,000/-
- Student Fund: Rs. 3,300/-
- Tuition Fee (per semester): Rs. 30,000/-
- Examination Fee (per semester): Rs. 9,900/-

Note: Any additional taxes imposed by the government will be the liability of the student/pseudo-guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. Past due surcharge per month will be levied on outstanding fees after the due date.

**CAREER OPPORTUNITIES**

A degree in Physical Therapy offers a challenging, satisfying, and rewarding career to the individual whose interest lies in health services to the public, business, scientific research, university teaching, and hospital practice. Physical therapists can practice independently at private clinics as well as opt for job opportunities that are available in the tertiary and primary healthcare centers, NGOs, teaching and research institutions, both nationally and internationally.
DOCTOR OF OCCUPATIONAL THERAPY

Doctor of Occupational Therapy is a five-year semester based degree programme.

LEARNING AND TEACHING STRATEGIES
Both National and International qualified teaching faculty is involved to promote better understanding through:
- a. Presentation/Assignment/Seminar
- b. Tutorials
- c. Skill based labs
- d. Projects
- e. Clinical Practice (Supervised/Independent)

CLINICAL TRAINING
Students of Doctor of Occupational Therapy have an exclusive advantage to be a part of an organisation with a large setup of tertiary care hospitals. The clinical training provides a better chance of learning and practicing the skills in this field hence prepares future therapists to play an important role in the improvement of healthcare quality in the society. Students of 3rd, 4th & 5th professional complete their clinical training in Occupational Therapy at all three sites of Dr. Ziauddin Hospital. In addition, Jauzud College of Rehabilitation Sciences (JCRS) started their clinical collaboration with other major healthcare institutions like Dow University at Health Sciences - QHA campus (DUHS), National Institute of Child Health (NICH), Abbasi Shaeed Hospital, National Institute of Child Health (NICH), National Institute of Cardio Vascular Diseases (NCCVD), Sindh Govt. Hospital, Tabba Heart Institute, Al-Imdaad Rehabilitation Association (AURA), Rabia Moos Trust, Indus Hospital and Association for Children with Emotional and Learning Problems (ACELP).

SEMESTER SUMMARY
A. BASIC HEALTH SCIENCES:
- Anatomy
- Physiology
- Biochemistry and Genetics
- Pharmacology
- Rehabilitation Medicine
- Pathology
- Psychology
- Biomechanics & Ergonomics

B. CLINICAL SCIENCES:
- Medical Conditions
- Surgical Conditions
- Development & Abnormal Psychology
- Emergency Procedure

C. OCCUPATIONAL REHAB SCIENCES:
- Introduction to Occupational Therapy
- Occupational Therapy Assessment and Evaluation
- Occupational Therapy Intervention
- Applied Geriatrics for Occupational Therapy
- Applied Geriatrics for Occupational Therapy
- Therapeutic Activities and their Techniques
- Occupational Therapy in Acute Care
- Sensory Integration
- Contemporary Issues in Occupational Therapy
- Community Based Rehabilitation and
Teaching Methodology
- Assistive Technology
- Prosthetics and Orthotics

D. SOCIAL SCIENCES AND RESEARCH:
- Sociology
- Professional Practice & Teaching Methodology
- Human Growth & Development
- Research Methodology
- Biostatistics

E. COMPULSORY SUBJECTS:
- Islamic/Moral Ethics
- Pakistan Studies
- Introduction to Computer
- English

ADMISSION POLICY
The Doctor of Occupational Therapy is a five-year semester based degree programme which is open to all science stream (Pre-Medical) students with minimum 50% marks from an accredited institution in Pakistan or equivalent to international standards.

Therefore, candidates with G/II levels must acquire equivalency before taking admission. All candidates are selected on merit according to the following criteria:
- a. SSC Marks
- b. Entrance Test Marks
- c. HSC Marks
- d. Interview

The course is offered at the Clifton location.

FEES STRUCTURE

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<thead>
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<th>Fee Type</th>
<th>Fee (Rs)</th>
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<td>At the Time of Admission</td>
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<td>Programme Fee</td>
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</tbody>
</table>

Note: Any additional taxes imposed by the government will be the liability of the students/paiar's guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 5% surcharge per month will be levied on outstanding fees after the due date.

CAREER OPPORTUNITIES
The Doctor of Occupational Therapy Programme is popular both nationally and internationally. The incorporation of research and evidence-based practice in the curriculum has opened doors for autonomous practice.
ACCELERATED DOCTOR OF OCCUPATIONAL THERAPY

Accelerated Doctor of Occupational Therapy is a one-year semester-based degree programme for professional occupational therapists, aimed at enhancing their degrees for their professional growth.

LEARNING AND TEACHING STRATEGIES

Both national and international qualified teaching faculty promote better understanding through:
- a. Presentation/Assignment/Seminar
- b. Tutorials
- c. Projects

SEMESTER SUMMARY

- Semester - I
  a. Introduction to Computers
  b. Biomechanics and Ergonomics
  c. Professional Practices and Teaching methodology
  d. Islamic studies/Pakistan studies
  e. Biostatistics
  f. English

- Semester - II
  a. Health and Wellness in Occupational Therapy
  b. Applied Pedagogy and Sensory Integration
  c. Community Based Rehabilitation and Contemporary Issues
  d. Pathology and Microbiology
  e. Occupational Therapy in Acute Care: Assistive Technology and Rehabilitative Environment
  g. Research

STUDENT ASSESSMENT EXAMINATION POLICY

- a. MCQs
- b. Short answer written examination
- c. Viva
- d. Group or individual presentation/assignment

Students are continuously assessed during the semester by the above methods. This carries 30% weightage for each course.

ADMISSION POLICY

Occupational therapy graduates who have completed their 4-year BOC/BOC1 or equivalent from an accredited institution in Pakistan or equivalent to international standards. All candidates are selected on merit, fulfilling the following criteria:
- a. BOC/BOC1 or equivalent
- b. Interviews of shortlisted candidates

FEES STRUCTURE

- Admission Fee: Rs. 5,000/-
- Security Deposit: Rs. 10,000/-
- Student Fund: Rs. 1,000/-
- Academic Transport: Rs. 30,000/-
- Examination Fee (per semester): Rs. 4,000/-
- Tuition Fee (per semester): Rs. 93,600/-
- Programme Fee: Rs. 1,61,200/-

Note: Any additional fees imposed by the government will be the liability of the students/parents/guardians.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding dues after the due date.

CAREER OPPORTUNITIES

Professional occupational therapists will be able to deliver evidence-based occupational therapy treatment and evolve with changes in healthcare system.

BACHELOR IN PHYSICAL EDUCATION, HEALTH AND SPORTS SCIENCES

Bachelors in Physical Education, Health and Sports Sciences is a four-year semester-based degree programme. In the era of educational revolution, the objective of the BS 4-years programme in Physical Education, Health & Sports Sciences is to prepare graduates for a deep knowledge of the subject as well as the ability to analyse a given situation and draw out a conclusion. The knowledge is then brought together during the study of training theory, that is, the science of how we can train most efficiently in specific sports and achieve an ideal balance between exercises, rest, and diet. The primary aim of the programme is to produce broad-based graduates able to face challenges of the modern world with a focus on physical activity, health, and performance.

LEARNING AND TEACHING STRATEGIES

Both national and international qualified teaching faculty promotes better understanding through:
- a. Presentation/Assignment/Seminar
- b. Tutorials
- c. Skill-based labs
- d. Sports Training
- e. Projects
- f. Supervised Coaching and Training

SUPERVISED COACHING AND TRAINING

Students of Quaid-i-Azam University College of Rehabilitation Sciences have an exclusive advantage to be part of an organisation with a large setup of a Sports Complex. The Sports training provides a better chance of learning and practising the skills in the field. Hence prepares students to play an important role in training and prepares athletes for upcoming competitions and seasons by polishing their physical skills and maximising their performance. The professional use proven training methods and innovative workouts to fit the needs of individual athletes. Students in the 3rd and 4th professional years will be going to different sports training academies and clubs to enhance their capabilities.

SEMESTER SUMMARY

A. Basic Sciences
- b. Physiology
- c. Anatomy
- d. Human Anatomy
- e. Anthropology
- f. Fundamental Applications of Physics
- g. Biochemistry
- h. Biomechanics & Ergonomics

B. Compulsory Subjects
- a. English
- b. Pakistan Studies
- c. Islamic Studies/UPS
- d. Introduction to Computer

C. Sports Sciences
- a. Philosophical Basis of Health, Physical Education & Sports Sciences
- b. Exercise Physiology
- c. Test Measurement & Evaluation in Physical Education & Sports Sciences
- d. Psychology
- e. Wellness & Fitness
- f. Games
- g. Athletics
- h. Gymnastics
- i. Science of Sports Training
- j. Introduction to Modern Technologies
- k. Sports Nutrition
- l. Role of Media in Sports
- m. Planning Sports Facilities
- n. Talent Identification in Sports
- o. Adapted Physical Education
- p. Specialization in one Group of Track and Field
- q. Coaching in Sports
- r. Specialization in One Game
- s. Sports Medicine
- t. Common Sports Injuries, Treatment & Rehabilitation
- u. Physical Education for Special Population
- v. Administration and Management in Sports
D. Social Sciences & Research
- Statistics
- Biostatistics
- Sociology
- Environmental Sciences
- Research Methodology in Physical Education
- Research Proposal
- Curriculum Development in Physical Education (Professional Practices & Teaching Methodologies)
- Research Thesis/Research Project

STUDENT ASSESSMENT EXAMINATION POLICY
a. MCQs
b. Short answer written examination
c. Viva, OSPE/OSEE
d. Group or individual presentation/assignments
e. Student log books or written reports

Students are continuously assessed during the semester by the above methods. This comes 30% weightage for each course.

ADMISSION POLICY
Physical Education, Health and Sports Sciences is a four-year semester-based degree program which is open to all science streams F.S.C. (Pre-Medical/Pre-Engineering), F.A., I.Com students with minimum 50% marks from an accredited institution in Pakistan or equivalent to international standards. Therefore, candidates with O/A Levels must acquire equivalency before taking admission. All candidates are selected on merit, according to the following criteria:
- SSC Marks
- HEC Marks
- Entrance Test Marks
- Interview

The course is offered at the Cityian Location.

FEE STRUCTURE
- Application Fee: Rs. 5,000/-
- Admission Fee: Rs. 25,000/-
- Security Deposit: Rs. 25,000/-
- Student Fund: Rs. 3,000/-
- Academic Transport: N/A
- Tuition Fees: Rs. 135,000/-

Note: Any additional taxes imposed by the government will be the liability of the student's parents/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

CAREER OPPORTUNITIES
Students graduating from the Physical Education, Health & Sports Sciences will be able to seek employment as an exercise specialist, fitness and wellness coordinator, sport performance researcher, and strength and conditioning specialist, as well as enter professional graduate programs in exercise sciences and other fields, such as biomechanics, exercise physiology, and motor behaviour.
ASSOCIATE DEGREE IN PHYSICAL EDUCATION, HEALTH AND SPORTS SCIENCES

Associate Degree in Physical Education, Health and Sports Sciences is a two-year semester based degree programme. In the era of educational revolution, the main objective of the 85:2 Years programme in Physical Education, Health & Sports Sciences is to prepare graduates to have knowledge of these subjects.

LEARNING AND TEACHING STRATEGIES
Both national and international qualified teaching faculty promotes better understanding in:
- Presentation/Assignment/Seminar
- Tutorials
- Skill based labs
- Sports/Training
- Projects
- Supervised Coaching and Training

SUPERVISED COACHING AND TRAINING
Students of Quaid-e-Azam College for Rehabilitation Sciences have an exclusive advantage to be a part of an organisation with a large setup of Sports Complex. The Sports training provides a better chance of learning and practicing the skills in the field, hence prepares students to play an important role in training and prepares athletes for upcoming competitions and seasons by polishing their physical skills.

SEMESTER SUMMARY
A. Basic Sciences
- Physiology
- Kinesiology
- Human Anatomy
- Anatomy
- Fundamental Applications of Physics
- Biochemistry
- Biomechanics & Ergonomics

B. Compulsory Subjects
- English
- Pakistan Studies
- Islamic Studies/Ethics
- Introduction to Computer

C. Sports Sciences
- Philosophical Basis of Health, Physical Education & Sports Sciences
- Exercise Physiology
- Test Measurement & Evaluation in Physical Education & Sports Sciences
- Psychology
- Wellness & Fitness
- Games
- Athletics
- Gymnastics
- Administration and Management in Sports

D. Social Sciences & Research
- Statistics
- Biostatistics
- Sociology
- Environmental Sciences

STUDENT ASSESSMENT EXAMINATION POLICY
a. MCQs
b. Short answer written examination
c. Viva, GSEP/ISOCE
d. Group or individual presentation/ assignments
e. Student log books or written reports

Students are continuously assessed during each semester by above methods. This carries 50% weightage for each course.

ADMISSION POLICY
Physical Education, Health and Sports Sciences is a Four-Year semester based degree programme which is open to all science-stream F.Sc (Pre-Medical/Pre Engineering), F.A., I.Com students with minimum 50% marks from an accredited institution in Pakistan or equivalent to international standards. Therefore, candidates with O/A levels must acquire equivalency before taking admission. All candidates are selected on merit, according to the following criteria:
a. SSC Marks
b. Entrance Test Marks
c. HSC Marks
d. Interview
The course is offered at the Clifton Site.

FEE STRUCTURE
- Application Fee: Rs. 25,000/-
- Semester Tuition Fee: Rs. 50,000/-
- Semester Assessment Fee: Rs. 2,000/-
- Total: Rs. 1,27,500/-

Payment of Fees: On receiving offer of admission from university, students are expected to deposit the required non-refundable admission and tuition fees within the due date mentioned in the letter. If the required fee is not submitted within the specified date, the admission will stand cancelled.

Note: Any additional taxes imposed by the government will be the liability of the students/parents/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

CAREER OPPORTUNITIES
Students graduating from the Physical Education, Health & Sports Sciences will be able to seek employment as an exercise specialist, fitness and wellness coordinator.
Diploma in Fitness & Training

Diploma in fitness and training is a 6 months training and training programme for trainers to provide competent services as physical training instructors that encourages professionalism in the field of exercise and training. It helps physical trainers to understand and general principles of exercise, training and protocols at strengthening and endurance exercise.

ADMISSION POLICY
Candidates with minimum of 12 years education are eligible for admission in diploma in fitness and training programme.

LEARNING AND TEACHING STRATEGIES
Both national and international qualified teaching faculty promotes better understanding through:
- Presentation/Assignment/Seminar
- Tutorials
- Practical sessions

DIPLOMA SUMMARY
- Anatomy of Sports and Exercise
- Biomechanics and Kinesiology
- Ethical and Legal aspects of Training
- Fitness and Exercise
- Training and Training Method
- Sports Nutrition

STUDENT ASSESSMENT EXAMINATION POLICY
- Group or individual presentation assignments
- True/False
- VIVA Practical
- The examination shall comprise of a 30% theoretical and practical evaluation of the students. The students must complete all the practical and written work as prescribed in the syllabus.

CAREER OPPORTUNITIES
The Diploma in fitness and training programme provides guidance of the fundamental basis of training prescribed to clients according to their needs. It helps fitness trainers to design and prescribe the exercise based fitness management protocol in accordance with the guideline of the American college of sport medicine.

FEES STRUCTURE

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Note: Any additional taxes imposed by the government will be the liability of the students' parents/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the governing body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. A surcharge per month will be levied on outstanding fees after the due date.
FACULTY MEMBERS

PRINCIPAL, ASSOCIATE PROFESSOR
MS. SUMAIYA IQRAIY FAIROOQ
BPT, MPAH, DPT (DT), PHD (SCHOLAR)

ASSOCIATE PROFESSOR
SYED ABD MEHDI KAZMI
BPT, MPT, DPT (DT), PHD (SCHOLAR)

ASSISTANT PROFESSOR, HOD, PHYSICAL EDUCATION & SPORTS SCIENCES
MR. M. USMAN KHAN
BPT, DPT, MSPT

HOD, OCCUPATIONAL THERAPY
MS. NEELUM ZEHRA BHARI
BSC, MSc, HEALTH CARE MANAGEMENT, ADGT

ASSISTANT PROFESSOR, MPHIL COORDINATOR
MS. AMEERA AANIR KHAN
BPT, MSPT, MPhil, ADPT, PhD (SCHOLAR)

ASSISTANT PROFESSOR, DPT COORDINATOR (CLINTON)
MR. NADEEM BAIG
BPT, MSc, DPT

ASSISTANT PROFESSOR, DPT COORDINATOR (NORTH)
MS. QI PAT-UL-AIN ADHAN
BPT, MSPT, ADPT

ASSISTANT PROFESSORS
MR. ABD KHAN
BPT, MPHIL, ADPT
MR. ALI FARHAD
BPT, ADPT, LLB, MPhil, MSc
MS. ASMA HAMEED
BPT, MSPT, DPT (DT)
MS. BEENISH ZAFAR
BPT, MMA, ADPT
MS. SAIMA ALI
BPT, MSc, DPT (DT)
MS. ZARA ZULFIQAR
BPT, MSPT, DPT (DT)

SR. LECTURER, ADPT COORDINATOR
MR. SHAHRUKH AHMAD
BPT, ADPT, MPHIL (ENROLLED)

SR. LECTURER, DPT COORDINATOR
MR. HAKIM ULLAH
BPT, ADPT

SR. LECTURERS
MR. AHAD HASAH
BPT, DPT (DT), MSc
MS. ASIA RIZWAN
MA IN ENGLISH, LITERATURE, LINGUISTICS, TEFL
MS. FATIMA KHAN
BS OT, MS PSYCHOLOGY
MS. HUMA ASIF
BSc (Hons), MSc
MS. RIQWA YASIR SHAH
BPT, ADPT, MSc
MS. SARPAR NASOOG
BPT, DPT (DT), MPHIL (ENROLLED)
MS. SUMAIYA AZAF
BSc (Hons), MSc PSYCHOLOGY
MS. YUSRA ARSHAD
BSc (Hons), MSc PSYCHOLOGY
MS. ZULEKHA SALEEM
DPT, MPHIL (ENROLLED)

LECTURERS
MS. AL WARDAH
BPT, MSPT (DT), ADPT
MS. AREEBA KHAN
DPT
MS. AMMARA AMIR
BSc (Hons), MSc PSYCHOLOGY
MS. BATOMI, HASSAN
BPT, ADPT, MPHIL (ENROLLED)
MS. HAFIZA JAVEER
BPT, DPT (DT), MPHIL (ENROLLED)
MS. JAZIA RIZVI
DPT, MPHIL (ENROLLED)
MS. KAMRI YASMIN
DPT
MS. MAHARAN HIAKHATRI
DPT, MPHIL (ENROLLED)

MR. MUHAMMAD AHMED
DPT, MSPT (ENROLLED)
MR. MUHAMMAD ATEF HASHMI
DPT, MPHIL (ENROLLED)
MR. MUNCRA ALI NAIRAM
DPT, MPHIL (ENROLLED)
MS. SABINA ZHARA
BPT, MSPT, DPT (DT)
MS. SADIA SHAFAQ
DPT, MPHIL (ENROLLED)

MS. SANA MEHMOOD
DPT, MPHIL (ENROLLED)
MR. SYED SAIFFUL HAQ
BPT, DPT (DT), MPHIL (ENROLLED)
MR. SHEIKH MUHAMMAD MUNIR
DPT
MR. TAIMOOR KHAN
DPT, MS (DT), MPHIL (ENROLLED)
COLLEGE OF NURSING

KEY INFORMATION
Dean, College of Nursing
Dr. Farzana Tariq

CONTACT INFORMATION
Website: https://can.zu.edu.pk/
Telephone: +92-21-366-8237-9 Ext: 6425
Fax: +92-21-36641467
Locate in:
K-65, Block F, Ali M. Rasheed Turab Road, North Nazimabad, Karachi.

PROGRAMMES OFFERED
DEGREE PROGRAMMES
MASTER OF SCIENCE IN NURSING (2 YRS)
POST RN BSN (2 YRS)
BACHELOR OF SCIENCE IN NURSING (4 YRS)

DIPLOMA PROGRAMMES
Diploma in Midwifery (3 YRS)
Paramedical Technician Course (1 YRS)
Certified Nursing Assistant (1 YRS)

My journey in Bachelors of Science in Nursing from the Ziauddin University College of Nursing was very eventful. At first when I joined College of Nursing on the 5th of Oct, 2015, I was not familiar to the nursing profession. But as time went by, I was very pleased to learn about the tasks that we do as nurses for humanity. To be a Nurse is not less than a blessing. Furthermore, learning depends on certain key factors such as teachers, colleagues, the environment etc. and by God’s blessing I was blessed by great teachers throughout my 4 year journey in ZUCON. In addition to this, my colleagues proved to be highly cooperative in every situation and stayed by my side in this long journey. I was truly blessed with a great bunch of people. Another key factor I would like to mention is the educational facilities (Library, Skills Lab, and Computer Lab) provided in ZUCON, which helped me fulfill my tasks on time and hence it contributed to my success. Lastly, the most important part of my journey was the everlasting support and prayers of my parents.

ROJER MASIH
BScN
INTRODUCTION

Ziauddin University College of Nursing was the first academic unit of Ziauddin University. It was established and recognized by the Pakistan Nursing Council in 1986. In 2007, the school of nursing was upgraded to the level of College. The college offers various programmes at undergraduate and graduate level to students coming from varied ethnic and socio-economic backgrounds of Pakistan. The reputation of Ziauddin College of Nursing has grown nationally and internationally owing to the competency, critical thinking and knowledge of its alumni.

VISION

To be a prestigious institution of higher education recognized for its academic excellence and research, nurturing ethical and intellectual curiosity in the recipients of higher education and positively contributing towards the development of a knowledge-based society in Pakistan which can fully understand the global challenges in the rapidly changing political, economic and social paradigm.

MISSION

Ziauddin College of Nursing is committed to the development of human capacities through the delivery of education and dissemination of knowledge, and application through service. It aims to prepare its graduates for providing competent quality care to the populations at all levels of healthcare.

To advance this mission, Ziauddin University College of Nursing:
- Provide high-quality client care based on sound knowledge in practice through education and experience.
- Respond to the identified needs of nursing and healthcare in Pakistan.
- Enhance the university’s professional and public mission through active institutional support and involvement in service activities.
- Develop and implement leadership and networking with other local, national and international institutions.
- Promote research and scholarship, which will inform and contribute to intellectual innovation and change.
- Foster and develop leadership capacity through education and research programmes.
- Engage in knowledge networking and emerging technologies related to nursing sciences.

AIMS

Ziauddin College of Nursing aims to prepare nurses with advanced knowledge, skills and attitudes that are needed to practice efficient and skillful nursing at an international and national level. Hence, upon graduation, students are able to demonstrate responsibility and accountability to the nursing profession by:
- Adhering to established patterns of professional practices, which support legal, ethical and moral framework.
- Utilizing effective critical thinking and problem-solving skills in caring for the individual, family and communities.
- Integrating scholarly skills and the use of scientific methods in critiquing, applying existing nursing theories and research findings in selected practice settings.
- Applying effective verbal and written communication in interpersonal and professional interactions with peers, patients, families and other professionals.
- Demonstrating a high degree of competence in the use of available resources to support the identified needs of individual, families and communities.
- Developing leadership skills to promote development of the nursing profession.

EDUCATIONAL OBJECTIVES

- Maintain high-quality programmes of learning that prepare nursing students to meet the healthcare needs of individuals, families and communities.
- Provide effective and efficient support for learning and teaching.
- Maintain effective systems of ongoing assessment and evaluation to assure high-quality programmes.
- Engage in the discovery and development through scholarly work, teaching and service to add to the body of nursing science.
- Create an effective infrastructure for research to enhance the quality and quantity of student development.
- Demonstrate effective instructional tools in providing care to individuals, families and communities by using evidence-based literature and problem-solving skills.

PROGRAMMES OFFERED

Ziauddin College of Nursing currently offers the following programmes:

<table>
<thead>
<tr>
<th>DEGREE PROGRAMMES</th>
<th>Master of Science in Nursing (3 Years)</th>
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<tbody>
<tr>
<td>Post RN (MSN) (2 Years)</td>
<td>Bachelor of Science in Nursing (4 Years)</td>
</tr>
</tbody>
</table>

DIPLOMA PROGRAMMES

Diploma in Nurse Midwifery (1 Year)

MASTER OF SCIENCE IN NURSING (MSN)

Master of Science in Nursing is a two-year postgraduate degree programme that aims to prepare nurses with specialized knowledge and skills to navigate in an area of nursing expertise and to promote health care for individuals such as specialized clinical practice, administration, and education. While the benefits of an MSN degree include increased career opportunities and income, it is an accomplishment that requires significant time, effort, and expense.

PROGRAMME OBJECTIVES

- Apply knowledge of nursing concepts, theories and frameworks to the advanced nursing roles.
- Utilize and disseminate research in nursing practice.
- Provide leadership in community health.
- Utilize science and skills to provide advanced quality care to the clients and their families.
- Demonstrate commitment to the professional growth and lifelong learning.
- Critically evaluate various educational programmes in nursing.
- Demonstrate leadership qualities and function effectively as a nurse educator and manager.

LEARNING AND TEACHING STRATEGIES

Various learning and teaching strategies are used at College of Nursing which includes interactive lectures, small group discussions, review of articles, presentation (individual/pair), role-play, field visit, problem-solving exercises, self-study, brainstorming, problem-based tutorials, computer-based language learning and clinical integration.

SEMESTER SUMMARY

Semester I

The first semester of MSN includes courses such as Statistics and Research Methods, Epidemiology, and Biostatistics.

Semester II

The second semester of MSN includes courses such as Advanced Concepts in Pharmacology, Advance Concepts in Health Assessment, Advance Concepts in Pathophysiology, and Advance Concepts in Clinical Practice.

Advance Concepts in Pathophysiology provides an understanding of the role of advanced knowledge base of particular disease processes underlying human illness. It will provide a critical analysis of the effects of specific disease processes on the function of organ systems and the patient's overall health status. A brief review of normal physiology and anatomy will be included. Emphasis will be on the pathophysiology of selected disorders and diseases associated with altered health states in adults. Laboratory and diagnostic data, as well as clinical assessment, will be integrated.

Advance Concepts in Pharmacology will provide a
basis for understanding the use of pharmacotherapeutic agents. Content will be at a level appropriate
for residents in training for MSN and PhD. Content will be organised around body systems and the main categories of drugs that impact the
specific system. Topics will include information on therapeutic adverse effects and indication for use,
drug interactions. Students will be expected to integrate knowledge of categories of drugs as it relates to
clinical practice in the development of care studies for pharmacotherapy.

Advance Concepts in Clinical Practice will focus on development of knowledge for clinical decision-making in the assessment, diagnosis and management of health problems across the life span. Topics will include health promotion and prevention, disease prevention, diagnosis and treatment of common acute and chronic illnesses in adults.

Semester III
This third semester includes the courses such as; Nursing Leadership & Management, Public Health, Educational Design.

The aim of Public Health Nursing is prevention of illness, disability, and death, early identification of risk factors, and promotion of optimal health. Public health and nursing models will be used to plan for the health of communities. Clinical and public health nursing delivery systems will be described and analyzed.

The course of Educational Design will help to explore the philosophical foundations of the educational programme. The students will discuss concepts of curriculum development, implementation and evaluation. In addition, student will explore values and issues that influence the implementation of curriculum. The students will explore the role of faculty in relation to the changing trends in education. Students will reflect on different teaching/learning strategies used for educational programmes. Reflection on educational research will be emphasized during the course.

Leadership and Management in Nursing Practice is designed to examine organizational leadership and management theories and related research as applied to the health care system. Conceptualization and application of organizational theories and concepts to an analysis of nursing administration within the larger healthcare system, the role and impact of nursing in healthcare organizations and the emerging issues will be addressed throughout the course.

Semester IV
In the fourth semester of the MSN programme, students will work to finalize their thesis and will undergo senior elective courses.

Advance Specialty Practicum will allow students to focus on individualized needs within the areas of educational setting. This course will allow students to explore issues and concepts within educational settings that are appropriate for them. This course is designed to enable students to integrate the educational planning process for developing nursing programmes including implementation and evaluation of the practicum.

ASSESSMENT OF DEGREE PROGRAMMES
a) Continuous Assessment
Continuous assessment is conducted by the College of Nursing for regular and repeating students.
Continuous assessment weights 50% towards the final grade and must be taken by the University Examination Department.
Some courses will be assessed 100% internally by the College of Nursing (those mentioned in the curriculum are)
All clinical exam will be passed at a satisfactory level according to the competencies stated in the clinical evaluation form.
Students must pass both the components (theory and clinical) before appearing for the final university exam.

b) University Examination
It is conducted by the University Examination Department for all degree programmes.
The degree programmes University Examination will be held at the end of each semester of the academic year.
The examination dates for all degree programmes will be announced by the University Examination Department with the consultation of the Dean/Principal of College of Nursing.

ADMISSION POLICIES AND PROCEDURE
a) ADMISSION TEST
Graduate Assessment Test (GAT) via University Examination Department at IIMs mandatory for all eligible applicants.

b) INTERVIEW
Applicants will be interviewed to assess their suitability to complete the programme and pursue a career in nursing services, education and management. Interview will be held at the Ziauddin University College of Nursing.

c) APPLICANT SELECTION
Candidates must pass the GAT and 1600 minimum score on the PEC's English language test (PICT).

FEE STRUCTURE

<table>
<thead>
<tr>
<th>Fee Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission fee (once at the time of admission)</td>
<td>Rs. 120,000</td>
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<tr>
<td>Security Deposit</td>
<td>Rs. 10,000</td>
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<tr>
<td>Medical/Transportation</td>
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<tr>
<td>Laboratory Charges</td>
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<td>Examination Fee</td>
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<td>Academic Fee</td>
<td>Rs. 10,000</td>
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<td>Documentation Fee</td>
<td>Rs. 10,000</td>
</tr>
<tr>
<td>Tuition Fee (per semester)</td>
<td>Rs. 17,500</td>
</tr>
</tbody>
</table>

Note: Any additional taxes imposed by the government will be the liability of the students/patients.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

CAREER OPPORTUNITIES
The opportunities in this career are endless. After several years of experience, the nurse is eligible to pursue a specialization of choice. This can often mean more opportunities in the nursing profession, including leadership, education or management.
POST RN BSN

This programme is designed to provide the Regis-
tered Nurse at diploma level with the opportunity to
acquire a broad liberal degree level education
with particular emphasis on theoretical and clinical
knowledges of relevant theories and skills in specific areas
of nursing practice, relate knowledge of the roles and
responsibilities of the practitioner in her/his clinical
practice setting and participate collaboratively as
peers with other health professionals during
Evidence Based Clinical Practice. The goal is also
Demonstrate an in-depth approach to solving
problems during the practicum experience and
Demonstrate self-directed learning abilities to com-
plete the practicum.

LEARNING AND TEACHING STRATEGIES

Various learning and teaching strategies are used
which includes: interactive lectures, small group
discussion, role plays, case studies, self study, brain
storming, problem based tutorials, computer based
language learning and clinical integration.

SEMESTER SUMMARY

Semester I

The course of Biochemistry is intended to provide
the healthcare professionals with an understanding of
the major functions of living organisms, proteins,
carbohydrates, lipids, their structure and biochemical functions. It also
provides an introduction to the chemistry of biomolecules,
metabolism, biochemistry, and molecular biology.

The aim of the course for Advance concepts in
Nursing is to enhance student’s nursing knowledge and
skills essential in caring for patients and their
families in tertiary healthcare settings. The course
focuses on enhancing the advance clinical skills of
nursing assessment, analysis of clients nursing care
needs, and implementing preventive and thera-
pytic nursing interventions based on physiologi-
cal, psychosocial, cultural and spiritual concepts.
In addition, the course also incorporates concepts
and knowledge of anatomy and physiology,
pathophysiology and pharmacology.

Health Assessment aims at developing the skills and
knowledge needed to assess the basic health
status of individuals of varying ages and conditions.
These skills can be applied to identify health prob-
lems and designing nursing care in a wide variety
of clinical settings. The course emphasizes history
and physical examination skills applied to the
nursing practice.

The course of Pharmacology provides students with
the knowledge and skills to appreciate the altered
physiological mechanisms and pharmacokinetics
including the impact of the clinical practice setting
and social determinants of health. The course will
also deal with the role of the body in metabolism and
pharmacokinetics and pharmacodynamics in
relation to disease process and impact on cellular function of the
body.

Through the course of English, students will develop
reading, writing and critical thinking skills. They will be
required to write academic essays as well as
Summarizing and referencing as per APA. They will
develop some familiarity with self-directed learning
skills.

Semester II

This course of Advance concepts in Nursing II (Men-
tal Health) facilitate the learners to apply principles
of human behaviour in providing insight into the
psychological, emotional, and spiritual needs of
people with mental health problems. The learners will be able to
provide specialized care to patients with mental health problems.

Electives

Evidence Based Clinical Practice. This course will
provide in-depth knowledge, understanding and
clinical skills for advanced practice. It is based on
evidence based clinical practice to enhance the advance practice
of professional nursing in a variety of healthcare settings.

The course aims to enable the learners to respond to the
needs of the community by helping people, families, and
communities through therapeutic nursing care. The
learners use evidence based approaches to assist the client in
achieving optimal health and adapting to the changing
state of health. The course is intended to cover the
following areas of interest: evidence based
Clinical Practice, Clinical Practice, Clinical Practice,
Clinical Practice, Clinical Practice, Clinical Practice.

The course of Advance Concepts in Critical Care
(ACCC) prepares the learner to provide safe,
effective healthcare to patients with complex
medical needs. The course focuses on physical
assessment, diagnosis, and management of
patients in critical care settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in critical care settings.

The course of Advance Concepts in Child Health
(ACCH) prepares the learner to provide safe,
effective healthcare to children and their families in
various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
childbearing and childbearing settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in childbearing and childbearing settings.

The course of Advance Concepts in Women's Health
(AWCH) prepares the learner to provide safe,
effective healthcare to women and their families in
various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
women's health settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in women's health settings.

The course of Advance Concepts in Geriatric Health
(ACGH) prepares the learner to provide safe,
effective healthcare to older adults and their families in
various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
geriatric health settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in geriatric health settings.

The course of Advance Concepts in Palliative Care
(ACPC) prepares the learner to provide safe,
effective healthcare to patients with terminal
diseases and their families in various healthcare
settings. The course focuses on physical assessment,
diagnosis, and management of patients with
acute and chronic conditions in palliative care
settings. The learners will be able to apply evidence
based practice to manage patients with acute and chronic
conditions in palliative care settings.

The course of Advance Concepts in Public Health
(ACPH) prepares the learner to provide safe,
effective healthcare to communities and populations
in various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
public health settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in public health settings.

The course of Advance Concepts in Occupational Health
(ACOH) prepares the learner to provide safe,
effective healthcare to workers and their families
in various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
occupational health settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in occupational health settings.

The course of Advance Concepts in Mental Health
(ACMH) prepares the learner to provide safe,
effective healthcare to patients with mental health
problems and their families in various healthcare
settings. The course focuses on physical assessment,
diagnosis, and management of patients with
acute and chronic conditions in mental health
settings. The learners will be able to apply evidence
based practice to manage patients with acute and chronic
conditions in mental health settings.

The course of Advance Concepts in Women's Health
(ACWH) prepares the learner to provide safe,
effective healthcare to women and their families in
various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
women's health settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in women's health settings.

The course of Advance Concepts in Geriatric Health
(ACGH) prepares the learner to provide safe,
effective healthcare to older adults and their families in
various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
geriatric health settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in geriatric health settings.

The course of Advance Concepts in Palliative Care
(ACPC) prepares the learner to provide safe,
effective healthcare to patients with terminal
diseases and their families in various healthcare
settings. The course focuses on physical assessment,
diagnosis, and management of patients with
acute and chronic conditions in palliative care
settings. The learners will be able to apply evidence
based practice to manage patients with acute and chronic
conditions in palliative care settings.

The course of Advance Concepts in Public Health
(ACPH) prepares the learner to provide safe,
effective healthcare to communities and populations
in various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
public health settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in public health settings.

The course of Advance Concepts in Occupational Health
(ACOH) prepares the learner to provide safe,
effective healthcare to workers and their families
in various healthcare settings. The course focuses on
physical assessment, diagnosis, and management of
patients with acute and chronic conditions in
occupational health settings. The learners will
be able to apply evidence based practice to
manage patients with acute and chronic
conditions in occupational health settings.

The course of Advance Concepts in Mental Health
(ACMH) prepares the learner to provide safe,
effective healthcare to patients with mental health
problems and their families in various healthcare
settings. The course focuses on physical assessment,
diagnosis, and management of patients with
acute and chronic conditions in mental health
settings. The learners will be able to apply evidence
based practice to manage patients with acute and chronic
conditions in mental health settings.
Nursing Practice is designed to stimulate scholarly inquiry about the research focus on developing an understanding of scientific approach and methodology of the research process and critical appraisal of existing nursing and related health literature. The contents will enable nurses to critique qualitative and quantitative research literature and utilize research findings to promote relationships of research to practice, education, and administration.

The course of Professional Development and Ethics is designed to provide the learner with an overview of basic concepts of ethics, its theory, principles, and norms. This course will raise awareness of factors that need to be considered when dealing with ethical decisions and affirm nursing as an ethically responsible profession. It will also provide a forum for learners to reflect upon issues of ethical dilemmas in which they identify during their clinical practice. Moreover, the course will help students to understand the dimensions of professional knowledge and development and the importance of ethics in their professional advancement.

English III is designed to enable the students to acquire specific language skills for leadership roles in a hospital setting. The main focus is on the language of persuasion and argumentation in oral and written communication.

Leadership and Management provides the learners' concepts and principles of leadership and management and professional development in a healthcare system that fosters positive, creative, and caring environment. It prepares nurses for assuming the role of leaders along with their effective applications in a context that is considered important for professional nursing practices in the contemporary world.

Semester IV
Evidence Based Clinical Practice
Evidence Based Clinical Practice. This course will provide in-depth knowledge; understanding, and clinical application of evidence based clinical practice to enhance the advance practice of professional nursing in a variety of healthcare settings. It will enable the learners to respond to the needs of society by helping persons, families, and communities through therapeutic nursing care. The learners use clinical judgment to assist in achieving optimal health and adapting to alter state of health.

Students are required to select a practicum experience related to their specified area of interest (Clinical Education). Clinical Management, Health Care System and Occupational Health Nursing. This course will promote leadership qualities such as critical thinking, problem solving, and decision making capabilities among students.

The course of English IV (Scholarly Writing) has been designed to enhance the scholarly writing skills of nurse leaders. In addition, it allows for development of academic and professional language skills. The course of Islamic studies is aimed at providing basic information about Islamic Studies and to enhance understanding of the students regarding Islamic civilization and their significance.

ASSESSMENT OF DEGREE PROGRAMME
a) Continuous Assessment
- Continuous assessment is conducted by the College of nursing for the regular and repeating student.
- Continuous assessment weights 50% towards the overall marking whereas the other 50% is evaluated by the University Examination Department.
- Some courses will be evaluated 100% internally by the College of Nursing (those mentioned in the curriculum programme curriculum).
- All courses must be passed at a satisfactory level according to the components stated in the clinical evaluation form. Unsatisfactory performance can lead to a learning contract.
- Students have to pass both the components (theoretical and clinical) before appearing into final examination.
- A University Examination is conducted by the Jamia University Examination Department for all degree programmes.
- The degree programmes University Examination will be held at the end of each semester of the academic year.
- Examination dates for all degree programmes will be announced by the Examination Department with the consultation of the Dean/Principal of College of Nursing.

ADMISSION POLICY
a) ADMISSION TEST
Ziauddin University College of Nursing conducts an Admission Test through the University Examination Department for all eligible applicants. The test consists of Multiple Choice Questions and short questions of various types. The following subjects are assessed in the admission test:

Post RN BScN Programme
The test comprises of three sections designed to assess each applicant’s performance in the areas of:
- Nursing Knowledge
- Mathematics & Logical Reasoning
- English

b) INTERVIEW
Applicant will be interviewed to assess their suitability to complete the degree course and pursue a career in nursing services. The interview will be held at the Ziauddin University College of Nursing.

c) APPLICANT SELECTION
Applicant selection in Ziauddin University College of Nursing is strictly based on merit and applicants are considered on the basis of admission tests and interview results.

ELIGIBILITY CRITERIA
- Matriculation (Biology Science Group or Pre-HEC requirement).
- Diploma in General Nursing.
- Diploma in Midwifery (for male candidates, any post basic specialty in lieu of midwifery).
- 2 years of clinical experience (including 1 year of internship).
- Valid registration with PNC (Pakistan Nursing Council).
- Age: No age limit.

FEE STRUCTURE
- Admission Fee (once at the time of admission – non-refundable): Rs. 32,000/-
- security deposit (once at the time of admission – refundable): Rs. 3,000/-
- Student Fund (once at the time of admission): Rs. 4,000/-
- Lab Fees (once at the time of admission): Rs. 3,000/-
- Examination Fee (once at the time of admission): Rs. 2,000/-
- Academic Visit (once at the time of admission): Rs. 4,000/-
- Tuition Fee (per semester): Rs. 17,400/-
- Examination Fee*: Rs. 6,000/-

*Subject to increase by ZU Examination Department.

Note: Any additional fees imposed by the government will be the liability of the students, parents/guardians.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

REQUIRED DOCUMENTS
The following documents are required to be presented at the time of interview:
- Copy of Diploma in General Nursing.
- Copy of Diploma in Midwifery (for male candidates, any post basic specialty in lieu of midwifery).
- Copy of valid registration with PNC card.
- Copy of 2 years clinical experience letter.
- Copy of Matriculation certificate (Biology Science Group).
- Copy of Domicile.
- Copy of can Di age and parent/guardian CHIC.
- HSC from recognized department (if sponsored).

CAREER OPPORTUNITIES
The opportunities in nurse careers are endless. After several years of experience, the nurse is eligible to pursue a specialization of choice. This can often mean more opportunities in the nursing profession, including leadership, education, or management.
BACHELOR OF SCIENCE IN NURSING (BSN)

This is a four-year degree programme, leading to the title of a Registered Nurse. The degree programme fosters integrated nursing knowledge, skills and professional attitude. Upon completion of the programme, the graduate is prepared to be a safe clinical nurse, who will be able to provide comprehensive care at primary, secondary and tertiary levels, within hospitals and community settings.

Moreover, the BSN student will be registered with the Pakistan Nursing Council after completing one year internship as per the revised nursing practice act, and pass the PNCC licensing examination.

PROGRAMME OBJECTIVES

The major goals of the BSN Programme are:

1. To prepare competent, safe, committed, and knowledgeable nurses in hospitals and community settings.
2. To educate nurses with the appropriate knowledge, skills and attitudes and with clinical competencies.
3. To integrate evidence-based science into clinical practice to provide holistic care for individuals, families, and communities.
4. To enable nurses to meet the future challenges, including changes in technology, continuing healthcare in the 21st century.
5. To adhere to an established pattern of professional practices within the professional, religious, cultural, legal, and ethical boundaries of Pakistan.
6. To develop effective interpersonal and communication skills while dealing with peers, patients, families, communities and other professionals.
7. To initiate a leadership role in the planning, implementation, and evaluation of individual, family and community.
8. To maintain a safe and healthy environment for the promotion of health, disease prevention and maintenance of health.
9. To provide information, counseling and health education to individuals, families, and communities.
10. To participate in screening, case ascertainment and management of common minor illness and injuries.
11. To act as a change agent to promote quality improvement in the performance of nursing responsibilities.

ELECTIVES

Course Description

The course is designed to provide an opportunity for BSNI students to enhance their nursing knowledge and skills in selected hospital clinical settings. Emphasis will be on integration and application of knowledge and skills from previous coursework in order to demonstrate the ability to design and implement nursing care in accordance with updated clinical guidelines.

Course Objectives

On completion of this course, the student will be able to:

1. Coordinate and manage care of patients across the continuum to meet the health needs of individuals, families, and communities.
2. Demonstrate critical thinking in professional practice.
3. Model leadership role within the scope of nursing practice.
4. Formulate individual goals for professional development.

LEARNING AND TEACHING STRATEGIES

Various learning and teaching strategies are used at the College of Nursing which includes: interactive lectures, small group discussions, review of articles, presentation (individual/pair), role-play, field visit, problem-solving exercises, self-study, brainstorming, web-based tutorials, computers based language learning and clinical integration.

SEMESTER SUMMARY

Semester I

The first semester of BSN Year I includes courses such as: Fundamentals of Nursing I, Microbiology, Anatomy I, Physiology I, and Biochemistry I.

The microbioogy course is designed to familiarize the students with the knowledge of basic concepts and scientific principles of Microbiology.

The Biochemistry course is designed to familiarize the learners with the knowledge of basic concepts and scientific principles of Biochemistry. Biochemists mainly study the structures and functions of enzymes, proteins, carbohydrates, fats, process of metabolism and the molecular basis of the action of genes.

The Anatomy and Physiology I course introduces learners to the study of anatomical and physiological structures and functions of the human body. Knowledge of Anatomy and Physiology will provide a better understanding and integration to theoretical and clinical practice in nursing care situations.

The Fundamentals of Nursing course introduces the student to nursing as a professional discipline. The concept of a professional nurse is addressed through an overview of the role of the nurse in selected hospital settings. Defining nursing education, the practice role of the nurse and the functions and responsibilities of nurses in hospitals and community settings are discussed.

Semester II

The second semester of BSN II includes courses such as: Fundamentals of Nursing II, Anatomy & Physiology II, Community Health Nursing I, English II, Statistics, and Examinations.

The Community Health Nursing course introduces students to the basic concepts of Community Health Nursing with the emphasis on Primary Healthcare and Environmental Effects on health. This course introduces students to the factors influencing the health of an individual, family, and community. Students will also develop knowledge about the Pakistan Health System, components of Health Education, Community Services and Organizations of Health Services.

The Applied Nutrition course is designed to familiarize the learners with the application of knowledge of nutrition in the prevention and treatment of diet related diseases, both in the community and hospital settings. It further enhances the learners' understanding in managing nutritional needs of patients with chronic and long term diseases.

Semester III

The Adult Health Nursing course aims to familiarize students with the knowledge and skills to care for adult patients admitted to the hospital with various disease conditions. They also study Pathophysiology as a subject to build on the concepts and knowledge about the altered physiological mechanisms and their impact on the functional status of the body. The course is designed to provide a clear understanding of the pathophysiological processes that occur in the body. Students will learn to identify and address the needs of patients with chronic and long term diseases, including those with chronic and long term conditions.

Pathophysiology gives the opportunity to students to build on the concepts and knowledge about the altered physiological mechanisms and their impact on the functional status of the body. The course aims to provide a comprehensive overview of the pathophysiologic processes that occur in the body. Students will learn to identify and address the needs of patients with chronic and long term diseases, including those with chronic and long term conditions.

Semester IV

The second semester of BSN includes courses such as: Adult Health Nursing II, Pathophysiology II, Health Assessment II, Developmental Psychology, Pharmacology I, English III and IV, Nursing Ethics. Adult Health Nursing II provides opportunities to students to develop safe and competent care for patients with various common and chronic health problems, including musculoskeletal, neurological, and skin disorders.

The Pathophysiology course focuses on the study of knowledge about drugs, their pharmacology, therapeutic effects, adverse reactions, toxic effects, and abuse. This course emphasizes the importance of pharmacology in the design of safe and effective drug therapy. The course emphasizes the importance of pharmacology in the design of safe and effective drug therapy.
Nursing course is designed to develop knowledge, skills and attitudes in the care of children in a field setting. Students learn concepts related to Growth and Development and their role in the care of children. The teaching-learning process uses didactic and experiential methods to impart knowledge and skills in a variety of healthcare settings. The Nursing course includes a practicum component where students apply theoretical knowledge in real-world situations. Students may also attend seminars, workshops, and lectures to enhance their learning experience.

Semester VI

In the second semester of BSN, students are introduced to Biostatistics, Behavioural Psychology, Epidemiology, Cultural Health and Society, and Gender issues. The course aims to equip students with knowledge of biostatistical concepts and their application in healthcare. Students are also taught about the impact of gender on health and society. The course includes case studies and practical sessions to help students apply theoretical knowledge in real-world situations.

Semester VII

In the final semester of BSN, students are taught various concepts related to the care of the elderly, including dementia, aging, and chronic diseases. The course also includes a practicum component where students work with elderly patients in healthcare settings. Students learn about the challenges faced by the elderly and how to mitigate them. The course includes seminars, workshops, and lectures to enhance students' learning experiences.
DIPLOMA IN NURSE MIDWIFERY

This is a one year programme, leading to a Diploma in Nurse Midwifery applicable for those candidates who have passed B.Com Examination (Post Basic). The aim of the programme is to reduce the high maternal mortality rates across the country.

LEARNING AND TEACHING STRATEGIES
Various learning and teaching strategies are used at College of Nursing which includes: Interactive Lectures, Small Group Discussion, Review of Articles, Presentation (Individual/Pair), Role-play, Field Visit, Problem Solving exercises, self-study, brainstorming, problem based tutorials, Computer Based Language Learning and Clinical Integration.

SEMESTER SUMMARY
Semester I & II
During the academic tenure, the Nurse Midwives study the major subjects including Obstetrics and gynecology. Each student must perform at least 20 antenatal examination in Clinics/homes, 3 vaginal examinations and conduct 25 deliveries, each of which must be entered in their case books which must be properly maintained in its prescribed form. The student must also witness at least 25 Cases (normal).

ASSESSMENT OF DIPLOMA PROGRAMME
- The programme is assessed by Sindh Nurses Examination Board.
- Examination policy of Ziauddin College of Nursing is applicable for all diploma programmes.

ELIGIBILITY CRITERIA
- RN/Genuine BSN and registered with Pakistan Nursing Council (PNC).
- Female

REQUIRED DOCUMENTS
The following documents will be required to be presented at the time of the interview:
- Copy of Matric Certificate
- Copy of Diploma in General Nursing

FEE STRUCTURE
- Admission Fee (once at the time of admission – non-refundable): Rs. 32,000/-
- Security Deposit (once at the time of admission – refundable): Rs. 5,000/-
- Student Fund (once at the time of admission): Rs. 5,000/-
- Laboratory Charges (once at the time of admission): Rs. 3,000/-
- Tuition Fee (Year 1): Rs. 15,000/-

Note: Any additional taxes imposed by the government will be the liability of the student/parent/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

CAREER OPPORTUNITIES
The opportunities in the nursery careers are endless. After several years of experience, the nurse is eligible to pursue a specialization of choice. This can often mean more opportunities in the nursing profession, including leadership, education or management.

PARAMEDICAL TECHNICIAN COURSES

The Nursing field is one where the responsibility of the professional is to provide quality care and patient centered care to patients. Due to the pandemic COVID-19, the demand of professionals has increased. To fulfill the requirement of the profession and current situation, Ziauddin University College of Nursing, has taken initiative and offers different technician programmes to empower the members of the youth to join a professional training pathway to build a professional career after the secondary school certificate.

There are few approved technician programmes which are affiliated with the Sindh Medical Faculty (SMF). Other remaining programmes are under the College of Nursing, Ziauddin University. Depending upon the response and number of students interested in different technician nursing programmes, they will also be later registered with SMF.

- ECG Technician
- EOG Technician
- X-Ray Technician
- Operation Theater Technician
- Emergency Medical Technician (Ambulance)

ELIGIBILITY CRITERIA
- Matric Science (Biological Subject) with minimum 45% marks from any educational Board of Sindh.
- domicile of Sindh province, concerned district candidates will be given priority.
- For the admission in ICU candidates must have a one year anesthesia course certificate.

REQUIRED DOCUMENTS
- One photocopy of matriculation certificate/Provisional Certificate (SSB Board)
- One photocopy of Mark Sheet (SSB Board)
- One photocopy of domicile (SSB, Applicant CINC above 18/B.Farm (under 18), parent/guardian CINC)
- Original copy of birth certificate from a court.
- One photocopy of Character Certificate from Principal/Hospital Master.
- One photocopy of Anesthesia Course Certificate for ICU Technician course (if applicable).

FEE STRUCTURE
- Admission Fee (once at the time of admission – non-refundable): Rs. 22,000/-
- Security Deposit (once at the time of admission – refundable): Rs. 5,000/-
- Student Fund (once at the time of admission): Rs. 5,000/-
- Laboratory Charges (once at the time of admission): Rs. 3,000/-
- Tuition Fee (Year 1): Rs. 15,000/-
- Examination Fee: Rs. 5,000/-

Note: Any additional taxes imposed by the government will be the liability of the student/parent/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.
CNA (CERTIFIED NURSING ASSISTANT) PNC APPROVED PROGRAMME

Healthcare profession is changing with each passing day. COVID-19 has transformed the educational and professional training and education globally. The pandemic increased the burden of complex healthcare needs of patients on the healthcare industry and its workers. Pakistan is already facing severe shortage of qualified nursing staff. The College of Nursing at Ziauddin took an initiative and with collaboration of Ziauddin Board of Education which is offering BSc Nursing (HSSC), restated the programme of Certified Nursing Assistant (CNA) as we feel that our healthcare system needs more nursing assistants in this profession. Dr. Ziauddin University Examination Board is offering Certified Nursing Assistant (CNA) which was successfully producing certified nursing assistants similar to the Licensed Practical Nurses (LPN) earlier.

This programme aims to produce nursing assistants, who contribute their role along with Registered Nurses. The significance of this programme is that the students will earn BSc Nursing (Pre-Nursing Certificate of HSSC intermediate level) on completion of CNA. This programme will directly assist in overcoming shortage of nurses, while preparing qualified staff professionally soon after completing their matriculation. In addition, the CNAs would start their career pathway having a chance to further study as a Registered Nurse later on route to PhD, under the one umbrella of ZUCON.

ELIGIBILITY CRITERIA

Duration: 2 Years
Gender: Male/Female
Age: 14 – 35 years
Qualification: Applicants must meet one of the following academic levels:
1. FSc (Pre-Medical) with 45% marks minimum (Physics, Chemistry & Biology as compulsory subjects)
2. Matric (Science) with 45% marks minimum (Physics, Chemistry & Biology as compulsory subjects)
3. Matric (Arts) with 50% marks, FA with

FACULTY MEMBERS

DEAN
DR. PAMELA MARSHALL

ADVISOR TO CHANCELLOR
DR. YASMIN AMIRI

DIRECTOR, POSTGRADUATE PROGRAMME
MS. AFSHA NIAZ

DIRECTOR, UNDERGRADUATE PROGRAMME
MS. FARHANA TABASSUM

ASSISTANT, PROFESSOR
MR. RAJA
MR. SAEED MICHA
MR. SAIFULLAH KUMAR
MR. BADIL

SENIOR LECTURERS
MS. STELLA NAHED
MS. HADIA ALL
MS. BELLA RICHARD

LECTURERS
MR. ULFAKH SIDDIQUI
MR. HASIR HAYAT
MS. SARA SCHAL
MR. GULSHAN
MS. MEHDI ARIF
MR. FARHAN AHMED
MS. MEHBOOB

SKILLS LAB COORDINATOR
MS. KOMAL MUSTAFA

SKILLS LAB NURSE
MS. BLOOM ALI
FACULTY OF PHARMACY
When I first joined the pharmacy programme at Ziauddin University, I had never imagined I would be able to achieve such a milestone in my life as to become a gold medallist. I was always passionate and ambitious in regards to my career and studies, and have worked just as hard to achieve my very best. The journey towards achieving this honour however, was by no means easy. It required innumerable efforts and dedication to reach where I am today, and it would not have been possible without the valued guidance of the faculty members and my mentor, The Pharm.D programme of Ziauddin University has state of the art facilities, and is structured in a way to make knowledge accessible to every student easily. I am not only impressed by the academic aspects of the University, but the extracurricular activities offered are also a great source of refreshing the mind and making unforgettable memories.

I had a wonderful time studying in the University during graduation and I am certain it will propel me in my professional career. Knowledge is power, and Ziauddin University has indeed proved that. I am not only elated to be a gold medallist of my batch, but utterly content with everything I have learnt and experienced in all these years. Lastly, I would like to add that the right amount of efforts and dedication, can take anyone to great heights.

SHARAN BIRJAL
PHARM.D
VISION
"To be a global leader in pharmacy and pharmaceutical education, research and practice with the ultimate goal of providing excellent, innovative patient care and drug development."

MISSION
"The mission of the Faculty of Pharmacy is to produce excellence in pharmacy education through knowledge and skill dissemination by qualified and experienced faculty. We aim to prepare professionals who can fulfill the growing healthcare needs of society by providing standard pharmaceutical care."

INTRODUCTION
Pharmacy, along with medicine and nursing, forms the backbone of our healthcare system. We cannot afford to be left behind other nations in providing quality drugs to our masses and professional manpower to our healthcare institutions. We have to cater to the needs of this system by producing well-qualified, professionally trained and highly competent pharmacists to perform the specialized tasks in their specific areas of activity, such as drug design, synthesis, manufacturing, quality assurance, marketing and supply systems, procurement, storage, distribution, and use of drugs in industry, hospital setting or in community practice. In all advanced healthcare systems the support of a clinical pharmacist, who is a drug therapy consultant and drug information specialist, is considered vital. Realizing the importance of pharmacy education, Ziauddin University started its 5-year Doctor of Pharmacy (Pharm.D) programme in January 2003. The Pharmacy Institution of Ziauddin University is following the curriculum approved by Higher Education Commission (HEC) & Pharmacy Council of Pakistan (PCP) based on the semester examination system. This is an accredited and recognized programme of Pharmacy Council of Pakistan.

The programme provides students with core knowledge, skills, abilities, attitudes and values that are necessary to the provision of pharmaceutical care. The professional courses in the Pharm.D curriculum consist of didactic material, laboratory courses, and practical experience in patient care environment.
DOCTOR OF PHARMACY (PHARM.D) PROGRAMME

The Pharm.D programme at Faculty of Pharmacy, Ziauddin University, aims to produce pharmacists who have the abilities and skills which are necessary to achieve outcomes related to:

- Providing Pharmaceutical care to patients
- Developing and managing medication distribution and control systems
- Monitoring drug response in patients and adjusting dosage regimes to produce the safest, most beneficial results in therapy
- Managing the pharmacy
- Promoting public health
- Providing drug information and education
- Providing technical aid to Pharmaceutical industry and solving problems pertinent to the manufacturing of medicines
- Reviewing products evaluated for formulary consideration
- Evaluating policies, procedures, protocols and clinical pathways to ensure safe use of medications
- Analyzing quality assurance activities to ensure that improvements are implemented to produce positive patient outcomes

ELIGIBILITY CRITERIA

The candidate should have passed the Intermediate Science (HSC) Examination (Medical/Biology Group) securing at least 60% marks in aggregate from the Board of Higher Secondary Education in Pakistan or any other examination of a foreign university which in scope and standard is found equivalent to the H.S.C. Examination (Medical Group), Pakistan.

ADMISSION POLICY

The programme is open to all individuals who meet the selection criteria. All candidates are selected on merit according to the following criteria:

- Examination/Interview Weightage
  - H.S.C.: 30%
  - Entry Test: 30%
  - Interview: 20%

Note: It is the responsibility of the applicant to submit the application according to instructions given with the application form.

FEE STRUCTURE

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee</td>
<td>Rs. 3,000/-</td>
</tr>
<tr>
<td>Admission Fee</td>
<td>Rs. 50,000/-</td>
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<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
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<tr>
<td>Pharma Registration</td>
<td>Rs. 1,200/-</td>
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<td>Documentation Fee</td>
<td>Rs. 4,000/-</td>
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<tr>
<td>CD Study Guide</td>
<td>Rs. 400/-</td>
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<tr>
<td>Student Fund</td>
<td>Rs. 2,000/-</td>
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<td>Medical Exam</td>
<td>Rs. 3,000/-</td>
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<td>Tuition Fee</td>
<td>Rs. 276,100/-</td>
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<td>Examination Fee</td>
<td>Rs. 11,460/-</td>
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</table>

Note: advance income tax of 5% under section 23
d Rs. 1021.4 for first semester Rs. 7194 for second semester.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

FINANCIAL ASSISTANCE

Financial Assistance is provided to the needy and meritorious students with a good GPA, conduct and not having undergone any rest examination. It is awarded from 2nd Professional onwards.
## Scheme of Courses for Pharm. D (Five-Year Course)

### 1st Professional Pharm. D

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>2nd Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course No.</td>
<td>Subject (Theory Course)</td>
</tr>
<tr>
<td>ECE 410</td>
<td>English (Functional English)</td>
</tr>
<tr>
<td>PHARM 312</td>
<td>Pharmacology A (Physical Pharmacology)</td>
</tr>
<tr>
<td>PHARM 311</td>
<td>Pharmacology A (Clinical Pharmacy)</td>
</tr>
<tr>
<td>PHARM 312</td>
<td>Pharmacology A (Pharmacokinetics)</td>
</tr>
<tr>
<td>PHARM 313</td>
<td>Pharmacology A (Biochemistry)</td>
</tr>
<tr>
<td>PHARM 314</td>
<td>Pharmacology A (Pathology)</td>
</tr>
<tr>
<td>PHARM 315</td>
<td>Pharmacology A (Anatomy &amp; Histology)</td>
</tr>
<tr>
<td>PHARM 316</td>
<td>Pharmacology A (Microbiology)</td>
</tr>
<tr>
<td>PHARM 317</td>
<td>Pharmacology A (Chemistry)</td>
</tr>
<tr>
<td>PHARM 318</td>
<td>Pharmacology A (Physical Chemistry)</td>
</tr>
<tr>
<td>PHARM 319</td>
<td>Pharmacology A (Applied Pharmacy)</td>
</tr>
<tr>
<td>PHARM 320</td>
<td>Pharmacology A (Industrial Pharmacy)</td>
</tr>
<tr>
<td>PHARM 321</td>
<td>Pharmacology A (Pharmaceutics)</td>
</tr>
<tr>
<td>PHARM 322</td>
<td>Pharmacology A (Pharmacology)</td>
</tr>
<tr>
<td>PHARM 323</td>
<td>Pharmacology A (Pharmacology I)</td>
</tr>
<tr>
<td>Total Cr.</td>
<td>33</td>
</tr>
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</table>

### 2nd Professional Pharm. D

<table>
<thead>
<tr>
<th>3rd Semester</th>
<th>4th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course No.</td>
<td>Subject (Theory Course)</td>
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<tr>
<td>ECE 410</td>
<td>English (Functional English)</td>
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<tr>
<td>PHARM 410</td>
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<tr>
<td>PHARM 411</td>
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<td>PHARM 412</td>
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<tr>
<td>PHARM 413</td>
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<tr>
<td>PHARM 414</td>
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<tr>
<td>PHARM 415</td>
<td>Pharmacology A (Pharmacology)</td>
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<tr>
<td>PHARM 416</td>
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<td>PHARM 417</td>
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<td>PHARM 418</td>
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<tr>
<td>PHARM 419</td>
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<tr>
<td>PHARM 420</td>
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<tr>
<td>PHARM 421</td>
<td>Pharmacology A (Pharmacology)</td>
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<tr>
<td>PHARM 422</td>
<td>Pharmacology A (Pharmacology)</td>
</tr>
<tr>
<td>PHARM 423</td>
<td>Pharmacology A (Pharmacology)</td>
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<tr>
<td>Total Cr.</td>
<td>33</td>
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### 3rd Professional Pharm. D

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<tr>
<th>5th Semester</th>
<th>6th Semester</th>
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</thead>
<tbody>
<tr>
<td>Course No.</td>
<td>Subject (Theory Course)</td>
</tr>
<tr>
<td>PHARM 510</td>
<td>Pharmacology A (Pharmacology)</td>
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<tr>
<td>PHARM 511</td>
<td>Pharmacology A (Pharmacology)</td>
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<tr>
<td>PHARM 512</td>
<td>Pharmacology A (Pharmacology)</td>
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<tr>
<td>PHARM 513</td>
<td>Pharmacology A (Pharmacology)</td>
</tr>
<tr>
<td>PHARM 514</td>
<td>Pharmacology A (Pharmacology)</td>
</tr>
<tr>
<td>PHARM 515</td>
<td>Pharmacology A (Pharmacology)</td>
</tr>
<tr>
<td>PHARM 516</td>
<td>Pharmacology A (Pharmacology)</td>
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<td>PHARM 517</td>
<td>Pharmacology A (Pharmacology)</td>
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<td>PHARM 518</td>
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<td>PHARM 520</td>
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<tr>
<td>PHARM 521</td>
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<tr>
<td>PHARM 522</td>
<td>Pharmacology A (Pharmacology)</td>
</tr>
<tr>
<td>PHARM 523</td>
<td>Pharmacology A (Pharmacology)</td>
</tr>
<tr>
<td>Total Cr.</td>
<td>33</td>
</tr>
<tr>
<td>Course No.</td>
<td>Subject</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>PHARM 710</td>
<td>Pharmaceutical Chemistry</td>
</tr>
<tr>
<td>PHARM 711</td>
<td>Pharmacology</td>
</tr>
<tr>
<td>PHARM 712</td>
<td>Pharmacology</td>
</tr>
<tr>
<td>PHARM 713</td>
<td>Pharmacology</td>
</tr>
<tr>
<td>PHARM 717</td>
<td>Pharmacology</td>
</tr>
<tr>
<td>PHARM 720</td>
<td>Pharmacy Practice I</td>
</tr>
<tr>
<td>PHARM 721</td>
<td>Pharmacy Practice I</td>
</tr>
<tr>
<td>PHARM 722</td>
<td>Pharmacy Practice III</td>
</tr>
<tr>
<td>PHARM 723</td>
<td>Pharmacy Practice I</td>
</tr>
</tbody>
</table>

**Pharm. D Five-Year Credit Hours Summary**

<table>
<thead>
<tr>
<th></th>
<th>1st Semester</th>
<th>2nd Semester</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>Cr. M.</td>
<td>Cr. M.</td>
<td>Cr. M.</td>
</tr>
<tr>
<td>1st Year</td>
<td>23</td>
<td>23</td>
<td>46</td>
</tr>
<tr>
<td>2nd Year</td>
<td>20</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>3rd Year</td>
<td>20</td>
<td>19</td>
<td>39</td>
</tr>
<tr>
<td>4th Year</td>
<td>21</td>
<td>19</td>
<td>40</td>
</tr>
<tr>
<td>5th Year</td>
<td>18</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>104</td>
<td>94</td>
<td>203</td>
</tr>
</tbody>
</table>
LEARNING AND TEACHING STRATEGIES
The following learning methods/strategies are used to promote better understanding:
• PBL (Problem Based Learning)
• Lectures
• Practical
• Assignments
• Presentations/Seminars
• Field visits
(Clinical Training/Pharmaceutical Industries)

STUDENT ASSESSMENT METHODS
• Written and practical examinations
• Student log books or written reports
• Viva Voce
• Group or individual presentations
• Short answer written papers
• MCQs

REGULAR SEMESTER EXAMINATION
It consists of the following:
• Internal Continuous Assessment Tests:
  Each course per semester carries 60 marks, which is marked as follows:
  • Midterm Exams: 20 marks
  • Quizzes/Class Tests: 20 marks
  • Assignments/Presentations: 20 marks

Final Semester Examination:
It is conducted by the Examination Department of Jazan University and held at the end of each semester. It carries 40 marks of each course.

SUMMER SEMESTER
A student who has either failed or has been stopped taking the examination due to shortage of attendance or to improve his/her grade is allowed to register in the summer semester.

Summer semester will be offered as an optional semester of eight weeks duration. Students will be offered courses to remove deficiencies or pass the courses and they may register for up to 6 credit hours. The course in the summer semester will be offered with minimum course registration of 3 students. In case of less number of students, the student will be admitted in the next year summer semester.

Repeating Courses/Improvement of CGPA
If a student receives "F" grade, he/she will be required to repeat the particular course in summer semester. However, the F grade obtained earlier will be mentioned on the transcript. Undergraduate students may be allowed to repeat the course in which he/she has obtained grade C or below. Under such circumstances both the grades will be displayed on the transcript. However, only the improved grade shall be used in the calculation of the CGPA.

In the case of CGPA improvement, the grade would be recorded with 'im' on the transcript.

GRADING POLICY

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Point</th>
<th>% Equivalence</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3.67 – 4.00</td>
<td>85 and above</td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>3.34 – 3.66</td>
<td>80 – 84</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>3.01 – 3.33</td>
<td>75 – 79</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>2.67 – 3.00</td>
<td>70 – 74</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.34 – 2.66</td>
<td>65 – 70</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.01 – 2.33</td>
<td>60 – 65</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1.67 – 2.00</td>
<td>55 – 60</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>1.33 – 1.66</td>
<td>50 – 55</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>1.00 – 1.33</td>
<td>45 – 50</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>0.67 – 1.00</td>
<td>40 – 45</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Below 40</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>0.00</td>
<td>-</td>
<td>Did not complete as mentioned 15:02-00*</td>
</tr>
<tr>
<td>W</td>
<td>0.00</td>
<td>-</td>
<td>Withdrawn from the course is allowed till the 6th week of semester. At the 6th week, students will be awarded F Grade</td>
</tr>
<tr>
<td>X</td>
<td>0.00</td>
<td>-</td>
<td>In case migration from other institution or studied courses in exchange programme **</td>
</tr>
</tbody>
</table>

ELIGIBILITY FOR SEMESTER EXAMINATION
A cumulative attendance report of seventeen weeks (one semester) is displayed at the end of the semester. A student has to secure 80% attendance in each course (Theory & Labs) to appear in the semester examination. Students who have attendance between 75% to 79% in any course will be eligible to appear in the regular semester examination after submitting assignment(s) to concerned course incharge(s).

Attendance will be marked on CVS and eligibility will be generated accordingly from CVS.

ELIGIBILITY FOR SUMMER SEMESTER
1. If a student fails in any course in the semester, he/she can enrol in summer semester
2. Students having below 75% attendance will be eligible to appear in summer semester.

POLICY FOR REPEATING THE YEAR
Students having less than 65% attendance in any course will not be eligible to appear in the Summer Semester and will have to repeat the year.

REQUIREMENT FOR THE AWARD OF PHARM.D
• A student must have passed all prescribed courses of Pharm.D Programme.
• A student must have obtained a minimum 2.45 Cumulative Grade Point Ratio (CGPR).

Attendance will be marked on CVS and eligibility will be generated accordingly from CVS.
GOLD MEDAL

At the time of the convocation, a Gold Medal, "SR Ziauddin Gold Medal" is awarded by Ziauddin University to a student achieving highest CGPA but not less than 3.4 CGPA in Pharm.D.

The candidate will not qualify for Gold Medal even if he/she has achieved the highest CGPA, if he/she has appeared in the summer semester or grade improvement exams.

CO-CURRICULAR ACTIVITIES

Students of Faculty of Pharmacy, Ziauddin University are lucky to become a part of an institute with the large set-up of hospitals & clinical practice. To make best use of the opportunity, we have given much emphasis on the clinical side of the profession which is the very soul of Pharm.D. programme. This is a requirement of the curriculum approved by Pharmacy Council of Pakistan. The training also provides a better chance of learning and practicing the skills in these fields. No Pharmacy institution in the country has such an ideal situation for the training as Ziauddin University has.

CLINICAL TRAINING

The training enables these future pharmacists to play a vital role in the improvement of quality of healthcare in our society. This will bring a unique difference between its graduates and graduates from other pharmacy institutions of the country. It will not be out of place to mention that Pharm.D is a patient-oriented programme rather than product-oriented four-year B.Pharm degree of the past. Students of 4th & 5th professional years complete this training in Pharmaceutical service centres of Ziauddin Hospitals' inpatient pharmacy, emergency room pharmacy, ambulatory dispensing area, bulk store, out-patient pharmacy, satellite pharmacy and different wards like Medical ICU, Cardiac care unit, Neonatal care unit, cardiac ward, Neuro/Psychiatry ward, Gastroenterology ward, Gynaecology ward, Paediatric ward, Dialysis centre. The training is conducted at all three sites of Dr. Ziauddin Hospital i.e. North Nazimabad, Clifton & Femina (KDB).

The main objectives of clinical training are:
- To develop students’ communication skills for effective interaction with patients and with practitioners of other health professions.
- To help students develop a patient awareness in the practice of Pharmacy.
- To enable students to integrate the knowledge acquired in course work prior to clinical exposure, and to apply it to the solution of real problems, and to help students become more aware of the general methods of diagnosis and patient care specifically related to drug therapy.

COMMUNITY PHARMACY TRAINING AT ZIAUDDIN

Community pharmacy training programmes focused on advancing skills in direct patient care, patient care service development and practice management. This is the unique training programme offered by Ziauddin Faculty of Pharmacy, not available anywhere else in Pakistan. Following are the main objectives of our community training:
- To produce professionally, competent pharmacists.
- To serve the community as a drug specialist.
- To enable the students to have sound knowledge and practical exposure to:
  i. Community Pharmacy and its organization.
  ii. Epidemiology and its control.
  iii. To educate and counsel the patient.
  iv. To control drug abuse and misuse.
  v. To control drug inventory.
- To develop a better understanding of principles of health promotion and patient care programmes such as immunisation in community.

PHARMACY RESIDENCY PROGRAMME

In order to expand graduates' professional skills and to develop a patient oriented attitude, one year Pharmacy Practice Residency programme has been started in the clinical and hospital pharmacy. This is a one year training programme for the graduate of Ziauddin Faculty of Pharmacy. The programme aims to provide professional experience in different fields of pharmacy practice such as inpatient pharmacy, outpatient pharmacy, oncology pharmacy, nutrition pharmacy etc.

At the end of this programme, certificates are awarded to graduates who successfully complete the programme. During the residency period a reasonable stipend is also given to the trainees. This is the only institution of Pakistan which offers such specialised training programme based on Pharmaceutical care system.

INDEPENDENT CLINICAL PHARMACY ROUNDS

The objective of this programme is to ensure rational use of medicines in Dr. Ziauddin Hospital. It allows the clinical pharmacy faculty to specialize in clinical pharmacy practice and developing clinical skills such as patient profile review, drug information, patient medication history and discharge patient counselling.

EXTRACURRICULAR ACTIVITIES

Students of Pharmacy always remain at the forefront in organizing activities of academic & non academic nature. These activities include:
- Annual Pakistan Tour
- Inter and Intra-departmental sports Competitions
- Inter and Intra-departmental debate competitions
- Donations Drive
- Annual Dinner
- Recruitment Drive

Under the patronage of Student Advisor various clubs/societies have been formulated to facilitate students’ activities in many aspects, which are as under:
- Community Welfare Society
- Leisure Club
- Literary Society
- Scientific Club
- Sports Club
- Alumni Club

INDUSTRIAL VISITS

Industrial tours to different pharmaceutical industries are arranged frequently to make the students aware of the students with basic practices of manufacturing, quality control and quality assurance of medicines. These tours enable the students to relate their theoretical knowledge with different unit operations involved in dosage forms manufacturing and different GMP and QA techniques to maximise the product quality.

CAREER OPPORTUNITIES

Pharmacy offers a challenging, satisfying and rewarding career to the individual whose interest lies in health services, business, scientific research, university teaching and hospital practice. Pharmacists advise their patients, and other health practitioners in the selection of, dosages, drug-drug interactions, and side effects of medications, as well as monitor the health and progress of patients to ensure that they are using their medications safely and effectively.

Areas where services of pharmacists are required include:
- Hospital Pharmacy/Clinical Pharmacy
- The Pharmaceutical Industry
- Community Pharmacy
- Academia
- Pharmaceutical Marketing
- Drug Control Administration
- Research & Development
- Armed Forces
- Regulatory Authorities

Many opportunities for pharmacists with Pharm.D degree are available in U.S.A, Canada, Australia & Middle East.
MPHIL AND PH.D PROGRAMME

This programme is designed to prepare students for teaching and research careers in academia, the pharmaceutical industry, hospitals and research institutes. Students are expected to select an area of specialisation from one of the pharmaceutical science disciplines including Pharmacology, Pharmaceutical Chemistry, Pharmaceutics, Pharmacognosy and Pharmacy Practice.

The MPHil and Ph.D programme consists of course work, presentations, research and publications. The objective of the programme is to provide a thorough understanding of the subject. In addition, students can choose from a variety of elective courses that allow them to gain knowledge and skills which may be useful for a career of independent research and teaching in pharmacy for academic institutions, industrial laboratories, hospitals or government research and administrative agencies.

The University places emphasis on excellence in research, making every effort to ensure that students are able to complete as much time as is possible for their research projects, which allows them to earn the MPHil or Ph.D degree in a timely fashion.

MISSION STATEMENT

The mission of MPHil/PhD programme at Faculty of Pharmacy is to produce high calibre postgraduates with exceptional academic research and leadership skills in basic, applied and professional disciplines of pharmaceutical sciences by providing them with high quality and competitive learning and research environment. This will enhance their knowledge, enable them to attain higher levels and train them to meet the current and future requirements at the global level, as well as cross-disciplinary challenges on the forefront of pharmaceutical sciences.

DISCIPLINES OFFERED

MPHil
- Pharmacology
- Pharmaceutics

Ph.D
- Pharmacology
- Pharmaceutical Chemistry
- Pharmaceutics
- Pharmaceutical Economics
- Pharmaceutical Biotechnology
- Medicinal Chemistry
- Toxicology
- Pharmaceutical Analysis
- Pharmacognosy
- Pharmacology

ADMISSION POLICY

The admission for postgraduate degree programs (MPHil and Ph.D) is announced once an academic year. Strong adherence to governing HEC rules is observed at the time of admission. All candidates are selected on the following evaluation of academic record and interview.

ELIGIBILITY CRITERIA

For MPHil Programme
- A degree from any HEC recognised university. Candidates must have passed NTAT or GAT/JSU with 50% marks.

For Ph.D Programme
- MPHil/MLS/Equivalent Degree in relevant field of Pharmacy from any HEC recognised university with minimum CGPA 3.50 (out of 4.00 in Semester System) or First Division (in Annual System) and must meet all admission criteria of HEC, candidates must have passed GAT/JSU with minimum cumulative score of 50% or 70% respectively.

FEE STRUCTURE

MPHil
- Admission Fee: Rs. 25,000/-
- Tuition Fee: Rs. 20,000/-
- Semester Exam Fee (per semester): Rs. 5,750/-
- Thesis Defense Fee: Rs. 10,000/-

Ph.D
- Admission Fee: Rs. 25,000/-
- Tuition Fee: Rs. 20,000/-
- Semester Exam Fee (per semester): Rs. 5,750/-
- Thesis Defense Fee: Rs. 20,000/-

Note: Any additional taxes imposed by the government will be the liability of the students/parents/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

LEARNING AND TEACHING STRATEGIES

- Course work in each course is to be completed by the students. All course work is evaluated by the faculty members.
- Discussions on the sources of literature will enable students to develop the skills to select, read and survey the recent developments in any particular area of research.
- Assignments including term papers on various research topics to be prepared by students during the course work.
- Participation in the club/journal on weekly basis.
- Presentations of research papers at a journal club.
- Papers presentation and preparation of synopsis for the thesis.
- Presentation of research projects in participation with other students as a part of assignments.
- Leading undergraduate students in research as a project or getting them involved in their own research project.
- Presentations of posters in conferences and symposia.
- Presentations in symposia and conferences of research work.
- Writing research papers and publications in national and international journals.

SEMESTER SUMMARY

Pharmaceutics: The students will learn the advanced level of the immuno, infection, vascularity, metabolic and antioxidant agent. Application of Pharmacokinetics and Pharmaceutics in the field of Pharmaceutics is taught along with the advanced level of the physical and biological principles which apply to the design, development and evaluation of drug delivery system.

Pharmacology: The subject deals with advance Pharmacokinetics and Pharmacodynamics knowledge of drugs, therapeutic study of cardiovascular system, therapeutic modalities to treat cancer and management of antimicrobial therapy, study of common toxicities and standard protocols and pharmacology of derivatives.

Pharmaceutical Bacteriology: The course focuses on practical areas of statistics applied in pharmacy and pharmaceutical sciences Sample and Population, Test of Hypothesis and significance, Test involving binomial and normal distribution, Student "t", "z" and "F" distribution, analysis of variance, Experimental Designs, Basic Principles, completely randomised (CRD) designs, Randomised complete block designs, Latin square etc., Correlation/Regression analysis, Introduction of SPSS.

Research Methodology & Clinical Trials: This course will develop the skills to select, read and survey the recent developments in any particular area of research.

Computer Application in Research: This course enables research scholars to analyse data and interpret the outputs of various software of research methodology. This also helps them to design research models and simulators.

Research Ethics: This course will help the students to learn about various features while doing research because research ethics will cover different areas of fundamental research.

ATTENDANCE

Minimum 75% attendance in a course is required to appear in the examination of that course.

EXAMINATION

In each semester, students may be required to appear in quizzes, tests, mid-semester, final semester examinations, presentations, individual/group, group discussion and submit projects/assignments/lab reports, studio work etc. These assessment marks to be determined by the teacher concerned will have different weightage contributing towards the overall average in percent marks. This weightage may be determined on the basis of the following table:
# Table: Course Subject Marks Distribution

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Description</th>
<th>Theory of Max. 100 Marks</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Marks Distribution</td>
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<tr>
<td>1</td>
<td>Continuous Assessment</td>
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<tr>
<td></td>
<td>• Quiz/Class Test</td>
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<tr>
<td></td>
<td>• Clinical Assignments/Project Presentation</td>
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<tr>
<td></td>
<td>• Mid Semester Exam</td>
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<tr>
<td>1</td>
<td>Final Semester Exam</td>
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<td></td>
<td>Total Marks</td>
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# Table: Grade and Grade Point

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Point</th>
<th>% Equivalence</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>A-</td>
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<tr>
<td>B+</td>
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</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td>71 - 74</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.66</td>
<td>68 - 70</td>
<td></td>
</tr>
<tr>
<td>C+</td>
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<td>58 - 60</td>
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</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Below 50</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>0.00</td>
<td>-</td>
<td>Did not complete</td>
</tr>
<tr>
<td>W</td>
<td>0.00</td>
<td>-</td>
<td>Withdrawal from the course till the 6th week of semester after 6th week student will be awarded F Grade</td>
</tr>
<tr>
<td>X</td>
<td>0.00</td>
<td>-</td>
<td>In case Migration from other institution or studied course in exchange programme</td>
</tr>
</tbody>
</table>

# CGPA Required for the Completion of Postgraduate Programme - MS/MPhil/Ph.D

1. For completion of PhD degree, the minimum qualifying CGPA is 3.00 (For - MS/MPhil 2.50).
2. In case a student secures less than 3.00 CGPA (2.50 for MS/MPhil) minimum qualifying CGPA at the end of final Semester, s/he may be allowed to get re-admission in one or more courses, in which his/her Grade is C or below, provided that s/he is not debarred under the CGPA Improvement and Time Duration specified for the programme.

# Summer Semester

1. Summer semester will be offered as an optional semester of 8 weeks duration. Students will be offered courses to remove deficiencies and can register up to 6 credit hours for the summer semester.

# Career Opportunities

- A postgraduate qualification can enhance the career and earning prospects, and sets apart from other students who only hold an undergraduate degree.
- Postgraduate studies will enable a student to operate effectively at a senior level and go on to successful careers in business, industry, and academia.
- Postgraduate study can also equip a student with the knowledge and skills anyone need to move into a different profession.
- It is the pathway to an academic career.

Areas where Postgraduate students can serve are:  
- R&D sectors/firms involved in Drug Designing, Pharmaceutical Product Development and Medicinal related researches like Clinical Trials, Pharmacovigilance, Pharmacokinetics/Pharmacodynamics studies.  
- Individual Entrepreneurs like consultants/advisors (Training/Workshops/Consultancy/Publishing etc.)  
- Pharmaceutical Industrial sector  
- Regulatory Bodies/Authorities (Drug Regulatory Authority of Pakistan, MOH, Drug Control Administration).
FACULTY MEMBERS

DEAN FACULTY OF PHARMACY
DR. RAFEEO ALAM KHAN

MERITORIOUS PROFESSOR
B. PHARM., M. PHARM., PH.D. (KU), R.PH.

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B. PHARM., M. PHARM., PH.D. (KU), R.PH.

ASSOCIATE PROFESSOR
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ASSISTANT PROFESSOR
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LECTURER
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PHARM. D., M. PHIL (KU), R.PH.

DEPARTMENT OF PHARMACY PRACTICE
ASSOCIATE PROFESSOR
DR. MUHAMMAD UMAR KHAN (HOD)
B. PHARM., M. PHARM., PH.D. (KU), R.PH.

ASSISTANT PROFESSOR
DR. SABAA MUFTI
B. PHARM., M. PHARM., PH.D. (KU), R.PH.

LECTURER
DR. ANJUM ARIF
PHARM. D., M. PHIL (KU), R.PH.
FACULTY OF EASTERN MEDICINE & NATURAL SCIENCES
FACULTY OF EASTERN MEDICINE & NATURAL SCIENCES

KEY INFORMATION

DEAN
Prof. Dr. Tasneem Qureshi

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Telephone:
+92-21-36646237-9 (Ext. 656)
Locate Us:
Block B, North Nazimabad,
Karachi-74400
INTRODUCTION
Faculty of Eastern Medicine and Natural Sciences focuses on outcomes-based learning which ensures that students receive skills that are immediately transferrable to the workforce. Taqoordin University, founded in the memory of Dr. Ziauddin Ahmad, has a vision to promote quality education through excellence in teaching, research, and public service. Following the vision of the founder, Faculty of Eastern Medicine and Natural Sciences is engaged to measure the fulfillment of the vision contributing to provide a culture of collaboration and collective responsibility to develop effective and consistent teaching practices and to improve student achievement.

The aim of the Faculty is to implement its mission with the highest professional and ethical standards in an environment that enables each of our students for excellence.

VISION
The vision of the Faculty of Eastern Medicine and Natural Sciences is to create transformative impact on society through innovation in research, quality education and professional development.

MISSION
The Faculty of Eastern Medicine and Natural Sciences aims to impart quality education and develop new trends of research to play an effective part in the development of professionals for achieving excellence in their respective fields. Our focus is on deep practical knowledge, leadership, interpersonal skills and to deal with challenges of the emerging world. Training, Research, Diet therapy, and Organic Plant Cultivation activities to serve the noble cause.

VALUES
• Our dealing with the community is based on a transparent and respectful relationship.
• To support the learning environment, we recognize the diversity and value the interaction between faculty, students, employees, and collaborators.
• The pursuit of excellence in the field is our fundamental prerequisite. Our commitment to quality education with our academic offerings is the reflection of excellence.
• Faculty endeavours to highlight social problems and seek solutions creating a balanced environment between humankind and nature.
• We try to create a positive impact leading towards the health-supportive environment.

The faculty is involved in facilitating various programmes in our colleges including:
• College of Eastern Medicine and Natural Sciences
• College of Horticulture
• College of Natural Sciences
COLLEGE OF EASTERN MEDICINE (CEM)
BACHELOR OF EASTERN MEDICINE & SURGERY (BEMS)
5-YEAR DEGREE PROGRAMME

VISION
To recognize Eastern Medicine & Tibb-e-Nabvi as the world’s most esteemed system of Healthcare and to promote, encourage and support education, clinical training & research in Eastern Medicine. We strongly believe that our graduates will serve the nation and humanity at large.

MISSION
Quality Health is the basic need of society; the College of Eastern Medicine will serve the following:
• To provide widespread knowledge and evidence-based education in Eastern Medicine;
• To promote and develop its practice and understanding;
• To facilitate its professionals for the basic understanding of Complementary and alternative medics in the light of Eastern Medicine & Tibb-e-Nabvi;
• To meet the highest professional and ethical standards leading to excellence in Clinical and Research activities serving the noble cause.

OBJECTIVES
• Being healthcare stakeholders, to develop our relationship with the communities and empower lives through innovation and development of Eastern Medicine & Tibb-e-Nabvi medical products;
• Guide Eastern Medicine & Tibb-e-Nabvi Institutions in designing curricula that provides a proper content of basic knowledge of Eastern Medicine & Tibb-e-Nabvi;
• To contribute to filling the need for quality research in the field of Eastern Medicine for the treatment of chronic diseases through the development of evidence-based Eastern Medicine formulations. We strongly believe that our graduates will serve the nation and humanity at large.
• To combat diseases and improve maternal and mental health;
• To establish a network of Clinics all over the country under the umbrella of Hiba Life for regimental therapies and treatment through Eastern Medicine & Tibb-e-Nabvi;
• To promote formal links with National and International Institutions and industry for knowledge sharing, collaborative research, clinical training, and personnel exchange.

ACCREDITATION AND REGISTRATION
• National Council for Tibb (NCIT);
• Course Curriculum approved by Ministry of Health as well as by Higher Education Commission (HEC)

ELIGIBILITY CRITERIA FOR ADMISSION
Intermediate Science (Pre-Medical), A-level Biology OR equivalent qualification

ENTRY TEST FOR ADMISSION
• Test for undergraduate programme (conducted by University)

FEE STRUCTURE

<table>
<thead>
<tr>
<th>Fee</th>
<th>Fee Per Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission fee (one-time)</td>
<td>15,000</td>
</tr>
<tr>
<td>Documentation fee (one-time)</td>
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<tr>
<td>Examination fee (one-time)</td>
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<td>Total</td>
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Note: Any additional taxes imposed by the government will be the liability of the students/parents/guardian. The University reserves the right to increase the fees if required according to the recommendation of the Governing Body. Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.
COLLEGE OF HORTICULTURE (CH)
BS HORTICULTURE 4-YEAR DEGREE PROGRAMME

VISION
Production of medicinal plants, vegetables, fruits and rare organic species, and to be effective producers of raw materials for evidence-based formulation production both at national and an international level.

To enhance health, environment, and economy by advancing and sharing the science of medicinal plant production and use of healthy foods.

MISSION
- To identify potentially profitable crops and researchable solutions, developing high-value horticultural products and horticultural enterprises, providing programs to assist the Commonwealth in adjusting to the economic and environmental impacts thus enhancing the ecosystem.
- Health and wellness products derived from plants and delivered in the form of drugs, dietary supplements (nutraceuticals), functional foods or cosmetic ingredients.
- Ethno-botanical knowledge and modern research to identify plant compounds that improve human health and well-being.
- Application of all potential tools to identify pharmacologically active phytochemicals and to study their effects on animals and people.
- Educate horticulture students with knowledge in cutting-edge research technology for horticulture, and prepare them to be more competitive in their future careers.
- Increase assistantship opportunities through graduate programmes to increase Ph.D. enrollment, mentoring students to develop an interest in the field.

OBJECTIVES
- Introduction, history, importance and future scope. Definition and divison of horticulture, Classification of horticultural crops, Plant parts, their modifications and functions, Plant environment; climate (temperature, light, humidity etc.), Soil (structure, texture, fertility etc.), Visit of nurseries, commercial gardens and public parks.
- Identification and nomenclature of important fruits, vegetables and ornamental plants; Garden tools and their uses.
- Media and its preparation on techniques of propagation.

CURRICULUM APPROVED BY
Higher Education Commission (HEC)

ELIGIBILITY CRITERIA FOR ADMISSION
Intermediate Science (Pre-Medical), A-level Biology, OP. Equivalent qualification

ENTRY TEST FOR ADMISSION
- Test for undergraduate programme (conduct by university)

<table>
<thead>
<tr>
<th>FEE STRUCTURE</th>
<th>Fee Per Semester</th>
<th>Fee Per Year</th>
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<td><strong>Total</strong></td>
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</table>

Note: Any additional taxes imposed by the government will be the liability of the student's parent/guardian. The University reserves the right to increase the fees if required according to the recommendation of the Governing Body. Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.
COLLEGE OF NATURAL SCIENCES (CNS)
BS HUMAN NUTRITION & DIETETICS 4-YEAR DEGREE PROGRAMME

VISION
Transformation of human health status through better nutrition and physical activity.

MISSION
• Discover, disseminate and apply knowledge to promote improved food choices, nutritional status and well-being of the people.
• Promote an academically and culturally diverse educational and research environment by providing high-quality nutrition education and skills.
• Research for health protection and improvement through judicious intake of food.
• Serve the community through participation in nutrition-related activities and increasing the awareness of the national and international levels.

SCOPE
• Nutrionists
• Nutrition Educators
• Nutrition Consultants
• Dieticians
• Public Health Nutritionists
• Clinical Dieticians
• Food Service Administrators
• Nutrition and Health Expert
• Weight Management Expertise
• Therapeutic Diet Planning

PRIVATE SECTOR
• Multinational Companies
• Independent Private Practice
• Food Industries
• Pharmaceutical Industry
• Hospitality Industry
• Consultant for Private Companies and Hospitals
• Airlines and Railways Services
• Catering Services
• Healthcare Centres

PUBLIC SECTOR
• Public Health Departments
• School Health & Nutrition Programmes
• Research and Teaching Institutes
• International Organisations: UNICEF, UNDP, WHO, FAO, World Bank

FOREIGN COUNTRIES
• Public health departments in Middle East, Europe etc.
• Independent Private Practice as registered dietitians

CURRICULUM APPROVED BY
• Higher Education Commission (HEC)

ELIGIBILITY CRITERIA FOR ADMISSION
Intermediate Science (Pre-Medical), A-level Biology OR Equivalent qualification with minimum 60%

ENTRY TEST FOR ADMISSION
• Test for undergraduate programme (conducted by University)

<table>
<thead>
<tr>
<th>FEE STRUCTURE</th>
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<tr>
<td>Admission fee (one time)</td>
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<td>Examination fee (per semester)</td>
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<td><strong>Total</strong></td>
<td><strong>121,000</strong></td>
</tr>
</tbody>
</table>

Note: Any additional fees imposed by the government will be the liability of the student/parent/student. The University reserves the right to increase the fees if required according to the recommendation of the Governing Body. Advance fees to be paid semesterto-date. All fees need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.
FACULTY OF
ENGINEERING
SCIENCE, TECHNOLOGY & MANAGEMENT
“What we learn with pleasure, we never forget”

Today I feel so proud to be a part of Ziauddin University, which is foundation of inquisitive learning, innovation and exploration. Four years ago, when I started my journey at Ziauddin University College of Biomedical Engineering, I didn’t know that this college will open up a new world of experience and career opportunities for me. Education in this institution is one of the very best investments for students with a vision of enhancing potential for employability, entrepreneurship and higher studies. College of Biomedical Engineering is distinguished and highly qualified faculty, strong policy framework, and continuous effort to bring improvements has transformed it into Ziauddin University Faculty of Engineering Science and Technology. Being a graduate of ZUFEST, this degree comes with more responsibilities. ZUFEST has made me realize that in a technology driven interconnected world, Biomedical Engineer has potential to make the world a fair and dignified place for all people and can improve the technological support required in modern medicine. This four years journey has provided me with the best of memories. Our faculty’s support, mutual encouragement and values will last longer than classroom discussions. Friends, I made here will last far beyond my college boundaries. I am sure that every student here has his/her own share of excitement and stories that they will carry along all their lives.

MUNIRA MUHAMMADI ZARIWALA
BE BIOMEDICAL ENGINEERING
VISION
Exploring unchartered waters of knowledge to make the world a better place to live.

MISSION
Ziauddin University. Faculty of Engineering Science & Technology (ZUEST) aims to create robust and world-class academic units that produce efficient, agile engineers with an improved research base to facilitate the development of an ambitious blueprint for continued growth in a knowledge-based economy.

INTRODUCTION
ZUEST aims to develop as a "contributing community" and not just an academic unit. We are focused on providing an environment where faculty, students and staff will be motivated, ambitious, and willing workers. The bonding will be such that future alumni themselves take the lead to help their alma mater grow & develop.

Leadership of ZU is mindful of the fact that inner strength of any organisation lies with its Human Resource. Therefore, Capacity building of existing manpower and attracting new highly qualified workforce is at a prime focus of ZUEST. The high-quality Faculty is on board to support the Vision & Mission of the organisation. ZUEST is striving hard to be known for its different pedagogical approach equipped with interactive learning tools & case study based teaching and a research base, where research is conducted for a bigger purpose rather than just for publication. ZUEST targets to emerge as one of the most responsive research units and create upcoming opportunities in the world.

Moving forward in the pursuit of opening up new horizons, ZUEST is aiming to launch programmes in line with the market needs. Our objective is to produce graduates in the disciplines which are not saturated hence having high job scopes. Entrepreneurial attitude shall be the highlight of ZUEST graduates. They should have the potential to be the market leaders other than just a job seeker.

ZUEST undergraduate policies

1. Number of Semester per Academic year
1.1. There will be two regular semesters (fall, spring) in an academic year.
1.2. Fall/Spring semesters will spread over 16-18 weeks (excluding 1-2 weeks for exams).
1.3. There shall be two scheduled examinations in one semester i.e., Mid Term (8 weeks teaching + 9th week for examination) and Final Term (8 weeks of teaching + 10th week for examination). Chairpersons of the departments ensure to post the schedule of examination on the student's notice board at least two weeks before the conduction in consultation with Head Invigilator.
1.4. A Summer Semester may be of 8 weeks of concentrated study for completing remedial/deficiency course work.
1.5. Summer semester may be offered as an optional semester of 8 weeks duration (exclusive of 1 week for exams). Students will be offered courses to remove deficiencies and can enroll in up to a maximum of 2 courses during summer.
1.6. Moreover, a student who has either failed or has stopped to take the examination due to the shortage of class attendance or wishes, to improve his/her grade is allowed to register in summer.
1.7. The contact hours per week during the summer semester will be doubled to ensure that the course is completely taught in a summer session with half of the duration as compared to a regular (Fall/Spring) semester.
1.8. If any student repeats any course during his/her undergraduate programme, he/she will be disqualified from the Gold Medal.

2. Course load for Fall and Spring Semester
2.1. An undergraduate programme of instruction generally includes a 12-18 credit hours course load including exams in a regular semester.
2.2. In case any student wishes to enroll in one more course beyond 18 cr. Hours per week, he/she may be allowed by the concerned Chairperson on recommendation of Class Advisor in one of the two cases:
a. If his/her CGPA is above 3.2
b. The student needs the course to graduate on time in the Final year.
3. Enrollment/Registration in courses
3.1. Chairperson will assign a Class advisor to each section/Batch of the programme. The advisor and the student of that section together will develop a course registration strategy subject to student academic performance. The advising file will be updated each semester and will include copies of transcripts and GPA earned.
3.2. Students are required to choose the courses they wish to enroll in, before the start of a semester with the advice of the class advisor taking into consideration the pre-requisite courses.
3.3. A student who wishes to add or drop a course, or change a section of a course after registration must complete the relevant procedure as prescribed by ZUEST within two weeks of semester commencement.
3.4. No drop and add will be allowed after the second week of the semester commencement.

4. Admission
4.1. Admission will be announced twice a year in (fall and spring) for undergraduate programmes.
4.2. The number of batch initiates per year per programme will be maintained as per the approval of the respective accreditation council recommendation for every programme.
4.3. The number of students per batch will be maintained as per the approval of the respective accreditation council recommendation for every programme.
4.4. Provisional admission may be given by the department chairpersons in consultation with the Dean. However, the maximum provisional time given to any candidate should not exceed 30 days from the date of provisional admission.
4.5. Failing to meet the 30 days may result in cancellation of provisional admission without any further extension and no fees will be refunded.
4.6. In the case of percentage deficiency cases, transfer of programme within ZUEST may be considered, provided the applicant fulfills all the admission requirement of that programme and sufficient number of seats is available to accommodate the student.
4.7. All the prospective students are required to apply online via the portal and need to submit admission processing fees as prescribed by the university (recommended Rs. 2500 for all ZUEST undergraduate programme).
4.8. All undergraduate students need to appear in university aptitude test and their merit is defined as per following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aptitude test</td>
<td>50%</td>
</tr>
<tr>
<td>Intermediate</td>
<td>30%</td>
</tr>
<tr>
<td>Matriculation</td>
<td>10%</td>
</tr>
</tbody>
</table>

Subject to appear in interview.

4.9. Council recommendation must be followed for DAE/BECH/BS Technology quota for admission in Engineering and all undergraduate programs.
4.10. BCC equivalency must be required for all foreign recognized qualifications including A levels.

5. Repealing courses/Improvement of CGPA
5.1. If a student gets ‘F’ grade, s/he will be required to repeat the course in full. There will be no Supplementary/Special Examination in a Semester System. If a student fails in a course, s/he is required to repeat it.
5.2. Students may be allowed to repeat a course in which s/he has obtained grade below "C". In such a case both the previous and new grade obtained will be recorded on the transcript, however, only the better grade shall be used in the calculation of CGPA. The student is allowed to take a maximum of 2 courses to repeat in a 8 semester degree programme.

4. Freezing of a semester
If a student freezes a semester(s), s/he will resume his/her studies from the same stage where s/he left (toes). No freezing during the semester will be allowed. The maximum duration of the degree programme shall remain the same i.e., 7 years from the date of admission.
5.2. If a student is not enrolled in any course in a semester, s/he will not be considered a regular student of the university in that period. The student may then enroll in these courses in a...
subsequent semester; however, s/he will have to meet prerequisites of any course taken. In addition, it is understood that the university is not required to offer all courses in each semester.

6.3. The maximum duration of freezing is one year; a candidate who gets a semester freeze can get registration of next year with upcoming batch.

6.4. The student needs to pay semester charges to freeze semester.

6.5. Freezing of semester will only be allowed after the successful completion of 1st semester as prerequisite as the case may be for other semester’s predecessor to the freezing Semesters.

6.6. Under following special circumstances, freezing of the first semester can be considered by the approval of competent authority:
   a. Ijadah
   b. Maternity
   c. Death in the immediate family
   d. Any other subject to acceptance on justified rationale

6.7. Student can avail the freeze option, only 2 times, during undergrad programme; however, two consecutive freezing applications shall not be entertained.

7. Transfer of credit hours for undergraduate programme

7.1. Transfer of credits from HEC recognised institute may be permissible if the programme in consideration is approved from HEC and the respective accreditation council for the HEC from where students want to transfer.

7.2. On receiving a request of transfer from a prospective applicant, a three member departmental standing committee headed by the Departmental Chairperson work on the equivalency of the credits carried in other HEC.

The Chairperson will submit the credit transfer recommendations to Vice Chancellor/Academic Council through Dean within two weeks of receiving of application.

7.3. Credits are transferred on course to course basis i.e. a person taking course A at HEC X is allowed to transfer his/her credits to ZUFS provided that course A is equivalent to course B taught at ZUFS.
7. A credit hour of a course will be transferred if the grade is D.
7.5. Credit hours may only be transferred between duly recognized HEs and internationally recognized universities.
7.6. The transfer of credit does not alter the maximum time duration for completion of the degree. The total time duration will be counted from the date of admission to the degree programme in first
8. Requirement of the award of degree
8.1. A student must have a regular admission in the undergraduate programme of the institution and should earn a minimum of 30% credit hours out of a total of 128-140 credit hours from ZUFESt to where S/he will be entitled to the degree. (This para should be read in conjunction with para 7).
8.2. For completion of the degree, the minimum qualifying CGPA for BS is 2.0.
8.3. In case a student secures less than 2.00 CGPA (minimum qualifying CGPA) at the end of the first semester, s/he may be allowed to get re-admission in one or more courses, in which the final grade is below C, along with the forthcoming semester, provided that s/he is not debarred under the CGPA Improvement Regulation and time duration specified for the programme i.e. 7 years. (This para should be read in conjunction with para 5).

9. Programme Duration
9.1. At the undergraduate programmes in ZUFESt must be of minimum 8 regular semesters (excluding summer semesters)
9.2. Minimum duration to complete an undergraduate programme is 4 years.
9.3. Maximum duration to complete an undergraduate programme is 7 years.

10. Cancellation of University Enrollment
10.1. Admission and University enrolment of the student will be canceled under the following circumstances:
10.2. If a student fails to attend any lecture during the first four weeks after the commencement of the first semester as per the announced schedule.
10.3. If any of the academic documents of the students are found false, forged, altered or not in accordance with admission criteria mentioned by the university even after graduation from the university.
10.4. If the provision admission requirements do not meet the minimum academic criteria set by the respective regulatory/accreditation council.
10.5. If the student fails to register in two consecutive semesters without any written prior approval from Chairperson and Dean.
10.6. If a student has involved in serious disciplinary misconduct.
10.7. If a student fails to complete the degree requirement within 7 years duration.
In case of cancellation of admission because of any of the clauses as mentioned above, no fees will be refunded.

11. Fee refund Policy
Fees deposited at the time of admission by fresh students or before the start of the semester shall only be refunded under the following timeframe:
11.1. Up to 7th day (inclusive of holidays) at the commencement of classes 100%.
11.2. Up to 14th day (inclusive of holidays) at the commencement of classes 50%.
11.3. Only security will be refunded if a request for withdrawal is made after 14 days.

12. Grading policy
12.1. In general, Relative Grading System is adopted in ZUFESt.
12.2. Following letter grade and equivalent GPA are used:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>B+</td>
<td>3.70</td>
</tr>
<tr>
<td>B</td>
<td>3.30</td>
</tr>
<tr>
<td>B-</td>
<td>3.00</td>
</tr>
<tr>
<td>C+</td>
<td>2.70</td>
</tr>
<tr>
<td>C</td>
<td>2.30</td>
</tr>
<tr>
<td>C-</td>
<td>2.00</td>
</tr>
<tr>
<td>D</td>
<td>0.00</td>
</tr>
<tr>
<td>W</td>
<td>Withdraw</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
</tbody>
</table>

12.3. In case of class size less than 20 students,
course instructor may opt for absolute grading with the written permission of Dean on recommendation of Chairperson after course registration completion.

12.4. In case of relative and absolute grading it is recommended to normalise the result to maintain the standard of grading practice.

12.5. Grading Policy for each course identifies weights of homework, quizzes, Mid-Semester Examination, Final Examination, Lab and Project etc. as approved by respective departmental chairperson as is follows:

<table>
<thead>
<tr>
<th>Nature of Examination</th>
<th>Courses With Lab</th>
<th>Courses Without Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sessional Exams (Quizzes, Assignments, Presentations)</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Mid-Semester Examination</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>35.33%</td>
<td>20%</td>
</tr>
<tr>
<td>Lab (Lab Exam/Lab Report/Lab Assignments/Project)</td>
<td>33.33%</td>
<td>20%</td>
</tr>
</tbody>
</table>

12.6. Students may be allowed to withdraw from a course within a week of the semester. In such case the transcript shall record the student enrolled in the course and withdraw. Consequently, grade “W” will be awarded to the student which shall have no impact on the calculation of the SGPA/CQPA of the student. However, at the time of re-registration, this course will be treated as a new course and full fees will be charged. Additionally, any such course does not come under deficiency courses so it cannot be opted in the summer semester.

12.7. A student withdrawing after the 6th week shall be automatically awarded “F” grade which shall count in the GPA and stay on the transcript.

12.8. Full fees will be charged for all withdrawal courses. There shall be no full or partial refund of fees allowed under any circumstances.

12.9. If a student fails to appear in the final examination of any registered course because of the reason/circumstances subject to acceptance on the justified rationale. She will be marked with grade “F”. The status of course will be incomplete.

12.10. For grade “W”, the student must have attendance (>75%) in that specific course and have satisfactory performance (>70%) in mid-term, quiz, assignment and all academic activities of that class.

12.11. At the time of re-registration of course with grade “W” no course fee will be charged. Additionally, such courses can be under deficiency courses and may be opted in the summer semester. However, the maximum course load in the summer semester should not exceed two courses including this course.

12.12. All the written request following the policy of “W” and “F” grades must be a route through the respective class advisor and submitted to Dean for approval on recommendation of Departmental chairperson.

12.13. No request for “W” grade is entertained after 6 weeks of commencement of classes. No request for the “F” grade is entertained after the end of the final examination.

13. Make-up Examination

13.1. No make-up/re-take examination shall be allowed in a course where a student fails short of the required level of attendance or he/she fails the course. In such cases, the student shall repeat the complete course. Full course fees shall be charged when students again re-register for failed courses.

13.2. The make-up final examination may, however, be allowed with the next semester examination in case of death of parent, spouse or children of the student and course with “F” grade.

14. Student grievance committee

14.1. A four (4) member committee constituted of a senior faculty member/dean investigator, relevant departmental Chairperson, Dean headed by Controller of Examinations to redress the grievances of the students about any course instructor or grades or for any other issue pertaining to final examination.

14.2. In respect of grade, a student must submit the grievance application if any, in writing to the departmental Chairperson within (30) seven working days of the receipt of the grade. The departmental Chairperson shall forward the grievance application to the Committee. It will be mandatory for the Committee to hear both sides (student and the instructor) and will give its final decision within (29) five working days or before the start of registration for the new semester, whichever comes earlier. The decision of the Committee will be deemed final and will be binding on all parties.

15. Harassment policy

“Harassment covers the following:

I. Passengers, placing visual or written material, aimed at a specific person or gender with the intention of psychological or causing harm to the person.

II. Any unauthorized use of electronic or other devices to make a picture or audio/video record of any person while an University premises without his/her prior knowledge.”

15.1. The University does not tolerate any form of harassment or victimisation and expects all students and teachers to treat each other with respect, courtesy and consideration.

15.2. Any student feels she has been subject to harassment can make a written complaint to the Departmental Chairperson via the appropriate procedure in relation to complaints about university staff or university student.

15.3. All such complaints shall be forwarded to Registrar office for further action via Dean within (30) working days of the receipt of the written complaint after initial scrutiny before filing.

16. Attendance Policy

16.1. Attendance in classes is mandatory especially in a semester system. Students need to maintain a minimum attendance (>75 %) in a course to complete the requirements of a course.

16.2. The instructor should inform student about his attendance and must report in written student’s absence at least once before mid-term examination to the departmental chairperson. The department should officially warn the student via notice to maintain minimum attendance to qualify for final examination immediately after mid-term examinations.

16.3. A student may be stopped from appearing in the course final examination if he is unable to maintain minimum attendance in that specific course. He will be assigned “F” grade in that course and need to re-register in the course.

16.4. A student with exceptional cases such as serious accident or serious health ailments may request in written with an official hospital discharge sheet and medical report for relaxation up to further 10% to Departmental Chairperson through course instructor. However, this cannot be availed more than twice during the whole student tenure.
DEPARTMENT OF BIOMEDICAL ENGINEERING

VISION
To become a top Department of Biomedical Engineering across the nation by imparting engineering knowledge to serve the healthcare industry with excellence.

MISSION
The Department of Biomedical Engineering aims to serve society in the best manner wherein graduates will be equipped with required technical and interpersonal skills, motivated for research and lifelong learning; ethical values along with leadership and entrepreneurship qualities.

INTRODUCTION
Ziauddin University, Faculty of Engineering Science and Technology is offering a 4-year bachelor programme entitling BE Biomedical Engineering at Ziauddin University. Biomedical Engineering is more focused on the instrumentation and biomedical computing. The instrumentation or more formally Bio-instrumentation is the field for a travel enthusiast person, as is the installation, sales, and service of the biomedical instruments. It helps the engineers on the wheel, to maintain the instruments operational for the patient support in hospitals, pharmaceutical industries, and healthcare laboratories. Moreover, the instrumentation track of Biomedical Engineering also serves humanity by developing assistive devices for patients and elderly people. The patient can wear robotic suits, also known as exoskeletons. These suits assist the wearer in achieving mobility they lost due to disease, trauma or age factor. Also, the development and rehabilitation of artificial limbs take under the umbrella of the instrumentation track. The emerging focused area of Biomedical Engineering at ZUFESt shall be Biomedical Computing. Biomedical computing facilitates the development of complex biomedical systems like clinical and computer-based decision support, knowledge acquisition and management, medical imaging, computational intelligence in bio-clinical medicine, molecular medicine, and healthcare organizational aspects. It implies the use of Artificial intelligence for machine learning, bioinformatics for genomics and protein modeling, and Medical Image Processing. To incorporate these skills with the knowledge of the students, Biomedical Engineering at ZUFESt introducing Telemedicine system, Computational Fluid Dynamics, Bioinformatics, and Hospital Information System. Five batches of Biomedical Engineering have been successfully passed out and accredited by PEC, and almost all the students are well placed at suitable biomedical jobs in the market. The curriculum is in line with IEC/IEEE.

Department of Biomedical Engineering is offering the following programmes:
1) BE Biomedical Engineering (Morning Programme)
2) BS Biotechnology (Morning Programme)
3) BS Biomedical Engineering & Technology (Evening Programme)
4) MS Biomedical Engineering (Evening Programme)
BE BIOMEDICAL ENGINEERING

SCOPE & OPPORTUNITIES
Biomedical Engineering is one of the emerging fields which combines engineering expertise with the needs in the medical industry for the growth and development of the healthcare sector. It is the unique branch of engineering in which the concepts, knowledge, expertise, and skills are designed and applied to the field of biology and medicine to meet the daily challenges. Pakistan has a growing biomedical industry with the increased development of surgical tools, update of instrumentation in the hospitals and spending of large budgets on the research & development.

A biomedical Graduate can:
- Design biomedical equipment and devices, such as artificial internal organs, replacements for body parts, and machines for diagnosing medical problems.
- Install, adjust, maintain, repair, or provide technical support for biomedical equipment.
- Evaluate the safety, efficiency, and effectiveness of biomedical equipment.
- Train clinicians and other personnel on the proper use of biomedical equipment.
- Research the engineering aspects of the biological systems of humans, animals, and plants, and life scientists, chemists, and medical scientists.
- Prepare procedures, write technical reports, publish research papers, and make recommendations based on their research findings.
- Present research findings to scientists, non-scientists, executives, clinicians, hospital management, engineers, other colleagues, and the public.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: Able to solve complex biomedical engineering problems using fundamental principles of technical, basic and health sciences.

PEO 2: Able to compete in the field of research and development by incorporating life-long learning using modern tools and techniques and responsive to the demands of society in ethical, professional and safe manner.

PEO 3: Able to possess leadership and communication skills essential for the project management and entrepreneurship to serve the healthcare industry in the best possible way.

LENGTH OF DEGREE PROGRAMME
Minimum 4 years and maximum 7 years (135 Credit Hours)

ELIGIBILITY CRITERIA
To be admitted to the Bachelor of Engineering in Biomedical Engineering BE degree Programme students have to satisfy the following requirements:
- Minimum 60% marks in HSC (Pre-Engineering or Pre-Medical Group)/A Level or an equivalent qualification, DAE in Biomedical/Electrical or Electronic Technology with 60% marks are required for admission.
- Applicants are required to appear for a written test and interview.

FEE STRUCTURE

<table>
<thead>
<tr>
<th>Mode of Payment</th>
<th>Amount (in PKR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition fees</td>
<td>3,300/-</td>
</tr>
<tr>
<td>Exam fees</td>
<td>3,00/-</td>
</tr>
<tr>
<td>Admission fees</td>
<td>3,000/-</td>
</tr>
<tr>
<td>University fees</td>
<td>1,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>1,000/-</td>
</tr>
<tr>
<td>Transport</td>
<td>2,000/-</td>
</tr>
<tr>
<td>Seminars</td>
<td>7,000/-</td>
</tr>
<tr>
<td>Grants</td>
<td>7,000/-</td>
</tr>
</tbody>
</table>

Note: Any additional tax imposed by the government will be the liability of the student/parents/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. A 2% surcharge per month will be levied on outstanding fees after the due date.

SCHEME OF STUDY

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-106</td>
<td>Applied Physics</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>CS-101</td>
<td>Introduction to Computing</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>EE-105</td>
<td>Basic Electrical Engineering</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td>NS-113</td>
<td>Basic Mathematics</td>
<td>4+0</td>
<td></td>
</tr>
<tr>
<td>NS-116</td>
<td>Basic Biology</td>
<td>4+0</td>
<td></td>
</tr>
<tr>
<td>BM-101</td>
<td>Introduction to Biomedical Engineering</td>
<td>1+0</td>
<td></td>
</tr>
<tr>
<td>HS-101</td>
<td>Islamic Studies</td>
<td>2+0</td>
<td></td>
</tr>
<tr>
<td>HS-102</td>
<td>Ethics Behavior</td>
<td>2+0</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-103</td>
<td>Pakistan Studies</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>NS-109</td>
<td>Calculus &amp; Analytical Geometry</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>BM-113</td>
<td>Physiology I</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>CS-113</td>
<td>Circuit Analysis</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td>BM-112</td>
<td>Human Anatomy</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-223</td>
<td>Complex Variable &amp; Transformation</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>BM-211</td>
<td>Physiology II</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>BM-202</td>
<td>Biochemistry</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>EE-210</td>
<td>Basic Electronics</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td>EE-214</td>
<td>Computer Aided Engineering Drawing</td>
<td>2+0</td>
<td></td>
</tr>
<tr>
<td>HS-112</td>
<td>Communication Skills</td>
<td>2+0</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>16</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-215</td>
<td>Biomedical Electronics</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td>BM-212</td>
<td>Digital Logic Design</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td>NS-113</td>
<td>Linear Algebra &amp; Differential Equation</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>BM-214</td>
<td>Biomechanics</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td>EE-231</td>
<td>Signals &amp; Systems</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SEMESTER V

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-311</td>
<td>Biomedical Instrumentation I</td>
<td>3+1</td>
</tr>
<tr>
<td>HS-206</td>
<td>Probability &amp; Statistics</td>
<td>3+0</td>
</tr>
<tr>
<td>NS-312</td>
<td>Numerical Methods</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-311</td>
<td>Microprocessor &amp; Interfacing</td>
<td>2+1</td>
</tr>
<tr>
<td>BM-312</td>
<td>Biomedical Signal Processing</td>
<td>3+1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>17</strong></td>
</tr>
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</table>

### SEMESTER VI

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-313</td>
<td>Biomedical Instrumentation II</td>
<td>3+1</td>
</tr>
<tr>
<td>BM-XXX</td>
<td>Elective I</td>
<td>3+0</td>
</tr>
<tr>
<td>BM-314</td>
<td>Biomedical Control Systems</td>
<td>3+1</td>
</tr>
<tr>
<td>CS-311</td>
<td>Modeling &amp; Simulation</td>
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### SEMESTER VII

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<td>Medical Imaging</td>
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<td>BM-XXX</td>
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<tr>
<td>BM-XXX</td>
<td>Elective III</td>
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<td>HS-222</td>
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<tr>
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### SEMESTER VIII

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<td>MS-411</td>
<td>Professional Practices &amp; Ethics</td>
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<tr>
<td>BM-XXX</td>
<td>Elective V</td>
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<td>BVP-402</td>
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<td>MS-403</td>
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BS BIOTECHNOLOGY

SCOPE & OPPORTUNITIES

Biotechnology is defined as the application of biological systems to basic and technical and industrial processes. Biotechnology has applications in health, environment, and industry; the graduates of biotechnology programme will play a significant role in the development of national and international level by rendering their services as a scientist, analyst, and expert. The potential employment area for the graduates of Biotechnology are Pharmaceutical and Health sciences industries. Also, countless opportunities are available in clinical laboratories, research institutes and teaching institutions.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Consistent with the Department of BME Vision and Mission, the Programme Educational Objectives of the study programme BS Biotechnology are:

PEO 1: To produce graduates who will contribute to the field of biotechnology and allied industries by designing, developing and providing solutions to improve current processes and development.

PEO 2: To produce entrepreneurs and team leaders having theoretical and practical knowledge of the instruments, techniques and methods with strong ethics and management skills.

PEO 3: To produce graduates with the ability to initiate scientific research and pursue higher education in reputed institutes at a national and international level.

ELIGIBILITY CRITERIA

The criteria for students seeking admission to the programme are as follows:

- Intermediate or equivalent qualification.
- Minimum score for eligibility is 45% in the ZU Admissions Test.

**FEE STRUCTURE**

- Tuition fee (credit): Rs. 3,300/-
- D.A fee (credit): Rs. 300/-
- Visa of credit/sem: Rs. 17
- Tuition fee: Rs. 26,400/-
- Exam fee: Rs. 8,000/-
- Sem fee registration: Rs. 2,000/-
- Activity fee: Rs. 10,000/-
- Admission fee: Rs. 10,000/-
- Security deposit: Rs. 5,000/-
- Semester fees: Rs. 70,000/-

Note: Any additional taxes imposed by the government will be the liability of the students/parents/guardians.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees are to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. A surcharge of 2% per month will be levied on outstanding fees after the due date.

SCHEME OF STUDY

**SEMESTER I**

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<tr>
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<td>Islamic Studies</td>
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<td>BS 106</td>
<td>Ethics/Behavior</td>
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<td>NS 114</td>
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<td>NS 111</td>
<td>Basic Biology</td>
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<tr>
<td>BS 101</td>
<td>Ecology, Biodiversity and Evolution</td>
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<td>Organic Chemistry</td>
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<td>CS 101</td>
<td>Introduction to Computing</td>
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**SEMESTER II**

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<td>Pakistan Studies</td>
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<td>NS 101</td>
<td>Physics</td>
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<td>BS 110</td>
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**SEMESTER III**

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<td>BS 231</td>
<td>Sociology</td>
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<td>BS 205</td>
<td>Physical Chemistry</td>
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<td>BS 216</td>
<td>Biomathematics</td>
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<td>BS 123</td>
<td>Microbiology</td>
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**SEMESTER IV**

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<td>BS 207</td>
<td>Immunology</td>
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### Semester V

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<td>HS</td>
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<td>Microbial Biotechnology</td>
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<td>BT</td>
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<td>Principles of Biotechnical Engineering</td>
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<td>BM</td>
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<td>Bioinformatics</td>
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### Semester VI

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<tr>
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<td>311</td>
<td>Methods in Molecular Biology</td>
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<td>BT</td>
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<td>Agriculture Biotechnology</td>
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<td>Food Biotechnology</td>
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<td>BT</td>
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<td>Research Methodology &amp; Skill Enhancement</td>
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### Semester VII

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<td>BT</td>
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<td>Nanotechnology &amp; Proteomics</td>
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<td>Biostatistics and Bioethics</td>
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BS BIOMEDICAL ENGINEERING TECHNOLOGY

SCOPE & OPPORTUNITIES

With a degree in Biomedical Engineering Technology, students are prepared for entry-level jobs, troubleshooting, diagnosing, repairing, and calibrating biomedical equipment. The evening programme allows them to continue their education without compromising their job responsibilities. This will not only provide them with ease of mind but also enable them for self-sustainability.

Graduates of Biomedical Engineering Technology will be able to work in the pharmaceutical industries, hospitals, patient care facilitation centers, and doctor's offices with medical testing equipment.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

Consistent with the Department of Biomedical Vision and Mission, the Programme Educational Objectives of BS Biomedical Engineering Technology are:

PEO 1: To produce graduates who will be equipped with the knowledge of Science, Technology, mathematics, modern tools and skills to propose ideas and solutions, culminating in a technology or equipment in health care systems.

PEO 2: To produce graduates able to monitor, repair, and calibrate the products using modern tools for the maintenance in biomedical engineering technology and generate employment through entrepreneurship.

PEO 3: To produce graduates who will be able to manage and communicate multidisciplinary teams and assist in research and development.

ELIGIBILITY CRITERIA

- At least 50% marks in DAE/Intermediate (Pre-engineering/Pre-medical) or an equivalent examination
- Applicants are required to appear for a written test and interview.

SCHEME OF STUDY

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<td>E-T-114</td>
<td>Linear circuit analysis</td>
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<tr>
<td>E-T-133</td>
<td>Computer applications</td>
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<td>E-T-234</td>
<td>Digital Electronics</td>
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<td>E-T-255</td>
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<td>E-T-223</td>
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<td>B-M-112</td>
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<tr>
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<td>Clinical Equipment</td>
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<td>B-E-213</td>
<td>Physiology</td>
<td>2+1</td>
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<td>E-T-240</td>
<td>Introduction to Embedded System</td>
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<td>E-T-296</td>
<td>Electrical Machine Transformer</td>
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**TOTAL** 15

## SEMESTER VI

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**TOTAL** 16

## SEMESTER VII

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## SEMESTER VIII

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<tr>
<td>BF414</td>
<td>Project</td>
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**TOTAL** 16
DEPARTMENT OF CIVIL ENGINEERING

VISION
To achieve excellence in acquiring skills in the domain of Civil Engineering to serve humanity as a whole.

MISSION
To impart fundamental education leading to the independent knowledge and methodologies to help develop the capacity for the graduates to plan, design, execute and manage the Civil Engineering projects and be assets to the industry stakeholders.

INTRODUCTION
The field of Civil Engineering is achieving its high demand with time and with the growing trend, it is an undoubted truth that there is an increase in a number of development of high rise buildings and infrastructures so it is an immense need to be the part of the profession of Civil Engineering in a broader perspective of field specialisation. The demand for Civil Engineering is almost equal in all areas including Construction Management, Traffic or Transportation Engineering, Geotechnical Engineering, Urban Engineering, Coastal & Harbor Engineering, Earthquake Engineering, Structural Engineering, and Environmental Engineering.

Department of Civil Engineering is offering the following programs:
1) BSc. Civil Engineering (Morning Program)
2) BSc. Civil Technology (Evening Program)
**Scope & Opportunities**
The area of Civil Engineering is very broad and linked with industrial development. It is expected that human resource demand in technical areas shall rise due to CPEC. Some salient features are as follows:
- The students will be able to explore or develop their construction industries or business as consultants, contractors, and designers.
- Imparting their knowledge in the water resources area with the development of dams, barrages, canals, etc.
- Strengthen the area of Environmental Engineering in undeveloped areas of Pakistan.
- To produce and may get along with the transportation firms for traffic management studies, safety and accident studies, signage plans, road furniture, and infrastructure improvement plans.
- Students may approach and join hands with the soil testing laboratories.
- Students may play a vital role in the industries for wastewater treatment and solid waste management in the purview of CPEC.
- Students can engage with the private, public, and education sector as well.

**Programme Educational Objectives (PEOs)**
- **PEO-1**: Graduates having technical and Professional Engineering Knowledge with basic understanding enabling them to synthesize the problems with modern techniques and investigation procedures.
- **PEO-2**: To produce graduates with professional development in a manner that they successfully and ethically practice in all the related fields of Civil Engineering society.
- **PEO-3**: Graduates with the motivation of lifelong learning and imparting the knowledge with design aspects and sustainability, and contribute with substantial growth in Research and Development.
- **PEO-4**: Graduates having strong capability of teamwork, possessing leadership qualities, focusing entrepreneurship and connection with stakeholders.

**Length of Degree Programme**
Minimum 4 years and maximum 7 years (120 Credit Hours)

**Eligibility Criteria**
To be admitted to the Bachelor of Science in Civil Engineering BS degree programme, students have to satisfy the following requirements:
- Minimum 60% marks in HSC (Pre-Engineering Group)/A level or an equivalent qualification.
- DAE in Civil Technology/Land & Mine Surveying/Architecture with 55% marks in the relevant discipline are required for admission.
- Students are required to appear for a written test and interview.

**Fee Structure**
- **Admission Processing Fee**: Rs. 2,500-
- **Application Fee**: Rs. 10,000-
- **Security Deposit (refundable)**: Rs. 5,000-
- **Student Activity Fee (Per Semester)**: Rs. 2,000-
- **Semester Regular Fee (Per Semester)**: Rs. 30,000-
- **First Semester Credit Hours Fee**: Rs. 10,000-
- **Examination Fees**: Rs. 500-
- **First Semester Credit Hours Fee**: Rs. 10,000-
- **Transportation charges mandatory**: Rs. 000-
- **University Road Campus Fee**: Rs. 30,000-
- **Total Fee at the time of admission**: Rs. 120,000-

Note: Any additional taxes imposed by the government will be the liability of the students/parents/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.

Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.
### SEMESTER V

<table>
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**TOTAL** 20

### SEMESTER VI

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### SEMESTER VII

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**TOTAL** 11
BS CIVIL TECHNOLOGY

The field of Civil Technology is achieving its high demand with the passage of time and market needs. There is a significant increase in the number of development of high rise buildings and infrastructure, so it is an immense need to be the part of the profession of the civil domain from a broader perspective. The focused area of this technology includes Construction Management, Traffic or Transportation, Geotechnical & Foundation works, and Coastal & Harbor works Structures and Environmental assessment. The programme is valuable and beneficial for the students with mixed interests.

The department of Civil Engineering is well equipped with state-of-the-art laboratories of surveying, construction engineering, fluid mechanics, and the strength of materials, drawing halls, and engineering mechanics. Not only that, the balance is created in theory and practical knowledge with the induction of highly qualified and senior faculty members having enough field and research experience. Lab staff and attendants are also available for supporting actions. To strengthen the research in the civil profession, the departmental library is established having a sufficient number of titles in the specialisation. The curriculum is designed on the guidelines of HEC-UGC. In factual terms, by the end of the course programme, the student will be in a position to select and set in a stable position of Civil Engineering Technology followed by technical skills learned.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO-1: To produce graduates that are technically skilled and competent to formulate, analyze and solve problems using appropriate engineering tools and techniques.

PEO-2: To produce effective and employable engineering graduates that successfully & ethically practice civil engineering skills in related fields.

PEO-3: To produce graduates motivated for lifelong learning and create new knowledge and technical solution through cutting-edge research and entrepreneurship.

PEO-4: To produce graduates with the capacity to work as an effective team member with strong leadership qualities.

ELIGIBILITY CRITERIA

- Minimum 50% marks in HSC/A Level or an equivalent qualification. DAE in the relevant discipline Technology with 50% marks are required for admission.
- Students are required to appear for a written test and interview.

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<td>CI235</td>
<td>Water Supply &amp; Waste Water Management</td>
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<td>CI251</td>
<td>Geotechnical Analysis</td>
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<td>MS202</td>
<td>Occupational Health &amp; Safety Management</td>
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<td>Reinforced Concrete</td>
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<tr>
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<td>CT322</td>
<td>Construction &amp; Hydraulic Machinery</td>
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<td>CT344</td>
<td>Foundations Engineering</td>
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<td>CT353</td>
<td>Pre-stressed &amp; Precast concrete</td>
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<td>MS321</td>
<td>Environmental Management</td>
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<td>CT357</td>
<td>Irrigation &amp; Hydraulic Structures</td>
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<td>CT358</td>
<td>Steel Structures</td>
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<td>CT323</td>
<td>Construction &amp; Project Management</td>
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<td>CT44X</td>
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### Semester VIII

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DEPARTMENT OF ELECTRICAL ENGINEERING

VISION
To be the best at serving society with the acquired skill set in the domain of Electrical Engineering and Technology.

MISSION
To impart quality education in electrical engineering and produce graduates that conduct research, develop technologies and contribute to the national and international scientific and socioeconomic growth.

INTRODUCTION
In the field of engineering, Electrical Engineering is organised with the study and applications of electrical systems and electricity, which include the power generation, distribution, transmission, utilisation, communication, control and/or mechanical systems for industrial and domestic usage. Electrical Engineering comprises electronics, computers, instrumentation, communication and control engineering. Therefore, Electrical Engineering is essential for all engineering disciplines and its scope is vast and unlimited. The applications vary from design, commissioning, production, and testing of hydroelectric, thermal and renewable as well as nuclear power plants, to the domestic and industrial consumption and appliance control. There are remarkable career opportunities for an Electrical Engineer especially in Pakistan as well as in other developed countries across the world. The current economic and industrial growth in Pakistan also increased the demands of an Electrical Engineering many folds in industries, education and research institutes.

Department of Electrical Engineering is offering the following programmes:
1) BS Electrical Engineering (Morning Programme)
2) BS Electrical Technology (Evening Programme)
3) MS Electrical Engineering (Evening Programme)
4) PhD Electrical Engineering (Evening Programme)
BE ELECTRICAL ENGINEERING

SCOPE & OPPORTUNITIES
With current industrial and infrastructure growth in Pakistan such as CPEC, it is expected that human resource demand in technical areas shall rise. Huge market for Electricians and Electrical Technologists is forecasted with the emerging Industrial Units, Power Generation & Distribution Plants, etc. After completing the B.S Electrical Engineering graduates can:
• Start their own business as an entrepreneur engineer.
• Find placements in power generating station, K-Electric, WAPDA, public health, radio, and TV broadcasting, Oil-gas, etc.
• Start jobs in the industrial zone (textile, automotive manufacturing plants).
• Can work as Engineer in Pakistan Atomic Energy Commission, O/DEC, and Pakistan Railways and other Government and private organizations.
• Junior Lecturer in Engineering University/Institution.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)
With current industrial and infrastructure growth in Pakistan, it is expected that human resource demand in technical areas shall rise. Huge market for Electricians and Electrical Technologists is forecasted with the emerging Industrial Units, Power Generation & Distribution Plants, etc. Our aim is to:

PEO 1: To produce graduates that are technically skillful and competent to formulate, analyze and solve complex engineering problems using appropriate technological tools and techniques.

PEO 2: To produce employable graduates with effective communication skills that successfully & ethically practice electrical engineering and technology-related fields.

PEO 3: To produce graduates motivated for lifelong learning through research and entrepreneurship.

PEO 4: To produce graduates with the capacity to work as an effective team member and strong leadership qualities.

LENGTH OF DEGREE PROGRAMME
Minimum 4-years and maximum 7 years (134 Credit Hours)

ELIGIBILITY CRITERIA
To be admitted to the Bachelors of Science in Electrical Engineering B.S degree Programme students have to satisfy the following requirements:
• Minimum 60% marks in HSC (Pre-Engineering Group)/A Level or an equivalent qualification, DAE in relevant Technology with 60% marks are required for admission.
• Students are required to appear for a written test and interview.

FEE STRUCTURE
Credit Hours: 134
Per Credit Fee (Tuition +Exam): Rs. 3,700 /
Semester Registration Fee: Rs. 5,000 Per Sem.
Student Activity Fee Per Sem: Rs. 1,000 Per Sem
Admission Fee: Rs. 25,000 /
Security Deposit (Refundable): Rs. 25,000 /

Note: Any additional taxes imposed by the government will be the liability of the student/parent/guardian.

The University reserves the right to increase the fees if required according to the recommendation of the governing body.

Advance fees to be paid semester-wise. All fees need to be cleared within two weeks of commencement of the academic year. 2% surcharge on outstanding fees after the due date.

SCHEME OF STUDY

SEMMESTER I

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<td>Calculus and Analytical Geometry</td>
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<td>EE-103</td>
<td>Linear Circuit Analysis</td>
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<td>CS-103</td>
<td>Introduction to Computing</td>
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<td>Workshop Practice</td>
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<td>Pakistan Studies</td>
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<td>CS-107</td>
<td>Programming Fundamentals</td>
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<td>Electronic Devices and Circuits</td>
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SEMMESTER III

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<td>Basic Mechanical Engineering (IDEE)</td>
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<td>Data Structure &amp; Algorithm</td>
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<td>Electrical Network Analysis</td>
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SEMMESTER IV

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<td>EE-233</td>
<td>Instrumentation &amp; Measurements</td>
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**Depth Elective – I (3+1)**
- EE-332 Power Electronics
- EE-333 Power Electronics and Industrial Drives
- EE-453 Power System Protection
- EE-466 Digital Control Systems

**Depth Elective – II (3+0)**
- EE-454 Power System Stability & Control
- EE-464 Renewable Energy Systems
- EE-465 Advanced Electrical Machines
- EE-466 High Voltage Engineering
- EE-469 PLC and Industrial Drives
- EE-474 Smart Grid