OUR 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 global challenges in the rapidly changing political, economic and social paradigm.

OUR MISSION
Ziauddin University seeks to have a futuristic approach in imparting knowledge, skills and confidence in students and to inculcate in them such critical abilities, wisdom and values which are necessary for a forward looking coherent civil society where knowledge is disseminated and service rendered with the highest sense of moral uprightness and social responsibility to the nation, region and the world at large.
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIR. DR. ZIAUDDIN AHMAD</td>
<td>05</td>
</tr>
<tr>
<td>MESSAGE FROM THE CHANCELLOR</td>
<td>07</td>
</tr>
<tr>
<td>MESSAGE FROM THE VICE CHANCELLOR</td>
<td>09</td>
</tr>
<tr>
<td>MEMBERS OF GOVERNING BODY</td>
<td>11</td>
</tr>
<tr>
<td>MEMBERS OF ACADEMIC COUNCIL</td>
<td>12</td>
</tr>
<tr>
<td>ZIAUDDIN UNIVERSITY</td>
<td>13</td>
</tr>
<tr>
<td>FACULTY OF HEALTH SCIENCES</td>
<td>17</td>
</tr>
<tr>
<td>ZIAUDDIN MEDICAL COLLEGE</td>
<td>19</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>19</td>
</tr>
<tr>
<td>VISION &amp; MISSION</td>
<td>21</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>21</td>
</tr>
<tr>
<td>COLLEGE OF DENTISTRY</td>
<td>39</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>39</td>
</tr>
<tr>
<td>MISSION</td>
<td>41</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>41</td>
</tr>
<tr>
<td>COLLEGE OF SPEECH LANGUAGE AND HEARING SCIENCES</td>
<td>51</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>51</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>51</td>
</tr>
<tr>
<td>COLLEGE OF MEDICAL TECHNOLOGY</td>
<td>63</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>63</td>
</tr>
<tr>
<td>HISTORY OF MEDICAL TECHNOLOGY</td>
<td>65</td>
</tr>
<tr>
<td>MISSION</td>
<td>65</td>
</tr>
<tr>
<td>COLLEGE OF REHABILITATION SCIENCES</td>
<td>83</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>85</td>
</tr>
<tr>
<td>COLLEGE OF NURSING</td>
<td>103</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>103</td>
</tr>
<tr>
<td>VISION &amp; MISSION</td>
<td>105</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>105</td>
</tr>
<tr>
<td>FACULTY OF PHARMACY</td>
<td>121</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>123</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>125</td>
</tr>
<tr>
<td>VISION &amp; MISSION</td>
<td>125</td>
</tr>
<tr>
<td>FACULTY OF EASTERN MEDICINE &amp; NATURAL SCIENCES</td>
<td>143</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>145</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>147</td>
</tr>
<tr>
<td>VISION &amp; MISSION</td>
<td>147</td>
</tr>
<tr>
<td>FACULTY OF ENGINEERING SCIENCE, TECHNOLOGY &amp; MANAGEMENT</td>
<td>155</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>157</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>159</td>
</tr>
<tr>
<td>VISION &amp; MISSION</td>
<td>159</td>
</tr>
<tr>
<td>FACULTY OF LAW</td>
<td>239</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>241</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>243</td>
</tr>
<tr>
<td>MISSION</td>
<td>243</td>
</tr>
<tr>
<td>FACULTY OF LIBERAL ARTS AND HUMAN SCIENCES</td>
<td>253</td>
</tr>
<tr>
<td>KEY INFORMATION</td>
<td>255</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>257</td>
</tr>
<tr>
<td>MISSION</td>
<td>257</td>
</tr>
</tbody>
</table>
Sir Dr. Ziauddin Ahmad was an eminent educationist, scholar and visionary of Sub-continent. He was born in 1873 in Meerut, India. At the age of 12, he passed high school with 1st Division and received Lang medal along with government scholarship at M.A.O collegiate Aligarh. In 1895 he secured 1st position in B.A and received Coveted Shachey Gold Medal at M.A.O College Aligarh. After completion of B.A in Mathematics Dr. Ziauddin Ahmad was appointed as an assistant lecturer in MAO College. He attained M.A Degree from Calcutta University while securing 1st position and in 1901 he obtained his D.Sc. degree in mathematics from the Allahabad University. For further, studies he enrolled himself in Trinity College at Cambridge University. In 1904 he accomplished his goal and achieved Sir Isaac Newton scholarship; He was the first Indian to receive this honor. Later in 1906, his thirst for knowledge took him to Gottingen University, Germany, where he completed his PhD in Mathematics.

Sir Dr. Ziauddin Ahmad served the Muslims of the subcontinent, by raising the educational standards of the Muslims and by promoting literacy amongst the Muslim community. He also worked as an Assistant Secretary of Sir Syed Memorial Fund established for the purpose of founding a Muslim University. He was inspired by Sir Syed Ahmad Khan’s approach towards modern education. After the demise of Sir Syed Ahmad Khan, Dr. Ziauddin played a leading role in the revitalisation of Muslim education in the subcontinent, where he enlightened the Muslims of India with his liberal thoughts on the educational system. No single individual after Sir Syed did more in the cause of Muslim education than Dr. Ziauddin Ahmad. He was appointed as Pro-vice chancellor of Aligarh Muslim University, and later as a Vice-Chancellor, in 1935.

Sir Dr. Ziauddin Ahmad died in London on December 23, 1947 and he was buried beside Sir Syed Ahmad Khan in the Aligarh Muslim University Mosque premise, thus fulfilling the pledge he made to Sir Syed Ahmad Khan to serve Aligarh for his entire life.

May his life ever inspire us in the path of knowledge, human service, virtue and steadfastness.
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 drives 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 warranty 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

SITARA.E IMTIAZ, NISHAN.E IMTIAZ

CHANCELLOR, ZIAUDDIN UNIVERSITY
MESSAGE FROM THE VICE CHANCELLOR

I am pleased to present the Annual Report of Ziauddin University for 2019. 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 Eastern Medicine 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 SIDDIQUI
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 Asliz-ul Rehman
Honorable Judge, High Court of Sindh
Prof. Dr. Sarosh Lodhi
Professor of Emeritus, University of Karachi
Sardar Yaseen Malik HI, SI
Chairman, Hiton Pharma
Lt. Gen (Retd) Syed Waqar Hussain
Registrar, Ziauddin University
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 HEC or his nominee
Prof. Dr. Khadiid Iraq
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

SECRETARY
Engr. Capt.(Retd) Syed Waqar Hussain
Registrar, 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/Prof. Pharmacy
Prof. Dr. Rafeeq Alam Khan
Dean, Faculty of Pharmacy
Prof. Talat Mirza
Executive Director Research
Ms. Shaista Sarki
Dean, Faculty of Law
Prof. Dr. Fauzia Shamim
Dean, Faculty of Liberal Arts & Human Sciences
Prof. Dr. Tabiba Nasneem Qureshi
Dean, Faculty of Eastern Medicine & Natural Sciences
Engr. Capt.(Retd) Syed Waqar Hussain
Registrar, Ziauddin University

Prof. Dr. Ahmed Fawad
Associate Director Academics (Clinical)
North Nazimabad
Prof. Dr. Uzma Ghouri
Associate Director Academics, (Clinical)
Clifton Campus.
Dr. Arif Hussain
Assistant Dean, Allied Health Sciences
Prof. Dr. Saeeda Baig
Head of Department, Biochemistry
Prof. Dr. Jawaid Usman
Head of Department, Family Medicine
Engr. Mohammad Asif Arif
Director, GEC
Mr. Suhail Ahmed Khattan
Controller of Examinations
Dr. Iram Khursheed
Director, Department of Educational Development
Mr. Shahzad Iqbal
Director Finance
Dr. Almas Farhan
Director, Continuing Professional Education & Student Affairs
Dr. Shamim Mushlaq
Director Postgraduate, (BHS)
Syed Alta Allah Shah
Chief Librarian
Engr. Muhammad Asif
Director GEC
Dr. Saad Jawaid Khan
Chairperson, Bio Medical Engineering
Prof. Dr. Munaf Rashid
Chairperson, Software Engineering
Prof. Dr. Ghulam Bashir Pirzada
Chairperson, Civil Engineering
Engr. Syed Fraz Jafri
Acting Chairperson, Civil Engineering
Engr. Shahzad Naseem
Chairperson, Management Technology & Information Sciences
Dr. Zulfiqar Usmoni
Director ORIC
ZIAUDDIN UNIVERSITY

Sir Dr. Ziauddin Ahmad’s vision was transformed into reality in the late 1950’s 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 80-bed hospital that serves the densely populated area of Nazimabad.

In 1968, the family of Dr Ziauddin Ahmad established Dr Ziauddin Hospital Trust, where in the same year this 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 neighbouring 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 2003 dated December 13, 2005.
Presently, following faculties/colleges are successfully running under the umbrella of Ziauddin 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
- College of Education
- College of Dentistry
- College of Languages, Literature & Culture
- College of Rehabilitation Sciences
- College of Natural Sciences
- College of Eastern Medicine
- College of Horticulture
- College of Media Sciences
- College of Liberal Arts and Human Sciences
- Faculty of Law
- The Language Center
- Faculty of Pharmacy

Faculty of Liberal Arts & Human Sciences

1. Prof. Naeem A. Jafarey Central Library
2. College of Speech Language & Hearing Sciences Library
3. College of Rehabilitation Sciences Library

NORTH NAZIMABAD CAMPUS:
4. Hospital Library
5. Faculty of Engineering Science & Technology Library
6. College of Nursing Library
7. College of Rehabilitation Sciences Library
8. College of Medical Technology
9. Faculty of Eastern Medicine and Natural Sciences

KEMARI CAMPUS:
10. KDLB Hospital Library

LINK ROAD CAMPUS:
11. Dr. Aijaz Fatima Library

LIBRARY COLLECTION:
Printed Material
- Books: More than 18500
- Journals: Subscribes a good number of Journals in all disciplines of the university programs

Theses:
- Ph. D.: 361 Thesis
- M. Phil. And Master’s thesis of ZU Researchers: 995
- CD/DVDs: 995

DATABASES: ONLINE FULL TEXT JOURNALS
The Access of more than 5000 journals including:
- HEC databases on Bio-Medical, Engineering and Social Science subjects.
- Research4Life:
  - HINARI: Health
  - ARDI: Innovation and Technology
  - GOALI: Law
  - OARE: Health, Technology, Education & Social Sciences etc.
  - AGORA: Science, Food, Law & etc...

LIBRARY FACILITIES:
- Cozy environment, Information commons: well-equipped systems including Internet, Intranet, WiFi, OPAC, Printing, appropriate and updated literature and databases according to the University Programs.

LIBRARY SERVICES:
- Current Content Service, ZU Faculty Publication Information, Creating Anti-plagiarism environment
- Public Services, Circulation Services, Printing, Article Searching, Reference Services, Reference Management.

TRAINING:
- Literature Search, Reference Management, Turnitin Software

LIBRARY OPERATIONS:
- KOHA for the automation of library literature and services.
- NLM and LC Scheme for Literature Classification
- AACR2 and MARC 21 cataloging.
- OPAC for Literature Search

LIBRARY TIMINGS:
The NAJ Library (Clifton Campus)
8:30 am to 4:30 pm (Monday to Friday)
8:30 am to 4:30 pm (Saturday)
The Hospital Library North Nazimabad
8:30 am to 10:00 pm (Monday to Saturday)
The KDLB Library
8:30 am to 6:00 pm (Monday to Friday)
8:30 am to 2:30 pm (Saturday)
Libraries of ZCRS, ZUFEST, ZCN, ZCSLHS
8:30 to 4:30 (Monday to Friday)

LIBRARY STAFF:
- Qualified Professional Staff

PROFESSIONAL ACCREDITATIONS
Ziauddin University is accredited from the following bodies:
- Pakistan Medical and Dental Council (PMDC)
- Pakistan Council of Pharmacy (PCP)
- Pakistan Nursing Council (PNC)

UNIVERSITY LIBRARIES
The Ziauddin University has following 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 programs:

Clifton Campus:
1. Prof. Naeem A. Jafarey Central Library
   - College of Medicine
   - College of Dentistry
   - Faculty of Pharmacy
   - Faculty of Liberal Arts and Human Sciences
   - Faculty of Law
   - Hospital Clinicians
   - College of Speech Language & Hearing Sciences Library
   - College of Rehabilitation Sciences Library

North Nazimabad Campus:
4. Hospital Library
5. Faculty of Engineering Science & Technology Library
6. College of Nursing Library
7. College of Rehabilitation Sciences Library
8. College of Medical Technology
9. Faculty of Eastern Medicine and Natural Sciences

Kemari Campus:
10. KDLB Hospital Library

Link Road Campus:
11. Dr. Aijaz Fatima Library

Library Collections:
Printed Material
- Books: More than 18500
- Journals: Subscribes a good number of Journals in all disciplines of the university programs
-Theses: Ph. D.: 361 Thesis
-M. Phil. And Master’s thesis of ZU Researchers: 995
-CD/DVDs: 995

Database Systems:
Online Full Text Journals
The Access of more than 5000 journals including:
- HEC databases on Bio-Medical, Engineering and Social Science subjects.
- Research4Life:
  - HINARI: Health
  - ARDI: Innovation and Technology
  - GOALI: Law
  - OARE: Health, Technology, Education & Social Sciences etc.
  - AGORA: Science, Food, Law & etc...

Library Facilities:
- Cozy environment, Information commons: well-equipped systems including Internet, Intranet, WiFi, OPAC, Printing, appropriate and updated literature and databases according to the University Programs.

Library Services:
- Current Content Service, ZU Faculty Publication Information, Creating Anti-plagiarism environment
- Public Services, Circulation Services, Printing, Article Searching, Reference Services, Reference Management.

Training:
- Literature Search, Reference Management, Turnitin Software

Library Operations:
- KOHA for the automation of library literature and services.
- NLM and LC Scheme for Literature Classification
- AACR2 and MARC 21 cataloging.
- OPAC for Literature Search

Library Timings:
The NAJ Library (Clifton Campus)
8:30 am to 4:30 pm (Monday to Friday)
8:30 am to 4:30 pm (Saturday)
The Hospital Library North Nazimabad
8:30 am to 10:00 pm (Monday to Saturday)
The KDLB Library
8:30 am to 6:00 pm (Monday to Friday)
8:30 am to 2:30 pm (Saturday)
Libraries of ZCRS, ZUFEST, ZCN, ZCSLHS
8:30 to 4:30 (Monday to Friday)

Library Staff:
- Qualified Professional Staff

Library Staff:
Dr. Naeem A. Jafarey Library (Clifton Campus)
Syed Attaullah Shah
Sheria Khurshid
Syeda Kishwar Zafear
Aisha Fareed
M. Ali Siddiqui
Syed Touqeer Ullah Shah

Hospital Library North Nazimabad
Syed Ifthikhar Hussain
Assistant Librarian
Afshineh Urooj
Assistant Librarian
Nasir Nawab
Assistant Librarian

KDLB (Kemari)
Abida Younus Sheikh
Assistant Librarian

ZUFEST Library (Education City, Link Road)
Tabinda Naveed
Assistant Librarian

ZUFEST Library (North Nazimabad)
Faiza Inam
Assistant Librarian

ZCSLHS Library
Rukhsar Fareed
Assistant Librarian

ZCRS Library- North
Tehreem Mustafa
Assistant Librarian

ZCRS Library- Clifton
Mohammad Noman
Assistant Librarian

Nursing Library
Noureen Kamal
Assistant Librarian
Library Website: http://library.zu.edu.pk
Library Email: library@zu.edu.pk
Tel: 92-21-35862939, Exts: 2563 - 2567
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 of 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 health status of the people of Pakistan and other developing countries by producing human resource skilled to function optimally within available resources of 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 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 350-bedded hospital
• Dr. Ziauddin Hospital, Clifton Site: a 150 bedded hospital
• Dr. Ziauddin Hospital, Kemari Site: a 150 bedded hospital

Other clinical learning sites include:
• Primary Health Care Centers, Skandernabad.
• 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, with emphasis on individual attention in small teaching/learning groups. The undergraduate clinical programmes are community-oriented and address priority 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 skills and teamwork. Research projects, relevant to national and community needs, are also encouraged.

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

At Ziauddin College of Medicine, a student is identified as an adult learner and is expected to utilise inborn capabilities to adapt and understand the rapidly changing academic atmosphere around the world.

Academic schedule for the MBBS degree programme reflects the innovative system-based course. In 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 Based System based Modular approach which is in line with regulations of the Pakistan Medical and Dental Council 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 assessment involves examining the learner’s entire conceptual network, not just focusing on discreet facts and principles.

Curriculum reviews are taken place critically on 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 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 recognise and solve healthcare problems.

The primary health care programme run by the university (PHC) serves as educational site for community based training. The PHC programme is a unique prototype of partnership between academia, 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 undergo this in Pakistan or overseas. This experience allows them a wider exposure and enables them to discover their specialised 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, life-long learners. The introduction of student-Centred 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 characterised by:
• Providing students on opportunity to learn how to deal with the problems they face in later professional practice.
• Emphasis on self-motivation and responsibility for learning.
• Training for learning professional skills such as leadership and team work.

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 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 health care. Learning at the Ziauddin group of hospitals provides a unique experience of exposure to patients from different geographical and economic backgrounds.

A squatter settlement adjacent to the university, in Sikanderabad, 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 underprivileged population living close to the Clifton site. These sites provide better opportunities for learning for students as they come in contact with a varying range of people and patients with health problems.

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

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

In the final fifth year, students are based in North Nazimabad site where a comprehensive attachment in Medicine, Surgery, Paediatrics 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. MCQ-one best type, modified essay questions & Viva (oral examination) are mainly used to assess multiple levels of knowledge including recall of basic facts, clinical interpretation and application. However, Objective Structured Practical/Clinical Examinations (OSPE/OSCE) are used to assess skills (practical/clinical) & attitudes with underpinned knowledge background.

CONTINUOUS ASSESSMENT POLICY
Securing minimum scores in an academic year requires consistency in Continuous Assessments. 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 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) assessments.

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 annual examination system. A consistent record of satisfactory performance is necessary for eligibility to MBBS Final Assessment. Each student’s performance is reviewed by the concerned department, which also determines eligibility for the certifying 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. Offers not accepted by the given deadline are cancelled.

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

a) Verification of Educational Testimonials: Original transcripts, mark sheets, certificates to be brought for attestation 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 patients and others, students must provide evidence of immunisation against the following:

- Tuberculosis (BCG).
- Diphtheria.
- Poliomyelitis.
- Pertussis.
- Hepatitis B.
- Tetanus.
- Measles/Mumps.
- Rubella (for females).

FINANCIAL POLICY
Students seeking admission to MBBS first year of 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 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.
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 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 growth in all areas of training and professional experience.

MASTER OF PHILOSOPHY (M.PHIL)
M.Phil candidates in Basic Health Sciences will have to be full time research students for a minimum period of two academic years. The award of degree shall be 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 recognized by Pakistan Medical and Dental Council (PMDC) and Higher Education Commission (HEC) and follows regulations for registration to research studies leading to the degree of M.Phil in the following subjects:
Anatomy, Biochemistry, Physiology, Pathology, Pharmacology.

ADMISSION POLICY
ELIGIBILITY CRITERIA
a) Candidates possessing MBBS/BDS/equivalent degree from an HEC recognized university.
b) M.Phil GAT exam by university
c) NTS/GAT
d) Interviews of candidates short-listed on the basis of performance in the M.Phil GAT exam by university.

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

DOCTOR OF PHILOSOPHY (PH.D)
Ph.D students in various faculties of Health and Medical Sciences will have to be full time research students for a minimum period of three academic years. The award of degree shall be both by course work and thesis. The programme is recognized by PMDC and HEC and follows regulations for registration to research studies leading to the degree of doctorate in the following subjects of Medical and Health Sciences:
Biochemistry, Pathology, Pharmacology.
Ziauddin University offers MD/MS programme of 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, inpatient facilities including Intensive and Coronary Care Units and also fully equipped Radiology department with interventional procedures facility. 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 following programmes:

**DOCTOR OF MEDICINE (MD)**
- Cardiology
- Critical Care
- Dermatology
- Emergency Medicine
- Gastroenterology
- Nephrology
- Neurology
- Nuclear Medicine
- Medicine
- Paediatrics
- Psychiatry
- Radiology
- Radiotherapy (Radiation Oncology)

**MASTER OF SURGERY (MS)**
- ENT
- General Surgery
- Orthopaedic Surgery
- Gynaecology and Obstetrics
- Ophthalmology
- Urology

**ADMISSION POLICY**

**ELIGIBILITY CRITERIA**

1. Candidates possessing MBBS or equivalent qualification recognised by PMDC and have done one year of House Job in an institute recognised by PMDC.
2. Eligible candidates will be required to pass a GAT exam by university and will be interviewed for suitability by the Postgraduate Committee.
The University offers Postgraduate Diplomas in the following disciplines:

- Anaesthesia
- Cardiology
- Dermatology
- Family Medicine
- Medical Oncology
- Paediatric Medicine
- Psychiatry
- Gynaecology and Obstetrics
- Clinical Pathology

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

**MCPS**
- Chemical Pathology
- Ophthalmology
- ENT
- Gastroenterology
- Haematology
- Histopathology
- Medicine
- Microbiology
- Neurology
- Gynaecology and Obstetrics
- Radiology
- Paediatrics
- Surgery
- Nephrology

**FCPS**
- Anaesthesia
- Chemical Pathology
- ENT
- Gynaecology and Obstetrics
- Clinical Pathology
- Haematology
- Histopathology
- Medicine
- Microbiology
- Neurology
- Gynaecology and Obstetrics
- Radiology
- Paediatrics
- Surgery
- Nephrology

**ANATOMY**
- PROFESSOR
  - BUSHRA WASIM
  - MBBS, FCPS, PhD
- ASSOCIATE PROFESSOR
  - KEVIN BORGES
  - MBBS, MPhil
- ASSISTANT PROFESSORS
  - SYED NUURAT NAWAD SHAH
  - MBBS, MPhil
  - MADEHA SADIQ
  - MBBS, MPhil
  - MUBINA LAKHANI
  - BDS, MPhil
- LECTURERS
  - TABINDA UROOJ
  - MBBS
  - GULRAIZ KARIM RIND
  - MBBS
  - INAYATULLAH KHAN
  - MBBS

**BIOCHEMISTRY**
- PROFESSOR
  - SAEEEDA BAIG
  - MSc, PhD
  - ZI-e-Rubab
  - MBBS, MPhil, PhD
- ASSOCIATE PROFESSOR
  - SHAMIM MUSHTAQ
  - MSc, PhD

**FACULTY MEMBERS**

**PRO CHANCELLOR**
- DR. NIDA HUSSAIN

**DEANS**
- DEAN, FACULTY OF HEALTH SCIENCES
  - PROF. DR. ABBAS ZAFAR

**PRINCIPAL, ZIAUDDIN COLLEGE OF MEDICINE**
- PROF. DR. NUZHAT HASSAN

**DIRECTOR, POSTGRADUATE STUDIES (CLINICAL)**
- PROF. DR. EJAZ AHMED VOHRA

**ASSOCIATE DIRECTOR ACADEMICS, NORTH SITE (CLINICAL)**
- PROF. DR. AHMED FAWAD

**ASSOCIATE DIRECTOR ACADEMICS, CLIFTON SITE (CLINICAL)**
- PROF. DR. UZMA GHOURI

**ASSOCIATE DIRECTOR ACADEMICS, KDLB (CLINICAL)**
- PROF. DR. KHALID HUSSAIN MAHIDA
ASSOCIATE PROFESSORS
FAISAL ZIAUDDIN
MBBS, FCPS
NIDA HUSSAIN
MBBS, DAB
ALI HAIDER BADRUDIN
MBBS , FCPS
NAHEED HANIF

ASSISTANT PROFESSORS
FATIMA JEHANGIR
MBBS, FCPS
YASEEN USMAN
MBBS, MCPs, MRCGP
RIZWANA HASHMI
MBBS, MCPs, MRCGP
JAWAID HABIB
MBBS, MCPs, MRCGP
TALAT PARVEEN
MBBS, MCPs
FAHRAN ZAIDI
MBBS, DFM
MADIHA ATHAR
MBBS, MCPs, DFM, MRCGP
NAUREEN KAZMI
MCPs, DFM
ARIOOSA JEHAN
MBBS, MCPs, MRCGP, DFM

GASTROENTEROLOGY
PROFESSOR
ZAQIYAH ABBAS
MBBS, FCPS FRCP

ASSISTANT PROFESSORS
NASIR LAIQUE
MBBS, MRCP
QAMAR-UL-ARFIN
MBBS, MRCP
KHURRAM BAQAI
MBBS, FCPS
SOHAIL HUSSAIN
MBBS, FCPS

NEUROLOGY
ASSISTANT PROFESSORS
BASHIR AHMED SOOMRO
MBBS, FCPS
NADEEM A MEMON
MBBS, FCPS
SHAIZMA
MBBS, FCPS

PULMONOLOGY
PROFESSOR
SYED ALI ABBAS

ASSISTANT PROFESSORS
ASHOK KUMAR
MBBS, FCPS
FATIMA ZAINA
MBBS, FCPS

ONCOLOGY/RADIOThERapy/NUCLEAR MEDICINE
PROFESSOR
TARIQ SIDIQUI
MBBS, FRCP, DAB

ASSOCIATE PROFESSORS
JAWAID A MALICK

ASSOCIATE PROFESSORS
AFTAB AHMED
MBBS, FCPS
SAJJAD SATTAR
MBBS, MD

ASSISTANT PROFESSOR
QURAT-UL-AIN BADAR
MBBS, FCPS
ABDUL QAYYUM
MBBS, FCPS

PSYCHIATRY
PROFESSORS
IMRAN BASHIR CHAUDARY
MBBS, MS, MD
HAIDER ALI NAQVI
MBBS, FCPS

SENIOR REGISTRAR
SAMEEA ALEEM
HAREEM FATIMA

DERMATOLOGY
PROFESSOR
UIJAZ AHMED
MBBS, FCPS

REGISTRAR
FATIMA AKHUND
MBBS, DIPLOMA

SURGERY & ALLIED GENERAL SURGERY
PROFESSORS
SHAFAQ-UR-REHMAN
MBBS, FRCS
MUHAMMAD JAVAIJ
MBBS, FRCS, FCPS
WAJAHAT HUSSAIN WASTI
MBBS FRCS

ASSOCIATE PROFESSOR
ZUBIA MASOOD
MBBS, FCPS

ASSOCIATE PROFESSORS
MIQBAL
NAEEM AKHTER
MBBS, FCPS
NADIA

SENIOR REGISTRAR
MIR ARSALAN ALI
MBBS, FCPS
MIR ARSALAN ALI

ORTHOPAEDICS
PROFESSOR
IMTIAZ A HASHMI
MBBS, FRCS
UROOJ AKMAL
Aniluddin Bhatti
MBBS, FCPS
M. Sohaib Rafi
MBBS, FCPS

ASSOCIATE PROFESSORS
NADEEM A BALOCH
MBBS, FCPS

ASSISTANT PROFESSORS
NASIM MUNSHI
MBBS, FCPS
AURANGZEEB HUSSAIN QURAISHI
MBBS, FCPS
IDREES SHAH
MBBS, FCPS

UROLOGY
PROFESSOR
ANIS HUSSAIN JAFERY
AHMED FAWAD
MBBS, FRCS

ASSISTANT PROFESSORS
ATIF AHMED
MBBS, FCPS

NEUROSURGERY
ASSOCIATE PROFESSORS
TARIQ MUHAMMAD
MBBS, FCPS

ASSISTANT PROFESSORS
ABDUL NAVEED KHAN
MBBS, FCPS
INAFAID ALI KHAN
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 honoring this title.

Here, at Ziauddin 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 campaigns 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 write something on behalf of my fellow students has been such a huge honor for me. Achieving this position in something that I have always been very passionate about 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
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 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

EXIT LEVEL OUTCOMES
Refer study guides

INTRODUCTION
Ziauddin 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 particularly in relation to community health problems.

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

PROGRAMME OFFERED
Ziauddin College of Dentistry offers BDS undergraduate programme, recognised by the Pakistan Medical and Dental Council (PMDC). PMDC is the regulatory body responsible for issuing license to practice dentistry.
Ziauddin College of Dentistry offers a four-year undergraduate degree programme leading to Bachelor of Dental Surgery (BDS), under the cooperative auspices of Ziauddin University.

**LEARNING AND TEACHING STRATEGIES**

The college recognizes the challenges met by students once they enter into professional lives. Therefore, students are empowered to adapt 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, analyzing, and synthesizing 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 characterized by:

- Opportunities to deal with problems students are going to face in later professional practice.
- Emphasis on self-motivation and responsibility for learning on their own.
- Training for learning professional skills, leadership qualities and teamwork.
- The aim of problem-based learning is to overcome various drawbacks in the traditional methods of instruction; for instance 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 1st year of BDS with the planner for the entire academic year. The study guide also identifies all rules and regulations that the student is required to abide by. Likewise, for the subsequent academic year, 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 health care. 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 or 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
- KDB Kemal Site – 125-bedded Hospital
- Clinical Departments (OPD) for Ziauddin College of Dentistry, Clifton Site having 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 learning 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 Surgery, 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 behavior and attitudes.

**STUDENT ASSESSMENT**

**GENERAL PRINCIPLES**

It is recognized that the methods of assessment have a significant 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**

It is conducted by the examination department of Ziauddin University. Continuous Assessment Tests (CAT) are held at the end of each module. At least 80% attendance in each course is mandatory for eligibility to appear in the final examination. Promotion to next classes is based on passing all the courses scheduled in a year.

**TOOLS OF ASSESSMENT**

- BCQ and Multiple Choice Questions (MCQs)
- Short essay questions (SEQs)
- Objective Structured Practical/ Clinical Examinations (OSPE/OSCE)
- Viva voce is used to assess knowledge mainly of a higher level.

**BDS GRADUATES REGISTRATION**

As per Pakistan Medical and Dental Council (PMDC) rules, registration of BDS graduates is mandatory for dental practice and postgraduate education in Pakistan and abroad.

**HOUSE-JOB TRAINING**

Ziauddin University Hospitals offer 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 PMDC 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 applicants are given a dead line 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 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) 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), Diphtheria, Poliomyelitis, Pertussis, Hepatitis B, Tetanus, Measles/Mumps (and Rubella for females)

FINANCIAL POLICY
Students seeking admission to BDS first year of 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 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.

CONTACT INFORMATION
Mr. Bilal Ahmed
P.A. to Principal, Ziauddin College of Dentistry,
+92-21-35862937(Ext: 2219)
zcd@zu.edu.pk

Dr. Shoaib Khan
Associate Professor, Ziauddin College of Dentistry,
(Incharge Admission Cell)
+92-21-35862937(Ext: 2216)
The postgraduate programme for basic dental science subjects started at Ziauddin College of Dentistry in 2011. The programme is recognised by Pakistan Medical and Dental Council and follows regulations for registration to research studies leading to the degree of M.Phil in the subjects of Oral Biology and Oral Pathology.

M.Phil programme of Ziauddin University has been devised with a view to produce self-motivated individuals who wish to further their careers 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 conducting 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 on 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 clubs and group discussion.

SEMESTER SUMMARY

The curriculum of M.Phil 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 M.Phil 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 research 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
- M.Phil entry test / NTS GAT
- Interviews of candidates short-listed on the basis of performance in the M.Phil entry test. Final selection of the candidates is based on the previous academic records, experience, entry test and interview.

CONTACT INFORMATION
Dr. Sidra Mohiuddin
Assistant Professor,
(M.Phil Co-ordinator, Ziauddin Dental College)
+92-21-35862937 Ext: 2213

M.Phil

M.PHI

PROSPECTUS 2020

FACULTY MEMBERS

PRINCIPAL
PROF. DR. MERVYN HOSEIN
FDS RCSE, FDS RCS, FFDS RCSI

DEPARTMENT OF ORAL BIOLOGY

PROFESSOR & HOD
PROF. DR. MERVYN HOSEIN
FDS RCSE, FDS RCS, FFDS RCSI

ASSISTANT PROFESSORS
DR. FIZZA SAHER
BDS, M.PHI.
DR. SANA IKRAM
BDS, M.PHI.

LECTURER
DR. SHAFAQ SAEED
BDS
DR. HIRA BATOOL
BDS

DEPARTMENT OF SCIENCE OF DENTAL MATERIALS

ASSOCIATE PROFESSOR & HOD
DR. SHOAIB KHAN
BDS, M.SC.

ASSISTANT PROFESSOR
DR. NAZISH FATIMA
BDS, MDS

LECTURER
DR. MAHNOOR MOIZ KHAN
BDS
DR. WAQAS KHAN JADOON
BDS

DEPARTMENT OF COMMUNITY DENTISTRY

ASSISTANT PROFESSOR & HOD
DR. SIDRA MOHIUDDIN
BDS, MDS

LECTURER
DR. KHZIRA REHMAN
BDS
DR. ABEEHA BATOOL ZAIDI
BDS

DEPARTMENT OF PERIODONTOLOGY

ASSISTANT PROFESSOR & HOD
DR. SAIMA QURESHI
DEPARTMENT OF ORAL SURGERY
PROFESSOR & HOD
DR. NOOR UL WAHAB
BDS, FCPS, FFDRCSI

ASSISTANT PROFESSOR
DR. ATIF BUTT
BDS, MCPS

LECTURER
DR. HUZAIFA SAEED UL KHAR
BDS
DR. UZAIR JAMAL
BDS
DR. NAMEERA AGHA
BDS

DEPARTMENT OF ORTHODONTICS
ASSOCIATE PROFESSOR & HOD
DR. SARWAT MEMON
BDS, FCPS

SR. REGISTRAR
DR. FARHAN QADIR SHAIKH
BDS

LECTURER
DR. FARHEEN NAZ
BDS
DR. HAFSA MAHIDA
BDS
DR. SAEFEE KHAN
BDS
DR. SUMITA
BDS

DEPARTMENT OF PROSTHODONTICS
ASSOCIATE PROFESSOR & HOD
DR. HAROON RASHID
BDS, MDSC

SR. REGISTRAR
DR. USMAN SHAIKH
BDS, FCPS

LECTURER
DR. FATIMA FARHAN
BDS
DR. MUNTAZIR ALI MEHDI
BDS
DR. SAIMA THAHEEM
BDS
DR. MUHAMMAD SAMI KHAN
BDS
DR. MUSTAFA SHEHZAD
BDS

DEPARTMENT OF OPERATIVE DENTISTRY
PROFESSOR & HOD
DR. ASMAT JAMIL
BDS, FCPS

PROFESSOR
DR. HINA AHMED
BDS, FCPS

SR. REGISTRAR
DR. SADAF PEROZ ALI
BDS, M.SC.

SR. LECTURER
DR. SAAD BIN IRFAN
BDS, M.SC

LECTURER
DR. POOJA BALANI
BDS
DR. TAHARA JAMIL
BDS
DR. FARAH AMIN
BDS
DR. NIGAM ANWAR
BDS
DR. ZAIN AHMED FARGOOQI
BDS
DR. FARRA SHAHFAQ
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 CSLHS, I am incredibly gratified with my decision to opt for this profession. The experienced clinicians at CSLHS 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 organization provides hands on experience to improve clinical practice. It is a major honor 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 whole heartedly to serve people with my chosen profession and make their lives better and provide meaning to mine simultaneously.

MEHAK ALTAF HUSSAIN
BS SLT
INTRODUCTION

Pakistan with a population of over 215 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 metropolis, Karachi, qualified internationally and locally at the CSLHS. This was made possible because the Speech and Hearing Association of Pakistan (SHAP) and Ziauddin University (ZU) toiled collaboratively to establish the ‘College of Speech Language & Hearing Sciences (CSLHS)’ in order to launch our nation’s first 4-year Bachelor’s program in Speech Language Therapy in 2007; within.

The college successfully launched a dual degree program of Bachelor’s 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 programs ambitiously aim to equip graduates to independently valuate and treat speech, language, 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 analyze 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 (CSLHS) is our country’s foremost and only institute of its kind, established to equip Pakistani youth with an aspiring new careers in the fields of Audiology and Speech-Language Pathology, which have unlimited scope in Pakistan, and across the globe.

In addition to this, CSLHS also offers a diploma course in Childhood Development and psychopathology.

Thus, CSLHS 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 CSLHS are for the following:

BABIES WITH
- Feeding and swallowing difficulties
- Cognitive and language delays
- Communication difficulties in children due to:
  - Mild, moderate or severe learning difficulties
  - Language delay
  - Specific language impairment
  - Specific difficulties in producing sounds (Articulation & Phonological Disorders)
  - Hearing Impairment
  - Cleft Plate
  - Stammering
  - Autism/ Social interaction difficulties (PDD)
  - Dyslexia
  - Voice disorders
  - Selective mutism
  - Motor Speech Disorders (dysarthria, dyspraxia)

ADULTS WITH
- Swallowing disorders (dysphagia)
- Language disorders (e.g. aphasia after stroke)
- Voice disorders (e.g. vocal fold nodules, VFparalysis, hoarseness)
- Cognitive language deficit due to Traumatic Brain Injury
- Cognitive issues (attention, memory, awareness, Alzheimer’s, degenerative diseases)
- Communication issues after Laryngectomy
- Physical disabilities
- Stammering (dyfluency)
- Motor Speech Disorders (dysarthria, apraxia)
- Right Hemisphere Syndrome
- Mental health issues
- Learning difficulties
- Acquired Hearing loss

WHAT’S NEW FOR 2020

The College of Speech, Language and Hearing Sciences, at 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 organization managed by ACELP, a registered NGO and CSLHS, ZU is a non-profit institution indulging in academic and clinical training of students, at undergraduate level.

College has collaborated with institutes for 3rd and 4th year students for their supervised clinical practicum with:
- The Indus Hospital
- ACELP
- Kinder Academy
- IPMR – Institute of Physical Medicine & Rehabilitation, DHUS
- Dar-ul-Askan
- Ujala School for Special Children

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

The field 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.

PROGRAMS OFFERED
- A four year BS in Audiology & Speech Language Therapy (BS ASLT)
- A one year Diploma in Childhood Development & Psychopathology (DCCDP)
- 6 to 12 Months Accelerated BS in Audiology & Speech Language Therapy (A BS ASLT)
- 2 year MS in Speech Language Pathology (MS SLP)
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 CSLHS 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 program 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 Pakistani 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 CSLHS, 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 in 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 (40% 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 ‘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 GCE O-Levels or sciences with Biology in Matriculation is mandatory for all candidates (A ‘O’ semester shall be held as a foundation course in Biological Sciences for applicants from a non pre-med back ground)
- Commitment towards a helping profession.

FEE STRUCTURE
Application Fees: Rs. 5,000/-
Admission Fees: Rs. 50,000/-
Student Fund: Rs. 6,500/-
Library Fee: Rs. 9,000/-
Sulfion Fee: Rs. 350,000/-
Examination Fees: Rs. 22,000/-

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.
ACCELERATED BS IN AUDIOLOGY & SPEECH LANGUAGE THERAPY (A BS ASLT)

INTRODUCTION
The College of Speech Language & Hearing Sciences is introducing A BS ASLT to facilitate speech language therapists/pathologists to enhance their knowledge in the realm of audiology.

DURATION
6 months

ELIGIBILITY
4 years bachelors degree in speech language therapy / pathology

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

FEE STRUCTURE

<table>
<thead>
<tr>
<th>Fee Type</th>
<th>Fee Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee</td>
<td>PKR 5,000/-</td>
</tr>
<tr>
<td>Course Fee</td>
<td>PKR 35,000/-</td>
</tr>
<tr>
<td>Clinical Practicum Fee</td>
<td>PKR 60,000/-</td>
</tr>
<tr>
<td>Examination Fee</td>
<td>PKR 6,000/-</td>
</tr>
</tbody>
</table>

MS SPEECH LANGUAGE PATHOLOGY

INTRODUCTION
The College of Speech Language & Hearing Sciences is proud to introduce Post-graduation in Speech Language Pathology (MS-SLP) in the year 2015-16, following the success of the BS-SLT program which was upgraded to the BS-ASLT in 2015.

OBJECTIVES
The Graduates of the MS SLP program will teach 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 Pakistani population.

OBJECTIVES
a) The students will show a complete understanding of biological and medical sciences, social and behavioral sciences as well as statistical 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 anatomical/physiological.
e) Fluency disorders;
f) Disorders of voice and resonance, as well as respiration and phonation;g) 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;
h) Hearing impairment and its impact on speech and language development;
i) Disorders in the functions of feeding and swallowing (oral, pharyngeal, esophageal, and related functions, including oral function for feeding, orofacial myology);
j) Disorders of cognition in all aspects of communication (attention, memory, sequencing, problem-solving, executive functioning);
k) Socio-communicative disorders (including challenging behavior, ineffective social skills, and lack of communication opportunities);
l) The selection and utilization of augmentative and alternative communication modalities.
m) For all items from (a) - (i) 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 here have been adapted from the ASHA policies of evaluation and examination see below (0) to (q)].

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 diagnoses and make appropriate recommendations for intervention.
f) Complete administrative and reporting functions necessary to support evaluation.
g) 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.
d. The student must demonstrate knowledge of research principles and evidence-based clinical practice.
e. The students must demonstrate appropriate skills in oral and written or other forms of communication required by a professional in the field of speech language pathology.

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

Entry Requirement of Program 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.
- CGPA of 2.5 in the Undergraduate BS SLT or BS ASLT degree
- GAT (General). In case GAT (General) is not done at the time of entry into this program, then candidates MUST PASS GAT (General) BEFORE completion of second semester as recommended by HEC.
- There is no upper age limit for admission to the course.

SCOPE
[Market and Social employment perspective]
Candidates graduating with the MS SLP degree shall be eligible for clinical practice in hospital, and rehab settings as well as at mainstream and special schools, where in they shall independently screen, 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.

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

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

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 college/university settings.

Graduates shall also teach and train educators and special educators for identification and classroom management of children 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 whenever and wherever 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, educationists, teachers’ aides and parents.

DURATION OF THE PROGRAM
- 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 program shall be of not more than 48 months in duration.
DIPLOMA IN CHILDHOOD DEVELOPMENT AND PSYCHOPATHOLOGY

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

DCDP follows a modular curriculum, which emphasises in-depth training. 7 modules covering human development from conception through Adolescence and Childhood Disorders are taught. In addition 16 hours of observations (practical component) is mandatory at CSLHS recommended schools. Assistance is provided for the observation placement at the schools.

This program 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 program comprises two semesters. 1st semester: August – December 2nd semester: January - May

STUDENT ASSESSMENT

Examinations:
• Quizzes- 20% of final grade
• Assignments- 10% of final grade
• Mid Term Examination- 20% of final grade
• Viva- 10% of final grade

Final Exam- 40% of final grade

ADMISSION POLICY

Intermediate / A level from all disciplines

FEES STRUCTURE

Application Fees: Rs. 5,000/-
Tuition Fees: Rs. 132,000/-
Examination Fee: Rs. 18,000/-

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.

CAREER OPPORTUNITIES

The diploma programme is framed to endow students with the foundation knowledge needed to work with children and adolescence 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 and referral practices; thereby promoting early intervention.

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

FACULTY MEMBERS

PRINCIPAL – ASSOCIATE PROFESSOR
MS. AMINA SIDDIQUI

FULL TIME ASSISTANT PROFESSOR
MR. SHAHID ALI

PART TIME ASSISTANT PROFESSOR
MS. AASYA SACHWANI
MS. SAMINA MASOOD
MS. FAIZA WAHAB

FULL TIME SENIOR LECTURERS
MS. FATIMA YOUSUF
MS. SONIA SHAH
MR. ALI PUNJANI
MS. MISHA IRSHAD
MS. ANUSHAY HUSSAIN
MS. SABEEN IQBAL RAJPUT
MS. RABBIYAH BINTE SOHAIL
MS. SUNDUS RAHIM
MS. TALEAH TARIQ

PART TIME SENIOR LECTURERS
MS. MISHA QADEER
MS. FATIMA NAZIR
MS. MAHNOOR HASSAN
MS. SABREEN NOOR ALI
MS. MARYAM REHMAN

PART TIME LECTURERS
MS. SAMREEN ZUBAIR

FULL TIME LECTURERS
MS. INSYA SAIFUDDIN
MS. ZAINAB SADIQ
MS. MEHAK JIWANI

VISITING FACULTY
DR. ABBAS HUSSAIN
MS. TEHMINA WAGAS
MS. ABDUR REHMAN
MR. AMIR ASHRAF
MR. MUNEED-UR-REHMAN
DR. NAJAM-UL-HAQ
MS. ZAINAB SHARIF
MS. SHEHLA SIDDIQI
MS. NAJMA ADAM
MR. ZAFAR WAFAI
MS. SHAHEENA ALVI
DR. HABIBA HASSAN
MR. KHALID MAHDA
MR. Lenny MASSEY

INTERNATIONAL VISITING FACULTY
MS. MAHVASH AKBAR ALI SAIT
MS. MEGHNA KHANNA
MS. BISMAH SALIMAB DADABHOY
MR. ABDUL SAMAD MUKATI
MS. MAHNAZ MAGBOOL
MS. SABAH HABIB FAZIL
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 coalescence of aptitudes and affectual 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 ZCMT as my first and foremost choice without any hesitation.

“Behind every doctor, there is a great Medical Technologist”

I appreciate the wonderful part of this college is that the autonomy allowed for personal growth and responsibility which I seem to thriving on and I must say, the freedom of environment and less restricted area in ZCMT upskill you how to impart a control and maintenance as this is a worthier learning of your life. Being a part of ZCMT not only render you a tremendous number of opportunities in order to inflate your skills and talent in front of others but also foster 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 instructor. In all fairness your passion, dedication and courage are imperative if you are taking a plunge in this course.

I would highly recommend ZCMT because this is not only about gaining knowledge and skills but much more than that. You will experience a real change in their academic achievements.

“Only Med Technologist can see things beyond the capacity of the naked eye”
HISTORY OF MEDICAL TECHNOLOGY
Ziauddin 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. in MT). Since then, it has successfully enrolled sixteen batches. Recognizing the growing challenges, the college was renamed as Ziauddin College of Medical Technology in 2016. Ziauddin University initiated the BS program in Medical Technology in March 2011, to pace with modern techniques and knowledge. Ziauddin will be commencing MS program in Medical Technology in this 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, analyses and the 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 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 of the specialized analyses. 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/clinical procedures and practices and management concerning the patient’s needs and healthcare team.

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

PROGRAMMES OFFERED
• BS Medical Technology (04 year)
• MS Medical Technology (1.5 years)

OVERVIEW OF SPECIALIZE FIELDS IN MEDICAL TECHNOLOGY:
CARDIOVASCULAR SCIENCES
A cardiovascular science is a study of heart and its function, blood vessels in human beings, cardiovascular 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 program trains students with advance didactic basic and specialized courses and clinical trainings mandatory to marvel 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. Islamiat
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. Cardiovascular Anatomy
2. Cardiovascular Pathophysiology
3. Radiation Protection
4. Cardiovascular Physiology
5. Principles of Patient Care
6. Cardiovascular Pharmacology
7. Basic Hematology
8. Body Fluids Management
9. Electrocardiography (EEG)
10. Mathematics in Cardiovascular Technology
11. Exercise Tolerance Test (ETT)
12. Cardiac Pathophysiology in Pediatrics
13. Hemodynamic Evaluation
PROSPECTUS 2020

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. Echocardiography – I
5. Vascular Ultrasound – I
6. Echocardiography in Cardiac Myopathies
7. Biostatistics – II
8. Pediatric Echocardiography
9. Cardiac Care Unit Management
10. Cardiac Interventional Procedures-II
11. Vascular Ultrasound – II
12. Cardiac Catheterization laboratory- II

NOTE: Scheme of studies can be changed as per requirement and advancement in 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 practicum, where they utilize their knowledge of cardiovascular principles and functions in the operation of CVS equipments, such as ECG, exercise stress tests and Cardiac Device Follow up, Ambulatory B.P. monitoring and ECG 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 provides laboratory services required for the diagnosis and treatment of the disease. These Technologists or Scientists, by performing a number of tests, discover the diseases and lend 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 adroit at performing tests, analyses and interpretations.

Clinical Laboratory Scientists can set off their careers in medical and healthcare profession. Placements are also offered at scientific equipment companies, chemical and pharmaceutical companies. They can also contribute in 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. Islamiat
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. Hematology-I
2. Phlebotomy
3. Chemical Pathology-I
4. Blood Banking-I
5. Parasitology
6. Bacteriology
7. Chemical Pathology-II
8. Blood Banking-II
9. Histotechnology
10. Hematology-II

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

4th Year
1. Clinical Laboratory Management
2. Clinical Laboratory Accreditation
3. Biostatistics-II
4. Quality Control in Clinical Laboratory (Advanced)
5. Hematology/Blood Banking/Chemical Pathology/Microbiology

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

Clinical Training
The in-house training of CLS technologists encompasses observation and analysis of both manual and automated testing which involves immunoassays, Electrophoresis, 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 cycles continues till the final year of the undergraduate programme.
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 color of an individual’s teeth. Besides dental laboratory, technologists are also welcome in academics 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 & Behavior
7. English Language
8. Biochemistry
9. Mathematics
10. Pakistan Studies
11. General Microbiology
12. Biostatistics

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

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 planting, apply fluoride therapy, and develop x-rays at Ziauddin hospital under the supervision of dental physician and senior technologist. These trainings start after every semester examination at Dental Department of Ziauddin University Clifton and the cycle continues till the final year of the undergraduate programme.

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 – III

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.
RADIOLOGICAL IMAGING

Radiological imaging is the study of techniques and procedure of medical images used for diagnosis of various diseases. Radiologic technologists are specialized at 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 image. 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 outpatient imaging centers.

Radiological imaging is the demanding profession therefore; the college of Medical Technology has designed the program with intensive coursework along with the technical handling been practiced throughout the 04 year studies.

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 & 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
11. Biochemistry

3rd Year
1. English (Communication Skills)
2. Orthopentanogram
3. Radiopharmacy
4. Mammography Techniques
5. Technical and Business Writing
6. Doppler Ultrasound Techniques
7. Quality Control of Image 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)
5. Quality Management System (ISO & JCI)
6. MRI Instrumentation 8. Emergency Conditions in Radiology
7. Radiation Protection
8. Advance Techniques in Radiology (PET)
9. Computer Tomography Techniques
10. Magnetic Resonance Imaging Techniques

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

Clinical Training

The program offers training to the students at Zauddin 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 training help students to become expert at their relevant fields before entering into professional life. These trainings start after every semester examination and the cycles continue till the final year of the undergraduate programme.
RADIATION THERAPY

The Radiation Therapist is an allied health professional who works in the field of radiation oncology with radiation oncologists to administer the regular radiation treatment prescribed by the physician under their supervision and operate complex radiation therapy equipment for the diagnosis and treatment of various oncologic diseases.

The scope of practices of radiation therapist includes delivering radiation therapy to the patients of cancer, operates and examines 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 student to become competent and skilled radiation therapist.

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 & 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. 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 (ISO & JCI)
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 clinical field.

Clinical Training

The BS RT programme offered at Ziauddin university give 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 the working on radiation equipments and producing a diagnosis. These trainings start after every semester examination and the cycles 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 temporally replace the patient’s respiratory and circulatory system. The cardiac perfusionists are the core members of the open-heart surgery team. Their role is to prepare and operate heart-lung machine and other complex machinery during cardiovascular surgeries in highly stressed situation. To perform their task, perfusionists are taught comprehensive courses to develop an in-depth knowledge of respiratory and circulatory system. 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 B.S. Medical Technology in Cardiac Perfusion – a well-balanced comprehensive program 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 utilize 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 & 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. 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 Pediatrics Perfusion
4. Operation Theatre Organization and Management
5. Quality and 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. Intra operative Pediatrics Perfusion
11. Introduction to Cardiovascular Emergencies

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

Clinical Training

Ziauddin University offers cardiac perfusionists to practice their skills at Ziauddin Hospital under the supervision of laboratory heads, physicians 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 occur in the operating room. The in-house training enables the trainee to apprehend the operation of machinery used during the surgeries. This training starts after every semester examination and the cycles continue till the final year of the undergraduate program.
NUCLEAR MEDICINE

Nuclear Medicine is the study of nuclear properties of stable Nuclides that enables the technologist to diagnose, determine the complexity of a disease and to suggest treatment 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 electives including radioisotopes 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 cancers, heart diseases, gastrointestinal, endocrine, neurological disorders and other abnormalities within the body. Furthermore, they perform bone scanning, PET and Nuclear cardiac stress tests. They can also contribute in the field of teaching and research.

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

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

Clinical Training

The curriculum of B.S.NS 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 start after every semester examination and the cycles continue till the final year of the undergraduate program.

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

NEUROSCIENCES

Neuroscience is a multidisciplinary study of the brain system 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 behavior.

Neuroscientists can research the behavior of the nervous system. They can also work in operating EEG and EMG in clinics or hospitals to evaluate and monitor patients. Further, they can work as a faculty member in the field of education.

In the BS MT Neurosciences program, students are educated and trained in neurosciences techniques like EEG, EMG, evoked potentials, etc. During their bachelor's studies, students are exposed to analyzing and the diagnosis of nervous 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 Infection Control
3. Physics
4. Basic Health Sciences II
5. Medical Terminology
6. Islamabad
7. Professional Ethics & Behavior
8. English Language
9. Biochemistry
10. Mathematics
11. Pakistan Studies
12. General Microbiology
13. Biostatistics
14. Computer Literacy

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

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

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 cycles continue till the final year of the undergraduate programme.

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

Ziauddin University, College of Medical Technology promotes culturally inclusive, impelling and constructive learning environment giving specific consideration to student’s own psychological and sensory status and recognizing, nurturing and developing one’s strength to foster the learning process and positive interaction among the peers, groups and stimulates independence to meet the challenges of the real world. Subsequently, explicit and structured teaching is practiced and supported by audio and visual materials installed in each classroom. Contemporary practices such as blended learning, flipped classroom, and facilitation are provided meeting the course requirement of the programme. The brightest feature of college of medical technology is that Academic block and Clinical training sites are under the same roof, which reinforces learning by implementing teaching examples in real time cases. Finally, at the end of each semester, students are posted in Ziauddin Hospital to implement their knowledge and upgrade their skills.

FACILITIES

Ziauddin University, College of Medical Technology offers ample facilities to its students. The central location of College of Medical Technology in North Nazimabad makes it convenient, easy to approach and accessible for the students primarily. The College of Medical Technology is located in state of the art building that is modernly designed, with huge lobbies, lecture halls and laboratories. The classrooms of College are spacious, well-furnished, equipped with multimedia facility which enhance teaching-learning process in effective way. It is complemented with an air-conditioned environment that helps students to endure the harsh climatic conditions of the city. There is a seminar room available primarily to organize workshops and seminars that can accommodate more than 150 learners. Training labs are termed as skill labs which are replica of hospital/clinical labs. Skills laboratories are well-equipped consisting of hi-tech instruments to provide hands-on training to students prior to dealing with patients. Ziauddin hospital to implement their knowledge and upgrade their skills.

The College of Medical Technology is skill oriented program and therefore, has made it mandatory for all the students to do practicals as a part of their course work. To achieve this College of Medical Technology as a privilege, posts students on rotations within concerned departments of Ziauddin Hospitals during semester and after successful completion of semester and they don’t have to wander to other hospitals to seek internship offers. The practical labs are located within the hospital premises which train the students to have multiple clinical case scenarios amalgamated with theoretical teaching. The facility aims at developing students’ knowledge and skills along with direct implementation of knowledge on actual patients.

To evoke the sense of health and fitness, a recreational area consisting of gymnasium and indoor games is being built where these facilities can be availed by the students. Within the university premises two tuck shops are located, which caters to the nutritious side of the students, and provide with the students healthy food and snacks during university hours.

This makes the college environment secure and under surveillance.

First aid treatment and general medication are also available for students in any unforeseen circumstances. Moreover, students have an access to make an appointment at hospital doctor’s consultation.

ASSESSMENT POLICIES AND PROCEDURE

Enrolled candidates are assessed and examined for theory and skills with periodic examinations. Continuous assessment is practiced incorporating multiple summative and formative assessments to measure the extent to which students have achieved the desired outcome. It includes mid-terms, projects, portfolios, clinical practicum and competencies.

WEIGHTAGE FOR THE FINAL EXAMINATION

- Attendance 10%
- Continuous assessments 40%
- Final Examination 50%

ATTENDANCE

Attendance in classes is mandatory.

ATTENDANCE GRID

0.75% marks per 10% attendance until 80% i.e., for every 10% attendance, 0.75% marks will be awarded in that course up till 80% attendance , for example :
- For 80% attendance, 6 marks will be awarded for 80% attendance, 2% marks per 10% attendance will be awarded in that course. For example:
- For 90% attendance: 8 marks
- For 100% attendance: 10 marks
- Minimum passing level for all subjects (Theory & Practical) is 61% (2.0 GP)

ADMISSION POLICY

BS medical technology is a four year semester based programmes. Admissions are announced once a year. Student with minimum 50% marks in pre medical and medical technology group or higher secondary certificates may apply. Candidates with O/A level must take equivalence. All candidates are selected on merit basis according to the following criteria:
- H.S.C marks
- Aptitude test
- Interview marks

Clinical rotations are done at Dr. Ziauddin hospital North Nazimabad site, KDBL site & Clift on site.

FEE STRUCTURE

<table>
<thead>
<tr>
<th>Fee Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee</td>
<td>Rs. 5,000/-</td>
</tr>
<tr>
<td>Admission Fee</td>
<td>Rs. 15,000/-</td>
</tr>
<tr>
<td>Lab &amp; Other Expenses</td>
<td>Rs. 5,000/-</td>
</tr>
<tr>
<td>Student Fund</td>
<td>Rs. 3,000/-</td>
</tr>
<tr>
<td>Academic Transport</td>
<td>Rs. 40,000/-</td>
</tr>
<tr>
<td>Tuition Fee</td>
<td>Rs. 171,600/-</td>
</tr>
<tr>
<td>Examination Fee</td>
<td>Rs. 18,000/-</td>
</tr>
</tbody>
</table>

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

Medical Laboratory scientists have a huge demand both nationally and internationally. A survey recently conducted suggests that the demand of medical technologists is projected to grow 21% from 201-2024 much faster than the average of all the occupations due to the greater need of diagnosis and of medical conditions through medical procedures.

Medical Technologist have the opportunity to join:
- Hospitals and clinical Laboratory positions
- National and multinational 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. NUMRA RASHID

ASSISTANT PROFESSOR
MS. MEHWISH ZEESHAN

LECTURER
MS. QAAMAR UN NISA NAZ
MS. YUSRA AINEES
MS. NAZISH KASHIF

INSTRUCTOR
MS. WAJIHA SHUJAAT
MS. SYEDA TABEENA ALI
MS. MALIHA ALI
MS. SARA ZAKI

CLINICAL FACULTY
CLINICAL LABORATORY
DR. ADNAN MUSTAFA ZUBAIRI
MBBS, DCP, FCPS, HOD CLINICAL LABORATORY
DR. FOUZIA LATEEF
MBBS, MCPS, FCPS, HISTOPATHOLOGY
DR. FARSHAL IQBAI ALI
MBBS, FCPS, MICROBIOLOGY
DR. AZIZ UN NISA
MBBS, FCPS, HISTOPATHOLOGY
DR. ZULQURVAIN IMRAN
MBBS, FCPS, HEMATOLOGY
DR. NOREEN
MBBS, FCPS HEMATOLOGY
DR. USMAN ALI
MBBS, FCPS CHEMICAL PATHOLOGY
DR. AMNA QAMAR
MBBS, FCPS HEMATOLOGY
DR. NAYAB AZAL
MBBS, FCPS RESIDENT
DR. AYESHA IQBAL
MBBS, FCPS RESIDENT

CARDBIOVASCULAR SCIENCES
DR. JAWAD ANSARI
CONSULTANT CARDIOLOGIST
DR. SYED SHAUAA HUSSAIN
MBBS, DIPLOMATE AMERICAN BOARD OF CARDIOLOGY, CONSULTANT CARDIOLOGIST
DR. MEHEDIOSH BAIG
MBBS, MD CARDIOLOGY
DR. SHAHID
RESIDENT CARDIOLOGY DEPARTMENT

NEUROSCIENCES
DR. BASHIR A. SOOMRO
MBBS, FCPS NE UROLOGY, CONSULTANT NEUROLOGIST
DR. SULEMAN MUHAMMAD
MBBS, FCPS, CONSULTANT NEUROLOGIST
DR. SYEDA SABA ZAIDI
MBBS, FCPS, CONSULTANT NEUROLOGIST
DR. NADDEE A. MEECON
MBBS, FCPS (NEUROLOGY), POST FELLOWSHIP IN CLINICAL NEUROLOGY (AKU-H)MEMBER (AANEM) USA

RADIOLOGY
DR. JAVAID AFTAB
H.O.D AND CONSULTANT NUCLEAR MEDICINE
DR. SAJJAD SATTAI
MBBS, MD NUCLEAR MEDICINE, CONSULTANT NUCLEAR MEDICINE
DR. ASAD JALLI
MBBS, RESIDENT NUCLEAR MEDICINE
DR. HIRA BIBI
MBBS, RESIDENT NUCLEAR MEDICINE

NUCLEAR MEDICINE
DR. JAVAID AFTAB
H.O.D AND CONSULTANT NUCLEAR MEDICINE
DR. SAJJAD SATTAI
MBBS, MD NUCLEAR MEDICINE, CONSULTANT NUCLEAR MEDICINE
DR. ASAD JALLI
MBBS, RESIDENT NUCLEAR MEDICINE
DR. HIRA BIBI
MBBS, RESIDENT NUCLEAR MEDICINE

RADIATIONAL IMAGING
DR. KAMRAN HAAMID
MBBS, MCPS, FCPS, ASSISTANT PROFESSOR, HOD RADIOLOGY DEPARTMENT
DR. HINA PATHAN
MBBS, FCPS II RESIDENT, RESIDENT RADIOLOGY DEPARTMENT

PROSPECTUS 2020
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 frolic and sometimes with academic grind that one has to go through. It was a wonderful time in my life, and the best educational experience I have had. ZCRS helped me discover my inner potential in the field of Physical Therapy which I did not realize I had. My mentors 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 ZCRS because there is not only about gaining knowledge and skills but much more than that. They will experience a real change in their academic achievements.

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

MUNEEZA 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

a. Presentation/Assignment/Seminar
b. Tutorials
c. Skill based labs
d. Projects
e. Clinical Practice (Supervised/Independent)

CLINICAL TRAINING

Students of Ziauddin 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 completing their clinical training in physical therapy at all three sites of Dr. Ziauddin Hospital and to Primary Health Care Centre (PHC), Skandarabad for community services. In addition, Ziauddin College of Rehabilitation Sciences (ZCRS) have established clinical links with other major healthcare institutions like Dow University of Health Sciences - OJHA campus (DUHS), Abbasi Shaheedi Hospital, National Institute of Child Health (NICHI), National Institute of Cardio-Vascular Diseases (NICVD), Sindh Govt. Hospital, Tabba Heart Institute, Al-Umeed Rehabilitation Association (AURA), Rabia Moon 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 and Electrotherapy
   • Musculo-skeletal Physical Therapy
   • Health & Wellness
   • Neurological Physical Therapy
   • Integumentary Physical Therapy
   • Therapeutic Exercises
   • Cardiopulmonary Physical Therapy
   • Gerontology and Geriatric Physical Therapy
   • Paediatric 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
   • Bio-Statistics
   • Research Synopsis & Project
e. Compulsory Subjects:
   • English
   • Pakistan Studies
   • Introduction to Computers
   • Islamic Studies / Ethics
   • Microbiology & Pathology
   • Movement Sciences
   • Biomechanics & Ergonomics
   • Medical Physics
   • Molecular Biology & Genetics

LEARNING AND TEACHING STRATEGIES

a. Basic Health Sciences
b. Clinical Sciences
c. Physical Rehabilitation Sciences
d. Social Sciences and Research
e. Compulsory Subjects

STUDENT ASSESSMENT EXAMINATION POLICY

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

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 O/A Levels must acquire equivalency before taking admission. All candidates are selected on merit, according to the following criteria:

a. SSC Marks
b. HSC Marks
c. Entrance Test Marks
d. Interview

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

FEE STRUCTURE

**Doctor of Physical Therapy (North & Clifton)**

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fee</td>
<td>Rs. 35,000/-</td>
</tr>
<tr>
<td>Semester Tuition Fee</td>
<td>Rs. 95,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Total</td>
<td>Rs. 172,840/-</td>
</tr>
</tbody>
</table>

**Doctor of Physical Therapy (Link Road)**

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fee</td>
<td>Rs. 35,000/-</td>
</tr>
<tr>
<td>Semester Tuition Fee</td>
<td>Rs. 95,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Advance Income Tax @ 5%</td>
<td>Rs. 8,540/-</td>
</tr>
<tr>
<td>Total</td>
<td>Rs. 172,840/-</td>
</tr>
</tbody>
</table>

STUDENT ASSESSMENT EXAMINATION POLICY

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

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 O/A Levels must acquire equivalency before taking admission. All candidates are selected on merit, according to the following criteria:

a. SSC Marks
b. HSC Marks
c. Entrance Test Marks
d. Interview

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

FEE STRUCTURE

**Doctor of Physical Therapy (North & Clifton)**

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fee</td>
<td>Rs. 35,000/-</td>
</tr>
<tr>
<td>Semester Tuition Fee</td>
<td>Rs. 95,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Total</td>
<td>Rs. 172,840/-</td>
</tr>
</tbody>
</table>

**Doctor of Physical Therapy (Link Road)**

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fee</td>
<td>Rs. 35,000/-</td>
</tr>
<tr>
<td>Semester Tuition Fee</td>
<td>Rs. 95,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Advance Income Tax @ 5%</td>
<td>Rs. 8,540/-</td>
</tr>
<tr>
<td>Total</td>
<td>Rs. 172,840/-</td>
</tr>
</tbody>
</table>

STUDENT ASSESSMENT EXAMINATION POLICY

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

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 O/A Levels must acquire equivalency before taking admission. All candidates are selected on merit, according to the following criteria:

a. SSC Marks
b. HSC Marks
c. Entrance Test Marks
d. Interview

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

FEE STRUCTURE

**Doctor of Physical Therapy (North & Clifton)**

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fee</td>
<td>Rs. 35,000/-</td>
</tr>
<tr>
<td>Semester Tuition Fee</td>
<td>Rs. 95,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Total</td>
<td>Rs. 172,840/-</td>
</tr>
</tbody>
</table>

**Doctor of Physical Therapy (Link Road)**

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fee</td>
<td>Rs. 35,000/-</td>
</tr>
<tr>
<td>Semester Tuition Fee</td>
<td>Rs. 95,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Advance Income Tax @ 5%</td>
<td>Rs. 8,540/-</td>
</tr>
<tr>
<td>Total</td>
<td>Rs. 172,840/-</td>
</tr>
</tbody>
</table>

STUDENT ASSESSMENT EXAMINATION POLICY

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

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 O/A Levels must acquire equivalency before taking admission. All candidates are selected on merit, according to the following criteria:

a. SSC Marks
b. HSC Marks
c. Entrance Test Marks
d. Interview

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

FEE STRUCTURE

**Doctor of Physical Therapy (North & Clifton)**

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fee</td>
<td>Rs. 35,000/-</td>
</tr>
<tr>
<td>Semester Tuition Fee</td>
<td>Rs. 95,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Total</td>
<td>Rs. 172,840/-</td>
</tr>
</tbody>
</table>

**Doctor of Physical Therapy (Link Road)**

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fee</td>
<td>Rs. 35,000/-</td>
</tr>
<tr>
<td>Semester Tuition Fee</td>
<td>Rs. 95,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Advance Income Tax @ 5%</td>
<td>Rs. 8,540/-</td>
</tr>
<tr>
<td>Total</td>
<td>Rs. 172,840/-</td>
</tr>
</tbody>
</table>
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 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 / Behavioural Sciences
  g. Synopsis Submission
- • Semester - II
  a. Emergency Procedures And Radiology
  b. Health and wellness / Ergonomics
  c. Peads / Women 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

CAREER OPPORTUNITIES
Professional physical therapist will be able to deliver evidence-based physical therapy treatment and evolve with changes in health care system.

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

The course is offered at North Location

FEE STRUCTURE
| Application Fee: | Rs. 5,000/-
| Admission Fee: | Rs. 25,000/-
| Security Deposit: | Rs. 10,000/-
| Student Fund: | Rs. 1,000/-
| Academic Transport: | N/A
| Tuition Fee (per semester): | Rs. 50,000/-
| Examination Fee (per semester): | Rs. 8,500/-
| At the time of Admission: | Rs. 94,500/-
| Program Fee: | Rs. 153,000/-

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.

MS/M.PHIL IN PHYSICAL THERAPY

ZCRS is aiming to create a dynamic research community, enabling physical therapist 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 Sports Sciences
- e. Women Health and Pediatric 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)

SELECTION CRITERIA
- a. Applied Biomechanics
- b. Research, Biostatistics and Critical Appraisal in Physical Therapy
- c. Neuromuscular Rehabilitation/ Histology & Micro Techniques
- d. Exercise Physiology/ General & Systemic Embryology

ADMISSION POLICY
Physical therapy graduates who have completed their 4-year BPT or 5-year of 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. BPT/BSPT/ or equivalent
- b. Interviews of shortlisted candidates
- c. GAT General (50% cumulative score)

Applications are invited to both Clifton and North locations. (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. 3,000/-
Tuition Fee (per semester): Rs. 50,000/-
Examination Fee (per semester): Rs. 9,500/-

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

A degree in Physical Therapy offers a challenging, satisfying, and a rewarding career to the individual whose interest lies in health services to the public, business, scientific research, university teaching, and hospital practice. Physical therapist can practice independently at private clinics as well as job opportunities are available in 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 program.

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. Skills 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 organization with 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 Occupation Therapy at all three sites of Dr. Ziauddin Hospital. In addition, Ziauddin College of Rehabilitation Sciences (ZCRS) started their clinical collaboration with other major healthcare institutions like Dow University of Health Sciences - OJHA campus (DUHS), National Institute of Child Health (NICH), Abbasi Shaheed Hospital, National Institute of Child Health (NICH), National Institute of Cardio Vascular Diseases (NICVD), Sindh Govt. Hospital, Tabba Heart Institute, Al-Umeed Rehabilitation Association (AURA), Rabia Moan 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

B. CLINICAL SCIENCES:
- Psychometry
- Biomechanics & Ergonomics

C. OCCUPATIONAL REHAB SCIENCES:
- Introduction to Occupational Therapy
- Occupational Therapy Assessment and Evaluation
- Occupational Therapy Intervention
- Applied Geriatric for Occupational Therapy
- Applied Psychiatric 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
Doctor of Occupational Therapy is a five-year semester based degree program 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 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 Clifton Location.

FEE STRUCTURE

Application Fee: Rs. 5,000/-
Admission Fee: Rs. 25,000/-
Security Deposit: Rs. 10,000/-
Student Fund: Rs. 1,000/-
Academic Transport: N/A
Tuition Fee (per semester): Rs. 50,000/-
Examination Fee (per semester): Rs. 7,600/-
At the time of Admission: Rs. 93,600/-
Program Fee: Rs. 93,600/-

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

Doctor of Occupational Therapy Program is popular both nationally and internationally. The incorporation of research and evidence based practice in the curriculum has opened the 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, keen to upgrade 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

STUDENT ASSESSMENT EXAMINATION POLICY

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 Pediatrics and Sensory Integration
  - c. Community Based Rehabilitation and Contemporary Issues
  - d. Pathology and Microbiology
  - e. Occupational Therapy in Acute Care
  - f. Assistive Technology and Rehabilitative Environment
  - g. Research

ACADEMIC DECISIONS

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

ADMISSION POLICY

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

FEE STRUCTURE

<table>
<thead>
<tr>
<th>Fee Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee</td>
<td>Rs. 5,000/-</td>
</tr>
<tr>
<td>Admission Fee</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>Rs. 10,000/-</td>
</tr>
<tr>
<td>Student Fund</td>
<td>Rs. 1,000/-</td>
</tr>
<tr>
<td>Academic Transport</td>
<td>N/A</td>
</tr>
<tr>
<td>Tuition Fee (per semester)</td>
<td>Rs. 50,000/-</td>
</tr>
<tr>
<td>Examination Fee (per semester)</td>
<td>Rs. 7,600/-</td>
</tr>
<tr>
<td>At the time of Admission:</td>
<td>Rs. 93,600/-</td>
</tr>
<tr>
<td>Program Fee</td>
<td>Rs. 151,200/-</td>
</tr>
</tbody>
</table>

LEARNING AND TEACHING STRATEGIES

Both national and international qualified teaching faculty promotes better understanding through:
- a. Presentation/Assignment/Seminar
- b. Tutorials
- c. Projects
- d. Islamic studies / Pakistan studies
- e. Biostatistics
- f. English

SUPERVISED COACHING AND TRAINING

Students of Ziauddin College of Rehabilitation Sciences have an exclusive advantage to be part of an organization 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 and maximizing their performance. The professional use proven training methods and innovative workouts to fit the needs of individual athletes. Students in 3rd and 4th professional years will be going to different sports training academies and clubs to enhance their capabilities.

BACHELOR IN PHYSICAL EDUCATION, HEALTH AND SPORTS SCIENCES

Bachelors in Physical Education, Health and Sports Sciences is a four-year semester based degree program. In the era of educational revolution main objective of the BS 4-Years program in Physical Education, Health & Sports Sciences is to prepare graduates having a deep knowledge of the subjects as well as the ability to analyze in a given situation and draw out a conclusion. This 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 exercise, rest and diet. The primary aim of the program is to produce broad base graduates able to face the challenges of the modern world with a focus on physical activity, health and performance. This helps to give an overall picture aspect that may improve and ultimately limit the human sporting exhibition at the highest level.

SUPERVISED COACHING AND TRAINING

Students of Ziauddin College of Rehabilitation Sciences have an exclusive advantage to be part of an organization 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 and maximizing their performance. The professional use proven training methods and innovative workouts to fit the needs of individual athletes. Students in 3rd and 4th professional years will be going to different sports training academies and clubs to enhance their capabilities.

SEMINAR SUMMARY

A. Basic Sciences
- a. Introduction to Computer
- b. Psychology
- c. Sociology
- d. History
- e. Human Anatomy
- f. Physiology
- g. Biostatistics
- h. Ethics
- i. English

B. Compulsory Subjects
- a. Introduction to Modern Technologies
- b. Exercise Physiology
- c. Test Measurement & Evaluation in Physical Education & Sports Sciences
- d. Sports Nutrition
- e. Role of Media in Sports
- f. Planning Sports Facilities
- g. Talent Identification in Sports
- h. Adapted Physical Education
- i. Specialization in One Group of Track and Fields
- j. Scientific Sports Coaching

C. Sports Sciences
- a. Introduction to Modern Technologies
- b. Exercise Physiology
- c. Test Measurement & Evaluation in Physical Education & Sports Sciences
- d. Sports Nutrition
- e. Role of Media in Sports
- f. Planning Sports Facilities
- g. Talent Identification in Sports
- h. Adapted Physical Education
- i. Specialization in One Group of Track and Fields
- j. Scientific Sports Coaching

D. Sports Science
- a. General Management
- b. Coaching
- c. Physical Education
- d. Sports Nutrition
- e. Sports Medicine
• Common Sports Injuries, Treatment & Rehabilitation
• Physical Education for Special Population
• 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/OSCE
d. Group or individual presentation/ assignments
e. Student log books or written reports

Students are continuously assessed during semester by above methods. This carries 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 stream 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:
a. SSC Marks
b. HSC Marks
c. Entrance Test Marks
d. Interview

The course is offered at Clifton Location.

FEE STRUCTURE
Application Fee: Rs. 5,000/-
Admission Fee: Rs. 25,000/-
Security Deposit: Rs. 25,000/-
Student Fund: N/A
Academic Transport: N/A
Tuition Fee: Rs. 150,000/-

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.

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 behavior.
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 program. In the era of educational revolution the main objective of the B.S 2-Years program 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 through:
• Presentation/Assignment/Seminar
• Tutorials
• Skill based labs
• Sports Training
• Projects
• Supervised Coaching and Training

SUPERVISED COACHING AND TRAINING
Students of Ziauddin College of Rehabilitation Sciences have an exclusive advantage to be a part of organization with 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, OSPE/OSCE
d. Group or individual presentation/ assignments
e. Student log books or written reports

Students are continuously assessed during semester by above methods. This carries 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 stream 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:
a. SSC Marks
b. HSC Marks
c. Entrance Test Marks
d. Interview

The course is offered at Clifton Site

FEE STRUCTURE
Application Fee: Rs. 25,000/-
Semester Tuition Fee: Rs. 50,000/-
Security Deposit: Rs. 25,000/-
Student Fund/Semester: Rs. 2,000/-
Examination Fee/Semester: Rs. 5500/-
Total: Rs. 107,500/-

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

ADMISSION POLICY
Candidate with minimum of 12 years education is 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 be comprised of true and false and the practical evaluation of the students having a minimum passing criteria of 60%
- Minimum of 80% attendance is mandatory for the students. The student must complete all the practical and other work as prescribed in the syllabus.

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

AWARD OF DIPLOMA
- After the completion of the prescribed course by the College, candidate will be given diploma certificate in fitness training program by Ziauddin College of Rehabilitation Sciences, Ziauddin University.

FEE STRUCTURE
Application Fee: Rs. 2,000/-
Admission Fee: Rs. 6,000/-

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 offer 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.

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

PRINCIPAL, ASSOCIATE PROFESSOR
MS. SUMAIRA IMRAN FAROOQUI
BSPT, MPA, DPT (D), PhD (SCHOLAR)

ASSOCIATE PROFESSOR
SYED ABID MEHDI KAZMI
BSPT, MPT, DPT (D), PhD (SCHOLAR)

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

HOD, OCCUPATIONAL THERAPY
MS. NEELUM ZEHRA BUKHARI
BSOT, PGD HEALTH CARE MANAGEMENT, ADOT

ASSISTANT PROFESSOR, MPHIL COORDINATOR
MS. AMNA AAMIR KHAN
BSPT, MSPT/MPHIL, ADPT , PhD (SCHOLAR)

ASSISTANT PROFESSOR, DPT COORDINATOR (CLIFTON)
MR. NABEEL BAIG
BPT, MSCPT, ADPT

ASSISTANT PROFESSOR, DPT COORDINATOR (NORTH)
MS. QURAT-UL-AIN ADNAN
BSPT, MSPT, ADPT

ASSISTANT PROFESSORS
MR. ABID KHAN
BSPT, MPHIL, ADPT
MR. ALI FARIHAD
BSPT, ADPT, LLB LLM, MPHIL in PT
MS. ASMA HAMEED
BSPT, MSCPT, DPT (D)
MS. BEENISH ZAFAR
BSPT, MBA, ADPT
MS. SAIMA ALI
BSPT, MSCPT, DPT (D)
MS. ZARA ZULFIQAR
BSPT, MSPT, DPT (D)

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

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

SR. LECTURERS
MR. AHAD HASAN
BSPT, DPT (D) , MSPT
MS. ASIA RIZWAN
M.A IN ENG LITERATURE,LINGUISTICS,TEFL
MS. FATIMA KHAN
BS OT , MS PSYCHOLOGY
MS. HINA ASIF
B.SC (Hons), M.SC
MS. RUQUAIYA NASIR SHAH
BSPT, ADPT, MSPT
MS. SARAH MASOOD
BSPT, DPT (D), MPHIL (ENROLLED)
MS. SUMAIRA AZFAL
B.SC (Hons), M.SC PHYSIOLOGY
MS. YUSRA ARSHAD
B.SC (Hons), M.SC PHYSIOLOGY
MS. ZULEKHA SALEEM
DPT, MPHIL (ENROLLED)

LECTURERS
MS. AL WARDAH
DPT, MSCPT (ENROLLED)
MS. AREEBBA KHAN
DPT
MS. AMAS NADIR
B.SC (HONS), M.SC PHYSIOLOGY
MS. BATOOL HASSAN
BSPT, ADPT, MPHIL (ENROLLED)
MS. HAFIZA JAVERIA
BSPT, DPT (D), MPHIL (ENROLLED)
MS. JAZA RIZVI
DPT, MPHIL (ENROLLED)
MS. KIRAN YAMEEN
DPT
MS. MAHARANI HINA KHATRI
DPT, MPHIL (ENROLLED)

MR. MUHAMMAD AHMED
DPT, MSCPT (ENROLLED)
MR. MUHAMMAD AHER HASHMI
DPT, MPHIL (ENROLLED)
MS. MUNIRA ALI MUKADAM
DPT, MPHIL (ENROLLED)
MS. SABIKHA ZEHRA
BSPT, ADPT, DPT (D)
MS. SADIA SHAFAQ
DPT, MPHIL (ENROLLED)

MR. SANA MEHMOOD
DPT, MPHIL (ENROLLED)
MR. SYED SAIF UL HAQ
BSPT, DPT (D), MPHIL (ENROLLED)
MR. SHEIKH MUHAMMAD MUNIR
DPT
MR. TAIMOOR KHAN
DPT, MSCPT (ENROLLED)
My journey in Bachelor of Science in Nursing from Ziauddin University College of Nursing was very eventful. At first when I joined College of Nursing on 5th 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 to fulfill my tasks on time and hence contributed to my success. Lastly, most important part of my journey was everlasting support and prayers of my parents.

ROJER MASH
BScN
**INTRODUCTION**

Ziauddin University college of Nursing was the first academic unit of Ziauddin University. It was established and recognized by Pakistan Nursing Council in 1986. In 2009, the School of Nursing was upgraded to the level of College. The college offers various programs at undergraduate and graduate levels 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 its 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 discovery 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 Vision, Ziauddin University College of Nursing aims to:

- Provide high quality client care based on strong knowledge in practice through education and research.
- Respond to the identified needs for nursing and midwifery in Pakistan.
- Benefit the university, profession and public through active individual and group involvement in service activities.
- Develop collaboration and networking with other local, national and international institutions.
- Prioritize teaching and research, which will inform and underpin intellectual innovation and change.
- Foster and develop leadership capacity through its education and research program.
- Engage in knowledge networking and emerging technologies related to nursing sciences.

**AIMS**

Ziauddin College of Nursing aims to prepare nurses with advance knowledge, skills and attitude that are needed to practice efficient and skillful nursing at national and international level. Hence upon graduation, students are able to demonstrate responsibility and accountability to the nursing profession by:

- Adhering to established patterns of professional practice, which support legal, religious and ethical tenant.
- Utilizing effective critical thinking and problem solving skills in caring for the individuals, families and communities.
- Integrate scholarly skills and the use of scientific methods in critiquing, and applying existing nursing theories and research findings in selected practice settings.
- Applying effective verbal and written communications 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 individuals, families and communities.
- Developing leadership skills to promote development of the nursing profession.

**EDUCATIONAL OBJECTIVES**

- Maintain high quality programs of learning that prepare nursing students to meet the health care needs of individuals, families and the communities we serve.
- Provide effective and efficient support for learning and teaching.
- Maintain effective systems of ongoing assessment and evaluation to assure high quality programs.
- Engage in the discovery of knowledge through work, teaching and service to add to the body of nursing science.
- Provide an effective infrastructure for research to enhance faculty and student development.
- Demonstrate effective critical thinking skills 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 programs:

- **DEGREE PROGRAMS**
  - Master of Science in Nursing (2 Years)
  - Post RN BSN (2 Years)
  - Bachelor of Science in Nursing (4 Years)

- **DIPLOMA PROGRAMS**
  - Diploma in Nurse Midwifery (1 Year)

**MASTER OF SCIENCE IN NURSING (MSN)**

Master of Science in Nursing is a two year post-graduate degree program that aims to prepare nurses with specialty knowledge and skills to navigate in an area of nursing expertise and to pursue advanced roles in areas such as specialized clinical practice, administration, and education. While the benefits of an MSN degree include increased career opportunities and income, it’s an accomplishment that requires significant time, effort, and expense.

**PROGRAM OBJECTIVES**

- Apply knowledge of nursing concepts, theories and frameworks to the advanced nursing roles.
- Utilize and disseminate research in nursing practice.
- Provide leadership to bring change in health care.
- Utilize knowledge and skills to provide advanced standard quality care to the clients and their families.
- Demonstrate competence to the professional growth and lifelong learning.
- Utilize and disseminate knowledge of evidence-based research in nursing.
- Demonstrate leadership qualities and function effectively as 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 discussion, review of articles, presentation (individual/pair), role-play, field visit, problem solving exercises, self-study, brain storming, problem based tutorials, computer based language learning and clinical integration.

**SEMMESTER SUMMARY**

**Semester I**

The first semester of MSN includes courses such as: Advance Concepts in Pharmacology, Advance Concepts in Health Assessment, Advance Concepts in Pathophysiology and Advance Concepts in Clinical Practices.

**Semester II**

The first semester of MSN includes courses such as: Advance Concepts in Pharmacology, Advance Concepts in Health Assessment, Advance Concepts in Pathophysiology and Advance Concepts in Clinical Practices.

**Epidemiology**

Epidemiology is the study of the patterns and determinants of disease in populations. It constitutes a basic science for public health and biomedical sciences and its influence can be felt daily through the presentation of data by government, academic, and industry sources. The goal of this course is to present an introduction to basic principles and methods of epidemiology. It also focuses on an application of epidemiology in the areas of public health and clinical practice, the epidemiological inference and the assessment of causal relationships from epidemiological studies will be discussed, introducing the issues of bias and confounding.

The course of Research Methodology is designed to stimulate scholarly inquiry. This course focuses on both qualitative and quantitative research approaches. Various research methodologies within both approaches and forms of data analysis will be discussed along with application. Students will critique research literature, develop analytical skills in the process and identify gaps in knowledge needed for evidenced based practice in scholarly of focus.

**Pathophysiology**

The course of Research Methodology is designed to stimulate scholarly inquiry. This course focuses on both qualitative and quantitative research approaches. Various research methodologies within both approaches and forms of data analysis will be discussed along with application. Students will critique research literature, develop analytical skills in the process and identify gaps in knowledge needed for evidenced based practice in scholarly of focus.

**Introduction to Biostatistics**

The course of Research Methodology is designed to stimulate scholarly inquiry. This course focuses on both qualitative and quantitative research approaches. Various research methodologies within both approaches and forms of data analysis will be discussed along with application. Students will critique research literature, develop analytical skills in the process and identify gaps in knowledge needed for evidenced based practice in scholarly of focus.
Advance Concepts in Pharmacology will provide a basis for understanding the use of pharmacotherapeutic agents. Content will be at a level appropriate to facilitate critical thinking for MSN students. Content will be organized around body systems and appropriate categories of drug that impact the specific system. Topic will include information on therapeutics adverse effects and indication for use and charting. Students will be expected to integrate knowledge of categories of drugs as it relates by system to the development of case studies for pathophysiology.

Advance Concepts in Clinical Practices 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 maintenance, disease prevention, diagnosis and treatment of common acute and chronic illnesses in adults.

Semester III
The 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 aggregates and communities. Formal and informal community systems and health care organizations will be described and analyzed.

The course of Educational Design will help to develop knowledge for clinical decision-making in the assessment, diagnosis and management of health problems across the life span. Topics will include health promotion and maintenance, disease prevention, diagnosis and treatment of common acute and chronic illnesses in adults.

Semester IV
In fourth semester of MSN program students will work to finalize their thesis and undergo senior electives.

Advance Specialty Practicum will allow students to focus on individualized needs within the areas of educational setting. The course will also 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 programs including implementation and evaluation of the programs.

ASSESSMENT OF DEGREE PROGRAMS

a. Continuous Assessment

• Continuous assessment is conducted by the College of Nursing for regular and repeating student.
• Continuous assessment weighs 50% towards the final marking whereas the other 50% is evaluated by the University Examination Department
• Some courses will be evaluated 100% internally by College of Nursing (those mentioned in the concern program curriculum).
• The clinical must be passed at a satisfactory level according to the components stated in the clinical evaluation form. Unsatisfactory performance can lead to learning contracts.
• Student has to pass both the components (theory and clinical) before appearing into final university exam.
• Students will critique existing course(s) and develop skills in analyzing steps of course development. Various rates of faculty will be explored in relation to the changing trends in nursing education. Students will reflect on different teaching/learning strategies used for student-centered learning. Critical reflection will also be on understanding strategic and operational planning for management of nursing educational institutions.

b. University Examination

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

ADMISSION POLICIES AND PROCEDURE

a. ADMISSION TEST

A Graduate Assessment Test (GAT) via University Examination Department or NTS is mandatory for all eligible applicants.

b. INTERVIEW

Applicant will be interviewed to assess their suitability to complete the program 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 possess Post RN BSN/BSN (Generic) degree from an HEC & PNC recognized University/College.
• GAT/NTS entry test with minimum cumulative score of 50%
• Interview of candidates short listed on the basis of performance in the entry test.
• Final selection of candidates will be based on the previous academic record, experience and entry test and interview.
• Note: Applicant selection in Ziauddin College of Nursing is strictly based on merit.

ELIGIBILITY CRITERIA

The applicant must possess the following qualification and experience:

Category – I

• Matric (Science)
• Diploma in Nursing registered with PNC
• Diploma in Midwifery or any Post Basic Specialty diploma registered with PNC
• Post RN BSN with minimum cumulative GPA 3
• 2-years’ clinical experience (one-year experience before Post-RN BSN and one-year experience after Post-RN BSN)

Category – II

• FSc (Pre-Medical)
• Generic BSN Degree registered with PNC with minimum cumulative GPA 3
• 1-year internship (bedside care)
• 0-year experience as RN (excluding 0-year internship)
• Valid Registration with Pakistan Nursing Council or equivalent.

Eligibility criteria for advanced degree in Nursing

• Candidates must possess Post RN BSN/BSN (Generic) degree or equivalent.
• Diploma in Nursing registered with PNC
• Matric (Science)
• 1-year experience as RN (excluding 0-year internship)
• Valid Registration with Pakistan Nursing Council or equivalent.

REQUISITE DOCUMENTS

The following documents will be required to be presented at the time of interview.
• Copy of Diploma in General Nursing
• Copy of Diploma in Midwifery (if male candidate then any post basic specialty in lieu of midwifery)
• Copy of Post RN BSN degree/Generic BSN degree
• Copy of 2-years clinical experience letter if candidate has completed Post RN BSN or copy of 2-years clinical experience letter including 1 year internship letter if candidate has completed GBSN degree
• Copy of valid PNC registered card
• Copy of Matriculation certificate (Science group)
• Copy of Domicile
• Copy of candidate and parent/guardian CNIC
• Copy of 16-years equivalence from Higher Education Commission, Pakistan
• NOC from concerned department (if sponsored)
• 15 recent passport photographs
• 3 reference letters

FEE STRUCTURE

Admission Fee (once at the time of admission – non-refundable): Rs. 120,000/-
Security Deposit (once at the time of admission – refundable): Rs. 10,000/-
Student Fund (once at the time of admission): Rs. 5,000/-
Academic Visit (once at the time of admission): Rs. 10,000/-
Documentation Fee (once at the time of admission): Rs. 10,000/-
Thesis Process Fee: Rs. 10,000/-
Thesis Defense Fee: Rs. 10,000/-
TUITION FEE (per semester): Rs. 174,500/-
Examination Fee*: Rs. 6,000/-

Note: Any additional taxes imposed by the government will be the liability of the students/pa rents/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 nurse careers are endless. After several years of experience, the nurse is eligible to pursue specialization of choice. This can often mean more opportunities in the nursing profession, including leadership, education or management.
This program is designed to provide the Registered Nurse at diploma level with the opportunity to acquire a broad liberal degree level education with particular emphasis on theoretical and clinical knowledge related to nursing practice, nursing research, and population health at primary, secondary, and tertiary levels. All nursing courses are aimed to prepare nurses to practice competencies, as determined by the Pakistan Nursing Council.

**PROGRAM OBJECTIVES**

- Demonstrate the cognitive abilities necessary to integrate the nursing concepts and the multi-disciplinary body of knowledge to provide therapeutic nursing care.
- Exhibit the psychomotor and psychotherapeutic abilities necessary to provide safe nursing care.
- Use critical thinking and the nursing process as bases for clinical decision making.
- Demonstrate caring behaviors towards patients/clients and families from diverse and multicultural populations across the life span.
- Communicate effectively with clients, families and members of the interdisciplinary health care team.
- Utilize appropriate teaching learning strategies for both individual and group settings.
- Demonstrate leadership skills to promote development of the profession.
- Recognize responsibility for maintaining competence as a registered nurse through self-evaluation and continuing nursing education to become lifelong learner.
- Practice as ethical and accountable member within the profession of nursing.

**ELECTIVES**

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 health care settings. The learner will understand the basic concepts of teaching learning principles, preceptorship and clinical practice. They will develop self-directed learning skills. They will be able to write academic essays at the upper intermediate level for nursing purposes. They will develop self-directed learning skills.

The course of Pharmacology provides students with the knowledge and skill to use pharmacology in influencing the development of philosophy in their clinical practice setting. Students will apply knowledge of relevant theories and skills in specific areas of nursing practice. Relate knowledge of the roles and responsibilities of the body in clinical practice setting. Participate collaboratively as a peer with other health professionals during Evidence Based Clinical Practice. Evidence Based Clinical Practice. Demonstrate an in-depth approach to solving problems during the practicum experience. Demonstrate self-directed learning abilities to complete the practicum.

**LEARNING AND TEACHING STRATEGIES**

Various learning and teaching strategies are used which includes: interactive lectures, small group discussion, review of articles, presentation (individu-al/pair), role-play, field visit, problem solving exercises, 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 health care professionals with an understanding of the major organic substances of living organisms, proteins, carbohydrates and lipids, their structures and biochemical functions. It also provides an introduction to the chemistry of biogenic energics, metabolism, biosynthesis, and molecular biology.

The aim of the course for Advance concepts in Nursing is to enhance the student’s nursing knowledge and skills essential in caring for patients and their families in tertiary health care setting. The course focuses on enhancing the advance clinical skills of nursing assessment; analysis of clients nursing care needs, and implementing preventive and therapeutic nursing interventions. It also provides an introduction to the chemistry of biogenetic energy, metabolism, biosynthesis, and molecular biology.

On the other hand, Biostatistics will provide an introduction to sound basic statistical principles and their applications in varied aspects of scientific studies. In addition, rules governing use of descriptive and inferential statistics will also be explored.

On the other hand, Biostatistics will provide an introduction to sound basic statistical principles and their applications in varied aspects of scientific studies. In addition, rules governing use of descriptive and inferential statistics will also be explored.

The course of Pharmacology provides students with the opportunities to build on, the concepts and knowledge about the altered homeostatic, pathophysiologic mechanisms with integration of pharmacology including their impact on the functional status of the body. It also includes the responses of the body that participate in manifestation of disease. The usefulness of this course will increase nurse knowledge, skills and attitudes toward pharmacodynamics and pharma-kinetics in relation to disease process which impact on cellular function of the body.

Through the course of English, students will develop critical reading and thinking skills. They will be introduced 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 (Mental Health) facilitates the learner to apply principles of human behavior in providing insight into one’s personal attitude, responses, in cultural perception, value beliefs about mental health and illness. It will enable the learner to identify the needs and provide holistic care by utilizing evidence based practices to people with mental health challenges. Meanwhile, the learner will be able to provide special attention to family and their care taker who is suffering from various mental health conditions, dysphoric conditions and mental disorders. The course will improve the skills to work in multidisciplinary teams, dealing with psychiatrists, psychologists, occupational therapists, social workers and other mental health professionals in promoting the mental health among people and community at large.

**Semester-III**

The course for Advanced concepts in CHN enhances the knowledge and skills required for advance nursing practice in community setting. It will help the learner to develop his/her ability to practice with communities by applying planning cycle with the integration of major concepts of community as a partner of health and disease, demographics and epidemiology. The learner will also be able to correlate epidemiological research findings to nursing practice.

Culture, Health and Society facilitates the students to explore the field of bio-cultural anthropology, it enhances students’ understanding of values, beliefs and practices of different societies and its relationships to health and illness behaviors in general and among specific groups living in societies. This course will further provide analysis of the relationships of culture, society and health care delivery system.

The course of Introduction to Nursing Models and Theories is an introduction to theory and reasoning in nursing which will be foundational understanding of nursing as a discipline and profession. Students will be introduced to several different theoretical frameworks in nursing and to the contributions of selected nurse theorists.

In English II, Students will develop critical reading skills. They will be able to read and analyze literature in various health care settings. In addition, this course aims to provide the students with the knowledge, skills and attitudes necessary to become effective nursing preceptors in clinical area. This course will enable learners for being a reflective practitioner in health education setting.

**Semester –IV**

The course of Advance concepts in CHN enhances the knowledge and skills required for advance nursing practice in community setting. It will help the learner to develop his/her ability to practice with communities by applying planning cycle with the integration of major concepts of community as a partner of health and disease, demographics and epidemiology and research. The course will also address global health, demographics, and developmental issues in relation to the diverse roles of
Proper clinical 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 nurses. It aims to develop their 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 PROGRAMS**

**a. Continuous Assessment**
- A Continuous assessment is conducted by the College of Nursing for regular and repeating student.
- Continuous assessment weighs 50% towards the overall marking whereas the other 50% is evaluated by the University Examination Department.
- Some courses will be evaluated 100% internally by College of Nursing (those mentioned in the concern program curriculum).
- All clinical must be passed at a satisfactory level according to the components stated in the clinical evaluation form. Unsatisfactory performance can lead to learning contract.
- Student has to pass both the components (theory and clinical) before appearing into final university exam.
- It is conducted by Ziauddin University Examination Department for all degree programs.
- The degree programs University Examination will be held at the end of each semester of the academic year.
- Examination dates for all degree programs 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 University Examination Department for all eligible applicants. The test consists of Multiple Choice Questions and short answer questions of various types. The following subjects are assessed in the admission test:

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

**b) INTERVIEW**

Applicant will be interviewed to assess their suitability to complete concern course and pursue a career in nursing services. 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 test and interview results.

**ELIGIBILITY CRITERIA**

- Matriculation (Biological Science Group as per HEC requirement)
- Diploma in General Nursing
- Diploma in Midwifery (For male candidates, any post basic specialty in lieu of midwifery)
- 2 years 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. 82,000/-
**Security Deposit:** (once at the time of admission): Rs. 4,000/-
**Student Fund:** (once at the time of admission): Rs. 5,000/-
**Laboratory Charges:** (once at the time of admission): Rs. 4,000/-
**Exam Fee:** (once at the time of examination): Rs. 6,000/-
**Examination Fee:** (once at the time of examination): Rs. 3,000/-
**Academic Visit:** (once at the time of admission): Rs. 4,000/-
**Postgraduate Semester:** (once at the time of examination): Rs. 14,300/-
**Examination Fee:** (once at the time of examination): Rs. 6,000/-

*Subject to increase by ZU Examination Department.

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. 25% surcharge per month will be levied on outstanding fees after the due date.
The fundamental of nursing course introduces the student to nursing as a professional discipline. The concept of a professional nurse is addressed through a brief overview of nursing historical development, definitions of nursing, nursing education, the practices, roles of the nurse and nurse’s accountability.

Semester II

The second Semester of BScN YR I includes courses such as: Fundamental of Nursing II, Anatomy & Physiology, Community Health Nursing I, English I- Idrastam, and Applied Nutrition & Pakistan Studies.

The FON II course introduces learners to different concepts of nursing practice with emphasis on identifying the patient needs, developing communication skills and use of the nursing process. Learners will gain knowledge related to theoretical concepts, values, and norms of the profession, while learning skills for providing basic nursing care to patients in hospital settings.

The Community Health Nursing course will introduce students to the basic concepts of Community Health Nursing with the emphasis on Primary Health Care and Environmental Effects on health. This course introduces students to the factors influencing on health of individual, family and community. Students will also develop knowledge about Pakistan’s Health Care System, components of health education, community services and organizations through field visits.

The applied nutrition course is designed to furnish the learners with the knowledge of basic concepts and scientific principles of Microbiology. It facilitates the learners to learn the application of principles of Microbiology in hospital and community environment.

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

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

Pathophysiology gives the opportunities to students to build on the concepts and knowledge about the altered Physiological mechanisms and their impact on the functional status of the body. It also deals with the responses of the body that participate in manifestation of disease. The usefulness of knowledge, skills and attitudes to the nurse in his/her professional role in the hospital, school, community or home is the determining factor in the selection and integration of the content.

Pharmacology content and skills needed to assess the basic health status of individuals of varying ages. These skills can be applied to nursing care in a wide variety of clinical settings. This course emphasizes history taking and physical examination skills. English designed to help increase their reading speed. It aims at helping achieve a higher reading rate, which will also help them in other subjects in addition to English and also learnt dimensions of mathematics and help student to apply knowledge in nursing field.

Semester IV

The second semester of BScN includes courses such as: Adult Health Nursing II- Pathophysiology II Health Assessment – II developmental psychology, Pharmacology II, English IV and Nursing Ethics. Adult Health Nursing provides opportunities to students to give safe & competent care to patients with various cardiovascular, respiratory, endocrine, musculoskeletal, Neurological and ENT disorders. It has also Pathophysiology that deals with the responses of the body that participate in manifestation of disease.

Health Assessment content and skills needed to assess the basic health status of individuals of varying ages. These skills can be applied to nursing care in a wide variety of clinical settings. This course emphasizes history taking and physical examination skills.

Pharmacology course emphasizes on knowledge about drugs, their classification, therapeutic effects, anticipated reactions, toxic effects, and abuse. At this level, the emphasis is on application of concepts to plan and perform patient assessment, drug dosage calculations and administration.

Nursing Ethics provide the student over view of basic concepts of ethics, its theory, principles, and norms. This course will raise awareness of factors that needs to consider when dealing with ethical decisions and affirm nursing as an ethically responsible profession. English focuses on Reflective writing, analytical
reading and using grammar and written structure. In medical context, the course builds on learner’s skills in documenting reflections in an organized form.

Semester V
The first semester of BSN II includes courses such as: Pediatrics Health Nursing, Community Health Nursing, Teaching Learning Principles & Practices and English-V. The focus of Pediatrics Health Nursing is to develop knowledge, skills and attitudes in the care of children in primary, secondary and tertiary settings. Students apply concepts related to Growth and Development and its deviation in all aspects of children’s health. The Teaching Learning Principles & Practices introduces the basic concepts of adult learning in order to better understand one’s individual learning process and strategies to facilitate the learning of others in various health care settings. The Community Health Nursing focuses on the role of community health nurses in providing family centered care and basic concepts of Reproductive Health for male and female. The English course helps the students to reflect on their own writing process, and find ways to improve their summary writing techniques.

Semester VI
The second semester of BSN II includes courses such as: Pediatrics Health Nursing, Introduction to Biostatistics, Behavioral Psychology, Epidemiology, Culture, Health and Society and English.

The Mental Health Nursing course familiarizes the students to the concepts of mental health and mental illness, the various concepts of psychiatric nursing and its development in general and in Pakistan in particular. The Introduction to Biostatistics course provides the learners prearranged knowledge to basic statistical principles and their application to qualitative and quantitative research.

The Behavioral Psychology course will help the learner understand human behavior and provide insight into one’s personal attitudes, responses to everyday situation and interactions. The Epidemiology course is designed to provide the knowledge and skills to the learners for using epidemiological concepts in assessing the contributing factors, diagnosing the problems, planning intervention and evaluating the results in the community. The Culture, Health and Society guide students to the human interaction and its impact on individual and group behavior. It also introduces learners to the field of socio-cultural anthropology. It focuses on the exploration of values, beliefs and practices related to health and illness in general and among specific groups of people. The English course is designed to enhance the scientific information of the learners. In addition the course will also improve the scholarly and technical information of the learners.

Semester VII
In the first semester of BSN year IV students critically analyze the assessment data of the patients and incorporate physical, psychological, social, emotional and spiritual aspects of care. They relate normal and altered physiological concepts to patient care in critical care and emergency settings and learn different machinery related to intensive care unit e.g. ventilator setting and IABP.

Moreover students integrate various theories in relation to leadership, management, problem solving and decision making, motivation, managing change and conflict management.

Furthermore they recognize the research process as a systematic approach to thought and intensive generation of nursing knowledge and Understand the process of Evidence based health care.

Beside this students also learn nursing theories and Professional Writing in this semester.

Semester VIII
In the second semester of BSN year IV students are taught leadership skills in their senior electives in which they are assigned with an experienced person, whose responsibility is to enhance their skills. Their main focus is on evidenced based research so that, they can act as a change agent to promote quality improvement in the performance of nursing responsibilities.

Moreover they are taught community health nursing and so that they can provide holistic care for individuals, families and communities.

Furthermore, to participate actively in profession al organizations for the improvement of the nursing profession, students are taught Nursing Seminar/ Role Transition.

ASSESSMENT OF DEGREE PROGRAMS
a. Continuous Assessment
Continuous assessment is conducted by the College of Nursing for regular and repeating student

Continuous assessment weighs 50% towards the overall marking whereas the other 50% is evaluated by the University Examination Department

Some courses will be evaluated 100% internally by College of Nursing (those mentioned in the concern program curriculum)

All clinical must be passed at a satisfactory level according to the components stated in the clinical evaluation form.

b. University Examination

• It is conducted by Ziauddin University Examination Department for all degree programs
• The degree programs University Examination will be held at the end of each semester of the academic year.
• Examination dates for all degree programs 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 University Examination Department for all eligible applicants. The test consists of Multiple Choice Questions and short question of various types. The test comprises of four sections designed to assess each applicant’s performance in the areas of:

(a) English
(b) Science
(c) General Knowledge
(d) Mathematics

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

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

ELIGIBILITY CRITERIA

• Qualification: FSc. (Pre-medical group) with a minimum overall score of 50%
• Gender: Male
• Age: 17 – 35 years

REQUISITE DOCUMENTS

The following documents will be required to be presented at the time of interview:

• Copy of Intermediate Marksheet /Certificate verified by concern board (Pre-medical group)
• Copy of Domicile
• Copy of candidate and parent/guardian CNIC
• 15 recent passport photographs
• 3 reference letters

CAREER OPPORTUNITIES

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

This is a one year program, leading to a Diploma in Nurse Midwifery applicable for those candidates who have passed RN Examination (Post Basic). The goal of this program 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, Brain Storming, 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, 5 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 PROGRAM

This programs is assessed by Sindh Nurses Examination Board

Examination policy of Ziauddin College of Nursing is applicable for all diploma programs

ELIGIBILITY CRITERIA

• RN/Generic BSN and registered with Pakistan Nursing Council (PNC)
• Female

REQUIRED DOCUMENTS

The following documents will be required to be presented at the time of interview.

• Copy of candidate and parent’s/guardian CNIC
• 15 recent passport photographs

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/-

Academic transport (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. 150,000/-

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.

CAREER OPPORTUNITIES

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

The Nursing field is very vast worldwide as well as in Pakistan and this is the responsibility of the professionals to provide quality care and patient centered care to patients. Due to the pandemic of COVID-19 the demand of the professionals has been increased who can provide supportive care to the nurses. To fulfill the requirement of the profession and current situation, Ziauddin University College of Nursing, has taken initiative and offers different technician programs to empower the members of youth to join a professional training pathway to build a professional career after secondary school certificate.

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

PARAMEDICAL TECHNICIAN COURSES

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.

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. 110,000/-

Examination Fee: Rs. 5,000/-

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.

Required documents will be considered on the basis of admission test and interview results.

The application of candidates not fulfilling the above mentioned criteria will not be considered. Incomplete application will not be considered.

Note: Applicant selection in Ziauddin College of Nursing is strictly based on merit and applicants are considered on the basis of admission test and interview results.

Ziauddin University College of Nursing conducts an Admission Test for all eligible applicants. Interview will be held at Dr. Ziauddin Hospital and details communicated to only shortlisted candidates. The application of candidates not fulfilling the above mentioned criteria will not be considered. Incomplete application will not be considered.

Principal / Headmaster

• One photocopy of Anesthesia Course Certificate for I.C.U Technician course (If applicable)

Note: Applicant selection in Ziauddin College of Nursing is strictly based on merit and applicants are considered on the basis of admission test and interview results.

Ziauddin University College of Nursing conducts an Admission Test for all eligible applicants. Interview will be held at Dr. Ziauddin Hospital and details communicated to only shortlisted candidates. The application of candidates not fulfilling the above mentioned criteria will not be considered. Incomplete application will not be considered.

Note: Applicant selection in Ziauddin College of Nursing is strictly based on merit and applicants are considered on the basis of admission test and interview results.

Ziauddin University College of Nursing conducts an Admission Test for all eligible applicants. Interview will be held at Dr. Ziauddin Hospital and details communicated to only shortlisted candidates. The application of candidates not fulfilling the above mentioned criteria will not be considered. Incomplete application will not be considered.
CNA (CERTIFIED NURSING ASSISTANT) PNC APPROVED PROGRAM

Health care 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 health care needs of patients on health care industry and its workers. Pakistan already is facing the 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 F.Sc Nursing (HSSC) restarted the program 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 program aims to produce nursing assistant, who contribute their role along with Registered Nurses. The significance of this program is that the students will earn F.Sc Nursing [Pre Nursing Certificate of HSSC intermediate level] on completion of CNA. This program 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: Applicant must meet one of the following Academic Level:  
• FSc (Pre-Medical) with 45% marks minimum (Physics, Chemistry & Biology as compulsory subjects)  
• Matric (Science) with 45 % marks minimum (Physics, Chemistry & Biology as compulsory subjects)  
• Matric (Arts) with 50% marks, FA with 50% Marks

FACULTY MEMBERS

DEAN
DR. PAMELA MARSHALL

ADVISOR TO CHANCELLOR
DR. YASMIN AMARSI

DIRECTOR, POSTGRADUATE PROGRAM
MS. AFSHAN NAZLY

DIRECTOR, UNDERGRADUATE PROGRAM
MS. FARHANA TABASSUM

ASSISTANT, PROFESSOR
MR. RAJA
MR. SINEER MICCA
MR. SANTOSH KUMAR
MR. BADIL

SENIOR LECTURERS
MS. STELLA NAHEED
MS NADIA ALI
MS. BELLA RICHARD

LECTURERS
MR. UBAID SIDDIQUI
MR. NASIR INAYAT
MS. SARA SOHAIL
MR. GULSHER
MS. MEHWISH ARIF
MR. FARHAN AHMED
MS. MEHTAB

SKILLS LAB COORDINATOR
MS. KOMAL MUMTAZ

SKILLS LAB NURSE
MS. BILQEEES ALI

MS. SONIA JOSEPH
MS. SABINA ASLAM
MS. NASIRA LATIF
MS. IQRA AKHTER
MS. AMBREEN
MR. FAISAL AMEEN
MR. JIBRAN KHAN
FACULTY OF PHARMACY
When I first joined the pharmacy program at Ziauddin University, I had never imagined I would be able to achieve such a milestone in my life as to become a gold medalist. 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 honor, however, was by no means easy. It required insurmountable 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 mentors. The Pharm.D program at 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 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 medalist of my batch, but utterly content with everything I have learnt and experienced in all these years. Lastly, I would like to add that with the right amount of efforts and dedication, can take anyone to the great heights.

SHARAN BIRIJLAL
PHARM.D
VISION
Our vision is to excel in education, practice and research of pharmaceutical sciences thus, enabling the graduates of pharmacy to provide optimum patient care, understand global health challenges and ensure well-being of the entire community.

MISSION
Ziauddin believes in “professionalism”. Therefore, the institute endows its students with knowledge, skills and poise so they are equipped to enhance patient’s well-being, safety and health needs of the society in general. Moreover, the pharmacists are inculcated to demonstrate qualities like integrity, respect and compassion in practice and research.

INTRODUCTION
Pharmacy, along with medicine and nursing, forms the backbone of our health care system. We cannot afford to be left behind other developing nations in providing quality drugs to our masses and professional manpower to our health care institutions. We have to cater to the needs of this system by producing well-qualified, professionally trained and highly competent pharmacists to perform the specialised tasks in their specific areas of activity, such as drug design, synthesis, manufacturing, quality assurance, marketing and supply system, procurement, storage, distribution and use of drugs in industry, hospital setting or in community practice. In all advanced health care systems, the support of a clinical pharmacist, who is a drug therapy consultant and drug information specialist, is considered vital. Realising the importance of Pharmacy education, Ziauddin University started its 5-year Doctor of Pharmacy (Pharm.D) programme in January 2005. 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 recognised 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 consists 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 regimens 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, procedure, protocols and clinical pathways to ensure safe use of medications.
• Analysing 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.Sc. 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.: 50%
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>Description</th>
<th>Fee (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee</td>
<td>5,000/-</td>
</tr>
<tr>
<td>Admission Fee</td>
<td>50,000/-</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>25,000/-</td>
</tr>
<tr>
<td>Pharma Registration</td>
<td>1,000/-</td>
</tr>
<tr>
<td>Documentation Fee</td>
<td>4,000/-</td>
</tr>
<tr>
<td>CD Study Guide</td>
<td>400/-</td>
</tr>
<tr>
<td>Student Fund</td>
<td>2,500/-</td>
</tr>
<tr>
<td>Medical Exam</td>
<td>3,500/-</td>
</tr>
<tr>
<td>Tuition Fee</td>
<td>276,100/-</td>
</tr>
<tr>
<td>Examination Fee</td>
<td>11,660/-</td>
</tr>
</tbody>
</table>

Note: advance income tax @ 5% under section (2361) Rs.10214 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 needy and meritorious students with a good GPA, conduct and not having undergone any Resit examination. It is awarded from 2nd Professional onwards.
# Scheme of Study

## Semester I

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Code</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 300</td>
<td>English - A (Functional English)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 310</td>
<td>Pharmaceutics - IIA (Physical Pharmacy) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 319</td>
<td>Pharmaceutics - IIA (Physical Pharmacy) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 311</td>
<td>Pharmaceutical Chemistry - IIA (Organic) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 320</td>
<td>Pharmaceutical Chemistry - IIA (Organic) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 312</td>
<td>Pharmaceutical Chemistry - IIA (Biochemistry) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 321</td>
<td>Pharmaceutical Chemistry - IIA (Biochemistry) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 313</td>
<td>Physiology - A [Th.]</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 322</td>
<td>Physiology - A [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 314</td>
<td>Anatomy &amp; Histology [Th.]</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 323</td>
<td>Anatomy &amp; Histology [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Semester II

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Code</th>
<th>Course Code</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 301</td>
<td>English - B (Communication &amp; Writing Skills)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 315</td>
<td>Pharmaceutics - IIB (Physical Pharmacy) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 324</td>
<td>Pharmaceutics - IIB (Physical Pharmacy) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 316</td>
<td>Pharmaceutical Chemistry - IIB (Organic) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 325</td>
<td>Pharmaceutical Chemistry - IIB (Organic) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 317</td>
<td>Pharmaceutical Chemistry - IIB (Biochemistry) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 326</td>
<td>Pharmaceutical Chemistry - IIB (Biochemistry) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 318</td>
<td>Physiology - B [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 327</td>
<td>Physiology - B [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Semester III

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Code</th>
<th>Course Code</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 402</td>
<td>Islamic Studies</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 410</td>
<td>Pharmaceutics - IIA (Dosage Forms Science) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 420</td>
<td>Pharmaceutics - IIA (Dosage Forms Science) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 411</td>
<td>Pharmaceutical Chemistry - IIA (Pharmaceutical Microbiology &amp; Immunology) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 421</td>
<td>Pharmaceutical Chemistry - IIA (Pharmaceutical Microbiology &amp; Immunology) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 412</td>
<td>Pharmacology &amp; Therapeutics - IIA [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 422</td>
<td>Pharmacology &amp; Therapeutics - IIA [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 413</td>
<td>Pharmacognosy - IIA [Basic] [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 423</td>
<td>Pharmacognosy - IIA [Basic] [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 414</td>
<td>Pharmacy Practice - IIA (Pharmaceutical Mathematics)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Semester IV

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Code</th>
<th>Course Code</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 403</td>
<td>Pakistan Studies</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 415</td>
<td>Pharmaceutics - IIB (Dosage Forms Science) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 424</td>
<td>Pharmaceutics - IIB (Dosage Forms Science) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 416</td>
<td>Pharmaceutics - IIB (Pharmaceutical Microbiology &amp; Immunology) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 425</td>
<td>Pharmaceutics - IIB (Pharmaceutical Microbiology &amp; Immunology) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 417</td>
<td>Pharmacology &amp; Therapeutics - IIB [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 426</td>
<td>Pharmacology &amp; Therapeutics - IIB [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 418</td>
<td>Pharmacognosy - IIB (Basic) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 427</td>
<td>Pharmacognosy - IIB (Basic) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 419</td>
<td>Pharmacy Practice - IIB (Bio-statistics)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Semester V

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Code</th>
<th>Course Code</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHARM 510</td>
<td>Pharmacy Practice - II A (Dispensing Pharmacy) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 520</td>
<td>Pharmacy Practice - II A (Dispensing Pharmacy) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 511</td>
<td>Pharmaceutical Chemistry - II A (Pharmaceutical Analysis) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 521</td>
<td>Pharmaceutical Chemistry - II A (Pharmaceutical Analysis) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 512</td>
<td>Pharmacology &amp; Therapeutics - II A [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 522</td>
<td>Pharmacology &amp; Therapeutics - II A [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 513</td>
<td>Pharmacognosy - II A (Advanced) [Th.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 523</td>
<td>Pharmacognosy - II A (Advanced) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 514</td>
<td>Pathology [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 524</td>
<td>Pathology [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Semester VI

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Code</th>
<th>Course Code</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHARM 515</td>
<td>Pharmacy Practice - II B (Community, Social &amp; Administrative Pharmacy) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 516</td>
<td>Pharmaceutical Chemistry - II B (Pharmaceutical Analysis) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 525</td>
<td>Pharmaceutical Chemistry - II B (Pharmaceutical Analysis) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 517</td>
<td>Pharmacology &amp; Therapeutics - II B [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 526</td>
<td>Pharmacology &amp; Therapeutics - II B [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 518</td>
<td>Pharmacognosy - II B (Advanced) [Th.]</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 527</td>
<td>Pharmacognosy - II B (Advanced) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 519</td>
<td>Pharmacy Practice - III (Computer &amp; its Applications in Pharmacy) [Th.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARM 528</td>
<td>Pharmacy Practice - III (Computer &amp; its Applications in Pharmacy) [Lab.]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Semester VII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHARM 610</td>
<td>Pharmacy Practice – IV A (Hospital Pharmacy) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 611</td>
<td>Pharmacy Practice – V A (Clinical Pharmacy – I) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 620</td>
<td>Pharmacy Practice – V A (Clinical Pharmacy – I) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 612</td>
<td>Pharmacy Practice – IV A (Industrial Pharmacy) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 621</td>
<td>Pharmaceutics – IV A (Industrial Pharmacy) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 613</td>
<td>Pharmaceutics – V A (Bio-pharmaceutics &amp; Pharmacokinetics) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 622</td>
<td>Pharmaceutics – V A (Bio-pharmaceutics &amp; Pharmacokinetics) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 614</td>
<td>Pharmaceutics – V A (Pharmaceutical Quality Management) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 623</td>
<td>Pharmaceutics – V A (Pharmaceutical Quality Management) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

### Semester VIII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHARM 615</td>
<td>Pharmacy Practice – IV B (Hospital Pharmacy) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 616</td>
<td>Pharmacy Practice – V B (Clinical Pharmacy – I) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 624</td>
<td>Pharmacy Practice – V B (Clinical Pharmacy – I) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 617</td>
<td>Pharmaceutics – IV B (Industrial Pharmacy) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 625</td>
<td>Pharmaceutics – IV B (Industrial Pharmacy) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 618</td>
<td>Pharmaceutics – V B (Bio-pharmaceutics &amp; Pharmacokinetics) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 626</td>
<td>Pharmaceutics – V B (Bio-pharmaceutics &amp; Pharmacokinetics) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 619</td>
<td>Pharmaceutics – V B (Pharmaceutical Quality Management) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 627</td>
<td>Pharmaceutics – V B (Pharmaceutical Quality Management) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

### Semester IX

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHARM 710</td>
<td>Pharmaceutics – VII A (Pharmaceutical Technology) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 720</td>
<td>Pharmaceutics – VII A (Pharmaceutical Technology) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 711</td>
<td>Pharmacy Practice – VI A (Advanced Clinical Pharmacy – I) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 721</td>
<td>Pharmacy Practice – VI A (Advanced Clinical Pharmacy – I) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 712</td>
<td>Pharmacy Practice – VII A (Forensic Pharmacy) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 713</td>
<td>Pharmacy Practice – VII A (Pharmaceutical Management &amp; Marketing) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 714</td>
<td>Pharmaceutical Chemistry – IV A (Medicinal Chemistry) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 722</td>
<td>Pharmaceutical Chemistry – IV A (Medicinal Chemistry) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### Semester X

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHARM 715</td>
<td>Pharmaceutics – VII B (Pharmaceutical Technology) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 723</td>
<td>Pharmaceutics – VII B (Pharmaceutical Technology) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 716</td>
<td>Pharmacy Practice – V I B (Advanced Clinical Pharmacy – I) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 724</td>
<td>Pharmacy Practice – V I B (Advanced Clinical Pharmacy – I) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td>PHARM 717</td>
<td>Pharmacy Practice – VII B (Forensic Pharmacy) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 718</td>
<td>Pharmacy Practice – VII B (Pharmaceutical Management &amp; Marketing) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 719</td>
<td>Pharmaceutical Chemistry – IV B (Medicinal Chemistry) [Th.]</td>
<td>3</td>
</tr>
<tr>
<td>PHARM 725</td>
<td>Pharmaceutical Chemistry – IV B (Medicinal Chemistry) [Lab.]</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></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
- Midterm Exams
- Quizzes / Class Tests
- Assignments / Presentations
- Assignments / Presentations
- Assignments / Presentations

REGULAR SEMESTER EXAMINATION

It consists of the following:
- Internal Continuous Assessment Tests:
  - Each course per semester carries 60 marks, which is marked as following:
  - Midterm Exams: 20 marks
  - Quizzes / Class Tests: 20 marks
  - Assignments / Presentations: 20 marks
- Final Semester Examination:
  - It is conducted by the Examination Department of Ziauddin University and held at the end of each semester. It carries 40 marks of each course. The student must have at least passed 80% of the courses in the academic year for the promotion to the next year.

SUMMER SEMESTER

Student who has either failed or has been stopped to take 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 the 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. 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 CGPA.

In the case of CGPA improvement, the grade would be recorded with 'imp' 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>71 - 74</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.34 - 2.66</td>
<td>68 - 70</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.01 - 2.33</td>
<td>64 - 67</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1.67 - 2.00</td>
<td>61 - 63</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>1.33 - 1.66</td>
<td>58 - 60</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>1.01 - 1.30</td>
<td>54 - 57</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>0.75 - 1.00</td>
<td>50 - 53</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Below 50</td>
<td></td>
</tr>
</tbody>
</table>

I (Incomplete) 0.0 - Did not complete as mentioned 15.5-15.68 *
W (Withdrawn) 0.0 - Withdrawal from the course till the 6th week of semester after 10th 6th week student will be awarded F Grade
X (Exempted) 0.0 - In case Migration from other institution or studied courses in exchange program **

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 & Lab.) 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 CMS and eligibility will be generated accordingly from CMS.

ELIGIBILITY FOR RESIT EXAMINATION

1. If a student fails in any course in the semester, s/he can appear in the resit exam.
2. Students having below 75% attendance will be eligible to appear in the resit examination.

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 Program.
- A student must have obtained a minimum 2.45 Cumulative Grade Point Ratio (CGPR).
- In case a student obtained less than 2.45 CGPA at the end of the final semester, he/she may be allowed to get readmission in one or more courses in which obtained grade is below C, provided he/she is not debarred under the CGPA improvement or is within the specified time duration.
GOLD MEDAL
At the time of conviction a Gold Medal, “Sir Ziauddin Gold Medal” is awarded by Ziauddin University to a student achieving highest CGPR but not less than 3.4 CGPR in Pharm.D.

The candidate will not qualify for Gold Medal even if he/she has achieved the highest CGPR 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 be a part of an institute with large set-up of hospitals & clinical practice. To make best use of this 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 as approved by Pharmacy Council of Pakistan. This training also provides a better chance of learning and practicing the skills in these fields than elsewhere. No Pharmacy institution in the country has such an ideal situation for the training as Ziauddin University has.

Clinical training
This 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 of other Pharmacy institutions of the country.

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 program offered by Ziauddin Faculty of Pharmacy, not available anywhere 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 practice exposure to.

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 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 specialise in clinical pharmacy practice and developing clinical skills such as patient profile review, drug information, patient medication history and discharge patient counselling.

Extracurricular activities
i) Student’s Activities

Students of Pharmacy always remain at the forefront in organising activities of academic & non academic nature. We also have sports facilities for the students which include the following inter and intra departmental games like:
• Cricket
• Foot ball
• Throw-ball etc.

ii) Annual Picnic

STUDENTS’ ADVISOR
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

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 QC 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 drugs, 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
• Community Pharmacy
• Academia
• Pharmaceutical Marketing
• Drug control administration
• Research & Development
• Armed Forces
• Regulatory Authorities

Many opportunities for pharmacist with Pharm.D degree are available in U.S.A, Canada, Australia & Middle East.
M.PHIL 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 specialization from one of the pharmaceutical science disciplines including Pharmacology, Pharmaceutical Chemistry, Pharmaceutics, Pharmacognosy and Pharmacy Practice.

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

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

MISSION STATEMENT

“The mission of M.Phil/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, enlighten them to faster innovation and train them to meet their respective intra-disciplinary as well as cross-disciplinary challenges on the frontiers of pharmaceutical sciences.”

DISCIPLINES OFFERED

M.Phil
- Pharmacology
- Pharmaceutics

Ph.D
- Pharmacology

ADMISSION POLICY

The admission for post graduate degree programs (M.Phil and PhD) is announced once an academic year. Strong adherence to governing HEC rules is observed at the time of admission. All candidates are selected on merit following evaluation of academic record and interview.

ELIGIBILITY CRITERIA

For M.Phil Programme

Pharm.D degree from any HEC recognized university. Candidates must have pass NTS GAT exam or Entry Test of ZU with 30% marks.

For Ph.D Programme

M.Phil / M.S / Equivalent Degree in relevant field of Pharmacy from any HEC recognised university with minimum CGPA 3.0 (out of 4.0 in semester system), or First Division (in annual system) and must meet all admission criteria of HEC, candidates must pass GAT Subjective (NTS or university based with minimum cumulative score of 60% or 70% respectively).

FEE STRUCTURE

M.Phil

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fees</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Tuition Fees (per semester)</td>
<td>Rs. 80,607/-</td>
</tr>
<tr>
<td>Semester Exam (per semester)</td>
<td>Rs. 5,750/-</td>
</tr>
<tr>
<td>Thesis Defense</td>
<td>Rs. 50,000/-</td>
</tr>
</tbody>
</table>

Ph.D

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Fees</td>
<td>Rs. 25,000/-</td>
</tr>
<tr>
<td>Tuition Fees (per semester)</td>
<td>Rs. 80,607/-</td>
</tr>
<tr>
<td>Semester Exam (per semester)</td>
<td>Rs. 5,750/-</td>
</tr>
<tr>
<td>Thesis Defense</td>
<td>Rs. 100,000/-</td>
</tr>
</tbody>
</table>

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.

LEARNING AND TEACHING STRATEGIES

- Course work in the respective field of specialization will enable students to comprehend central issues or problems in the field.
- Discussion 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 journal club on weekly basis.
- Presentations of research papers at journal club.
- Preparation and presentation of synopsis for the thesis.
- Carrying out 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 the immunity, infection, virology, microbial control and antimicrobial agent. The application of Pharmacokinetics and Pharmaceutical Biotechnology in the field of Pharmacy is taught along with the advanced level the immunity, infection, virology, microbial control and antimicrobial agent. The application of Pharmacokinetics and Pharmaceutical Biotechnology in the field of Pharmacology is taught along with the advanced level of the physical & biological principles which apply to the design, development and evaluation of drug delivery system.

Pharmacology: This 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 toxicology syndromes and standard protocols and pharmacology of derived autacoids.

Pharmaceutical Biostatistics: This course focuses on practical areas of statistics applied to 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 randomized (CR- designs), Randomized 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 simulations.

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

STUDENT ASSESSMENT FOR M.PHIL REGULAR SEMESTER

EXAMINATION

It consists of the following:

- Internal Continuous Assessment for each course per semester (60 marks)
- Midterm exam - 20 marks
- Quizzes / Class Test(s): 20 marks
- Assignments / Presentations: 20 marks

Final Semester Examination:

- It is conducted by Examination Department, Ziauddin University.
- Weightage of each semester examination will be 40% marks for each course.
### SEMESTER RESIT EXAMINATION
- It is conducted by Examination Department, Ziauddin University.
- Resit examination of both the semesters will be held at the end of the academic year.
- The weightage of Internal Continuous Assessment of any course shall not be counted towards Resit Examination.

### MARKING SYSTEM/PASS LEVEL
- Each candidate will take 04 courses per semester.

#### MARKING SYSTEM/PASS LEVEL

<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>71 – 74</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.34 – 2.66</td>
<td>68 – 70</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.01 – 2.33</td>
<td>64 – 67</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1.67 – 2.00</td>
<td>61 – 63</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>1.31 – 1.66</td>
<td>58 – 60</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>1.01 – 1.30</td>
<td>54 – 57</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>0.70 – 1.00</td>
<td>50 – 53</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Below 50</td>
<td></td>
</tr>
</tbody>
</table>

I (Incomplete) 0.0 - Did not complete as mentioned 15.5/15.68

W (Withdraw) 0.0 - Withdrawal from the course till the 6th week of semester after 6th week student will be awarded F Grade

X (Exempted) 0.0 - In case Migration from other institution or studied courses in exchange program **

- Each course of a semester carries 100 marks and 03 credit hours.
- The minimum passing marks of each course are:

### 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>71 – 74</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.34 – 2.66</td>
<td>68 – 70</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.01 – 2.33</td>
<td>64 – 67</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1.67 – 2.00</td>
<td>61 – 63</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>1.31 – 1.66</td>
<td>58 – 60</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>1.01 – 1.30</td>
<td>54 – 57</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>0.70 – 1.00</td>
<td>50 – 53</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Below 50</td>
<td></td>
</tr>
</tbody>
</table>

I (Incomplete) 0.0 - Did not complete as mentioned 15.5/15.68

W (Withdraw) 0.0 - Withdrawal from the course till the 6th week of semester after 6th week student will be awarded F Grade

X (Exempted) 0.0 - In case Migration from other institution or studied courses in exchange program **

- Each course of a semester carries 100 marks and 03 credit hours.
- The minimum passing marks of each course are:

### GRADING POLICY

| Grade   | Grade Point | % Equivalence | Remarks 
|---------|-------------|---------------|----------------------------------|
| A       | 3.67 – 4.00 | 85 and above  | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| A-      | 3.34 – 3.66 | 80 – 84       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| B+      | 3.01 – 3.33 | 75 – 79       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| B       | 2.67 – 3.00 | 71 – 74       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| B-      | 2.34 – 2.66 | 68 – 70       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| C+      | 2.01 – 2.33 | 64 – 67       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| C       | 1.67 – 2.00 | 61 – 63       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| C-      | 1.31 – 1.66 | 58 – 60       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| D+      | 1.01 – 1.30 | 54 – 57       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| D       | 0.70 – 1.00 | 50 – 53       | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.
| F       | 0.00        | Below 50      | Regular Semester Examination will be conducted by the Department of Examination, Ziauddin University.

### MARKING SYSTEM/PASS LEVEL
- Each candidate will take 03 courses per semester.
- Each course of a semester carries 100 marks.
- The minimum passing marks of each course are 60%

### 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 Medicine 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. RAFEEQ ALAM KHAN
MERTORIOUS PROFESSOR
B. PHARM., M.PHARM., PH.D. (K.U), R.PH.

DEPARTMENT OF PHARMACEUTICS
PROFESSOR & ADVISOR TO CHANCELLOR
DR. ANWAR EJAZ BEG
B.SC. (HONS.), M.SC., M.PHIL. (K.U), PH.D. (ENGLAND)

ASSOCIATE PROFESSORS
DR. MAQSOOD AHMED KHAN (HOD)
B. PHARM., M. PHARM. (K.U), MBA (PAF KIET), PH.D. (K.U), R.PH.

DR. SHAZIA ALAM
B. PHARM., M.PHARM., PH.D. (K.U), R.PH.

DR. ADEEL ARSLAN
B. PHARM., M.PHARM., PH.D. (K.U), R.PH.

DR. ZEB-UN-NISA
B. PHARM., M.PHIL., PH.D. (K.U), R.PH.

ASSISTANT PROFESSORS
DR. SAMINA SHEIKH
PHARM.D. (J.U.W), M.PHIL. (B.M.U), R.PH.

MS. SADIA KASHIF
B. PHARM., M. PHIL. (K.U), R.PH.

DR. MARIA ASHFAQ
PHARM. D., M.PHIL. (Z.U), R.PH.

SENIOR LECTURER
DR. MEHWISH MURAD
PHARM. D. (Z.U), R.PH.

LECTURER
DR. NIDA GHANI
PHARM. D. (Z.U), R.PH.

DEPARTMENT OF PHARMACOGNOSY
ASSOCIATE PROFESSOR
DR. AMREEN HUMA (HOD)
B. PHARM., PH.D. (K.U), R.PH.

ASSISTANT PROFESSOR
DR. TAYYABA FARAZ
B. PHARM., M. PHARM., PH.D. (K.U), R.PH.

LECTURERS
DR. NAYEL SYED
PHARM.D. (Z.U), R.PH.

DEPARTMENT OF PHARMACEUTICAL CHEMISTRY
ASSOCIATE PROFESSORS
MS. QURRATUL-AIN LEGHARI (INCHARGE)
B. PHARM., M.PHARM. (K.U), R.PH.

DR. Huma Naseem
B. Pharm (Ku), M. Pharm., Ph.D., (K.U), R.PH.

DR. FAIZA AKHTAR
PHARM. D., M.PHIL. (J.U.W), R.PH.

SENIOR LECTURERS
DR. AHMED SHAHID MIRZA
B.PHARM. (H.U), PHARM.D. (F.U.U.A.S.T), R.PH.

DR. RASHEEDA FATIMA
PHARM.D. (F.U.U.A.S.T), R.PH.

DR. NAJEEB KHATIAN
PHARM. D., M.PHIL. (Z.U), R.PH.

LECTURER
DR. FARYAL HASSAN
PHARM.D. (Z.U), R.PH.

DEPARTMENT OF PHARMACOLOGY
ASSOCIATE PROFESSORS
DR. SADAF IBRAHIM (HOD)

DR. GHULAM ABBAS
B. PHARM., PH.D. (K.U), R.PH.

ASSISTANT PROFESSORS
DR. SABA MAJEED
B. PHARM., M.PHIL., PH.D. (K.U), R.PH.

DR. UZAIR NISAR
B. PHARM., M.PHIL., PH.D. (K.U), R.PH.

DR. TALHA BIN FAYYAZ
PHARM. D., M.PHIL. (Z.U), R.PH.

DR. HAMMAD AHMED
PHARM. D., M.PHIL. (Z.U), R.PH.

DR. MUNEERA LODHI
PHARM. D., M.PHIL. (Z.U), R.PH.

LECTURER
DR. ANUM ARIF
PHARM. D. (Z.U), R.PH.

DEPARTMENT OF PHARMACY PRACTICE
ASSOCIATE PROFESSORS
DR. MIRZA TASAWER BAIG (HOD)
PHTM. D., M.PHIL. (F.U.U.A.S.T), R.PH.

DR. ARIF SABAH
B. PHARM., M.PHARM., PH.D. (B.M.U), MBA (MAJU), R.PH.

ASSISTANT PROFESSORS
DR. SYED IMRAN ALI
B. PHARM., M.PHARM., PH.D. (K.U), R.PH.

DR. SHAZMA BASHIR
Pharm.D (K.U), M.S., Ph.D., (Uni. of East London), R.PH.

DR. SIDRA TANWIR
B. PHARM., PHARM.D (K.U), M.PHIL (Z.U), R.PH.

SENIOR LECTURERS
MS. SHEHLA SIDDIQUI
B.SC. (HONS), M.SC. (K.U)

DR. SARAH HAROON
PHARM.D. (Z.U), MBA (IBA), R.PH.

LECTURER
DR. Saira Shahnaz
PHARM.D. (S.U), R.PH.
FACULTY OF EASTERN MEDICINE & NATURAL SCIENCES

KEY INFORMATION

DEAN
Prof. Dr. Tasneem Qureshi

CONTACT INFORMATION
Website: https://femsn.zu.edu.pk/
Telephone: +92-21-36648237-9 Ext 6560
Locate Us:
Block-B, North Nazimabad,
Karachi-74700.
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. Ziauddin University founded in the memory of Sir Dr. Ziauddin Ahmad 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 reassure 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 this Faculty is to implement its mission with the highest professional and ethical standards in an environment that enables each of our students for excellence in Clinical Education.

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 endeavors to highlight social problems and seek solutions creating a balanced environment between humanity and nature.
• We try to create a positive impact leading towards the health-supportive environment.

The faculty is involved in facilitating various programs 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 YEARS DEGREE PROGRAM

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 be serving 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 medicine 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 health care stakeholder, to develop our relationship with the communities and empower lives through innovation and development of Eastern Medicine & Tibb-e-Nabvi medicinal 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 fulfilling 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 (NCT)
• 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 program (conduct by University)

FEE STRUCTURE
Fee Fee Per Semester
Admission fee (one time): 15,000
Documentation fee (one time): 3,000
Enrollment fee (one time): 2,600
Security deposit (one time): 10,000
Laboratory fee (per semester): 3,000
Examination fee (per semester): 3,400
Tuition fee (per semester): 60,000
Processing fee: 4,000
Total: 101,000

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.
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 international level.

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

MISSION
• To identify potentially profitable crops and researchable solutions, developing high-value horticultural products and horticultural enterprise, 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 programs to increase Ph.D. enrollment, mentoring students to develop an interest in the field.

OBJECTIVES
• Introduction, history, importance and future scope, Definition and divisions 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 an techniques of propagation.

CURRICULUM APPROVED 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 program (conduct 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>
<td>3,000</td>
</tr>
<tr>
<td>Enrollment fee (one time):</td>
<td>2,600</td>
</tr>
<tr>
<td>Security deposit (one time):</td>
<td>10,000</td>
</tr>
<tr>
<td>Laboratory fee (per semester):</td>
<td>3,000</td>
</tr>
<tr>
<td>Examination fee (per semester):</td>
<td>3,400</td>
</tr>
<tr>
<td>Tuition fee (per semester):</td>
<td>70,000</td>
</tr>
<tr>
<td>Processing fee:</td>
<td>4,000</td>
</tr>
<tr>
<td>Total:</td>
<td>111,000</td>
</tr>
</tbody>
</table>

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.
**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 at the national and international levels.

**SCOPE**
- Nutritionists
- Nutrition Educationists
- 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
- Pharmaceuticals Industry
- Hospitality industry
- Consultant for Private Companies and Hospitals
- Airlines and Railways Services
- Catering Services
- Health Care Centers

**PUBLIC SECTOR**
- Public Health Departments
- School Health & Nutrition Programs
- Research and Teaching Institutes
- International Organizations: UNICEF, UNDP,

WHO, FAO, World Bank
- Non-Governmental Organizations
- Community Development Program
- Motivational speaker

**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 program (conduct 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>
<td>3,000</td>
</tr>
<tr>
<td>Enrollment fee (one time)</td>
<td>2,600</td>
</tr>
<tr>
<td>Security deposit (one time)</td>
<td>10,000</td>
</tr>
<tr>
<td>Laboratory fee (per semester)</td>
<td>3,000</td>
</tr>
<tr>
<td>Examination fee (per semester)</td>
<td>3,400</td>
</tr>
<tr>
<td>Tuition fee (per semester)</td>
<td>80,000</td>
</tr>
<tr>
<td>Processing fee</td>
<td>4,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>121,000</td>
</tr>
</tbody>
</table>

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.
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 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 BME’s 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 (ZUFEST) aims to create robust and well-versed academic units that produce efficient & agile engineers with improved research base to facilitate the development of an ambitious blueprint for continued growth in knowledge based economy.

INTRODUCTION
ZUFEST aims to develop as a “contributing community” and not just an academic unit. We are focused to provide 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 organization lies with its Human Resource. Therefore, Capacity building of existing manpower and attracting new highly qualified workforce is a prime focus of ZUFEST. The highly qualified faculty is on board to support the Vision & Mission of the organization. ZUFEST is striving hard to be known for its different pedagogic 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. ZUFEST targets to emerge as one of the most responsive research unit and create upcoming opportunities in the world.

Moving forward in the pursuit of opening up new horizons, ZUFEST is aiming to launch programs 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 ZUFEST graduates. They should have the potential to be the market leaders than just a job seeker.

ZUFEST 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 (exclusive of 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 + 18th week for examination).
   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 08 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 been 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 research based where research is conducted for a bigger purpose rather than just for publication. ZUFEST targets to emerge as one of the most responsive research unit and create upcoming opportunities in the world.

2. Course load for Fall and Spring Semester
   2.1. An undergraduate program 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 for one more course beyond 18 cr. Hours s/he may be allowed by the concern Chairperson on recommendation of Class Advisor in either of the two cases—
   a. If his/her CGPA is above 3.2 and
   b. The student needs the course to graduate on time in Final year.

3. Enrollment / Registration in courses
   3.1. Chairperson will assign a Class advisor to each section / Batch of the program. 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 ZUFEST within two week 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 for undergraduate programs.
   4.2. The Number of batch intakes per year per program will be maintained as per the approval of the respective accreditation council recommendation for every program.
   4.3. The Number of students per batch will be maintained as per the approval of the respective accreditation council recommendation for every program.
   4.4. Provisional admission may be given by the departmental chairperson in consultation with the Dean. However, the maximum provision 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 program within ZUFEST may be considered providing the applicant fulfills all the admission requirement of that program and sufficient number of seats is available to accommodate the student.

5. Repeating 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 students are allowed to take a maximum (6) of courses to repeat in 8 semester degree program.

6. Freezing of a semester
   6.1. If a student freezes a semester(s), s/he will resume his/her studies from the same stage in the subsequent semester where s/he left (froze). No freezing during the semester will be allowed. The maximum duration of the degree program shall remain the same i.e. 7 years from the date of admission.
   6.2. 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 pre-requisites 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 Semester.

6.6. Under following special hardship circumstances freezing of the first semester can be considered by the approval of competent authority:
   a. Iddah
   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 program; however two consecutive freezing applications shall not be entertained.

7. Transfer of credit hours for undergraduate program

7.1. Transfer of credits from HEC recognized institute may be permissible if the program in consideration is approved from HEC and the respective accreditation council for the HEI from where student wants to transfer.

7.2. On receiving a request from transfer from prospective applicant, a three member departmental standing committee headed by Departmental Chairperson work on the equivalency of the credits earned in other HEI. 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 HEI X is allowed to transfer his/her credits to ZUFEST provided that course A is equivalent to
course B taught at ZUFEST.
7.4. No credit hour of a course will be transferred if the grade is D.
7.5. Credit hours may only be transferred between duly recognized HEIs 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 program in first HEI.

8. Requirement of the award of degree
8.1. A student must have a regular admission in the Undergraduate program of the Institution and should earn a minimum of 50% credit hours out of a total of 128–140 credit hours from ZUFEST from 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 CGPAs 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 final semester, s/he may be allowed to get re-admission in one or more courses, in which his/her 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 program i.e. 7 years. (This para should be read in conjunction with para 5).

9. Program Duration
All the undergraduate programs in ZUFEST must be of minimum 8 regular semesters (excluding summer semester).
9.1. Minimum duration to complete an undergraduate program is 4 years.
9.2. Maximum duration to complete an undergraduate program is 7 years.

10. Cancellation of University Enrolment
Admission and University enrolment of the student will be canceled in any of the following circumstances:
10.1. 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.
10.2. If the prerequisite academic documents of the student find fake, forged, altered or not in requirement with admission criteria mentioned by the university even after graduation from the university.
10.3. If it does not meet the minimum admission criteria set by the respective regulatory/accreditation council.
10.4. If the provision admission requirements do not meet by the deadline specified in the letter for submission of a certain mentioned milestone.
10.5. If a 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 returned.

11. Fee refund Policy
Fee deposited at the time of admission by fresh students or before the start of the semester, shall only be refunded under the following time frame:
a. Upto 7th day (inclusive of holidays) of the commencement of classes 100%
b. Upto 14th day (inclusive of holidays) of the commencement of classes 50%
c. 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>3.50</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>2.50</td>
</tr>
<tr>
<td>C-</td>
<td>2.30</td>
</tr>
<tr>
<td>D</td>
<td>2.00</td>
</tr>
<tr>
<td>F</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. Both in case of relative and absolute grading it is recommended to normalized the result to maintain the standard of grading practice.

12.5. Grading Policy for each course identify weightage 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>Examinations (Quizzes/Assignments/ Presentations)</td>
<td>33.33%</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Examination</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>33.33%</td>
<td>50%</td>
</tr>
<tr>
<td>Lab (Lab Exam/Lab Report/Lab Assignments/Projects)</td>
<td>33.33%</td>
<td></td>
</tr>
</tbody>
</table>

12.6. Students may be allowed to withdraw from a course within 6 weeks of the semester. In such a case the transcript shall record that the student enrolled in the course and withdrew. Consequently, grade “W” will be awarded to the student which shall have no impact on the calculation of the SGPA/CGPA 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. However, the maximum course load in the summer semester should not exceed two courses including this course.

12.7. A student withdrawing from a course within 6 weeks of the semester. In such cases, the student shall repeat the complete course. Full course fees will be charged when students again re-register for fall courses.

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

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

12.10. All the written request following the policy of “W” and “I” grades must be submitted to the departmental Chairperson. The department should officially warn the student via notice to maintain minimum attendance to qualify for final examination immediately after midterm examination. However, at the time of re-registration of course with grade “I”, no course fee will be charged. Additionally, such course comes under deficiency courses and maybe opted in the summer semester. However, the maximum course load in the summer semester should not exceed two courses including this course.

12.11. At the time of re-registration of course with grade “I” no course fee will be charged. Additionally, such course comes under deficiency courses and maybe 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 “I” grades must be submitted to the departmental Chairperson. The department should officially warn the student via notice to maintain minimum attendance to qualify for final examination immediately after midterm examination. However, at the time of re-registration of course with grade “I”, no course fee will be charged. Additionally, such course comes under deficiency courses and maybe opted in the summer semester. However, the maximum course load in the summer semester should not exceed two courses including this course.

12.13. No request for “W” grade is entertained after the 6th week of the semester. However, the maximum course load in the summer semester should not exceed two courses including this course.

13. Make up Examination

13.1. No make-up / re-take examination shall be allowed in a case 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 fall courses.

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

14. Student grievance committee

14.1. A four (04) member committee constituted of a senior faculty member / Head Invigilator, 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 (07) 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 (05) 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. Passing remarks, placing visual or written material, aimed at a specific person or gender with the intention of physical assault 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 on University premises without his or her prior knowledge.”

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

15.2. Any student feels s/he has been subject to harassment can make a written complaint to the appropriate Procedure in relation to complaints about university staff or university student.

15.3. All such complain shall be forwarded to Registrar office for further action via Dean within (03) working days of the receipt of the written complain after initial scrutiny/ fact finding.

16. Attendance Policy

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

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

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 ailment may request in written with official hospital discharge sheet and medical report for relaxation upto further 10% to Departmental Chairperson through course instructor. However this cannot be availed more than twice during the whole student tenure.
VISION
To become a top tier Department of Biomedical Engineering across the nation by imparting engineering knowledge to serve health care industry with excellence.

MISSION
The Department of Biomedical Engineering aims to serve the society in the best manner wherein the 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 4 years bachelor program entitling BE Biomedical Engineering at Ziauddin University. Biomedical Engineering is more focused on the instrumentation and biomedical computing. The instrumentation or more formerly Bio-Instrumentation is the field for travel enthusiastic person, as the installation, sales, and service of the biomedical instruments. It keeps 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 an exoskeleton. These suits assist the wearer in achieving the mobility they lost due to disease, trauma or age factor. Also, the development and rehabilitation of artificial limbs lie 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 genes 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 HEC/N-CRC.

Department of Biomedical Engineering is offering the following programs:
1) BE Biomedical Engineering (Morning Program)
2) BS Biotechnology (Morning Program)
3) BS Biomedical Engineering & Technology (Evening Program)
4) MS Biomedical Engineering (Evening Program)
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 designated 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 and animals with 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, nonscientist executives, clinicians, hospital management, engineers, other colleagues, and the public

PROGRAM 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 PROGRAM

Minimum 4-years and maximum 7 years (138 Credit Hours)

ELIGIBILITY CRITERIA

To be admitted to the Bachelors of Engineering in Biomedical Engineering BE degree Program 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

| Tuition fee/credit | Rs. 3,500/- |
| Activity fee/sem | Rs. 2,000/- |
| Admission fee | Rs. 10,000/- |
| Security Deposit | Rs. 5,000/- |
| Transport | Rs. 30,000/- |
| Semester fees | 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.

SCHEME OF STUDY

SEMMESTER I

<table>
<thead>
<tr>
<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>
</tr>
<tr>
<td>CS-101</td>
<td>Introduction to Computing</td>
<td>2+1</td>
</tr>
<tr>
<td>EE-105</td>
<td>Basic Electrical Engineering</td>
<td>3+1</td>
</tr>
<tr>
<td>NS-115</td>
<td>Basic Mathematic/</td>
<td>4+0</td>
</tr>
<tr>
<td>NS-116</td>
<td>Basic Biology</td>
<td>4+0</td>
</tr>
<tr>
<td>BM-101</td>
<td>Introduction to Biomedical Engineering</td>
<td>1+0</td>
</tr>
<tr>
<td>HS-101</td>
<td>Islamic Studies/</td>
<td>2+0</td>
</tr>
<tr>
<td>HS-102</td>
<td>Ethical Behavior</td>
<td>2+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

SEMMESTER II

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS-103</td>
<td>Pakistan Studies</td>
<td>2+0</td>
</tr>
<tr>
<td>NS-109</td>
<td>Calculus &amp; Analytical Geometry</td>
<td>3+0</td>
</tr>
<tr>
<td>BM-113</td>
<td>Physiology I</td>
<td>2+1</td>
</tr>
<tr>
<td>EE-104</td>
<td>Circuit Analysis</td>
<td>3+1</td>
</tr>
<tr>
<td>CS-113</td>
<td>Object Oriented Programming</td>
<td>2+1</td>
</tr>
<tr>
<td>BM-112</td>
<td>Human Anatomy</td>
<td>2+1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

SEMMESTER III

<table>
<thead>
<tr>
<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>
</tr>
<tr>
<td>BM-211</td>
<td>Physiology I</td>
<td>2+1</td>
</tr>
<tr>
<td>BM-202</td>
<td>Biochemistry</td>
<td>2+1</td>
</tr>
<tr>
<td>EE-210</td>
<td>Basic Electronics</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-214</td>
<td>Computer Aided Engineering Drawing</td>
<td>0+1</td>
</tr>
<tr>
<td>HS-112</td>
<td>Communication Skills</td>
<td>2+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

SEMMESTER IV

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-213</td>
<td>Biomedical Electronics</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-212</td>
<td>Digital Logic Design</td>
<td>3+1</td>
</tr>
<tr>
<td>NS-113</td>
<td>Linear Algebra &amp; Differential Equation</td>
<td>3+0</td>
</tr>
<tr>
<td>BM-214</td>
<td>Biomechanics</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-231</td>
<td>Signals &amp; Systems</td>
<td>3+1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>19</strong></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>NS-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></td>
<td><strong>TOTAL</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</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>
<td>2+1</td>
</tr>
<tr>
<td>BM-315</td>
<td>Biomaterials</td>
<td>3+1</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

## SEMESTER VII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-465</td>
<td>Engineering Management</td>
<td>3+0</td>
</tr>
<tr>
<td>BM-411</td>
<td>Medical Imaging</td>
<td>2+1</td>
</tr>
<tr>
<td>BM-XXX</td>
<td>Elective II</td>
<td>3+0</td>
</tr>
<tr>
<td>BM-XXX</td>
<td>Elective II</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-222</td>
<td>Technical Report Writing</td>
<td>3+0</td>
</tr>
<tr>
<td>BMP-402</td>
<td>Biomedical Engineering Project (Phase I)</td>
<td>0+3</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

## SEMESTER VIII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-XXX</td>
<td>Elective V</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-411</td>
<td>Professional Practices &amp; Ethics</td>
<td>3+0</td>
</tr>
<tr>
<td>BM-XXX</td>
<td>Elective V</td>
<td>3+0</td>
</tr>
<tr>
<td>BMP-402</td>
<td>Biomedical Engineering Project (Phase II)</td>
<td>0+3</td>
</tr>
<tr>
<td>MS-403</td>
<td>Entrepreneurship</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>
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 program will play a significant role in the development at 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 science industries. Also, countless opportunities are available in clinical laboratories, research institutes and teaching institutions.

**Program Educational Objectives (PEOs)**

Consistent with the Department of BME Vision and Mission, the Program Educational Objectives of the study program BS Biotechnology are:

**PEO 1:** To produce graduates who will contribute to the field of biotechnology and allied industries 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 skill.

**PEO 3:** To produce graduates with the ability to initiate scientific research and pursue higher education in reputed institute at national and international levels.

**Eligibility Criteria**

The criteria for students seeking admission to program 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/-
- Exam fee/credit: Rs. 500/-
- No. of credit/sem: 17
- Tuition fees: Rs. 59,500/-
- Exam fees: Rs. 8,500/-
- Sem registration fee: Rs. 5,000/-
- Admission fee: Rs. 10,000/-
- Security Deposit: Rs. 5,000/-
- Semester fees: Rs. 90,000/-

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.

### Scheme of Study

**Semester I**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS 104</td>
<td>Functional English</td>
<td>3+0</td>
</tr>
<tr>
<td>HS 101</td>
<td>Islamic Studies/</td>
<td>2+0</td>
</tr>
<tr>
<td>HS 102</td>
<td>Ethical Behavior</td>
<td></td>
</tr>
<tr>
<td>NS 114</td>
<td>Basic Mathematics (pre-calculus)/</td>
<td>3+0</td>
</tr>
<tr>
<td>NS 111</td>
<td>Basic Biology</td>
<td></td>
</tr>
<tr>
<td>BT 101</td>
<td>Ecology, Biodiversity and Evolution</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 105</td>
<td>Organic Chemistry</td>
<td>2+1</td>
</tr>
<tr>
<td>CS 101</td>
<td>Introduction to Computing</td>
<td>2+1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>17</td>
</tr>
</tbody>
</table>

**Semester II**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT 102</td>
<td>Introduction to Biotechnology</td>
<td>3+0</td>
</tr>
<tr>
<td>HS 103</td>
<td>Pakistan Studies</td>
<td>2+0</td>
</tr>
<tr>
<td>HS 107</td>
<td>Psychology</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 120</td>
<td>Inorganic Chemistry</td>
<td>2+1</td>
</tr>
<tr>
<td>NS 101</td>
<td>Physics</td>
<td>2+1</td>
</tr>
<tr>
<td>BT 110</td>
<td>Cell Biology</td>
<td>2+1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>17</td>
</tr>
</tbody>
</table>

**Semester III**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS 112</td>
<td>Communication Skill</td>
<td>2+0</td>
</tr>
<tr>
<td>HS 231</td>
<td>Sociology</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 205</td>
<td>Physical Chemistry</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 216</td>
<td>Biomathematics</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 202</td>
<td>Biochemistry-I</td>
<td>2+1</td>
</tr>
<tr>
<td>BT 125</td>
<td>Microbiology</td>
<td>2+1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>17</td>
</tr>
</tbody>
</table>

**Semester IV**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT 215</td>
<td>Biological Physics</td>
<td>3+0</td>
</tr>
<tr>
<td>NS 212</td>
<td>Probability &amp; Biostatistics</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 207</td>
<td>Immunology</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 248</td>
<td>Analytical Chemistry and Instrumentation</td>
<td>2+1</td>
</tr>
<tr>
<td>BT 225</td>
<td>Classical Genetics</td>
<td>2+1</td>
</tr>
<tr>
<td>BT 230</td>
<td>Molecular Biology</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>18</td>
</tr>
</tbody>
</table>
## SEMESTER V

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT 326</td>
<td>Biochemistry II</td>
<td>3+0</td>
</tr>
<tr>
<td>HS 222</td>
<td>Technical Report writing</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 337</td>
<td>Microbial Biotechnology</td>
<td>1+2</td>
</tr>
<tr>
<td>BT 315</td>
<td>Principles of Biochemical Engineering</td>
<td>2+1</td>
</tr>
<tr>
<td>BM 348</td>
<td>Bioinformatics</td>
<td>1+2</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

## SEMESTER VI

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT 331</td>
<td>Genetic Resources &amp; Conservation</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 311</td>
<td>Methods in Molecular Biology</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 342</td>
<td>Agriculture Biotechnology</td>
<td>2+1</td>
</tr>
<tr>
<td>BT 347</td>
<td>Food Biotechnology</td>
<td>3+0</td>
</tr>
<tr>
<td>BT-XXX</td>
<td>Elective I</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 351</td>
<td>Research Methodology &amp; Skill Enhancement</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

## SEMESTER VII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT 401</td>
<td>Health Biotechnology</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 413</td>
<td>Seminar I</td>
<td>1+0</td>
</tr>
<tr>
<td>BT 421</td>
<td>Environment Biotechnology</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 427</td>
<td>Genomics and Proteomics</td>
<td>3+0</td>
</tr>
<tr>
<td>BT-XXX</td>
<td>Elective II</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 489</td>
<td>Research Project/Internship or Special Paper</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

## SEMESTER VIII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT-XXX</td>
<td>Elective III</td>
<td>3+0</td>
</tr>
<tr>
<td>BT-XXX</td>
<td>Elective IV</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 413</td>
<td>Seminar IV</td>
<td>1+0</td>
</tr>
<tr>
<td>BT 431</td>
<td>Industrial Biotechnology</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 489</td>
<td>Research Project/Internship or Special Paper</td>
<td>3+0</td>
</tr>
<tr>
<td>BT 441</td>
<td>Biosafety and Bioethics</td>
<td>2+0</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>
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 program 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 center, health practitioner offices, and Doctor’s offices with medical testing equipment.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)
Consistent with the Department of BME Vision and Mission, the Program Educational Objectives of the study program 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 into a technology or equipment in health care system.

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

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>Code</th>
<th>Course</th>
<th>Cr.</th>
<th>Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-108</td>
<td>Applied Mathematics-I</td>
<td>3+0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-106</td>
<td>Applied Physics</td>
<td>2+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-111</td>
<td>Basic Biology</td>
<td>3+0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET-114</td>
<td>Linear circuit analysis</td>
<td>2+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET-133</td>
<td>Computer applications</td>
<td>1+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>Code</th>
<th>Course</th>
<th>Cr.</th>
<th>Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS108</td>
<td>Islamic studies</td>
<td>1+0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS109</td>
<td>Pakistan studies</td>
<td>1+0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BM-202</td>
<td>Biochemistry</td>
<td>2+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MT-153</td>
<td>Basic Mechanical Technology</td>
<td>2+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS112</td>
<td>Communication Skills</td>
<td>2+0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET-114</td>
<td>Electronics</td>
<td>2+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>Code</th>
<th>Course</th>
<th>Cr.</th>
<th>Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS213</td>
<td>Applied Mathematics-II</td>
<td>3+0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET234</td>
<td>Digital Electronics</td>
<td>2+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET225</td>
<td>Network Analysis</td>
<td>2+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET1123</td>
<td>Engineering Drawing</td>
<td>0+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BM112</td>
<td>Human Anatomy</td>
<td>2+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>Code</th>
<th>Course</th>
<th>Cr.</th>
<th>Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE220</td>
<td>Clinical Equipment</td>
<td>3+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BE213</td>
<td>Physiology</td>
<td>2+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET240</td>
<td>Introduction to Embedded System</td>
<td>2+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET246</td>
<td>Electrical Machine Transformer</td>
<td>2+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BM213</td>
<td>Biomedical Electronics</td>
<td>3+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>18</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>BE311</td>
<td>Laboratory Equipment</td>
<td>3+1</td>
</tr>
<tr>
<td>BE302</td>
<td>Bio-Ethics and Bio safety</td>
<td>3+0</td>
</tr>
<tr>
<td>HS221</td>
<td>Technical Report writing</td>
<td>2+0</td>
</tr>
<tr>
<td>BE312</td>
<td>Biomedical signal analysis</td>
<td>2+1</td>
</tr>
<tr>
<td>BE387</td>
<td>Rehabilitation Sciences</td>
<td>3+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### Semester VI

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE313</td>
<td>Radiology Equipment &amp; Instrumentation</td>
<td>3+1</td>
</tr>
<tr>
<td>BE315</td>
<td>Biomaterial</td>
<td>2+1</td>
</tr>
<tr>
<td>BE362</td>
<td>Medical Image Processing</td>
<td>2+1</td>
</tr>
<tr>
<td>ET364</td>
<td>Data and Computer Communications</td>
<td>2+2</td>
</tr>
<tr>
<td>HS106</td>
<td>Psychology</td>
<td>2+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

### Semester VII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT482</td>
<td>Supervisor Industrial Training</td>
<td>0+15</td>
</tr>
<tr>
<td>BT414</td>
<td>Project</td>
<td>0+3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### Semester VIII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT482</td>
<td>Supervisor Industrial Training</td>
<td>0+15</td>
</tr>
<tr>
<td>BT414</td>
<td>Project</td>
<td>0+3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>
DEPARTMENT OF CIVIL ENGINEERING

VISION
To achieve excellence in acquiring skills in the domain of Civil Engineering to serve the humanity as whole by best serving the demands of society.

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 outlets 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 infrastructure so it is an immense need to be the part of the profession of Civil Engineering in a broader perspective of field specialization. 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) BS Civil Engineering (Morning Program)
2) BS Civil Technology (Evening Program)
BS CIVIL ENGINEERING

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, culverts, etc.
- Strengthen the area of Irrigation Engineering in underdeveloped areas of Pakistan.
- To produce and may get along with the transportation firms for traffic management studies, safety and accident studies, signage 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 public, private and education sectors as well.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)
PEO-1: Graduates having technical and Professional Engineering knowledge with basic understanding enabling them to synchronize 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 impart 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 stakeholder.

LENGTH OF DEGREE PROGRAM
Minimum 4-years and maximum 7 years (139 Credit Hours)

ELIGIBILITY CRITERIA
To be admitted to the Bachelors of Science in Civil Engineering BS degree Program 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 60% marks in the relevant discipline are required for admission.
- Students are required to appear for a written test and interview.

FEE STRUCTURE
Admission Processing Fees: Rs. 2,500/-
Admission Fees: Rs. 10,000/-
Security Deposit (refundable): Rs. 5,000/-
Student Activity Fee (Per Semester): Rs. 2,000/-
Semester Reg. Fee (per semester): Rs. 5,000/-
First Semester Credit Hours Fee: 177 Rs. 4,000/-
Transportation charges mandatory
Transportation charges mandatory
Note: Any additional taxes imposed by the government will be the liability of the students/parents/guardian.

SCHEME OF STUDY

SEMMESTER I

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS-101</td>
<td>Islamic Studies or Ethical Behavior*</td>
<td>2+0</td>
</tr>
<tr>
<td>HS-105</td>
<td>Functional English</td>
<td>2+0</td>
</tr>
<tr>
<td>NS-109</td>
<td>Calculus &amp; Analytical Geometry</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-101</td>
<td>Engineering Drawing</td>
<td>2+1</td>
</tr>
<tr>
<td>HS-106</td>
<td>Psychology</td>
<td>2+0</td>
</tr>
<tr>
<td>CV-102</td>
<td>Fundamentals of Surveying</td>
<td>3+1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>16</td>
</tr>
</tbody>
</table>

SEMMESTER II

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE-109</td>
<td>Basic Electro Mechanical Engineering</td>
<td>2+1</td>
</tr>
<tr>
<td>CV-131</td>
<td>Surveying &amp; Geo-Informatics</td>
<td>3+1</td>
</tr>
<tr>
<td>HS-103</td>
<td>Pakistan Studies</td>
<td>2+0</td>
</tr>
<tr>
<td>NS-104</td>
<td>Engineering Mechanics</td>
<td>3+1</td>
</tr>
<tr>
<td>NS-113</td>
<td>Linear Algebra &amp; Differential Equations</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-103</td>
<td>Civil Engineering Materials</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>19</td>
</tr>
</tbody>
</table>

SEMMESTER III

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-215</td>
<td>Civil Engineering Drawing</td>
<td>1+2</td>
</tr>
<tr>
<td>CV-204</td>
<td>Fluid Mechanics</td>
<td>3+1</td>
</tr>
<tr>
<td>CV-215</td>
<td>Mechanics of Solid - I</td>
<td>3+1</td>
</tr>
<tr>
<td>NS-321</td>
<td>Numerical Analysis</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-101</td>
<td>Introduction to Computing</td>
<td>2+1</td>
</tr>
<tr>
<td>HS-205</td>
<td>Law &amp; Ethics</td>
<td>2+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>19</td>
</tr>
</tbody>
</table>

SEMMESTER IV

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV-261</td>
<td>Mechanics of Solid - II</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-232</td>
<td>Reinforced Cement Concrete (RCC)</td>
<td>3+1</td>
</tr>
<tr>
<td>CV-216</td>
<td>Structural Analysis-I</td>
<td>3+0</td>
</tr>
<tr>
<td>NS-205</td>
<td>Engineering Geology</td>
<td>2+1</td>
</tr>
<tr>
<td>HS-216</td>
<td>Technical Report Writing &amp; Presentation Skills</td>
<td>3+0</td>
</tr>
<tr>
<td>NS-206</td>
<td>Probability and Statistics</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>19</td>
</tr>
<tr>
<td>Code</td>
<td>Course</td>
<td>Cr. Hr.</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>CV-333</td>
<td>Structural Analysis-II</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-317</td>
<td>Soil Mechanics-I</td>
<td>3+1</td>
</tr>
<tr>
<td>CV-362</td>
<td>Elements of Structural Design</td>
<td>3+1</td>
</tr>
<tr>
<td>MS-311</td>
<td>Engineering Economics &amp; Management</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-318</td>
<td>Construction Engineering</td>
<td>2+1</td>
</tr>
<tr>
<td>CS-313</td>
<td>Quantity Surveying &amp; Costing</td>
<td>2+1</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV-353</td>
<td>Soil Mechanics-II</td>
<td>3+1</td>
</tr>
<tr>
<td>CV-354</td>
<td>Steel Structures</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-335</td>
<td>Construction Management</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-312</td>
<td>Water Resource Management</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-334</td>
<td>Transportation Engineering-I</td>
<td>3+1</td>
</tr>
<tr>
<td>AR-311</td>
<td>Architecture &amp; Urban Planning</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV-455</td>
<td>Design of Structures</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-456</td>
<td>Transportation Engineering-II</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-456</td>
<td>Irrigation &amp; Drainage Engineering</td>
<td>3+0</td>
</tr>
<tr>
<td>CV-457</td>
<td>Environmental Engineering-I</td>
<td>2+1</td>
</tr>
<tr>
<td>CV-499</td>
<td>Project</td>
<td>0+3</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV-448</td>
<td>Traffic Engineering</td>
<td>2+0</td>
</tr>
<tr>
<td>CV-457</td>
<td>Environmental Engineering-II</td>
<td>2+0</td>
</tr>
<tr>
<td>CV-xxx</td>
<td>CI - Elective Course-I</td>
<td>2+0</td>
</tr>
<tr>
<td>MS-xxx</td>
<td>MS - Elective Course</td>
<td>2+0</td>
</tr>
<tr>
<td>CV-499</td>
<td>Project</td>
<td>0+3</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>
BS CIVIL TECHNOLOGY

The field of Civil Technology is achieving its high demand with the passage of time and market needs. There is a signified increase in a 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 program is valuable and beneficial for the students with mixed venture, interested in studies but might not completed due to the time domain and job nature or responsibilities or even not get registered in associated engineering program due to a certain decrease in percentage or marks in intermediate.

The department of Civil Engineering is well equipped with state of 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 experiences. 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 specialization. The curriculum is designed on the guidelines of HEC NCRC. In factual terms, by the end of the course program, the student will be in a position to select and set in a stable position of Civil Engineering Technology followed by technical skills learned.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO-1: To produce graduates that are technically skillful 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 and 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Cr.</th>
<th>Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS108</td>
<td>Applied Mathematics-I</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>CS101</td>
<td>Computer Applications</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>CT101</td>
<td>Geology</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CT113</td>
<td>Surveying &amp; Leveling</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CT111</td>
<td>Civil Engineering Drawing</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Cr.</th>
<th>Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT112</td>
<td>Concrete Technology</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>NS109</td>
<td>Islamic &amp; Pakistan Studies</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>CT114</td>
<td>Applied Mechanics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CT125</td>
<td>Introduction to Construction Materials</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>HS112</td>
<td>Communication Skills</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Cr.</th>
<th>Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS213</td>
<td>Applied Mathematics-II</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>CT226</td>
<td>Gty Surveying &amp; Costing</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CT231</td>
<td>Soil Mechanics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CT232</td>
<td>Fluid Mechanics</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CT243</td>
<td>Mechanics of Solids</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Cr.</th>
<th>Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT244</td>
<td>Transportation Engineering</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CT235</td>
<td>Water Supply &amp; Waste Water Management</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CT251</td>
<td>Structural Analysis</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>MS202</td>
<td>Occupational Health &amp; Safety Management</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>CT217</td>
<td>Reinforced Cement Concrete</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>
### SEMESTER V

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT316</td>
<td>Construction Engineering</td>
<td>2+1</td>
</tr>
<tr>
<td>CT352</td>
<td>Construction &amp; Hydraulic Machinery</td>
<td>2+2</td>
</tr>
<tr>
<td>CT364</td>
<td>Foundations Engineering</td>
<td>2+0</td>
</tr>
<tr>
<td>CT353</td>
<td>Pre-stressed &amp; Precast concrete</td>
<td>2+1</td>
</tr>
<tr>
<td>CT354</td>
<td>CAD (Building Modeling)</td>
<td>1+3</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VI

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT345</td>
<td>Hydrology &amp; Irrigation Engineering</td>
<td>2+2</td>
</tr>
<tr>
<td>MS321</td>
<td>Environmental Management</td>
<td>2+2</td>
</tr>
<tr>
<td>CT367</td>
<td>Irrigation &amp; Hydraulic Structures</td>
<td>2+2</td>
</tr>
<tr>
<td>CT368</td>
<td>Steel Structures</td>
<td>2+0</td>
</tr>
<tr>
<td>CT323</td>
<td>Construction &amp; Project Management</td>
<td>2+2</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT41X</td>
<td>Project</td>
<td>0+3</td>
</tr>
<tr>
<td>CT44X</td>
<td>Internship / Supervised Training</td>
<td>0+15</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VIII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT41X</td>
<td>Project</td>
<td>0+3</td>
</tr>
<tr>
<td>CT44X</td>
<td>Internship / Supervised Training</td>
<td>0+15</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>
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 organized with the study and applications of electrical systems and electricity, which include the power generation, distribution, transmission, utilization, communication, control and/or mechanical system 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 programs:
1) B.S Electrical Engineering (Morning Program)
2) B.S Electrical Technology (Evening Program)
3) M.S Electrical Engineering (Evening Program)
4) PhD Electrical Engineering (Evening Program)
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 Electrical Engineers and Electrical Technologist is forecasted with the emerging Industrial Units, Power Generation & Distribution Plants, etc. After completing the BS-Electrical Engineering graduates can:

• Start own business as an entrepreneur engineer.
• Placements in power generating station, K-Electric, WAPDA, public health, radio, and TV broadcasting, Sui-gas, etc.
• Start jobs in the industrial zone (textile, automotive, manufacturing plants)
• Can work as Engineer in Pakistan Atomic Energy Commission, OGDC, and Pakistan Railways and other Government and private organizations.
• Junior Lecturer in Engineering University/Institute

PROGRAM 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 Electrical Engineers and Electrical Technologist is forecasted with the emerging Industrial Units, Power Generation & Distribution Plants etc. After completing the BS-Electrical Engineering graduates can:

PEO 1: To produce graduates that are technically skilled 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 PROGRAM
Minimum 4-years and maximum 7 years (134 Credit Hours)

ELIGIBILITY CRITERIA
To be admitted to the Bachelors of Science in Electrical Engineering BS degree Program 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: 136
Per Credit Fee (Tuition+Exam): Rs. 5,750/-
Semester Registration Fee: Rs. 5,000/-Per Sem
Student Activity Fee Per Sem: Rs. 25,000/-
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 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.

SCHEME OF STUDY

SEMESTER I

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS-104</td>
<td>Functional English</td>
<td>2+0</td>
</tr>
<tr>
<td>NS-109</td>
<td>Calculus and Analytical Geometry</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-103</td>
<td>Linear Circuit Analysis</td>
<td>3+1</td>
</tr>
<tr>
<td>CS-103</td>
<td>Introduction to Computing</td>
<td>1+1</td>
</tr>
<tr>
<td>HS-101</td>
<td>Islamic Studies</td>
<td>2+0</td>
</tr>
<tr>
<td>NS-106</td>
<td>Applied Physics</td>
<td>3+1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>17</td>
</tr>
</tbody>
</table>

SEMESTER II

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-112</td>
<td>Differential Equations</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-114</td>
<td>Communication Skills &amp; Presentation</td>
<td>2+0</td>
</tr>
<tr>
<td>EE-101</td>
<td>Workshop Practices</td>
<td>0+1</td>
</tr>
<tr>
<td>HS-103</td>
<td>Pakistan Studies</td>
<td>2+0</td>
</tr>
<tr>
<td>CS-107</td>
<td>Programming Fundamentals</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-108</td>
<td>Electronic Devices and Circuits</td>
<td>3+1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>16</td>
</tr>
</tbody>
</table>

SEMESTER III

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-221</td>
<td>Complex Variables and Transforms</td>
<td>3+0</td>
</tr>
<tr>
<td>ME-101</td>
<td>Basic Mechanical Engineering (IDEE-I)</td>
<td>2+1</td>
</tr>
<tr>
<td>EE-212</td>
<td>Digital Logic Design</td>
<td>3+1</td>
</tr>
<tr>
<td>CS-211</td>
<td>Data Structure &amp; Algorithm</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-211</td>
<td>Electrical Network Analysis</td>
<td>3+1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>18</td>
</tr>
</tbody>
</table>

SEMESTER IV

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV-105</td>
<td>Basic Civil Engineering (IDEE-II)</td>
<td>2+1</td>
</tr>
<tr>
<td>NS-201</td>
<td>Linear Algebra</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-233</td>
<td>Instrumentation &amp; Measurements</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-252</td>
<td>Electromagnetic Field Theory</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-325</td>
<td>Signals and Systems</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-214</td>
<td>Computer Aided Engineering Drawing</td>
<td>0+1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>18</td>
</tr>
</tbody>
</table>
### SEMESTER V

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE-231</td>
<td>Electrical Machines</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-324</td>
<td>Probability Methods in Engineering</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-221</td>
<td>Technical Report Writing</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-355</td>
<td>Power Distribution &amp; Utilization</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-326</td>
<td>Introduction to Embedded Systems</td>
<td>3+1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VI

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE-451</td>
<td>Electric Power Transmission</td>
<td>3+1</td>
</tr>
<tr>
<td>HS-301</td>
<td>Organizational Behavior (HSSE-I)</td>
<td>3+0</td>
</tr>
<tr>
<td>NS-321</td>
<td>Numerical Analysis</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-341</td>
<td>Linear Control Systems</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-452</td>
<td>Power System Analysis</td>
<td>3+1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE-451</td>
<td>Depth Elective-I</td>
<td>3+1</td>
</tr>
<tr>
<td>HS-301</td>
<td>Power Generation</td>
<td>3+0</td>
</tr>
<tr>
<td>NS-321</td>
<td>Project Mgmt. &amp; Entrepreneurship (MSE-II)</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-341</td>
<td>Professional Psychology (SSE-II)</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-452</td>
<td>Final Year Project – I</td>
<td>3+1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VIII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-410</td>
<td>Engineering Economics &amp; Mgmt. (MSE-II)</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-351</td>
<td>Communication Systems</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-XXX</td>
<td>Depth Elective – II</td>
<td>3+0</td>
</tr>
<tr>
<td>EE-499</td>
<td>Final Year Project – II</td>
<td>0+4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

**Depth Elective – I (3+1)**
- EE-352 Power Electronics
- EE-353 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-462 Advance Electrical Machines
- EE-463 High Voltage Engineering
- EE-469 PLC and Industrial Drives
- EE-474 Smart Grid
BS Electrical Technology

BS Electrical Technology is a bachelor’s level four years degree program which has raised its demand in technological fields not only in Pakistan but worldwide. Ziauddin University Faculty of Engineering Science & Technology is offering a BS evening program in Electrical Technology. The highly qualified faculty, state of the art laboratories, reference and digital library shall provide the enabling environment for learning. The evening program is launched to encourage and cater to the youth who discontinued their higher studies for different reasons. This program shall provide an opportunity to them so that they may pursue their higher education without sacrificing their current jobs and grow more in their respective professions. The curriculum is fully aligned with HEC NCRC guidelines and ZUFEST is committed to ensuring best teaching practices both in theory and practice.

Program Educational Objectives (PEOs)

The Program Educational Objectives (PEOs) of the BS in Electrical Technology program are as under:

PEO 1: To produce graduate with strong mathematical, electrical and hands-on knowledge that lead them into a successful career as an electrical technologist.

PEO 2: To produce graduates that can demonstrate its technical and communication skills to solve electrical technology problems as an individual or team member.

PEO 3: To prepare graduates with high ethical and professional standards with an entrepreneurial spirit that have a strong impact on the socio-economic growth of the society and nation at large.

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.

Scheme of Study

<table>
<thead>
<tr>
<th>Semester</th>
<th>Code</th>
<th>Course</th>
<th>Cr</th>
<th>Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>NS-108</td>
<td>Applied Mathematics – I</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>NS-106</td>
<td>Applied Physics</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ET-114</td>
<td>Linear Circuits Analysis</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ET-123</td>
<td>Engineering Drawing</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ET-133</td>
<td>Computer Applications</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td>II</td>
<td>HS-108</td>
<td>Islamic Studies</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>HS-109</td>
<td>Pakistan Studies</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>CS-109</td>
<td>Programming Fundamentals</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ET-144</td>
<td>Electronics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>MT-153</td>
<td>Basic Mechanical Technology</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ET-174</td>
<td>DC Machines &amp; Transformers</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>HS-112</td>
<td>Communication Skills</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
<tr>
<td>III</td>
<td>NS-213</td>
<td>Applied Mathematics – II</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>ET-214</td>
<td>Electrical Instruments &amp; Measurements</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ET-224</td>
<td>AC Circuit Analysis</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ET-234</td>
<td>Digital Electronics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>HS-221</td>
<td>Technical Report Writing</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td>IV</td>
<td>ET-252</td>
<td>Electromagnetic Fields</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>ET-313</td>
<td>Microprocessor &amp; Microcontroller Systems</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ET-284</td>
<td>Power Electronics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ET-351</td>
<td>Electrical Power Distribution &amp; Utilization</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ET-244</td>
<td>AC Machines</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>
### SEMESTER V

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET-383</td>
<td>Industrial Drives and PLC</td>
<td>2+2</td>
</tr>
<tr>
<td>ET-352</td>
<td>Electrical Power Transmission</td>
<td>2+1</td>
</tr>
<tr>
<td>ET-334</td>
<td>Communication Technology</td>
<td>2+1</td>
</tr>
<tr>
<td>ET-343</td>
<td>Control Technology</td>
<td>2+1</td>
</tr>
<tr>
<td>MS-301</td>
<td>Total Quality Management</td>
<td>2+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VI

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET-250</td>
<td>Power Generation Systems</td>
<td>3+0</td>
</tr>
<tr>
<td>ET-323</td>
<td>Switch Gear &amp; Protective Devices</td>
<td>2+1</td>
</tr>
<tr>
<td>ET-364</td>
<td>Data &amp; Computer Communication</td>
<td>2+2</td>
</tr>
<tr>
<td>ET-373</td>
<td>High Voltage Technology</td>
<td>2+0</td>
</tr>
<tr>
<td>ET-353</td>
<td>Power System Analysis</td>
<td>2+1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET-482</td>
<td>Supervisor Industrial Training</td>
<td>0+15</td>
</tr>
<tr>
<td>ET-413</td>
<td>Project</td>
<td>0+3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VIII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET-482</td>
<td>Supervisor Industrial Training</td>
<td>0+15</td>
</tr>
<tr>
<td>ET-413</td>
<td>Project</td>
<td>0+3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>
DEPARTMENT OF SOFTWARE ENGINEERING

VISION
Our graduates to be recognized as innovators, leaders and experts in the area of research & development, implementation, and evolution of Software Engineering

MISSION
To produce graduates equipped with the latest tools and technologies for the development of a knowledge-based economy in Pakistan. Along with academic learning, our ambition is to produce software engineers as successful innovators, entrepreneurs, researchers with emphasis on professional and social ethics for dynamic and global careers.

INTRODUCTION
Software Engineering (SE) derives its essence from computer science as other engineering disciplines do from natural or life sciences, with an emphasis on issues of process, design, implementation, maintenance, analysis, and verification providing a strong foundation in engineering principles and practices as applied to software development.

Software Engineering and computer science differ in much the same way as do Electrical Engineering and Physics. Generally, engineering should be concerned with applying what we already know to create products, while science is more theoretical. Therefore, the goal of Computer Science, according to Parnas, “is to learn and extend the science”. Software Engineering, on the other hand, aims to use science and technology already available to create products and tools for use.

ZUFEST offering four years NCEAC recognized degree program (133 Credit Hours) with a balanced mix of Computing & Software Development subjects. The SE graduates develop, design and assess software that a computer uses to function. The problem-solving skills are keys to success in this endeavor. A software engineer can find its place to study existing apps, develop new software modules & programs or maintain the computer applications in a software house, IT firm, Bank, etc.

Department of Software Engineering is offering the following programs:
1) BS Software Engineering (Morning Program)
2) BS Data Science (Morning Program)
SCOPE & OPPORTUNITIES
Software Engineer is the most in-demand job title across all industries, according to job site Glassdoor, employment growth for software developers between 2012 and 2022—significantly higher than the national average for all occupations.

These are some top industries where software engineers should find plenty of room for career growth:
• Research and Development
• Business and IT services
• Silicon valley Hi-tech
• Government and Defense
• Retail
• Healthcare

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)
PEO 1 Possess essential knowledge of software engineering fundamentals and ability to design, analyze and investigate the appropriate procedures using modern tools and to polish the skills to solve the complex Software Engineering problems.

PEO 2: Engage and Succeed in their professional careers through proactive involvement in societal needs for sustainable development, and ethical behavior.

PEO 3: Demonstrate an ability to present and communicate effectively and able to perform as individual or team and show the managerial, entrepreneurial and leadership skills.

PEO 4: Understand the importance of life-long learning through professional development, specialized certifications and pursue postgraduate studies and succeed in industrial and research careers.

LENGTH OF DEGREE PROGRAM
Duration (Minimum): 4 years
Duration (Maximum): 7 years

ELIGIBILITY CRITERIA
The criteria for students seeking admission to BS Software Engineering are as follows:
• 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.

FEE STRUCTURE
Tuition fee/credit: Rs. 3,500/-
Exam fee/credit: Rs. 500/-
No. of credit/sem: 16
Tuition fees: Rs. 56,000/-
Exam fees: Rs. 8,000/-
Ser registration fee: Rs. 5,000/-
Activity fees: Rs. 2,000/-
Admission fees: Rs. 10,000/-
Security Deposit: Rs. 5,000/-
Semester fees: Rs. 86,000/-

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.

SCHEME OF STUDY

SEMESTER I

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-102</td>
<td>Introduction to Computing</td>
<td>3+1</td>
</tr>
<tr>
<td>CS-104</td>
<td>Programming Fundamentals</td>
<td>3+1</td>
</tr>
<tr>
<td>NS-101</td>
<td>Physics</td>
<td>2+1</td>
</tr>
<tr>
<td>NS-109</td>
<td>Calculus and Analytical Geometry</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-104</td>
<td>English - I (Functional English)</td>
<td>3+0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

SEMESTER II

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-103</td>
<td>Discrete Structures</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-112</td>
<td>Object Oriented Programming</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-106</td>
<td>Basic Electrical Engineering</td>
<td>2+1</td>
</tr>
<tr>
<td>MS-101</td>
<td>Principles of Accounting</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-113</td>
<td>English – I (Communication Skills)</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-103</td>
<td>Pakistan Studies</td>
<td>2+0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

SEMESTER III

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-212</td>
<td>Introduction to Software Engineering</td>
<td>2+1</td>
</tr>
<tr>
<td>CS-211</td>
<td>Data Structures and Algorithms</td>
<td>3+1</td>
</tr>
<tr>
<td>EE-212</td>
<td>Digital Logic Design</td>
<td>3+1</td>
</tr>
<tr>
<td>NS-221</td>
<td>(Supporting Elective-II)</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-101</td>
<td>Islamic Studies/</td>
<td></td>
</tr>
<tr>
<td>HS-102</td>
<td>Ethical Behavior</td>
<td>2+0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

SEMESTER IV

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-231</td>
<td>Object Oriented Software Engineering</td>
<td>3+1</td>
</tr>
<tr>
<td>CS-233</td>
<td>Introduction to Database System</td>
<td>3+1</td>
</tr>
<tr>
<td>CS-234</td>
<td>Operating System</td>
<td>3+1</td>
</tr>
<tr>
<td>MS-203</td>
<td>HR Management (GE/University Elective-II)</td>
<td>3+0</td>
</tr>
<tr>
<td>NS-201</td>
<td>Linear Algebra</td>
<td>3+0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Code</td>
<td>Course</td>
<td>Cr. Hr.</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>SE-341</td>
<td>Software Requirement Specifications</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-351</td>
<td>Automata Theory and Formal Languages</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-322</td>
<td>Introduction to Bioinformatics</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-107</td>
<td>Psychology (GE/University Elective-III)</td>
<td>3+0</td>
</tr>
<tr>
<td>NS-311</td>
<td>Numerical and Symbolic Computing</td>
<td>2+1</td>
</tr>
<tr>
<td>NS-206</td>
<td>Probability and Statistics</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-342</td>
<td>Software Verification and Validation</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-353</td>
<td>Computer Communication and Networks</td>
<td>3+1</td>
</tr>
<tr>
<td>SE-343</td>
<td>Software Architecture &amp; Design</td>
<td>3+0</td>
</tr>
<tr>
<td>SE-344</td>
<td>Human Computer Interaction</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-222</td>
<td>English II (Technical Report Writing)</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-451</td>
<td>Final Year Project - I</td>
<td>0+3</td>
</tr>
<tr>
<td>SE-442</td>
<td>Software Project Management</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-401</td>
<td>Professional Practice</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-451</td>
<td>Distributed Computing (SE Elective-II)</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-452</td>
<td>Neural Networks and Fuzzy Logic</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-451</td>
<td>Final Year Project - II</td>
<td>0+3</td>
</tr>
<tr>
<td>CS-413</td>
<td>Web Engineering (SE Elective-III)</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-454</td>
<td>Cloud Computing (SE Elective-M)</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-445</td>
<td>Software Engineering Economics</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-414</td>
<td>Entrepreneurship and Leadership</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>5</td>
</tr>
</tbody>
</table>
SCOPE & OPPORTUNITIES
Data Science is an exponentially growing field these days especially after the evolution of 5G and IoT applications. The specialized human resource in this field is highly in demand. Since students will be exposed to cases and other pedagogical tools, as well as interact regularly with the corporate sector, graduates are expected to be absorbed in the value-addition sectors of Pakistan, including technology, food and beverages, transportation, telecom, automotive, and the health sectors. They will also be able to engage in start-up businesses pertaining to cloud services and data mining & management technologies.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)
Consistent with the Department of SE Vision and Mission, the Program Educational Objectives of the study program BS Data Science are:
• PEO 1: To produce team leaders having theoretical and practical knowledge with algorithms, instruments, techniques and methods used in field of Data Science & Management.
• PEO 2: To produce graduates with the ability to design & analyze small and large-scale database identifying problematic components, selecting solution strategies, implementing the necessary adjustments without compromising the professional ethics.
• PEO 3: To produce graduates with necessary skills needed to independently start scientific research with the ability to independently apply publicized results or techniques in a new context.

LENGTH OF DEGREE PROGRAM
Duration (Minimum): 4 years
Duration (Maximum): 7 years

ELIGIBILITY CRITERIA
The criteria for students seeking admission to the program are as follows:
• Intermediate or equivalent qualification.
• Minimum score for eligibility is 45% in the ZU Admissions Test.

SCHEME OF STUDY

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Data Science</td>
<td></td>
</tr>
<tr>
<td>Programming Fundamentals</td>
<td></td>
</tr>
<tr>
<td>Probability Theory &amp; Statistics I</td>
<td></td>
</tr>
<tr>
<td>Calculus and Analytical Geometry</td>
<td></td>
</tr>
<tr>
<td>Islamic Studies</td>
<td></td>
</tr>
<tr>
<td>Academic English</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi variable Calculus</td>
<td></td>
</tr>
<tr>
<td>Object Oriented Programming</td>
<td></td>
</tr>
<tr>
<td>Probability Theory &amp; Statistics II</td>
<td></td>
</tr>
<tr>
<td>Methods in Business Writing</td>
<td></td>
</tr>
<tr>
<td>Discrete Structures</td>
<td></td>
</tr>
<tr>
<td>Pakistan Studies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>Intro. to Info. &amp; Communication Tech.</td>
<td></td>
</tr>
<tr>
<td>Model &amp; Inference</td>
<td></td>
</tr>
<tr>
<td>Interpersonal Communication Skills OR Foreign Language I</td>
<td></td>
</tr>
<tr>
<td>Data Structures and Algorithms</td>
<td></td>
</tr>
<tr>
<td>Micro and Macroeconomics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differential Equations</td>
<td></td>
</tr>
<tr>
<td>Computer Architecture &amp; Organization</td>
<td></td>
</tr>
<tr>
<td>Methods of Data Analysis</td>
<td></td>
</tr>
<tr>
<td>Business Process Analysis</td>
<td></td>
</tr>
<tr>
<td>Data Communication and Networking</td>
<td></td>
</tr>
<tr>
<td>Intro. to Database Management Systems</td>
<td></td>
</tr>
<tr>
<td>SEMESTER V</td>
<td>Course</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Numerical Computing/Analysis</td>
</tr>
<tr>
<td></td>
<td>Data Mining - I</td>
</tr>
<tr>
<td></td>
<td>Applied Regression Analysis</td>
</tr>
<tr>
<td></td>
<td>Introduction to Software Engineering</td>
</tr>
<tr>
<td></td>
<td>Mobile Computing</td>
</tr>
<tr>
<td></td>
<td>Theory of Automata &amp; Formal Language</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VI</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Principles of Management</td>
</tr>
<tr>
<td></td>
<td>Introduction to Econometrics</td>
</tr>
<tr>
<td></td>
<td>Data Mining - II</td>
</tr>
<tr>
<td></td>
<td>Design &amp; Analysis of Algorithms</td>
</tr>
<tr>
<td></td>
<td>Artificial Intelligence</td>
</tr>
<tr>
<td></td>
<td>Network Security</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VII</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Data Visualization</td>
</tr>
<tr>
<td></td>
<td>Digital Logic Design</td>
</tr>
<tr>
<td></td>
<td>Time Series Analysis</td>
</tr>
<tr>
<td></td>
<td>Project I</td>
</tr>
<tr>
<td></td>
<td>Big Data Concept &amp; Techniques</td>
</tr>
<tr>
<td></td>
<td>Introduction to Financial Accounting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VIII</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project II</td>
</tr>
<tr>
<td></td>
<td>Introduction to Data Warehousing</td>
</tr>
<tr>
<td></td>
<td>Big Data &amp; Analytics</td>
</tr>
<tr>
<td></td>
<td>Project Management</td>
</tr>
<tr>
<td></td>
<td>Machine Learning</td>
</tr>
<tr>
<td></td>
<td>Web Engineering</td>
</tr>
</tbody>
</table>
DEPARTMENT OF MANAGEMENT TECHNOLOGY & INFORMATION SCIENCE

VISION
To be recognized as a leader in management technology & information science education producing highly capable resource pool for the relevant market.

MISSION
To produce quality graduates to add value as a critical component of corporate strategy and planning and lead the economic development of Technology & Information Science sector through effective Research and Development, Entrepreneurship and lifelong learning.

INTRODUCTION
The field of management science involves the use of analytical methods to make decisions. Management science can be used in the fields of engineering, computer science, statistics, information engineering, logistics, marketing, and economics. Programs in management science provide students with the skills they need to make optimal decisions. They learn mathematical research skills and apply them to decision making processes in a variety of fields. Methods can also be used to create and manage more efficient production systems. Management scientists perform analysis with computer math models. Translating business problems into analytical problems, developing analytical models, managing big volumes of data, analyzing data for providing solutions across business functional areas, interpreting analytical solutions for managerial decision-making, and communicating analytical results to novice and advanced technical audiences in a business environment.

Department of Management Technology & Information Sciences is offering the following programs:
1) Bachelor of Business Administration (BBA)(Morning Program)
2) BS Management & Technology (Evening Program)
SCOPE & OPPORTUNITIES
The Bachelor of Business Administration (BBA) program is planned for individuals who want to mix business theory, practical knowledge, and professional skills in preparation for careers as business leaders. The BBA program indicates a strong professional business education within a broad background. It offers practical management training that can prepare students to successfully work within any organization.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)
PEO 1: To produce graduates with a strong foundation in the areas like Mathematics, Statistics, Economics, and functional Management to develop managerial qualities.
PEO 2: To produce graduates with the ability to think creatively and critically, analyzing problems quantitatively, and using information technology to solve business issues.
PEO 3: To produce graduates with an understanding of social and ethical issues that is a concern to the whole business community.
PEO 4: To produce graduates with strong entrepreneurial skills for creating and managing innovations, new business development and identifying a high-growth potential entity.

LENGTH OF DEGREE PROGRAM
BBA (Minimum): 4 years Duration (Maximum): 7 years

ELIGIBILITY CRITERIA
The criteria for students seeking admission to the program are as follows:
- Intermediate or equivalent qualification.
- Minimum score for eligibility is 50% in the ZU Admissions Test.

FEES STRUCTURE
Tuition fee/credit: Rs. 2,700/-
Exam fee/credit: Rs. 300/-
No. of credit/sem: 17
Tuition fees: Rs. 45,900/-
Exam fees: Rs. 5,100/-
Sem registration fee: Rs. 5,000/-
Admission fee: Rs. 10,000/-
Security Deposit: Rs. 5,000/-
Semester fees: Rs. 75,000/-

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.

SCHEME OF STUDY

Semester I
<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS-104</td>
<td>Functional English</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-103</td>
<td>Principle of Management</td>
<td>3+0</td>
</tr>
<tr>
<td>CS-101</td>
<td>Introduction to Computing</td>
<td>2+1</td>
</tr>
<tr>
<td>HS-101/02</td>
<td>Islamic Studies/ Ethical Behavior</td>
<td>2+0/2+0</td>
</tr>
<tr>
<td>MS-107</td>
<td>Business Mathematics</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-105</td>
<td>Introduction to Business</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>17</td>
</tr>
</tbody>
</table>

Semester II
<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-102</td>
<td>Financial Accounting, I</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-104</td>
<td>Macro Economics</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-106</td>
<td>Principle of Marketing</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-108</td>
<td>Business Statistics</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-103</td>
<td>Pakistan Studies</td>
<td>2+0</td>
</tr>
<tr>
<td>MS-110</td>
<td>Foreign Language</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>17</td>
</tr>
</tbody>
</table>

Semester III
<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS-222</td>
<td>Technical Report Writing</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-201</td>
<td>Macro Economics</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-203</td>
<td>Human Resource Management</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-205</td>
<td>Marketing Management</td>
<td>3+0</td>
</tr>
<tr>
<td>HS-107</td>
<td>Psychology</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-207</td>
<td>Financial Accounting II</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>18</td>
</tr>
</tbody>
</table>

Semester IV
<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-202</td>
<td>Introduction to Business Finance</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-204</td>
<td>Business Law</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-206</td>
<td>Statistical Inference</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-208</td>
<td>Management Information Systems</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-210</td>
<td>E-Commerce</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>15</td>
</tr>
</tbody>
</table>
### SEMESTER V

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-301</td>
<td>Cost Accounting</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-303</td>
<td>Financial Management</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-305</td>
<td>Money and Banking</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-307</td>
<td>Supply Chain Management</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-309</td>
<td>Business Communication</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-331</td>
<td>Quantitative techniques</td>
<td>3+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VI

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-302</td>
<td>Organisational Behavior</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-314</td>
<td>Business Research Methodology</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-306</td>
<td>Managerial Economics</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-308</td>
<td>Oral Communication</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-310</td>
<td>Business Ethics</td>
<td>3+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-401</td>
<td>Operations Management</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-403</td>
<td>Entrepreneurship</td>
<td>3+0</td>
</tr>
<tr>
<td>XXX</td>
<td>Elective I</td>
<td>3+0</td>
</tr>
<tr>
<td>XXX</td>
<td>Elective II</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-480</td>
<td>Project/ Thesis</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-405</td>
<td>Managerial Accounting</td>
<td>3+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### SEMESTER VIII

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-402</td>
<td>Business Policy</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-404</td>
<td>International Business</td>
<td>3+0</td>
</tr>
<tr>
<td>XXX</td>
<td>Elective III</td>
<td>3+0</td>
</tr>
<tr>
<td>XXX</td>
<td>Elective IV</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-480</td>
<td>Project/ Thesis</td>
<td>3+0</td>
</tr>
<tr>
<td>MS-406</td>
<td>Strategic Management</td>
<td>3+0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>
SCOPE & OPPORTUNITIES
This program usually covers topics such as accounting and financial management. The program also covers emerging technologies and sustainability. Technology managers keep up with fast-changing technology developments and innovations. They understand products and services and what new ones that will thrive in the market. Graduate in Management &Technology go on to become chief technology officers, project manager, business development executive/manager, product manager, marketing manager, analytics manager, business analyst, technical program manager, senior product manager, and technical product manager.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)
Consistent with the Department Vision and Mission, the Program Educational Objectives of the study program BS Management & Technology are to educate individuals with interdisciplinary and practical knowledge who:

- **PEO-1**: Make successful careers as managers in industry, R&D organizations, laboratories and business incubators.
- **PEO-2**: Provide services and/or Start up technology management consulting firms
- **PEO-3**: Serve the society with their innovative ideas to manage various technologies and developed products within a diverse environment maintaining ethical standards required for certain technology operation.
- **PEO-4**: Promote continuous development of professional know how but also their social knowledge and skills.

LENGTH OF DEGREE PROGRAM
BSM&T (Minimum): 4 years Duration (Maximum): 7 years

ELIGIBILITY CRITERIA
The criteria for students seeking admission to program are as follows:
- Intermediate or equivalent examination.
- Minimum score for eligibility is 50% in the ZU Admissions Test.

**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>MS-104</td>
<td>Functional English</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MS-103</td>
<td>Principle of Management</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>HS-108</td>
<td>Islamic Studies</td>
<td>1+0</td>
<td></td>
</tr>
<tr>
<td>HS-109</td>
<td>Pakistan Studies</td>
<td>1+0</td>
<td></td>
</tr>
<tr>
<td>NS-108</td>
<td>Applied Mathematics I</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MS-105</td>
<td>Introduction to Business</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>EE-105</td>
<td>Basic Electrical Engineering</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>18</strong></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>MS-112</td>
<td>Financial Accounting</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MS-104</td>
<td>Micro Economics</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MS-106</td>
<td>Principle of Marketing</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>CS-106</td>
<td>Computing Fundamentals &amp; Programming</td>
<td>3+1</td>
<td></td>
</tr>
<tr>
<td>HS-402</td>
<td>Professional Psychology</td>
<td>2+0</td>
<td></td>
</tr>
<tr>
<td>MS-110</td>
<td>Foreign Language</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>18</strong></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>MS-309</td>
<td>Business Communication</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MS-201</td>
<td>Macro Economics</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>EI-233</td>
<td>Digital Electronics</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>MT-203</td>
<td>Marketing Research &amp; Analytics</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>NS-213</td>
<td>Applied Mathematics II</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MT-205</td>
<td>Industrial Relations</td>
<td>2+0</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-202</td>
<td>Introduction to Business Finance</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MS-204</td>
<td>Business Law</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MT-202</td>
<td>Emerging Trends in Engineering</td>
<td>2+0</td>
<td></td>
</tr>
<tr>
<td>CS-113</td>
<td>Object Oriented Programming</td>
<td>2+1</td>
<td></td>
</tr>
<tr>
<td>CS-210</td>
<td>E-Commerce</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td>MS-206</td>
<td>Statistical Inference</td>
<td>3+0</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>17</strong></td>
</tr>
<tr>
<td>SEMESTER V</td>
<td>Code</td>
<td>Course</td>
<td>Cr. Hr.</td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td>CS-301</td>
<td>Database Management Systems</td>
<td>2+1</td>
</tr>
<tr>
<td></td>
<td>MS-303</td>
<td>Financial Management</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>CS-303</td>
<td>Data Communications &amp; Computer Networks</td>
<td>3+1</td>
</tr>
<tr>
<td></td>
<td>MS-307</td>
<td>Supply chain Management</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MT-305</td>
<td>Digital Marketing</td>
<td>2+0</td>
</tr>
<tr>
<td></td>
<td>MS-312</td>
<td>Cost &amp; Managerial Accounting</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VI</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MS-302</td>
<td>Organizational Behavior</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MS-304</td>
<td>Business Research &amp; Report Writing</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MS-308</td>
<td>Management Information Systems</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MS-403</td>
<td>Entrepreneurship</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MT-302</td>
<td>Promotional Startups</td>
<td>2+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VII</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MS-401</td>
<td>Operations Management</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MT-407</td>
<td>Enterprise Resource Planning</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MS-409</td>
<td>Total Quality Management</td>
<td>2+0</td>
</tr>
<tr>
<td></td>
<td>MT-403</td>
<td>Business &amp; Technical Strategy</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MT-450</td>
<td>Project/ Thesis</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MS-306</td>
<td>Managerial Economics</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VIII</th>
<th>Code</th>
<th>Course</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MT-402</td>
<td>Business Decision Making</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MS-404</td>
<td>International Business</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MT-404</td>
<td>Intellectual Property Rights</td>
<td>2+0</td>
</tr>
<tr>
<td></td>
<td>MT-406</td>
<td>Project Management</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MT-450</td>
<td>Project/ Thesis</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>MS-412</td>
<td>Auditing &amp; Taxation</td>
<td>3+0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>
Ziauddin University vision is to become a prestigious institution of higher education by seeking a futuristic approach in imparting knowledge, skills and research/development. Keeping this in view, Ziauddin University, Faculty of Engineering Science and Technology (ZUFEST) initiated a postgraduate program in the year 2017 with prior approval of HEC.

ZUFEST offers a Master of Science (MS) in Electrical Engineering and Biomedical Engineering with specialization streams. With the successful launch of MS program, ZUFEST also offered PhD in Electrical Engineering as per the guidelines provided by the HEC. The Faculty of Engineering Science and Technology, Ziauddin University is offering MS program in the following fields of specialization: Master of Science in Electrical Engineering with specialized streams/tracks in the following domains:

- a) Control and Automation
- b) Computer & Communication Networks
- c) Telecommunication Systems

1. Master of Science in Biomedical Engineering with specialized streams/tracks in following domains:
- a) Bio Informatics
- b) Clinical Instrumentation
- c) Rehabilitation Engineering

**ELIGIBILITY CRITERIA FOR ADMISSION IN MS ENGINEERING**
- o 16 Years of education in the relevant discipline, Minimum CGPA 2.50/4.00 or 60% marks
- o Passed NTS GAT (general) or the University GAT test.
- o An interview must be cleared.

**MS COURSE WORK & THESIS REQUIREMENT**
Each MS student has to select three core courses and five or seven elective courses from the specialization stream. A student can opt six credit hours research work/thesis instead of two courses from the specialization stream.

Minimum For the award of MS degree, candidates will need to either complete 30 credit hours of coursework or complete 24 credit hours of coursework along with a minimum of six credit hours for research work/thesis.

The thesis may be taken after completing 18CH (minimum).

**DURATION OF MS AND SEMESTER-WISE BREAK-UP**
Typical / Average duration for MS program is 1.5 years (4 years maximum). A general semester wise break-up is as follows:

**Course Work Only Option**
- Number of semesters: 04 [Typical]
- Program Credit hours: 30 [Min]
- No. of Courses Core: 04
- Elective: 06
- Coursework Credit Hrs. 30
- Thesis C Hrs. -
- Credits allowed per semester: 09 [max] in Spring/Fall

**Coursework + Thesis Option**
- Number of semesters: 04 [Typical]
- Program Credit hours: 30 [Min]
- No. of Courses Core: 04
- Elective: 04
- Coursework Credit Hrs. 24
- Thesis C Hrs. 06
- Credits allowed per semester: 09 [max] in Spring/Fall

Minimum For the award of MS degree, candidates will need to either complete 30 credit hours of coursework or complete 24 credit hours of coursework along with a minimum of six credit hours for research work/thesis.

- Minimum For the award of MS degree, candidates will need to either complete 30 credit hours of coursework or complete 24 credit hours of coursework along with a minimum of six credit hours for research work/thesis.

**Code** | **Course**
--- | ---
EE 802 | Analysis of Stochastic Systems
EE 803 | Advance Simulation and Modeling
EE 812 | Advanced Digital Signal Processing

**SPECIALIZATION: CONTROL AND AUTOMATION**

**Code** | **Course**
--- | ---
EE 821 | Electronic System Design
EE 701/801 | Research Methodology
EE 822 | Advanced Instrumentation
EE 823 | Advanced Power Electronics
CS 801 | Neural and Fuzzy Systems
CS 811 | Machine Vision
EE 824 | Robotics
EE 825 | Advanced Digital System Design
EE 826 | Adaptive Control Systems
EE 850 | Adaptive/Fire Design
EE 877 | PLC’s and Control Systems
EE 813 | Optimization Theory
EE 820 | Smart Grid Architecture

**Code** | **Course**
--- | ---
EE 841 | Convex Optimization
EE 811 | Linear System Theory
EE 842 | Multivariable Control Theory
EE 830 | Network and Embedded Control Systems
EE 843 | Non-Linear Control Systems
EE 844 | Optimal Control Systems
EE 845 | Predictive Control
EE 834 | Process Control
EE 840 | Selected Topics in Control and Automation
EE 846 | Mobile Robotics
EE 828 | Advanced Classical Control Systems
CS 815 | Machine Learning
# Specialization: Telecommunication Systems

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS 801</td>
<td>Advanced Communication Networks</td>
</tr>
<tr>
<td>EE 701</td>
<td>Research Methodology</td>
</tr>
<tr>
<td>TS 802</td>
<td>RF and Microwave Engineering</td>
</tr>
<tr>
<td>CS 802</td>
<td>Advanced Computer Networks</td>
</tr>
<tr>
<td>TS 805</td>
<td>Optical Communication Systems</td>
</tr>
<tr>
<td>CS 803</td>
<td>Information Theory and Coding</td>
</tr>
<tr>
<td>CS 804</td>
<td>Internet Protocols</td>
</tr>
<tr>
<td>TS 803</td>
<td>Advanced Digital Communication</td>
</tr>
<tr>
<td>CS 810</td>
<td>Computer and Network Security</td>
</tr>
<tr>
<td>EE 831</td>
<td>Error Control Coding</td>
</tr>
<tr>
<td>CS 825</td>
<td>High Speed Broadband Networks</td>
</tr>
<tr>
<td>CS 824</td>
<td>Internetworking Architectures, Protocols and Applications</td>
</tr>
<tr>
<td>CS 825</td>
<td>IP Telephony and Voice over IP</td>
</tr>
<tr>
<td>CS 826</td>
<td>Multilayer Switching Architecture</td>
</tr>
<tr>
<td>CS 830</td>
<td>Network Management</td>
</tr>
<tr>
<td>CS 831</td>
<td>Network Performance Analysis</td>
</tr>
<tr>
<td>CS 815</td>
<td>Machine Learning</td>
</tr>
</tbody>
</table>

# Specialization: Computer and Communication Networks

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 802</td>
<td>Advanced Computer Networks</td>
</tr>
<tr>
<td>EE 701</td>
<td>Research Methodology</td>
</tr>
<tr>
<td>CS 803</td>
<td>Information Theory and Coding</td>
</tr>
<tr>
<td>CS 804</td>
<td>Internet Protocols</td>
</tr>
<tr>
<td>CS 816</td>
<td>Advanced Computer Architecture</td>
</tr>
<tr>
<td>CS 813</td>
<td>Internet Programming</td>
</tr>
<tr>
<td>TS 822</td>
<td>RF and Microwave Engineering</td>
</tr>
<tr>
<td>CS 801</td>
<td>Neural and Fuzzy Systems</td>
</tr>
<tr>
<td>TS 801</td>
<td>Advanced Communication Networks</td>
</tr>
<tr>
<td>TS 803</td>
<td>Advanced Digital Communication</td>
</tr>
<tr>
<td>CS 810</td>
<td>Computer and Network Security</td>
</tr>
<tr>
<td>EE 831</td>
<td>Error Control Coding</td>
</tr>
<tr>
<td>CS 825</td>
<td>High Speed Broadband Networks</td>
</tr>
<tr>
<td>CS 824</td>
<td>Internetworking Architectures, Protocols and Applications</td>
</tr>
<tr>
<td>CS 825</td>
<td>IP Telephony and Voice over IP</td>
</tr>
<tr>
<td>CS 826</td>
<td>Multilayer Switching Architecture</td>
</tr>
<tr>
<td>CS 820</td>
<td>Network Management</td>
</tr>
<tr>
<td>CS 861</td>
<td>Advanced Artificial Intelligence</td>
</tr>
<tr>
<td>EE 820</td>
<td>Smart Grid Architecture</td>
</tr>
</tbody>
</table>

# Course Code

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 812</td>
<td>QoS Architecture for Multimedia Wireless Networks</td>
</tr>
<tr>
<td>EE 811</td>
<td>Linear System Theory</td>
</tr>
<tr>
<td>TS 810</td>
<td>Telecommunication Traffic Engineering</td>
</tr>
<tr>
<td>TS 804</td>
<td>Wireless and Mobile Communication Systems</td>
</tr>
<tr>
<td>TS 821</td>
<td>Next Generation Networks</td>
</tr>
<tr>
<td>TS 811</td>
<td>Wireless Multiple Access Communication</td>
</tr>
<tr>
<td>CS 822</td>
<td>Wireless Sensor Networks</td>
</tr>
<tr>
<td>TS 806</td>
<td>Satellite, Fixed and Mobile Radio Systems</td>
</tr>
<tr>
<td>TS 814</td>
<td>Electromagnetic Compatibility and Interface</td>
</tr>
<tr>
<td>TS 807</td>
<td>Digital Design for Communication Systems</td>
</tr>
<tr>
<td>TS 851</td>
<td>Selected Topics in Communication Systems</td>
</tr>
<tr>
<td>CS 832</td>
<td>GIS and Remote Sensing</td>
</tr>
<tr>
<td>TS 808</td>
<td>Queueing Theory</td>
</tr>
<tr>
<td>TS 809</td>
<td>Radar Systems</td>
</tr>
<tr>
<td>EE 830</td>
<td>Adaptive Filter Design</td>
</tr>
<tr>
<td>EE 811</td>
<td>Linear System Theory</td>
</tr>
<tr>
<td>EE 820</td>
<td>Smart Grid Architecture</td>
</tr>
</tbody>
</table>
### MS Biomedical Engineering

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM 701</td>
<td>Research Methodology</td>
</tr>
<tr>
<td>BM 711</td>
<td>Advanced Biomedical Signals &amp; Systems</td>
</tr>
<tr>
<td>BM 714</td>
<td>Advanced Biomedical Control Systems</td>
</tr>
</tbody>
</table>

### Specialization: Clinical Instrumentation

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM 722</td>
<td>Tissue &amp; Cell Engineering</td>
</tr>
<tr>
<td>BM 734</td>
<td>Mechatronics System Design</td>
</tr>
<tr>
<td>BM 723</td>
<td>Embedded Systems &amp; Applications</td>
</tr>
<tr>
<td>BM 724</td>
<td>Biomaterials Science &amp; Engineering</td>
</tr>
<tr>
<td>BM 735</td>
<td>Medical Image Processing</td>
</tr>
<tr>
<td>BM 742</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>BM 751</td>
<td>Functional Genomics</td>
</tr>
<tr>
<td>BM 756</td>
<td>Design of Medical Devices</td>
</tr>
<tr>
<td>BM 754</td>
<td>Advanced Medical Imaging</td>
</tr>
<tr>
<td>BM 755</td>
<td>Adaptive Signals and Filter Design</td>
</tr>
</tbody>
</table>

### Specialization: Bio Informatics

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM 720</td>
<td>Medical Informatics</td>
</tr>
<tr>
<td>BM 725</td>
<td>Biomedical Ethics</td>
</tr>
<tr>
<td>BM 721</td>
<td>Computer Vision</td>
</tr>
<tr>
<td>BM 722</td>
<td>Telemedicine System</td>
</tr>
<tr>
<td>BM 731</td>
<td>Pattern Recognition</td>
</tr>
<tr>
<td>BM 751</td>
<td>Proteomics</td>
</tr>
<tr>
<td>BM 782</td>
<td>Cell and Molecular Biology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM 740</td>
<td>Drug Delivery &amp; Pharmacology</td>
</tr>
<tr>
<td>BM 741</td>
<td>Advanced Computational Biology</td>
</tr>
<tr>
<td>BM 742</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>BM 743</td>
<td>Advanced Mass Transfer</td>
</tr>
<tr>
<td>BM 750</td>
<td>Structural Bioinformatics</td>
</tr>
<tr>
<td>BM 751</td>
<td>Functional Genomics</td>
</tr>
<tr>
<td>BM 752</td>
<td>Ultra-Power Electronics</td>
</tr>
<tr>
<td>BM 753</td>
<td>Biomaterials and Drug Delivery</td>
</tr>
<tr>
<td>BM 754</td>
<td>Cardiovascular Fluid Mechanics</td>
</tr>
<tr>
<td>BM 801</td>
<td>Proteomics</td>
</tr>
<tr>
<td>BM 755</td>
<td>Advanced Biomedical Instrumentation</td>
</tr>
<tr>
<td>BM 756</td>
<td>Cell and Molecular Biology</td>
</tr>
</tbody>
</table>
### SPECIALIZATION: REHABILITATION ENGINEERING

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM 722</td>
<td>Tissue &amp; Cell Engineering</td>
</tr>
<tr>
<td>BM 723</td>
<td>Embedded Systems &amp; Applications</td>
</tr>
<tr>
<td>BM 724</td>
<td>Biomaterial Science &amp; Engineering</td>
</tr>
<tr>
<td>BM 726</td>
<td>Rehabilitation Engineering</td>
</tr>
<tr>
<td>BM 727</td>
<td>Computational Biomechanics</td>
</tr>
<tr>
<td>BM 735</td>
<td>Medical Robotics</td>
</tr>
<tr>
<td>BM 762</td>
<td>Advanced Bio-Robotics</td>
</tr>
<tr>
<td>BM 763</td>
<td>Injury Mechanics</td>
</tr>
<tr>
<td>BM 801</td>
<td>Proteomics</td>
</tr>
<tr>
<td>BM 802</td>
<td>Cell and Molecular Biology</td>
</tr>
</tbody>
</table>

### SPECIALIZATION: CLINICAL INSTRUMENTATION

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM 722</td>
<td>Tissue &amp; Cell Engineering</td>
</tr>
<tr>
<td>BM 704</td>
<td>Mechatronics System Design</td>
</tr>
<tr>
<td>BM 723</td>
<td>Embedded Systems &amp; Applications</td>
</tr>
<tr>
<td>BM 724</td>
<td>Biomaterial Science &amp; Engineering</td>
</tr>
<tr>
<td>BM 725</td>
<td>Medical Image Processing</td>
</tr>
<tr>
<td>BM 742</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>BM 751</td>
<td>Functional Genomics</td>
</tr>
<tr>
<td>BM 753</td>
<td>Design of Medical Devices</td>
</tr>
<tr>
<td>BM 754</td>
<td>Advanced Medical Imaging</td>
</tr>
<tr>
<td>BM 755</td>
<td>Adaptive Signals and Filter Design</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM 736</td>
<td>Prosthetics and Orthosis</td>
</tr>
<tr>
<td>BM 742</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>BM 743</td>
<td>Clinical Gait Analysis</td>
</tr>
<tr>
<td>BM 751</td>
<td>Functional Genomics</td>
</tr>
<tr>
<td>BM 755</td>
<td>Adaptive Signals and Filter Design</td>
</tr>
<tr>
<td>BM 760</td>
<td>Biomaterials and Drug Delivery</td>
</tr>
<tr>
<td>BM 803</td>
<td>Design of Implants/Artificial Organs</td>
</tr>
<tr>
<td>BM 804</td>
<td>Advanced Biomechanics</td>
</tr>
<tr>
<td>BM 712</td>
<td>Finite Element Methods</td>
</tr>
<tr>
<td>BM 813</td>
<td>Experimental Biomechanics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM 732</td>
<td>Advanced Clinical Instrumentation</td>
</tr>
<tr>
<td>BM 733</td>
<td>Medical Microsystems</td>
</tr>
<tr>
<td>BM 702</td>
<td>Biomedical Engineering Design</td>
</tr>
<tr>
<td>BM 734</td>
<td>Bioelectromagnetics</td>
</tr>
<tr>
<td>BM 735</td>
<td>Ultra-Power Electronics</td>
</tr>
<tr>
<td>BM 760</td>
<td>Biomaterials and Drug Delivery</td>
</tr>
<tr>
<td>BM 761</td>
<td>Cardiovascular Fluid Mechanics</td>
</tr>
<tr>
<td>BM 801</td>
<td>Proteomics</td>
</tr>
<tr>
<td>BM 715</td>
<td>Advanced Biomedical Instrumentation</td>
</tr>
<tr>
<td>BM 802</td>
<td>Cell and Molecular Biology</td>
</tr>
</tbody>
</table>
PHD IN ELECTRICAL ENGINEERING

Each Ph.D. student must select one Area of Specialization (AoS) in consultation with the GEC/Supervisor. A Ph.D. student must take four courses from AoS as major subjects including Independent Study. There are two compulsory courses for Ph.D. students namely Research Methodology and Simulation & Modeling. A program structure of Ph.D. Electrical Engineering is given as:

**Course Description**
- Area of Specialization (AoS)
- Compulsory Courses
- Thesis/Dissertation

Total Coursework Credit Hours 48

**Eligibility Criteria for Admission in Ph.D. Electrical Engineering**

**a)** 18 Years of education with relevant specialization, Minimum CGPA 3.00/4.00 or First Division (in the Annual System) in M.Phil/M.S/Equivalent is required. Passed NTS/HEC GAT (Subject) or the University admission test.

**b)** In the case of GAT, Subject test with the Test at par with GRE Subject Test and qualification score for this will be 70% score.

If the Test is not available in GAT subject list, then a University Committee consisting of at least 3 Ph.D. faculty members in the subject area and approved by the HEC will conduct the Test at par with GRE Subject Test and qualifying score for this will be 70% score.

Students admitted in Ph.D. Programs have to submit the requisite GAT Subject or GRE Subject at the time of admission preferably or before the end of first semester of the respective program.

**Duration of Ph.D. Electrical Engineering and Semester-wise Break-Up**

Typical / Average duration for Ph.D. program is 04 years and maximum duration is 8 years. A generalize semester-wise break-up is as follows:

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>Course Description</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC-xxx</td>
<td>AoS – I</td>
<td>3</td>
</tr>
<tr>
<td>ABC-xxx</td>
<td>AoS – II</td>
<td>3</td>
</tr>
<tr>
<td>ABC-xxx</td>
<td>Research Methodology</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMMESTER CH</strong></td>
<td></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>Course Description</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC-xxx</td>
<td>AoS – III</td>
<td>3</td>
</tr>
<tr>
<td>ABC-xxx</td>
<td>AoS – IV</td>
<td>3</td>
</tr>
<tr>
<td>ABC-xxx</td>
<td>Simulation &amp; Modeling</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMMESTER CH</strong></td>
<td></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>Course Description</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC-xxx</td>
<td>Comprehensive Exam</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>Course Description</th>
<th>Cr. Hr.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SEMESTER V</th>
<th>Course Description</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC-xxx</td>
<td>Thesis/Dissertation (Progress Report-I)</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VI</th>
<th>Course Description</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC-xxx</td>
<td>Thesis/Dissertation (Progress Report-II)</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VII</th>
<th>Course Description</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC-xxx</td>
<td>Thesis/Dissertation (Progress Report-III)</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER VIII</th>
<th>Course Description</th>
<th>Cr. Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC-xxx</td>
<td>Thesis/Dissertation (Defense)</td>
<td>6</td>
</tr>
</tbody>
</table>

**PhD Course Work**

Course work of 18 credit hours preferably in the first year is required to be completed scoring minimum 3.00 CGPA out 4.00 and followed by a comprehensive examination for granting candidacy as Ph.D. researcher.

**Comprehensive Examination Procedure**

After the declaration of the result/completion of all the requirements for the course work, PGP office shall write student to fulfill the administrative requirements for the written comprehensive exam within three weeks’ time. It may include fee clearance, exam request form submission, proposed date within the allowed duration of six months from the date of declaration of the result of the last course taken by the candidate.

The candidate may be asked to submit a tentative synopsis of the research work selected specific research area before the written exam. Two relevant courses to that synopsis may be chosen from the candidate’s transcript either by FEST-RC or the candidate by self.

The written exam shall be scenario-based that includes a complex problem to be solved by using the knowledge area(s) of interest identified by candidate either by synopsis or the opted courses.

2-3 Experts (internal/external or both) from the relevant area may set the question paper with mutual consultation and assess the paper individually. The qualitative assessment shall be done based on the approach presented to solve the given problem. The outcomes may be Pass, Pass with a condition (to appear and pass the oral examination), Failure with retake and Failure.

Pass: All or the majority of experts are satisfied Pass with Condition: Majority of the experts are partially satisfied

Failure with retake: None of the experts are satisfied. The candidate should follow the whole process as defined for written comprehensive exam and reappear.

Failure: None of the experts are satisfied at all in the second attempt. It leads to termination from the Ph.D. program. The transcript may be issued for the taken courses after due clearance.

The Director PGP shall convey the decision to the students and the FEST-RC not later than three weeks from the date of conduct of the written examination.

**Oral Examination**

The focal person is the AD-PGP for all the relevant communications between student and FEST-RC. FEST-RC shall fix the date and examiner panel for the said exam. The date must be communicated to the student and the expert panel (essentially the same as that for written examination) at least two weeks before the commencement.

The Panel shall be composed of at least two FEST-RC members preferably with the relevant expertise. The satisfied experts of the comprehensive exam may be excluded from the panel of the oral examination. Qualitative assessment of the panel shall result in Pass, Retake or Failure.

Pass: Majority including all experts (for the written exam) are satisfied

Retake: Majority (FEST-RC Members only), but none of the experts (for the written exam) is satisfied

Failure: The majority (either FEST-RC Members or the experts) of the panel is not satisfied. The candidate should re-attempt the comprehensive written exam following the defined procedures.

The result must be announced within 5 working days of the date of conduct of the oral examination.
DESIGNATING A SUPERVISOR
After the successful completion of the Comprehensive examination candidate should choose the supervisor preferably must be a full-time faculty member of ZU (essentially HEC approved PhD supervisor) with relevant expertise to the research topic/submitted synopsis.

In case of unavailability of the required expertise in the given pool of ZU supervisor, candidate may propose any HEC approved PhD Supervisor name with the consent and resume of the proposed supervisor.

In either case candidate should request to Director PGP for the allocation of Supervisor. This request then will be forwarded to FEST-RC by the Director PGP for the final decision.

The FEST-RC shall also allocate an internal Co-Supervisor
i. For the candidates having main supervisors outside the ZUFEST pool.
ii. Supervisors’ commitment with more than 5 Ph.D students
iii. The supervisor leaves the job
iv. Supervisor disqualifies HEC criteria
The AD-PGP shall communicate the FEST-RC decision to the candidate and the supervisor(s).

FORMATION OF GRADUATE EVALUATION COMMITTEE (GEC):
A doctoral GEC will be formed right after the supervisor(s) assignment. There must be three Ph.D members (preferably FEST-RC members with relevant specialization) in addition to the supervisor and co-supervisor (if any). At least one GEC member must be from reputed university/relevant industry/ R&D organization. The GEC shall be formed by the Director PGP with the consultation of assigned supervisor(s). The approval for the formed GEC must be taken from Director PGP and VC ZU.

Once GEC is constituted, the composition of the committee can only be changed upon recommendation by both the faculty research advisor and the Director PGP and the approval of FEST-RC.

The Director PGP shall inform the candidate about GEC and ask to submit a written proposal within 6 weeks of the date of information.

In case of delay the PGP office shall write to the candidate and supervisor. Upon the appropriate response the two weeks’ time may be given for submission of proposal.

PROPOSAL SUBMISSION AND DEFENSE PROCEDURE
Passing the proposal phase is partially achieved by the acceptance of all/majority committee members (FEST-RC/ZU/BASR) of the written proposal.

The written proposal must be well structured with all the required ingredients like the title must be well elaborated and specific to the scope of work, Motivation Problem identification, Problem definition, Literature Review, proposed methodology, measurable objectives, and timeline.

Proposal with missing or lacking in any of the details above shall not be accepted and the candidate may be asked to resubmit either with the same or different title. Although in case of minor deficiency (ies), with the consent of the members of the committee candidate may qualify for the oral defense.

After the decision of the FEST-RC/ZU/BASR, Director PGP shall communicate the same to the candidate and the supervisor for further required action.

For the oral defense, the proposal defense date may be proposed by the supervisor and the candidate not later than a week from the date of the decision received.

The GEC and the candidate shall be informed after the approval of the date by the FEST-RC. The Director PGP shall be responsible for the necessary arrangements and announcements regarding the oral defense. GEC members will assess the proceedings. The assessment will be quantitative (Performa) as well as qualitative in terms of remarks. The outcomes may be Pass, Conditional Pass, Retake or Failure.

The result shall be announced within a week time by the PGP office. For the Pass candidate, the first progressive is due within 8 to 10 months of the proposal approval. For Conditional Pass, the candidate should fulfill the condition within maximum 6 months from the date of announcement of the result.

In case of external evaluation, the PGP office should send the case to Dean with the pool of examiners within 10 working days from the date of announcement of result. The pool shall be formed by PGP office with the consultation of the supervisor but the final examiner will be confidentially set by the Dean within a week time upon the response. PGP office will then send the proposal for evaluation. The evaluation must be sent to the GEC members, the candidate, the Dean, and the Director. The candidate must report to the Supervisor with the revised proposal if required within a month or two at maximum. If the supervisor is satisfied with the modifications and revisions then the proposal must be sent to PGP office for further submission and final approval to GEC.

Only one retake is allowed. For a re-take, a new date will be proposed by the supervisor in consultation with the candidate to the PGP office. The date should not be farther than 6 months from the date of the announcement of the result.

The first-time failure leads to the resubmission of the written proposal with all pre-defined procedures as that for first-time submission. Second-time failure is the termination from the program.

PHD CANDIDACY
Qualification and advancement to PhD candidacy is subject to:
- Passing PhD coursework with required CGPA
- Passing PhD qualifying examination
- Formulation of Guidance & Examination Committee (GEC)
- Writing and successfully defending the research proposal

DISSERTATION CREDITS
In addition to coursework, all PhD scholars must register in doctoral research of 30 Cr Hrs and submit progress reports approved by the supervisor.

PH.D. PROGRESS EVALUATION PROCEDURE
There will be three progressive presentations before the final defense. The first progress evaluation should be done within 8-10 months’ time from the date of the approval of the Research Proposal. The second and the third progress evaluation are due after every 6 months (minimum) or 8 months (maximum) of the successful previous evaluation. The Supervisor should request for the date of due evaluation (1, 2 or 3) based upon the respective checklist.

Checklist for 1st Progress Presentation:
1. Literature review, any new development relevant to the proposed methodology since the time of proposal defense
2. In case of external evaluation of the research proposal, the recommendations and
checklist for 3rd Progress Evaluation:
1. Publication requirement must be fulfilled as per HEC criteria / IJFEST Ph.D. policy.
2. Observation(s) received by the panel in the previous evaluation are incorporated.
3. Final results are obtained.
4. Analysis of results is sufficient to draw a conclusion.
5. Research outcomes/ preliminary conclusion is clearly defined.
6. First draft of the thesis is ready to present (optional).

The outcomes of the 1st progressive may be:
- Satisfactory
- Partially satisfactory
- Unsatisfactory

The outcomes of the 2nd progressive may be:
- Satisfactory
- Partially satisfactory
- Unsatisfactory

The outcomes of the 3rd progressive may be:
- Satisfactory
- Partially satisfactory
- Unsatisfactory

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Quantitative Score</th>
<th>Status/Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory</td>
<td>80% or above</td>
<td>Through for the 2nd progress evaluation</td>
</tr>
<tr>
<td>Partially Satisfactory</td>
<td>60% - 79%</td>
<td>Through for the 2nd progress evaluation with the condition that point 3 given in the checklist for the aforementioned is compulsory to be fulfilled before the next evaluation</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>Below 60%</td>
<td>1st Attempt: Re-take the Progress evaluation within 3 months of the date of the 1st evaluation.</td>
</tr>
</tbody>
</table>

THESIS SUBMISSION AND EVALUATION PROCEDURE:
Candidate should submit the thesis in a specified format to the office of AD PGP with the proper approval of assigned supervisor(s) not later than 3 months of the 3rd Progress Evaluation.

Director PGP shall send the thesis for the scanning to the PGP examination department within 3 days. The scanning report should not be delayed more than 5 working days from the date of received by the examination.

If the report is satisfactory then Director PGP should communicate the result to the candidate and share the report with the supervisor. The candidate should submit the revised thesis draft within a month for resubmission. The Dean/LG-BASR shall finalize two evaluators from each pool. Director PGP shall acquire the consent and send the thesis draft to the chosen experts. In case of regret, the case may be redirected to the Dean for the re-nomination of the evaluator(s).

The Evaluation reports should be received in 3-4 months. If not then a reminder may be sent by Director PGP to the relevant expert. The evaluation report should be immediately sent to the GEC and the candidate.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Quantitative Score</th>
<th>Status/Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory</td>
<td>80% or above</td>
<td>Through for the 3rd progress evaluation</td>
</tr>
<tr>
<td>Partially Satisfactory</td>
<td>60% - 79%</td>
<td>Through for the 3rd progress evaluation with the condition that point 2 given in the checklist for the aforementioned is compulsory to be fulfilled before the next evaluation</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>Below 60%</td>
<td>1st Attempt: Re-take the Progress evaluation within 3 months from the date of the progress evaluation.</td>
</tr>
</tbody>
</table>

The outcomes of the 2nd progressive may be..

The outcomes of the 3rd progressive may be..
In case of minor revisions, the supervisor may request and propose the date for the thesis defense in consultation with the candidate. FEST-RC shall decide in this regard.

In case of major revisions, GEC shall advise the FEST-RC about the required time to address and remove the observations made by the experts. Depending upon the quantum of change, in the results and conclusion that may occur due to the required revisions, the FEST-RC shall decide the re-evaluation. If the re-evaluation of the thesis is required then the thesis should be preferably sent to the same evaluator provided his consent. In case of regret, the case may be redirected to the Dean for the re-nomination of the evaluator(s). The FEST-RC decision shall be immediately conveyed to the candidate and the supervisor(s).

**FINAL THESIS DEFENSE PROCEDURE**

Upon receiving the decision of FEST-RC about the supervisor’s request to conduct the Thesis Defense, the Director PGP should get the consent of the internal evaluators of the thesis to assess the oral defense as an external examiner. In case of regret, the Dean and the Vice-Chancellor shall nominate the external examiner from the submitted list of internal evaluators/examiners’ pool by the supervisor.

The examination panel shall include nominated external examiners and GEC members, Director PGP. The Dean must also be invited by the Director PGP.

The outcome of the defense may be Successful, Conditionally Successful or Unsuccessful based upon the qualitative assessment done by the GEC on a prescribed Performa.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Status/Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful</td>
<td>No revisions required, degree should be awarded after necessary formalities</td>
</tr>
<tr>
<td>Conditionally Successful</td>
<td>Minor revisions suggested by external examiner; submit the final draft after compliance with the approval from the supervisor within the given time by the examination panel. Degree should be awarded after necessary formalities.</td>
</tr>
<tr>
<td>Unsuccessful</td>
<td>1st Attempt: Lack of information or fails to provide enough data to establish the evidence for the drawn conclusion. Re-take the oral defense with complete resources and evidence.</td>
</tr>
<tr>
<td></td>
<td>2nd Attempt: M. Phil may be awarded</td>
</tr>
</tbody>
</table>

**POLICY FOR PUBLICATIONS**

- A student must have a minimum of 02 research papers published/accepted for publication, preferably presented in HEC approved journals/international conferences of good repute, out of which at least one research paper must be published in an ISI indexed journal (with impact factor) in the relevant area as specified by FEST-RC.
- Only those publications related to the research work will be counted in which the student name appears as 1st author and supervisor or co-supervisor as 2nd or 3rd author and clearly mentions student affiliation with Ziauddin University, Faculty of Engineering Sciences and Technology.
- FEST-RC is the final authority on determining whether the research publication meets the prescribed standards and requirements.

**PLAGIARISM TEST**

It is a mandatory part of dissertation evaluation process. The supervisor will make sure that prior to submission, research work passes through anti-plagiarism software before it is sent for evaluation.

**CORRESPONDENCE FOR THESIS REVIEW**

The official emails may be used to send the thesis for review but personal email address shouldn’t be used. All the correspondence should be done on official email addresses.

**PH.D. ELECTRICAL ENGINEERING DEGREE REQUIREMENT**

- 18 Cr. Hr. Coursework with CGPA 3.0 or above
FACULTY MEMBERS

PROFESSOR
ENGR. PROF. DR. FAHAD AZIM
MBA (MANAGEMENT), IBA, PAK
PHD (TELECOM ENGINEERING – SIGNAL PROCESSING), HU, PAK
MS (ELECTRICAL ELECTRONICS ENGINEERING – COMMUNICATION ENGINEERING), NTU, SINGAPORE
BE (ELECTRICAL ENGINEERING), NED, PAK

ENGR. PROF. DR. GHULAM BASHIR PIRZADA
PHD, PE
PHD (STRUCTURAL ENGINEERING), UNIVERSITY OF AALBORG, DANMARK
MS (CIVIL ENGINEERING), UNIVERSITY OF KANSAS, LAWRENCE, USA
BS (CIVIL) UNIVERSITY OF SINDH, PAKISTAN

ENGR. PROF. DR. MOHAMMAD ASIF
PHD (ELECTRICAL ENGINEERING, CONTROL), NUST, PAK
MS (ELECTRICAL ENGINEERING), USM, MALAYSIA
BS (ELECTRONICS ENGINEERING), SSUET, PAK

ASSOCIATE PROFESSOR
ENGR. DR. SHEIKH MUHAMMAD MUNAF
PHD (ELECTRICAL ENGINEERING, COMPUTER VISION), UTM, MALAYSIA
MS (TELECOMMUNICATION), HU, PAK
BS (ELECTRONICS ENGINEERING), SSUET, PAK

ENGR. DR. SAAD JAWAID KHAN
PHD (BIOMECHANICS, BIOMEDICAL ENGINEERING), UNIVERSITY OF MALAYA, MALAYSIA
ME (BIOMEDICAL ENGINEERING), NEDUET, NEDUET, PAKISTAN
BE (BIOMEDICAL ENGINEERING), NEDUET, PAKISTAN

DR. SAMIA TABIO
PHD (CIVIL ENGINEERING), UNIVERSITY OF CANTERBURY, NEW ZEALAND
MSC (BUILDING ENGINEERING), UET, PAK
BSc (BUILDING & ARCHITECTURAL ENGINEERING), UET, PAK

ASSISTANT PROFESSOR
SHAHZAD NASIM
MS (MANAGEMENT SCIENCE), IIB, PAK
MBA (MARKETING AND FINANCE), HU, PAK
ME (ELECTRONICS ENGINEERING), NED, PAK

ENGR. SALMAN
ME (ELECTRONICS ENGINEERING), HU, PAK
BS (BIOMEDICAL ENGINEERING), SSUET, PAK

ENGR. SYED FARAZ JAFRI
MS CIVIL ENGINEERING, UNIVERSITY OF EAST LONDON, UK
BS CIVIL ENGINEERING, SSUET, PAK

ENGR. SIDRA ABID SYED
ME (ELECTRONICS ENGINEERING), HU, PAK
BS (BIOMEDICAL ENGINEERING), SSUET, PAK

ENGR. ABDUL RASHID MEMON
MS (ENVIRONMENTAL ENGINEERING), UNIVERSITY OF NEWCASTLE, UK
BE (CIVIL ENGINEERING), NED, PAK

ENGR. MEHWHISH FAIZ
ME (ELECTRONICS ENGINEERING), HU, PAK
BS (BIOMEDICAL ENGINEERING), SSUET, PAK

ENGR. SYED WAQAD ALI
ME (TELECOM), HU, PAK
BS (ELECTRONICS ENGINEERING), SSUET, PAK

ENGR. HIRA ZAHID
ME (ELECTRONICS ENGINEERING), HU, PAK
BS (BIOMEDICAL ENGINEERING), SSUET, PAK

ENGR. ASIF ALI ASGHAR
ME (BIOMEDICAL ENGINEERING), NED, PAK
BS (BIOMEDICAL ENGINEERING), NED, PAK
ENGR. KHAWAJA SHEERAZ
ME CIVIL (TRANSPORTATION), NED, PAK
BE CIVIL ENGINEERING, NED, PAK

LAB ENGINEER
ENGR. TAHIR MUSHTAQ
BS (BIOMEDICAL ENGINEERING), ZUFEST, PAK

ENGR. ASHFAQ BALOCH
ME (ELECTRICAL POWER ENGINEERING), MUET, PAK
BE (ELECTRICAL ENGINEERING), MUET, PAK

ENGR. MOHSIN KHAN
ME (COMPUTER ENGINEERING), NED, PAK
BE (COMPUTER SYSTEM ENGINEERING), DUET, PAK

ENGR. MUHAMMAD KAHRI
ME (CONSTRUCTION MANAGEMENT), MUET, PAK
BS (CIVIL ENGINEERING), SSUET, PAK

SANA MOHSIN
M. PHI (BIOTECHNOLOGY), UOP, PAK
BS (BIOTECHNOLOGY), UOP, PAK

ENGR. VANESH KUMAR
ME (COMPUTER ENGINEERING), NED, PAK
BE (ELECTRICAL ENGINEERING), COMSAT, PAK

ANUM MUNEER
M. PHI, DADABHOY INSTITUTE OF HIGHER EDUCATION, PAK
BS (BIOTECHNOLOGY), UOK, PAK

MR. MUHAMMAD ARIF
M. PHI, DADABHOY INSTITUTE OF HIGHER EDUCATION, PAK
BS (BIOTECHNOLOGY), UOK, PAK

TOOBA MUNIR
BS (COMPUTER SCIENCE), KARACHI UNIVERSITY

ENGR. SHAHBAZ AHMED
BS (ELECTRICAL ENGINEERING), SSUET, PAK

ENGR. SHAHEER MIRZA
B.E (BIOMEDICAL ENGINEER), ZU, PAKISTAN
FACULTY OF LAW

KEY INFORMATION

DEAN: FACULTY OF LAW
Ms. Shazista Sadiq

CONTACT INFORMATION
Website:
https://zfl.zu.edu.pk/
Telephone:
+92-21-35862937 Ext. 2572, 2573
Locate Us:
4/B, Shahrah-e-Ghalib, Block 6, Clifton, Karachi.
INTRODUCTION
Over the course of 20 years, Ziauddin University has emerged into a diverse platform in academia. With an aspiration to broaden its academic horizon, Ziauddin university introduces Faculty of Law.

Under the dynamic leadership of Ms. Shaaista Sarki, Faculty of Law aims to instill expert legal reasoning which responds to social phenomena and contributes to development of various institutions. Ziauddin Faculty of Law, is currently offering five years LL.B. Degree program, spreading over ten semesters. The curriculum is in accordance with Federal HEC standards & Pakistan Bar Council.

MISSION
We commit to excellence and humanity. Not just theory but practice.
BACHELOR OF LAWS (LL.B.)

INTRODUCTION
Ziauddin Faculty of Law offers a five-year undergraduate degree program leading to Bachelor of Laws (LL.B.). Following are the details:

<table>
<thead>
<tr>
<th>Categories</th>
<th>Electives within the major</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory Requirement (No Choice)</td>
<td>10 – 10</td>
<td>28 – 28</td>
</tr>
<tr>
<td>General and Foundation Courses</td>
<td>08 – 08</td>
<td>24 – 24</td>
</tr>
<tr>
<td>Major Courses including Research Project/Internship</td>
<td>34 – 34</td>
<td>102 – 102</td>
</tr>
<tr>
<td>Electives within the major</td>
<td>102 – 102</td>
<td>12 – 12</td>
</tr>
<tr>
<td>TOTAL</td>
<td>56 – 56</td>
<td>166 – 166</td>
</tr>
</tbody>
</table>

Total numbers of Credit Hours: 166
Duration: 5 Years
Semester duration: 16-18 weeks
Course Load per Semester: 15-18 Cr Hrs
Number of courses per semester: 5-6

LL.B.
LL.B. program is divided into five academic years; each year comprises a number of modules related to subject specific information, in accordance with PAKISTAN BAR COUNCIL and HEC recognized curriculum.

ELIGIBILITY CRITERIA
Eligibility/ Pre-requisite for admission: FA/ FSc/ A-levels

Admission to Ziauddin Faculty of Law, for a five years LL.B. degree program is open to all individuals who meet the selection criteria. All candidates are selected for their academic achievements and potential. Students admitted to the first year of LL.B. on previous high school and/or college academic record, passing of LAT (conducted by HEC) and interview conducted by the Ziauddin University.

Selection of student is on the basis of an admission policy approved by the Governing Body of Ziauddin University, which is in line with the regulations of Pakistan Bar Council and HEC.

LEARNING OBJECTIVES
To inculcate in students a broad understanding of the social, political and economic contexts within which the Pakistani and global legal system operates. To Equip students with knowledge and understanding of the fundamental doctrines of Law.

FEE STRUCTURE
Processing Fee: 5,000
Admission Fee: 30,000
Security Deposit: 25,000
Student Fund (Per Semester): 1,500
Tuition Fee (Per Semester): 110,000
Examination Fee (Per Semester): 23,000
Pakistan Bar Council (PBC): 1,000

Not including taxes

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.
CENTRE FOR ACCESS TO JUSTICE

INTRODUCTION
ZU-CAJ located within the ZU Faculty of Laws, uses law and legal knowledge as an effective tool for social change. The mission of the centre is threefold:

PRO-BONO LEGAL CLINIC
ZU Centre for Access to Justice offers members of marginalized and poverty stricken sections of society, legal advice free of cost. This advice is delivered in person and over modern means of communication and extends to those areas of the law which are concerned with social welfare, e.g. inheritance, custody and bail.

This legal advice is offered due to the pro bono work that both faculty members and law students at Ziauddin University extend. The university and the centre encourage students to work pro bono not only for the benefit of society but also their own benefit, as it results in personal and professional growth through exposure to the practical and real legal world. The result is innovation and greater participation in the law.

ZU LAW REVIEW
Another aspect of the Access to Justice is legal research, which unfortunately is one area where the great nation of Pakistan lacks behind in the global order. Ziauddin Law Review, seeks to address all areas of the law and publish articles on all aspects of law. As a matter of priority, the law review aims to develop discourse on contemporary legal developments, whether prompted by judicial decisions or legislation and would be especially devoted to the development of jurisprudence. It would seek to reform the law in line with notions of fairness and justice and provide solutions aimed towards legal restructuring, a dire need for the country. The law review would be of interests to all and sundry, legal practitioners, law students, legal academia, judges and the bureaucracy.

LEGAL SEMINARS AND CONFERENCES
The Centre for Access to Justice will not only provide pro bono legal advice and legal research as projects for legal and social change, but would also conduct legal education and supervision of public forums to develop legal awareness, and would use all mediums including conferences and seminars to effect legal and social change.

LEGAL INCUBATION CENTRE
The ZU Faculty of Law believes in supporting start-ups in the field of law. Our Incubation Centre provides an office space to young lawyers who wish to start their own law firm but lack the funds and resources to do so. Licensed Advocates are provided with a working space and access to research resources, free of cost.
INTRODUCTION
All human beings are born with equal and inalienable rights and fundamental freedoms. The United Nations is committed to upholding, promoting and protecting the human rights of every individual. This commitment stems from the United Nations Charter, which reaffirms the faith of the peoples of the world in fundamental human rights and in the dignity and worth of the human person. In the Universal Declaration of Human Rights, the United Nations has stated in clear and simple terms the rights which belong equally to every person. These rights belong to you. They are your rights. Familiarize yourself with them. Help to promote and defend them for yourself as well as for your fellow human beings.

UN Charter 1947

CENTRE FOR HUMAN RIGHTS
ZU-CHR located within the ZU Faculty of Laws, uses law and legal knowledge as an effective tool for promoting and securing human rights. To accomplish this momentous task we have different segments within the center to address the top areas:

• ADVOCACY
• PEACE & CONFLICT STUDIES
• CHILD RIGHTS PROGRAM
• PRISON PROJECT

ADVOCACY
The Advocacy for Human Rights works to create public policy that respects, protects, and fulfills human rights obligations in our home community and around the world.

Our Priorities
Our advocacy priorities are protecting the human rights of asylum seekers, refugees and immigrants; protecting the human rights of women and girls; supporting the work of human rights defenders and working to help incorporate international human rights standard in Pakistan.

Our Strategies
Using international human rights mechanisms, including those of the United Nations, to highlight human rights violations and advocate for policy change:
• Advocating for public policy changes in Pakistan on a local and national level on multiple platforms: media, talks, seminars, and etc.
• Providing direct legal advocacy in public litigation cases and supporting causes promoting human rights
• Advancing our priorities by working in local, national, and international coalitions.

PEACE & CONFLICT STUDIES
Peace and conflict studies is a social science field that identifies and analyzes violent and nonviolent behaviors as well as the structural mechanisms attending conflicts (including social conflicts), with a view towards understanding those processes which lead to a more desirable human condition.

Our Strategies
• Promotion of Alternative Dispute Resolution particularly Mediation training and workshops
• Conducting field studies to arriving at the heart of common conflicts within the general public in Pakistan – be it local or international
• Regional emphasis on Afghanistan & India peace & conflict studies
• De-radicalization efforts thru engagement with government institutions and NGOs in the promotion peace and dialogue

CHILD RIGHTS PROGRAM
Children are the most vulnerable of all human beings and their protection is the utmost important as they are the future.

At ZU-CHR the Child Rights Program is geared to work with Child Protection Unit government bodies, orphanages, and adoption agencies for the active change and development in policies to enhance children rights.

Our Strategies
• Promoting and advocating the Hague Convention Child protocols
• Working with international adoption agencies and providing training to orphanages to secure children rights within institutions
• Working in the sensitive area of street children and providing solutions protecting their rights
• Conducting studies to tackle child abandonment and mechanisms to prevent trafficking

THE PRISON PROJECT
Prisoner Rights has been a key area within Human Rights often neglected. Giving voice to the voiceless is an important element. Working with NGOs and government institutions to bring appropriate prison reform to enhance prisoner rights and help create a full rehabilitation program

Our Strategies
• Prison Rehabilitation Programs promotion – particularly Bacha Jail
• Legal Aid to pending cases
• Jail visits and inspection reports to influence policy change
• Focusing on international prisoners and their repatriation to their home countries
• Half-way house and follow up after release
INTRODUCTION
The 21st Century has brought with it a boom in technological advancement, arguably becoming an era in history which will be seen as the one which saw progress manifest the quickest and most disruptively. The word “disruptive” (in the context of technology) only insinuates that the technology was so far reaching, so pervasive, and so all-encompassing that it resulted in drastic changes to the modes in which society and commercial activities operate.

It is no secret that codified law always lags behind the zeitgeist of an era. Matters which require regulation are- without exception-regulated in retrospect rather than proactively. The reason for this is summarized eloquently in the Collingridge Dilemma. The dilemma highlights a hard problem with regulating technology in 2 simple prongs. First, when a technology is created, not enough is known about it in order to effectively regulate it before understanding its ramifications on society, economics and individuals. Second, when such knowledge is attained (after the passage of time), that technology is far too entrenched in society to be effectively regulated. A good example is the Internet. When it was initially created, it was a closed network started by DARPA (a US Military Program) for intelligence-sharing and secure communication. However, at the time of its creation, not even its creators could imagine the impact that the internet would have on the world once it became globalized. Today, the internet’s reach is (relatively) well understood, but it is far too entrenched in our everyday lives to be effectively regulated without completely changing the nature and use of the internet.

An understanding of the complex problems revolving around technology is essential for every lawyer, social scientist, politician, and businessperson. In order for our world to move forward in a careful, balanced and thoughtful manner, the industrial revolution reaped great results in terms of technology put into practice, but the costs to natural resources and air/ozone quality were not well understood. Thus today, we see an escalation in climate change which can largely be attributed (and traced back to) the boom in industry. There will definitely be negative impacts of technology on the environment, on economics and even on the very fabric of our social values, and thus it is imperative to ensure our policymakers are aware of the multifarious elements which progress along with technology in order to effectively utilize it whilst minimizing associated risks.

THE CENTRE FOR LAW & TECHNOLOGY
There is a philosophical concept which reads: ‘what we create, in turn creates us’. The same is true for technology we create. Granted, Pakistan is an emerging name on the global map when it comes to technology innovation. However, a lack of infrastructure and innovation-related opportunities does not need to percolate into our legal community—lawyers ought to be, and are expected to be at par with all global shifts in technology and must remain up-to-date with developments in these areas.

In order to assist the Courts or legislative assemblies, lawyers and lawmakers must be aware of the multifarious nature and modalities of technology. This understanding can only exist once a systematic, considered approach is taken to understand the fundamentals of technology and its impact on the various aspects of the status quo.

With the novel Centre for Law & Technology, our aim is to ensure that the students who graduate from the Ziauddin Faculty of Law are at par with their foreign counterparts, and are well-versed with internationally-acclaimed ideas revolving around the use of various modalities of technology, and subsequently, the regulation of such technologies. Our contribution to the society of the 21st Century is not only the need of the hour, but rather will pave the way our society sees technology for decades to come.

Our team is spearheading national research and is engaging in targeted, merit-based advocacy in this regard.

FLAGSHIP RESEARCH
With international and national collaborations, strategic academic partnerships and expert opinions, the Centre for Law and Technology is engaged in research on topics of international importance.

• Personal Data & its implications in the digital world
• Data Protection in Pakistan
• Cybersecurity & data
• Pakistan’s [tech-centric] legislative landscape
FACULTY OF
LIBERAL ARTS
& HUMAN
SCIENCES
FACULTY OF
LIBERAL ARTS
& HUMAN
SCIENCES

KEY INFORMATION

DEAN
Professor. Dr. Fauzia Shamin

CONTACT INFORMATION
Website:
https://lahs.zu.edu.pk
Telephone:
+92-21-35305790, +92-21-35148626
Email:
info@zu.edu.pk
Locate Us:
Ground Floor, H.A Arcade, B.C-05,
Block-1, Clifton, Karachi-75600
INTRODUCTION
The programs offered at the Faculty of Liberal Arts and Human Sciences encourage students to cross traditional disciplinary boundaries to access available knowledge and skills in areas relevant to their interests and future life aspirations. For instance, we are happy to see a student majoring in Visual Arts study Biology, Psychology, and Anatomy as electives, and apply the knowledge and skills to the study of the human body in works of art. We believe that this interdisciplinary approach not only fosters the development of a holistic understanding and appreciation of the world around us, but it also helps to nurture the graduates’ skills and abilities to analyze in-depth complex human issues which further results in identifying ways to address the issues effectively for peace and harmony.

VISION
To develop empowered individuals able to deal with the complexities of life and society using critical thinking, communication skills, and a problem-solving approach. To develop empowered individuals able to deal with the complexities of real-life and society using critical thinking, communication skills, and a problem-solving approach.

MISSION
To provide students with a broad knowledge of the world to maximize their potential and engagement with human issues as citizens of a globalized and an increasingly technological world.

Faculty of Liberal Arts and Human Sciences offers various programs for students to discover their full potential to fulfill their dreams as well as to strive for a better tomorrow both for themselves and for future generations. The Faculty comprises of three Colleges and one Centre:
• College of Languages, Literature and Culture
• College of Education
• College of Media Sciences
• The Language Centre
• Public Forum

THE PUBLIC FORUM SERIES
The Public Forum, an initiative of the Faculty of Liberal Arts and Human Sciences, aims to provide a platform for meeting of minds and provide an opportunity to the youth, in particular, to engage with the civil society in a well-informed discussion on public issues. It is held quarterly and is open to both students from all educational institutions and members of the public at large. It is offered free of charge to allow maximum participation of people from all walks of life.

LEARNING AND TEACHING
Our learning and teaching philosophy is student-centered. The aim is to develop students as life-long learners. Students are provided an environment for self-growth and are engaged in tasks and activities that help them grow as critical thinkers and autonomous learners. Both in-class and out-of-class opportunities to discuss, debate and dialogue on concepts and shared experiences lead to the learning and utilization of these concepts in the real world. Internships and service learning are important components of students’ learning experience in all colleges of the faculty.

CAREER OPPORTUNITIES
Graduates of the various programs in the Faculty of Liberal Arts and Human Sciences will develop a range of 21st Century employability skills, such as analysis and synthesis, working collaboratively in teams, critical thinking and problem-solving, and effective oral and written communication. As a result, they will be able to follow diverse career pathways in various fields such as communication and design, banking, teaching, research, journalism, and media.

FACULTY MEMBERS

DEAN FLAHS
PROF. DR. FAUZIA SHAMIM
PHD TESOL, UK; MA LINGUISTICS FOR ELT, UK; MA ENGLISH, KARACHI, PAKISTAN.

SENIOR LECTURER
ADEEBAA AHMAD
MPHIL EDUCATION, KARACHI; MA ENGLISH LITERATURE, KARACHI; TEAP, UK.

BOARD OF FACULTY
PROF. DR MOONIS AHMAR
MERITORIOUS PROFESSOR OF INTERNATIONAL RELATIONS,
UNIVERSITY OF KARACHI

PROF. DR SAJIDA ZAKI
CHAIRPERSON, DEPARTMENT OF HUMANITIES
NEED UNIVERSITY OF ENGINEERING & TECHNOLOGY

PROF. DR NELOFER HALAI
PROFESSOR
AGA KHAN UNIVERSITY
INSTITUTE FOR EDUCATIONAL DEVELOPMENT (AKU-IED)
The four years that I’ve spent at Ziauddin College of Media Sciences has been a roller coaster ride, an emotional rampage and lots of cheerful reminiscences. ZCOMS offers a variety of choice of different courses which lead to valuable experiences within and outside campus.

In my four years tenure of Bachelor’s, I’ve learnt to accept challenges and deal with different people that helped me to strengthen my communication skills. The finest part about ZCOMS is that teachers are willing to assist their students with individual attention & care. They take personal interest in their student’s successful future.

I had the opportunity to work for three internships (from ZCOMS platform) which facilitated me in my courses; as I have applied all my practical knowledge into it. At ZCOMS, we are taught and groomed by professionals who enlighten us with ground reality of how the industry works and prepare us to work for it. ZCOMS is a unique institute; where one is nurtured and molded to become the best versions of themselves.

SANIYA YOUSUF
BS CMS
INTRODUCTION
Ziauddin College of Media Sciences (ZCOMS) caters to the growing needs of Pakistan’s media industry. As the industry continues to grow exponentially, there is a surge in demand for qualified media professionals with academic and practical knowledge requirements of the industry.

ZCOMS is unique in that it has a state of the art TV channel, a radio studio, a newspaper, and a digital media company all located on-site where students can apply their in-class theory and gain practical experience during their four years, well before starting their careers.

The undergraduate academic program covers a variety of liberal arts and technically-oriented subjects including theoretical, analytical, and practical application approaches to communication process and media. At the end of the four-year program, the graduates are equipped with necessary technical and professional orientation to exceed the qualification for jobs offered to undergraduate students in media institutions.

This college has been conceived with a vision to bridge the gap between academia and practice. The crux of ZCOMS program is parallel application, be it in print, radio, TV, or new media and learning technologies. ZCOMS is emerging as a premier media institute in Pakistan.

ZCOMS draws its strength from its in-house TV channel ‘HNOW’, on-site radio ‘FM 98.2’, English daily newspaper ‘The National Courier’ and Digital Agency ‘East River’.

The institute offers a 4-year Bachelors Program in Communication and Media Sciences. It is spread over a period of 4 years, covering 44 courses, an internship, and thesis to complete 136 credit hours in all.

In their First Year, all students begin with Foundation Year, where they are introduced to the subjects that they will be studying for the next 4 years. The curriculum is designed to encourage clear and critical thinking, understand concepts related to film, communication & design, and journalism. Through exposure to various media, students are encouraged to develop their own personal visual language.

In the Second and Third Year, students learn the fundamentals of their core subjects to build on for the rest of the Bachelor’s degree. Each semester builds on the previous one, in addition to becoming more demanding and complex. These 2 years train the student to work independently on various projects, while constantly reinforcing personal visual vocabulary through different approaches and media.

A 6 credit hour thesis rounds up the 4-year Bachelor’s program. Students have to choose a topic of their choice, explore and research, both theoretically and practically. An external jury makes the final assessment.

OUR VISION
To develop & Empower future Media professionals to be leaders of the industry.

OUR MISSION
ZCOMS offers media education by providing state-of-the-art infrastructure to develop curiosity and highest intellectual and professional growth for the advancement of the media industry and development of a tolerant communicative ethical society through research, exploration and experiment.

CORE VALUES
As a member of the ZCOMS community in particular and Ziauddin University at large we lay great emphasis that our students should:

• Be always ready to strive for excellence
• Be open to new learning
• Be tolerant
• Be ethical
• Be open to critique
• Be respectful towards the environment and work towards a better world
• Be humble
PROGRAMMES OFFERED
The undergraduate BS program covers a variety of liberal arts and technology-oriented subjects covering theoretical, historical, analytical, critical, and performance approaches to communication processes and media. At the end of the four-year program, history graduates are equipped with necessary technical and professional orientation to qualify for jobs in business or institutions that require effective communicators, as well as the background needed to pursue further education in communication or related fields. The college is conceived with a vision to bridge the gap between academics and practice. The crux of the program is parallel application, be it in print, radio, TV or digital media and learning technologies. Given the kind of hands-on experience, the program is set to emerge as a premier communication, media and journalism institute in Pakistan.

We offer four Specialisations:
- Communication Design
- Film and TV
- Journalism
- Digital Marketing

COMMUNICATION & DESIGN
This program teaches students how to translate communication ideas into concepts with the help of visuals to attract attention, interest and sell the idea. It’s a multidisciplinary field that combines marketing, advertising and design; covers courses on, video production, art, illustration, typography and digital image manipulation. The students will be trained to create meaningful messages with compelling images for various mediums. The program enhances the overall communicative and visual skills of the students.

CAREER OPPORTUNITIES
The industry offers vast creative pathways for young graduates to explore a variety of options available. They can choose among many professions including but not limited to, creative directors, copywriters, graphic designers, art directors, commercial artists, web developers, web designers, digital media strategists, and digital artists. Our alumni are doing well as a part of the diverse fields of this discipline.

FILM AND TV
We live in a media saturated world. These moving images help us form a critical understanding of the contemporary world.

Film in its many forms does not only entertains, but also informs, and brings the world together.

At ZCOMS the nature of the FILM & TV program ensures that the student understands both the theoretical and the practical framework of the discipline. Students are taught by leading media professionals who work closely to develop their skills. Access to onsite H Now studios gives the students an opportunity to gain hands on experience in the professional world.

As part of the program, students are also given a chance to produce and host radio shows on FM 98.2, our onsite radio station.

The curriculum is constantly updated in line with the latest developments in the discipline.

CAREER OPPORTUNITIES
Given the interdisciplinary nature of the program, students have a diverse range of career opportunities from academia, to the creative agencies. Graduates can find careers on stage, in the film and TV industry (on-screen and off-screen), radio, and the Internet.

The learning prepares our students to be creative script writers, directors, producers, actors, set designers, art directors, radio jockeys, and many more.

Our young college graduates of FILM & TV are working at various well-known organizations.

JOURNALISM
The human capacity for information is insatiable and the existence of news will always be a natural phenomenon. With unique and thorough training in reporting, writing, editing, script writing, news, art and skills of interviewing, students leave their mark in the evolving field of journalism.

At ZCOMS the JOURNALISM program teaches students the art of communicating clearly and directly with their audience. Writing objectively without personal bias is the true essence of Journalism. The medium has changed greatly with the surge in web, blogging and social media platforms, which serves as vital means of immediate and instantaneous news and information.

CAREER OPPORTUNITIES
Today the Print media and the Digital media provides opportunities for media graduates. One can become a broadcast journalist, reporter, editorial assistant, sub editor, magazine feature editor, newspaper journalist, columnist, copy-editor, proofreader, news anchor, web content manager and many more.

DIGITAL MARKETING
The growth of digital media has not only changed the way businesses operate but also influenced the way products and services are marketed. The latest online tools, technologies and platforms enable businesses to reach their targeted customers more accurately than ever before and interact with them using rich multimedia content. Recognizing the need of the day, ZCOMS offers a specialization in “Digital Marketing” where students will be taught the most effective ways of integrating media content with digital marketing activities. The students will be able to understand the broad system governing marketing activities and will get insights in different relevant areas such as data management, web content development, media management for web and social media targeting and optimization.

CAREER OPPORTUNITIES
Digital marketing provides an opportunity for many creative people. There are jobs in writing, designing and audio and video production developing marketing strategies, solving problems and finding ways to engage audiences require creative solutions as well.

LEARNING AND TEACHING STRATEGIES
ZCOMS believes in skill-based assessment and focuses on interactive and practical learning to enhance the experience & creative thought process. Along with traditional teaching methodologies like class lectures, assignments, presentations, projects, and quizzes are also practiced.

Students go on educational excursions, visit exhibitions, attend seminars, participate and organize events, volunteer at media events to gain first-hand field experience and witness the rigor.

At ZCOMS we have had:
1. Guest Speaker Sessions at ZCOMS:
   • Namsa Abbasi Namsa Abbasi is a production designer with 13 years of experience, having worked on 2 feature films (Moor and the Legend of Maulajat), over a hundred commercials for leading brands and music videos.
   • Nida Lakhani is producer at Seeme Productions.
   • Faron Ali Siddiqui is an artist, brand director, GFX and logo designer.
   • Shaikh Mawiana Kamaludin Ahmed is a qualified Islamic scholar and university academic in the field of Islamic Studies, specializing in Quran, Hadith, law, history, spirituality and ethics.
   • Razwan Jaffar is a senior media figure who is currently working as Anchor, Aaj News. He is also the Founder Chairman of Youth Parliament.
   • Kashan Admani is a musician, composer, music producer, guitarist, and founder of music band Mizmaar.
   • Rana Asif and Ifran ul Haq are well known figures on social media. In this live session they talked about current and emerging social media trends in Pakistan.
   • Zoe Viccaji is a singer-songwriter and actress. She began her career as a backing vocalist at Coke Studio and later moved on to becoming one of the featured artists.
• Yousuf Bashir Qureshi (YBQ) is a well known artist, photographer and fashion designer. His fashion design studio is among the top brands in the country.
• Imran Ali Dina is a well known digital artist and teacher. He is mostly recognized by his online alias GFXMentor.
• Adnan Faisal is the CEO of FHM magazine and People magazine.

2. Events
• ZCOMS Media Awards - event organized to promote and showcase the artistic talent of young students from different institutions.
• QUIZCOMS- A game show titled “QuizComs” was produced by ZCOMS where students from different schools were invited to participate in a series of quiz shows.
• Rawadari- a multi-disciplinary art exhibition centered around the intersection between art and literature.
• Cover song: “Queen of Rain”by Roxette – To showcase musical talents of students, ZCOMS has initiated a series of music productions by the name of “MuZCOMS”. The first production, “Queen of Rain” was a tribute to Marie Fredriksson, lead vocalist of Roxette who passed away on December 9, 2019. The song was produced and performed by the students of ZCOMS.
• Yoga and meditation workshop was organized both for students and faculty to help unleash creative energy to explore your creative side.

ADMISSION POLICY
Basic Admission Criteria:
a) Minimum A-Levels 3 passes/Intermediate (45% marks, including first year no supplementary) or equivalent from a recognized institution.
b) Merit will be decided upon basic admission criteria.
c) Final list will be displayed after evaluation of ZCOMS entrance test and interview.
d) A student who clears the entrance test, but has a low test score in the English component, will have to enroll in 2 paid non-credit Remedial English courses in years 1 and 2 at the university, to improve their English language skills.

FEE STRUCTURE
Admission Fee: Rs. 10,000/-
Security Deposit: Rs. 10,000/-
Student Activity: Rs. 10,000/- (per year)

43 courses (Rs. 15,000/- per course & Rs. 1000/- per exam)
Thesis 1 (Rs. 20,000/- Thesis 1 & Rs. 5000/- Thesis jury)
Thesis 2 (Rs. 20,000/- Thesis 2 & Rs. 5000/- Thesis jury)

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.

Candidates awaiting result can also apply.
FACULTY MEMBERS

PRINCIPAL/ ASSOCIATE PROFESSOR
TEHMINA LODHI
MA APPLIED ARTS, UNIVERSITY OF HERTFORDSHIRE, UK
BA GRAPHIC DESIGN, UNIVERSITY OF HERTFORDSHIRE, UK

ASSOCIATE PROFESSOR
MR. LATIF ABBASI
M. PHIL IQRA UNIVERSITY, KARACHI
MBA SOUTHEASTERN UNIVERSITY WASHINGTON DC

ASSOCIATE PROFESSOR
MR. LATIF ABBASI
M. PHIL IQRA UNIVERSITY, KARACHI
MBA SOUTHEASTERN UNIVERSITY WASHINGTON DC

ASSISTANT PROFESSOR
ATA SYED
MBA MARKETING, IQRA UNIVERSITY
MMS ADVERTISING, IQRA UNIVERSITY
BA, KARACHI UNIVERSITY

LECTURER / ADMINISTRATION
FATIMA ANJARY
PROGRAM MANAGER, STUDENT ADVISOR AND LECTURER
MS MEDIA STUDIES (IN PROCESS), SZABIST
BA MASS COMMUNICATION, UNIVERSITY OF KARACHI

LECTURER / ADMINISTRATION
FATIMA HATIM ANJARY
Ph.D (Submitted. Waiting for defence).
MA, MASS COMMUNICATION, UNIVERSITY OF KARACHI
BA (HONS), MASS COMMUNICATION, UNIVERSITY OF KARACHI
S.M. RAZA HAIDER RIZVI
EXECUTIVE OFFICER
BS MEDIA SCIENCES, IQRA UNIVERSITY

VISITING FACULTY
INDUSTRY EXPERTS AS REQUIRED

BOARD OF STUDIES MEMBERS
MR. FAIZAN SYED
DIRECTOR FINANCE,
ZIAUDDIN UNIVERSITY

DR. NIDA HUSSAIN
PRO CHANCELLOR,
ZIAUDDIN UNIVERSITY

MR. LATIF ABBASI
ASSOCIATE PROFESSOR,
ZCOMS

MR. ATA SYED
ASSISTANT PROFESSOR,
ZCOMS

MR. KAMAL SIDDIQUI
DIRECTOR,
CEJ

MS. NIALA MEHMOOD
LECTURER/DESIGNER,
IVS

MR. KHURRAM QADEER
INDUSTRY EXPERT

MS. LARAIB SALEEM
INDUSTRY EXPERT

MR. SHEHAN RAYER
INDUSTRY EXPERT

MR. FAATIR SIDDIQUI
INDUSTRY EXPERT
COLLEGE OF LANGUAGES, LITERATURE & CULTURE

KEY INFORMATION

DEAN FLAHS
Prof. Dr. Fauzia Shamim

CONTACT INFORMATION
Website:
https://lahs.zu.edu.pk/
Telephone:
+92-21-35305790, +92-21-35148626
Email:
info@zu.edu.pk
Locate Us:
Ground Floor, H.A Arcade, B.C-05,
Block-1, Clifton, Karachi-75600
VISION
The College of Languages, Literature & Culture, housed within the Faculty of Liberal Arts and Human Sciences, aims to develop the next generation of citizens for an extremely fragmented yet interrelated world, with an appreciation and understanding of diversity in languages, literature and cultures within a broad humanistic context.

MISSION
To engage in teaching, research and service in languages, literature and culture to develop graduates as critical thinkers with excellent language and communication skills, and an appreciation of diversity in cultures to promote tolerance and peace in a globalized world.

PROGRAMS OFFERED
1. Diploma of Arts in TESOL leading to MA TESOL (2 years after 14 years of education)
2. BS English (4 years after Intermediate/A levels)
3. BS English and Media Studies (Intermediate/A Levels) (12 years of study) with a minimum of 50% marks in the last exam.

Specializations:
Language and Literature; Applied Linguistics; Literature
All students will need to clear the entrance test/interview for admission.

AIMS
To enable English language teachers to improve their knowledge and skills for teaching English to speakers of other languages.

TARGET POPULATION
In-service teachers

ENTRY REQUIREMENTS
1. BA/BSc/B. Com (a minimum of 14 years of study)
2. One-year full-time experience of teaching English (preferable)
3. Should be serving teachers of English to fulfill the classroom-based practicum and teacher-research requirements

NATURE/DURATION
Evening Program: 2 semesters for full course load (course work including practicum and research project); 4 semesters for part-time students (course work including practicum and research project).

DAYS/TIMINGS
Full-time: (5 modules per semester) 3 days a week (Monday, Wednesday, Friday). Saturdays, 9.00-4.00
Part-time: (2-3 modules per semester)

COURSE REQUIREMENTS AND STRUCTURE
Credits required: 30

Dip TESOL has three main components:
1. Course work: 7 modules- 3 credit hours each. Total 21 credits
2. Developing Professional Practice (DPP):
   i. DPP 1: (Micro-teaching, classroom observation skills etc).
   ii. DPP 2: (Supervised practicum including maintaining a teaching portfolio with a record of 10 teaching lessons out of which 3 lessons per participant will be observed). 3+3=6 credits
3. Action research project (including background reading, data collection and analysis and write-up), 3 credits.

Course Code Semester 1
DAT 101 Learning and the Learner
DAT 102 Methodology: Teaching the four language skills, grammar, and vocabulary
DAT 103 The study of language systems (grammar and structure, phonology, discourse, & pragmastics)
DAT 104 Language awareness: Researching and reflecting on classroom language
DAT 105 Developing Professional Practice I Micro-teaching, lesson observation

Total = 5 Courses

Course Code Semester 2
DAT 106 Curriculum, materials and teaching-learning resources
DAT 107 Planning and managing language learning and teaching in under resourced, large and multilevel classes
DAT 108 Assessment, monitoring and evaluation
DAT 109 Developing Professional Practice II Supervised practicum with teacher portfolio: a record of 10 lessons with materials used and follow-up teacher reflections (3 lessons will be observed for assessment)
DAT 110 Action-research project Teachers may be allowed extra time (one semester) to complete their research projects, if required.

Total = 5 Courses
COURSE LOAD
Full-time students will need to study 5 courses in each semester (15 credit hours); Part-time students will need to study 2-3 courses per semester.

CERTIFICATION
A diploma may be awarded on completion of all course requirements (30 credit hours) according to defined standards as per university rules. This includes successful completion of course work, supervised teaching practice and an action-research project. A waiver can be considered for a maximum of 2 courses per semester and only at the Diploma level. (For waiver, the applicants will need to pass a 3-hour waiver exam with a minimum of 60% marks in each course for which waiver has been applied for.)

ENTRY AND EXIT PATHWAYS
Semester 1: Entry in Diploma Program (Both full-time and part-time options available)
Semester 2: Exit after completing course work (Award of Diploma)
Semester 3: Entry in the MA TESOL Program (Semesters 3 and 4) provided the candidate has an overall GPA score of 2.5 or above in course work at Diploma level.

FEE STRUCTURE
Diploma of Arts in TESOL
Duration: 1 year (FT); 2 years (PT)
Admission Fee: Rs. 5,000/-
Tuition Fee: Rs. 15,000/- per course [including examinations]
Security Deposit: Rs. 5,000/-
Student activity fund: Rs. 5,000/- per year

Masters in TESOL
Duration: 1 year (FT)
Admission Fee: Rs. 5,000/-
Tuition Fee: Rs. 15,000/- per course [including examinations]
Security Deposit: Rs. 5,000/-
Student activity fund: Rs. 5,000/- per year

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.
BS ENGLISH

ENTRY REQUIREMENTS
Intermediate/A Levels (12 years of study) with a minimum of 50% marks in the last exam

NATURE/DURATION
Morning Program (full-time only)

COURSE DETAILS
1. Compulsory Requirement (No Choice)
   No. of Courses: 09
   Credit Hours: 25

2. General Courses
   No. of Courses: 08
   Credit Hours: 24

3. Foundation Courses
   No. of Courses: 10
   Credit Hours: 30

4. Major Courses including Research Project
   No. of Courses: 13
   Credit Hours: 39

5. Electives within the Major
   No. of Courses: 04
   Credit Hours: 12

TOTAL
No. of Courses: 44
Credit Hours: 130

TOTAL NUMBERS OF CREDIT HOURS
130

DURATION
4 Years

SEMESTER DURATION
16-18 weeks

COURSE LOAD PER SEMESTER
15-18 Cr Hrs.

NUMBER OF COURSES PER SEMESTER
5-6

COURSE REQUIREMENTS AND STRUCTURE
The HEC approved curriculum will be used for the BS English Program with relevant changes and additional General and Elective Courses as approved by the Ziauddin University Academic Council.

Please note:
- The Foundation courses are mandatory for all Literature and Applied Linguistics students.
- Depending upon the results of the entrance test, the students will need to study up to two paid non-credit courses in years 1 and 2 to improve their English language skills. It will be mandatory for students to pass these courses.

ASSESSMENT
Assessment will be done through classroom-based tasks (40%) and mid-term/final exam (60%).

ATTENDANCE
Attendance in classes is mandatory. You will need a minimum of 80% attendance in a course to sit for the final exam.

CAREER OPPORTUNITIES
Our graduates will be life-long learners and will be able to join the work force in diverse professions and enterprises such as business, government, and academia. Generally preferred fields are journalism, film and social media, banking, customer care services, and teaching and research.

FEE STRUCTURE
BS in English
Duration: 4 years
Admission Fee: Rs. 5,000/-
Tuition Fee: Rs. 180,000/-
Security Deposit: Rs. 5,000/-
Student activity fund: Rs. 5,000/-

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.
BS ENGLISH AND MEDIA STUDIES

ENTRY REQUIREMENTS
Intermediate/A Levels (12 years of study) with a minimum of 50% marks in the last exam

NATURE/DURATION
4 years (8 semesters)

COURSE DETAILS
1. Compulsory Requirement (No Choice)
   No. of Courses: 09
   Credit Hours: 25

2. General Courses
   No. of Courses: 08
   Credit Hours: 24

3. Foundation Courses (minimum 4 each from English and Media Sciences)
   No. of Courses: 08
   Credit Hours: 24

4. Major Courses including Research Project
   No. of Courses: 13
   Credit Hours: 39

5. Electives within the Major (2 each from English and Media Sciences)
   No. of Courses: 06
   Credit Hours: 18

TOTAL
No. of Courses: 44
Credit Hours: 130

TOTAL NUMBERS OF CREDIT HOURS
130

DURATION
4 Years

SEMESTER DURATION
16-18 weeks

COURSE LOAD PER SEMESTER
15-18 Cr Hrs.

NUMBER OF COURSES PER SEMESTER
5-6

COURSE REQUIREMENTS AND STRUCTURE
Courses from the HEC approved curriculum for BS English will be used along with approved courses offered by the College of Media Sciences for the BS English and Media Studies Program with relevant changes and additional General and Elective Courses as approved by the Ziauddin University Academic Council.

Please note:
• The Foundation courses are mandatory for all students.
• Depending upon the results of the entrance test, the students will need to study up to two paid non-credit courses in years 1 and 2 to improve their English language skills. It will be mandatory for students to pass these courses.

LEARNING AND TEACHING
Our teaching, based on principles of holistic education, promotes student-centered learning and active participation through collaborative discussion.

ASSESSMENT
Assessment will be done through classroom-based tasks (40%) and mid-term/final exam (60%).

ATTENDANCE
Attendance in classes is mandatory. You will need a minimum of 80% attendance in a course to sit for the final exam.

CAREER OPPORTUNITIES
Our graduates will be lifelong learners and able to join the work force in diverse professions and enterprises in the corporate sector, public sector, and social sector. Generally preferred fields are business, bureaucracy, journalism, film and social media, banking, public relations, and teaching and research.

FEE STRUCTURE
BS in English and Media Studies
Duration: 4 years
Admission Fee: Rs. 5,000/-
Tuition Fee: Rs. 180,000/-
Security Deposit: Rs. 5,000/-
Student Fund: Rs. 5,000/-

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.
**FACULTY MEMBERS**

**DEAN FLAHS**
PROF. DR. FAUZIA SHAMIM  
PHD TESOL, UK; MA LINGUISTICS FOR ELT, UK; MA ENGLISH, KARACHI, PAKISTAN.

**SENIOR LECTURER**
ADEeba AHMAD  
MPHIL EDUCATION, KARACHI; MA ENGLISH LITERATURE, KARACHI; TEAP, UK.

**VISITING FACULTY**
REHMAT EBRAHIM  
MA ENGLISH, TRAINING OF TRAINERS, TESOL INTERNATIONAL USA

NADINE AHMED  
MA ELT, UK

**BOARD OF STUDIES**  
(EXTERNAL MEMBERS)

DR. FAISAL NAZIR  
ASSISTANT PROFESSOR  
DEPARTMENT OF ENGLISH  
UNIVERSITY OF KARACHI

DR. MEHVISH SALEEM  
ASSISTANT PROFESSOR  
HEAD DEPARTMENT OF COMMUNICATION  
INSTITUTE OF BUSINESS MANAGEMENT
COLLEGE OF EDUCATION

KEY INFORMATION

PRINCIPAL
Ms. Rana Hussain

CONTACT INFORMATION

Website: https://coe.zu.edu.pk/
Telephone: (9221)36677689
Email: info@zu.edu.pk
Locate Us: D-64, Block-H, North Nazimabad, Karachi
VISION
The vision of Ziauddin College of Education is to build human capital by utilizing human potential and capabilities for building the society and the nation at large.

MISSION
The Ziauddin College of Education will be a national leader in:
1. Improving scholarship of teaching and learning, and;
2. Providing leadership in service and outreach, through engaging schools to organize communities of practice for teachers and strengthening school development programs.

PROGRAMS / COURSES
1. Pre-service Degree Programs
a. After Graduation - 2 & 1/2 years = (14 + 2 1/2)
   first 6 month Zero / bridging semester, then 2 years B.Ed. study
b. After Masters - 1 & 1/2 years = (16 + 1 1/2) 1.5
   year B.Ed. study [qualify for Secondary and Higher Secondary schools]
c. After Inter 4 years (12 + 4) = 4 year B.Ed. [Hons] Elementary study

2. In-service Degree Program (as approved by HEC)
a. In-service Associate Degree program in Education (Elementary) for undergraduate teachers (2 years).
b. In-service B.Ed. [Hons] 2.5 Years Degree program in Education for Graduate teachers as an Alternate Pathway

Please note: Graduate students opting for alternate pathway to complete B.Ed. Hons degree will take an additional semester (18 credits).

3. Certificate Courses: Credit bearing /Non-credit
Continuous Professional Education (CPE) for partner school teachers

ASSESSMENT
Assessment will be done through classroom-based tasks (40%) and mid-term/final exam (60%).

ATTENDANCE
Attendance in classes is mandatory. You will need a minimum of 80% attendance in a course to sit for the final exam.

FEE STRUCTURE
B.Ed. (Hons) Elementary 4 years
Admission Fee: Rs. 5,000/-
Tuition Fee: Rs. 30,000/- per semester
Examination Fee: Rs. 10,000/- per Sem
Security Deposit: Rs. 5,000/- Refundable
Student activity fund: Rs. 10,000/- per year

B.Ed (Hons) Elementary 2.5 years
Admission Fee: Rs. 5,000/-
Tuition Fee: Rs. 30,000/- per semester
Examination Fee: Rs. 10,000/- per Sem
Security Deposit: Rs. 5,000/- Refundable
Student activity fund: Rs. 10,000/- per year

B.Ed (Hons) Secondary 1.5 years
Admission Fee: Rs. 5,000/-
Tuition Fee: Rs. 30,000/- per semester
Examination Fee: Rs. 10,000/- per Sem
Security Deposit: Rs. 5,000/- Refundable
Student activity fund: Rs. 10,000/- per year

ADE Elementary 2 years
Admission Fee: Rs. 5,000/-
Tuition Fee: Rs. 30,000/- per semester
Examination Fee: Rs. 10,000/- per Sem
Security Deposit: Rs. 5,000/- Refundable
Student activity fund: Rs. 10,000/- per year

Certificate Courses: Credit bearing/Non-credit
Up to 40 Hours
Tuition Fee:
For Ziauddin and Partner School teachers: PKR 350 per hour
For others: PKR 500 per hour

Please note:
1. An application processing fee of Rs 2,000 will be charged at the time of initial registration.
2. No student will be admitted without taking the Placement Test/Interview.
3. 80% attendance is required to sit for the semester exam.
4. A minimum score of 60% is needed to become eligible for the degree program.
5. The University reserves the right to increase the fee, if required, according to the recommendation of the governing body.

FINANCIAL ASSISTANCE
• Merit scholarships / stipend available for In-Service Courses. *
• Fee for Pre-service Program Courses can be paid in uniform monthly instalments. *
*Terms and conditions apply.
FACULTY MEMBERS

PRINCIPAL
MS. RANA HUSSAIN
M.ED. UNIVERSITY OF TORONTO, CANADA

VISITING FACULTY
AS REQUIRED.

BOARD OF STUDIES
DR. NASREEN HUSSAIN
HEAD DEPARTMENT OF EDUCATION
INSTITUTE OF BUSINESS MANAGEMENT

DR. NUSRAT RIZVI
ASSISTANT PROFESSOR AND COORDINATOR
MASTER’S PROGRAM
AGA KHAN UNIVERSITY, INSTITUTE OF EDUCATIONAL DEVELOPMENT
THE LANGUAGE CENTRE

KEY INFORMATION

DEAN, FLAHS
Prof. Dr. Fauzia Shamim

ACADEMIC COORDINATOR
Ms. Adeeba Ahmad

CONTACT INFORMATION
Website: https://lahs.zu.edu.pk/centers-and-institutes/the-language-center/
Telephone: (9221) 35862937-9
Email: info@zu.edu.pk
Locate Us:
The Language Centre, D-24, Clifton Block-I, Karachi.

PROGRAMS OFFERED

- English for Academic Purposes (EAP)
- Exam Preparation Courses (IELTS, SAT, GRE)
- Specially Designed Courses for the Corporate Sector
- English for Specific Purposes (ESP)
- English for Employees Program (Workshops / Courses)
VISION
To become the language centre of choice in Pakistan.

MISSION
To provide world class language learning opportunities and enriching environment to Ziauddin University students and to the wider community for academic success and improved life chances. To contribute to the development of the English language teaching, profession, and professionals, in Pakistan.

PROGRAMS/COURSES
1. English for Academic Purposes (EAP):
   If you are a current student at ZU or any other higher education institution, you have this unique opportunity to join one or more courses according to your identified needs and specific goals for academic study and for life beyond the university.

2. Exam preparation courses (IELTS, SAT, GRE):
   4 weeks intensive or 50 hours spread over a period of one semester.
   All students at ZU or at other educational institutions who are looking for high quality learning opportunities to improve their proficiency in language for international exams.

3. Specially Designed Courses for the Corporate Sector:
   3-4 hour workshops, 10-15 hour short courses, and up to 50 hours longer courses- as per need, for example, Writing Emails and Memos, and Report Writing.
   For various levels of staff in the corporate sector.

4. English for Specific Purposes (ESP):
   These courses will be tailor-made for teachers, students and coordinators etc. based on needs analysis, and will focus on identified areas for improvements, for example, English for Medical Professionals.

5. English for Employees Program:
   These workshops and courses are tailor-made for ZU and outside ZU employees at the Junior or Middle Manager level, who wish to enhance their service English skills and learn effective strategies to promote the use of the target language in their work context.

5 (a). Workshops:
   These are 4 hour workshops for employees, offered on Saturdays only. Employers/employees can choose any of the courses offered as per need.

5 (b). Courses (Different Duration):
   These are longer courses (up to 50 hours) with classes held on Saturdays only (4 hours per week).
   Employers/employees can choose any of the courses offered as per need.

ADDITIONAL SERVICES
In addition, the Centre offers support services to all departments/colleges at Ziauddin University for improved teaching-learning of English. This includes needs analysis, curriculum development and review, selection of learning materials and resources, developing assessment procedures and tools, monitoring and evaluation of programs and faculty including faculty appraisal, recruitment of faculty, and faculty development.

TLC TIMETABLE
MONDAY: 4:00 – 6:00 pm, 6:00 – 8:00 pm
TUESDAY: 4:00 – 6:00 pm, 6:00 – 8:00 pm
WEDNESDAY: 4:00 – 6:00 pm, 6:00 – 8:00 pm
THURSDAY: 4:00 – 6:00 pm, 6:00 – 8:00 pm
FRIDAY: 4:00 – 6:00 pm, 6:00 – 8:00 pm
SATURDAY: 9:00 – 11:00 am, 11:30 – 1:00 pm

AWARD OF CERTIFICATES
After the completion of The Language Centre course(s) / workshop(s), the candidates will be given certificates of completion / participation.

FEE STRUCTURE
English for Academic Purposes (EAP)
Duration: 50 hours over a period of one term
Fee: Rs 15,000/-

Exam preparation courses (IELTS, SAT, GRE)
Duration: 50 hours over a period of one term
Fee: Rs 15,000/-

Specially Designed Courses for Corporate Sector
Duration: 50 hours over a period of one term
Fee: Rs 25,000/-

English for Specific Purposes (ESP)
Duration: Need Based
Fee:
• ZU Clients: Rs 350 / hr.
• Outside Clients: Rs 500 / hr.

English for Specific Purposes (ESP) Workshops for Employees
Duration: 4 hour workshops
Fee:
• ZU Employees: Rs 1500 per workshop
• Outside ZU Employees: Rs 2200 per workshop

English for Specific Purposes (ESP) Courses for Employees
Duration: 4 hours per week (Different duration)
Fee:
• ZU Employees: Rs 350/ hr.
• Outside ZU Employees: Rs 500/ hr.

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.
FACULTY MEMBERS

ACADEMIC COORDINATOR
ADEEBA AHMAD
MPHIL EDUCATION IOBM KARACHI.
MA ENGLISH KARACHI UNIVERSITY.
TEACHING ENGLISH FOR ACADEMIC PURPOSES (TEAP), SCHOOL OF ORIENTAL AND AFRICAN STUDIES (SOAS), UNIVERSITY OF LONDON, UK.

VISITING TEACHERS
AS REQUIRED.

ADVISORY BOARD INTERNAL MEMBERS
ZU DEANS AND PRINCIPALS

ADVISORY BOARD (EXTERNAL MEMBERS)
DR. FATIMA DAR
DIRECTOR, CURRICULUM AND PROFESSIONAL DEVELOPMENT & CENTRE
FOR ENGLISH LANGUAGE.
IQRA UNIVERSITY, KARACHI

DR. BUSHRA KHURRAM
ASSISTANT PROFESSOR, DEPARTMENT OF ENGLISH,
UNIVERSITY OF KARACHI
DEPARTMENT OF CONTINUING PROFESSIONAL EDUCATION

The Ziauddin University department of Continuing Professional Education is committed to serving through programs of excellence in education, patient care, research and other public service initiatives, which advance the health of the general public. Continuing professional education provides opportunities for the health care professionals to continue learning, utilizing adult learning principles and available technology.

Major responsibilities of the Program are:
- To identify the educational needs and interests of the professionals.
- To provide learning opportunities for new knowledge and skills.
- To partner with other healthcare facilities and educational institutions to promote public health.
- To strive to heighten the health professional’s awareness of the need for compassion in patient care and the dignity of human life.

The DCPE provides assistance in planning, developing and providing activities to physicians, nurses and other allied health care personnel in ZU. The courses would be offered to health care providers at the local, national and regional levels in full compliance with University policies.

To maximize learning opportunities, a wide range of activities are offered which include, formal courses, seminars, workshops, video conferences/distance learning, journal clubs, grand rounds and teaching conferences, and innovative technologies such as web-based learning activities for personal skill development in medical procedures and teaching competence. All activities are conducted in compliance with the essentials of the PMDC and Accreditation Council for Continuing Medical Education and the rules and regulations of the Ziauddin University.
DEPARTMENT OF EDUCATION DEVELOPMENT

The Department of Educational Development (DED) aims to enhance quality in academic activities of all health care disciplines of ZU with vision to bring recognition both at national & international level through Innovations, Leadership & Research. The scope of its activities includes:

• Undergraduate and postgraduate education based on adult learning principles.
• Capacity building of the faculty in innovative methods of teaching, learning and assessment.
• Consultations to all faculties and disciplines including health-care to address educational issues related to respective programs.

Range of these services encompasses review of curricula, teaching & assessment. To accomplish these tasks; DED works in collaboration with respective Deans, Principals, Associate Deans, Department Chairs, Program Directors, and various committees on curriculum and assessment. Our main focus is on student centered learning by providing quality education in a conducive learning environment. To stay them at par with international standards, DED has incorporated themes of Patient Safety and Ethics in their curricula. To ensure the quality standards, DED is working on self-assessment of undergraduate medical program according to the basic & quality standards of World Federation of Medical Education (WFME).

DED promotes Continuous Professional Development in educational methodologies as a mainstay of its mission by organizing and conducting educational workshops at inter-professional level as a regular activity across institution. To promote role of health-care teachers, from this year, a six months blended learning certificate course in Health Professions Education (CHPE) has been initiated for all healthcare disciplines at local as well as at national level.
DEPARTMENT OF RESEARCH

VISION
To be recognized as the icon of innovative cutting edge basic applied and translational research.

MISSION
Advancing research and developing the University’s reputation as the most renowned private sector academic research based institution. Cutting edge clinical and translational research bringing medical innovation to patients care and industry. Resident’s and fellows independent research projects for the acquisition of degrees with a drive for lifelong learning through research and creation of new knowledge. Ensuring that research meets the highest ethical and quality standards through open transparent processes.

INTRODUCTION
Research excellence in all fields of study is central to the mission of Ziauddin University and a pinnacle priority, as the key element to the success of the University’s academic profile that needs to be preserved. Education at ZU would not be complete without its vital research community. The Health Sciences Research Program encompasses several faculties and departments across ZU campuses that contributes to a rich atmosphere. A wide range of research and clinical facilities for student learning and innovation are present in different campuses with extensive interaction between the basic science and clinical faculty. The Faculty of Health Sciences including the College of Medicine, Dentistry, Nursing, Rehabilitation, Speech language & hearing sciences offer unparalleled opportunities for interdisciplinary cooperation in health sciences education and research. The expertise of many Health Sciences faculty covers a broad spectrum of disciplines that includes both basic science wet-lab research and clinical research in human health and disease, with a provision of expanding graduate program to be offered in Medicine, Pharmacy and Allied Health Disciplines. All are in the continued pursuit of ever greater accomplishments in research through our commitment to innovation, excellence, and quality. We share new knowledge for educating and inspiring tomorrow’s leaders as university education is all about the generation of new knowledge through research. Furthermore, ZU faculties maintain active research laboratories that are exploring existing questions, spanning from the most basic to the most translational aspects of health sciences represented by the national and international publications in reputed journals. The Faculty of Health Sciences organizes all research Ph. D. tracks within the Ziauddin University that are: College of Medicine College of Dentistry College of Speech, Language and Hearing Sciences College of Physical Therapy College of Nursing College of Medical Technology
CORE FACILITIES
The ZU faculty maintains active research laboratories that are exploring existing questions, spanning from the most basic to the most translational aspects of health sciences research. State of the art research and diagnostic facility (MDR 1, 2 and 3) is available at Ziauddin University and Hospital with the provision of advanced instrumentation and provision of following facilities:

- DNA and RNA extraction, cDNA synthesis, conventional and real time PCR, agarose gel electrophoresis
- Tissue and cell culture facility
- Tissue processing and sectioning facility
- Imaging facility with high resolution microscopy
- Immunohistochemistry and immunocytochemistry facility
- Power lab
- Proteomics lab
- HPLC lab
- Bioinformatics lab
- Animal House facility

Services are available along with training on all equipment, guidance on experimental design and assistance in all equipment’s operation. The postgraduate students avail the services at Clifton Campus and also visit North site in the various sub specialties through coordinators mentioned below:

- Director (Clinical Laboratories, HOD Clinical Pathology)
- HOD (Diagnostic Molecular Genetics)
- HOD (Histopathology)
- HOD (Microbiology)
- HOD (Hematology)
The Pharmacy Laboratory and Animal House of Ziauddin University also provide research support as required in the projects.

RESEARCH TRAINING AND PROMOTION
Department of Research has the responsibility for the conduct of PhD, MPhil, and MSc programs in various disciplines of ZU. Certificate Courses and workshops on various topics are designed to facilitate physicians, junior faculty and mid-career clinicians, graduate & undergraduate students:

- Research Methodology Courses & Workshops
- Research Ethics Course Work
- EndNote application and organizing research
- Manuscript writing skills
- Plagiarism software hands on workshop
- Workshops on Clinical Trial
- Sample size calculation and data analysis, SPSS
- Guidelines for preparing effective Oral/ Poster Presentations
- Developing Research Question and Hypothesis Testing
- Hands on workshops on Molecular Biology techniques
- Hands-on workshops on Cell Biology techniques
- Hands on workshops on Tissue and Cell Culture techniques
- Research Methodology workshops
- National and International Health Sciences Thematic Conferences
- Distinguished Lecture Series

PUBLICATIONS OFFICE
The Research Department facilitates and promotes the research publications to provide access to the faculty, graduate and undergraduate students of Ziauddin University and other National Universities through the following PMDC/HEC recognized journal.

- The Pakistan Journal of Medicine and Dentistry (PJMD)

RESEARCH METHODOLOGY COURSES & WORKSHOPS AT NORTH CAMPUS
The track offering extended research methodology courses and workshops at North site has been initiated by the Research Department in collaboration with the Department of Community Health Sciences (CHS).

SUMMER INTERNSHIP/TRAINING PROGRAM
Intensive training courses are designed to expose students to state of art techniques in molecular biology and genetics. It is meant to develop skills and building tools for conducting independent research in Health Sciences. This program helps in mentoring the career development, awareness and interests of university undergraduates/Faculty in Health Sciences Research.

NEW INITIATIVES
International and National Collaboration
The Research Department’s overarching aim in supporting international; research collaboration is to maximize ZU’s contribution to and benefits from international and national research collaborations, partnerships.

- University College of London and King’s College, London, UK
- Karolinska Institute, Sweden University of Wisconsin, School of Medicine and Public Health, Milwaukee, USA
- State University of New York at Stony Brook
- Suny Upstate Medical Center, Syracuse, NY, USA
- Department of Pathology and Lab medicine, University of Ottawa, Canada
- Sheffield University, UK
- University of Karachi
- Aga Khan University
- Brand University
- Dow University of Health Sciences

CORE FACILITY SERVICES
Ziauddin University is offering core lab services at national level at affordable cost to the researchers at national level at an affordable cost such as RNA isolation, DNA isolation, reverse transcription, primer designing, PCR, RFLP, gel electrophoresis, gel imaging, nucleic acid sequence analysis, ELISA, HPLC, routine and specialized histological techniques along with high resolution microscopy and advanced imaging technology.

Core personnel continue to stay abreast of technological advances. It is encouraged to contact research scientists to arrange for consultation or to provide feedback. Faculty is available to develop projects of all caliber, standard or custom assay design, and any other specialized application needs.

Following URL can be visited to avail the core facility services:
https://zu.edu.pk/research/multidisciplinary-research-laboratories/

M.PHIL MOLECULAR MEDICINE
INTRODUCTION
Research Department has taken an initiative to launch a new MPhil program at Ziauddin University in the field of Molecular Medicine. It is a rapidly changing field which requires interdisciplinary insight and deals with the understanding of the molecular basis of diseases diagnosis and management. It has applications in both research and practical clinical work, and will contribute to an increased understanding of processes, diagnosis, and treatment of diseases. This program with its multi-faceted approach would provide a wide coverage for development of knowledge based, skills & research to the trainees with medical, dental and background of science in general.

OBJECTIVES OF THE PROGRAM:
- To produce teachers and research scholars with in-depth knowledge of molecular genetic mechanisms of disease processes and diagnostics in molecular medicine.
- To provide training to the research scholars with skills in laboratory techniques pertaining to recent advances in molecular biology and genetics.
- To provide an open scientist and physician nurturing environment for understanding the basic molecular mechanisms involved in the investigation of clinical problems
- To conduct and publish high quality research in scientific journals

ELIGIBILITY CRITERIA
Sixteen years of education in Biological Sciences [Biochemistry, Genetics, Microbiology, Biotechnology, Medical Technology, Physiological etc.], M.B.B.S., B.D.S., D.V.M., Eastern Medicine and Pharm.D or equivalent degree from HEC recognized institutions with minimum cGPA of 2.5 on a scale of 4.00 in B.S./M.Sc. in
semester system or 60% marks in annual system. Admission in M.Phil will be confirmed only after passing ZU M.Phil entry test and interview conducted by ZU.

This year there would be the launching of the Ph.D. in Molecular Medicine Program for clinicians and basic scientists.

RESEARCH DEPARTMENT FACULTY AND RESOURCE PERSON
• Prof. Talat Mirza, MBBS, PhD (Executive Director Research)
• Prof. Dr. Saeeda Baig, PhD (Director MDRL, HOD Biochemistry)
• Dr. Shamim Mushtaq, PhD (Director PG, BHS)
• Dr. Rehan Ahmed Siddiqui, PhD (Asst. Professor)
• Dr. Shumaila Usman, PhD (Asst. Professor)
• Dr. Rehan Imaad (Asst. Professor)
• Dr. Ambreen Khatoon (Asst. Professor)
• Mr. Moazzam A. Shahid, MSc, MPhil, PhD Research Fellow (Research Officer)
• Ms. Ambreen Wasim (Biostatistician)
• Ms. Saba Farooq (Senior Administrative Officer)
• Ms. Sadia Farrukh (Managing Editor, PJMD)
• Ms. Memuna Syed Bukhari (Assistant Editor, PJMD)

ZU-FHS-PHD FACULTY
• Prof. Dr. Pirzada Qasim Raza Siddiqui
• Prof. Talat Mirza
• Prof. Dr. Zahida Memon
• Prof. Dr. Saeeda Baig
• Prof. Dr. Qamar Jamal
• Prof. Dr. Bushra Wasim
• Prof. Dr. Fauzia Shaikh
• Prof. Dr. Qudsiya Hassan
• Prof. Dr. Arif Hussain
• Dr. Shamim Mushtaq
• Dr. Razma Khan
• Dr. Zil-e-Rubab
• Dr. Rehan Ahmed Siddiqui
• Dr. Shumaila Usman
• Dr. Ambreen Khatoon
• Dr. Rehan Imaad
• Dr. Sumeera Imran Farooqui
• Dr. Amna Amir Khan
• Dr. Syed Abid Ali Kazmi
• Dr. Pamela Marshall
• Dr. Yasmin Anarsi
• Ms. Amrina A. Siddiqui

CONTACT INFORMATION
Office of the Executive Director Research, Ziauddin University
Karachi 75600, Pakistan
Tel: +92 21 35862397-9, Ext. 2365 & 2366
Fax: +92 21 35862397
Email: deanresearch@zu.edu.pk
URL: www.zu.edu.pk
QUALITY ENHANCEMENT CELL

Ziauddin University has always played a leadership role in accepting and adapting best practices in the field of Education. Quality Enhancement Cell (QEC) of Ziauddin University has the commitment to ensure that educational provision of all the constituent institutions of the university are operating with appropriate academic standards as provided by the respective accrediting bodies and are taking deliberate steps to bring about continual improvement in learning experiences of the students.

The mission of QEC of Ziauddin University is to bring advancement in the community of learning by assuring incessant improvement in the quality of academic programs through accountability, review of design and policies, systematic documentation and analysis of curriculum, aiming to identify and support best practices in the field of education.

At Ziauddin University, quality assurance is built on the principles of continuous improvement with the involvement of all the stakeholders. QEC has developed a culture, which recognizes the importance of quality and quality assurance in approval, monitoring and periodic review of academic programs. Review of academic programs is carried out by adopting HEC guidelines for self-assessment. Online facility is available for Student course evaluation, teacher’s evaluation survey and faculty course review report. Graduating student survey, alumni survey and employer’s survey are also employed as important tools in this regard.

An explicit follow-up procedure is in place to review the actions taken by each program subsequent to the Self Assessment process.

Internal audit of the university’s academic and administrative departments is also carried out for ensuring compliance with the Quality Assurance Framework set by the various accrediting bodies.

QEC spearheads Institutional Performance Evaluation of Ziauddin University by HEC and is responsible for meeting the requirements of HEC with regard to quality assurance and providing them with the required data.

QEC provides service to Ziauddin University graduates by coordinating and managing data entry of all the degree programs of the University at Pakistan Qualification Register (PQR). PQR is an online service from HEC which helps to ensure quality of degrees/qualifications to all the stakeholders, international recognition of the degrees/qualifications, recognition of credit transfer process, online attestation of the degrees and national and international scholarships.

In order to keep abreast with the advancement in Higher Education sector and for continuous quality improvement, QEC staff actively participates in the national events organized by HEC and other higher educational institutions of Pakistan.
NATIONAL AND INTERNATIONAL LINKAGES

Ziauddin University fosters long-term partnerships with various educational institutions/universities/organizations at national as well as international levels. These partnerships provide bilateral opportunities for scholarly collaboration, curricular reform, faculty development and faculty and student exchanges, video conferencing, and person-to-person interactions to improve the quality of teaching, learning and education.

Ziauddin University has developed linkages with the following:

1. Agreement on collaboration between Ziauddin Medical University and Qaiser Siraj Memorial Trust, Islamabad Pakistan, (4th Aug, 2003)
2. Memorandum of Understanding between Sobhraj Maternity Home and Ziauddin Medical University, (16th Sep, 1995)
3. Department of family medicine, Ziauddin Medical University with HO and Sinch TB Control Programme to assist implementation of DOTS. (25th Aug, 2004)
4. MOU between Ziauddin University and Speech and Hearing association of Pakistan (SHAP). (22nd Sep, 2004)
5. MOU between Department of Family Medicine and Community Health Sciences, ZU and Rana Liaquat Ali Khattar Craftsman Colony Welfare Trust, (14th March 2007)
6. MOU between National Institute of Blood Diseases and Bone Marrow Transplant (NIBD) and Ziauddin University, (21 Aug, 2008)
7. MOU between Ziauddin University and InSource Advisors, Inc. Houston, USA, (28 July, 2009)
8. MOU between Ziauddin University and University of Bedfordshire, (27th July, 2009)
9. MOU between Ziauddin University and Peoples Medical College for Girls (PWCCS), Nowabshah, (20, Feb, 2010)
11. MOU between Ziauddin University and the International Adjunct Physical Therapy Faculty [IAPTE], (15th Sep, 2015)

Memberships:
Ziauddin University is a growing university and endeavors to make its existence felt at international forums of higher educational bodies. Learning by sharing experiences with international higher education bodies is used to improve the quality of learning experience of our students. Ziauddin University is enjoying the membership of:
- Association of Commonwealth Universities
- Asia Pacific Quality Network
- International Association Of Universities
- The Talloires Network

12. MOU between Ziauddin University and Fatima Jinnah Dental College, (19th June, 2015)
14. MOU between Ziauddin University and INJAZ Pakistan, (18th Aug, 2015)
15. MOU between Ziauddin University and Pakistan Microfinance Network [PMN], (20th Aug, 2015)
16. MOU between Ziauddin University and European Society for Translational Medicine [EUSTM], (1st Feb, 2016)
17. MOU between Ziauddin University and Valparaiso University, (4th May, 2016)
18. MOU between Ziauddin University and I am Karachi [IAX], (9th Aug, 2016)
20. MOU for Clinical Collaboration between Ziauddin College of Speech Language & Hearing Sciences, Ziauddin University and ACELP, Institute of Child Development, (15th March 2018)
OFFICE OF RESEARCH, INNOVATION & COMMERCIALIZATION

Office of Research, Innovation and Commercialization (ORIC) at Ziauddin University, is the centralized umbrella Directorate for research, innovation, commercialization and external collaborations. It strives to support high-quality applied research by developing linkages between Industry, Academia, Government and the Community. ORIC oversees activities related to research, publication conferences, workshops, international collaborations, industry affiliations and sustainability initiatives operational at the Ziauddin University, Karachi.

ORIC was established at the University in 2015 based on proposed guidelines of the Higher Education Commission (HEC), Islamabad for all Universities/DAIs of Pakistan, and is fully recognized and registered with HEC. The ORIC was officially notified by the HEC in October 2020. ORIC at Ziauddin University was established with an aim to provide strategic vision and operational support to the University’s innovation & entrepreneurship ecosystem.

ORIC also aims to act as a catalyst for the transformation of knowledge towards innovation and its subsequent commercialization leading to a positive impact on the welfare and well-being of our nation. In this regard it provides end to end services for all matters about research & development, innovation.

OBJECTIVES

- Developing strategic research directions and policies
- Increasing and diversifying research funding
- Strengthening university-industry relationships
- Promoting entrepreneurship and innovation
- Technology Transfer and commercialization
- Sustainability and Internationalization
ORGANIZATIONAL STRUCTURE

As an umbrella which covers all aspects of research and innovation, ORIC works closely with the faculty and students of university to develop on-campus Business Incubators & S&T Park. ORIC also serves as a conduit to local, regional and federal partners to ensure achievements in research and innovation leading to growth in university and its international standings.

ENTEPRNEURIAL SUPPORT SERVICES

As an umbrella which covers all aspects of research and innovation, ORIC works closely with the faculty and students of university to develop on-campus Business Incubators & S&T Park. ORIC also serves as a conduit to local, regional and federal partners to ensure achievements in research and innovation leading to growth in university and its international standings.

Ziauddin Entrepreneurship Society is operating under the umbrella of ORIC as a student wing that is dedicated to discover, engage and foster creativity and to bring up true entrepreneurial leaders from the university. Startup competitions for students across, for all students of all universities across Sindh is one of the key attributes of this society.

ORIC has organized on the themes of capacity building of young innovators and entrepreneurs and several workshops and trainings organized within the same lines for the entrepreneurial Development. The outcomes of these workshops has resulted in enhanced awareness and interest in entrepreneurship at all levels of student body. ORIC is also encouraging faculty and researchers to step up and engage with existing start up or launch new start up based on the its innovations and new product ideas.

INTERNATIONAL OFFICE

The ORIC at ZU has also established the International Office for propagating Global presence of ZU brand. Our most recent projects are:

- Monash University, Australia University for Pakistan wide Study, for clinical data research on Covid 19 Patients.
- Stem Cells, Australia, - We are joint research partner with Stem Cells Australia for exploring treatments at genetic level
- Oxfam GB, UK, for Gender Mainstreaming through Edutainment

Our other collaborating partners include University of Bedfordshire, Valparaiso University and European Society for Translational Medicine (EUSTM), National Institute of Blood Diseases and Bone Marrow Transplant (NIBD) and InSource Advisors, Inc. Houston, USA.

We are also member of multiple international organizations promoting academia and research. We are members of the Association of Commonwealth Universities, Talloires Network, Association of University Leaders for a Sustainable Future (ULSF) and International Association for Universities.

SUSTAINABILITY OFFICE

As sustainability is one of the major issues facing the global community, ORIC has established the Sustainability Office to work towards the achievement of United Nation’s Sustainable Development Goals. In this regard, it promotes research and activities for all the 17 SDGs.

ORIC has developed a dedicated office to manage all activities which are in line with meeting sustainability priorities of United Nations. Sustainability Office oversees the universities progress towards sustainable development, including Green Initiatives. The office also ensures that university is meeting all SDGs compliance requirements as part of its Social responsibility. The office holds awareness sessions regarding UN SDGs both to internal and external audience. The office, alongside other divisions, manages and promotes the research leading to innovations that will help to advance the SDGs.
REFUND POLICIES
Refund of fee will be according to the following rules.

Condition:
* Withdraw before commencement of classes: Refund of full tuition fee
* Within 45 days of commencement of classes: Refund of half tuition fee
* After 45 days of commencement of classes: No refund.

STUDENT COUNSELLING
Counseling is provided by a professional counselor and staff member. This counseling is designed to assist student in resolving personal problems that are interfering with their academic progress and success. Such problems might include difficulty in adjusting to college, family concerns and/or low self-esteem.

CODE OF CONDUCT
Student are expected to observe generally accepted standard of conduct. The University reserve the right to exclude any student whose conduct is injurious to the University.

FINANCIAL POLICY
Student seeking admissions to Ziauddin University are expected to pay the fees approved by the Governing body of the University. Admission fee is submitted only, once at the time of admission to the first year. For subsequent year, students are required to pay only the tuition fee. For local student, all fees are paid in Pakistani currency, and for overseas student all fees are paid in US dollars. Parents/guardian are advised to ensure that fee for each academic year is paid within the due date. The University reserves the right to cancel admission if the fee is not paid within the due date. Student who repeat the year due to failure or otherwise are required to pay the tuition fee for the year/s being repeated.

The University does not handle cash or personal cheques. Fees must be paid in the form of pay order payable to Ziauddin University. Late fee charges will be levied as per university policy after due date.

FINANCIAL AID
The University provides this facility to limited number of candidates based on merit and individual needs. Each case is treated on individual basis and decisions are made by the financial aid Committee.

* ALL dues needs to be paid within 2 weeks of commencement of the academic year

* 2% surcharge per month will be levied on outstanding fees after the due date.
EXTRA CURRICULAR ACTIVITIES
DEPARTMENT OF
STUDENT AFFAIRS

INTRODUCTION
At a higher education institution, academics, mental growth and physical training of the students are the responsibilities of the institution. Hence, universities are obliged to have a Student Affairs department that organises and manages student activities. The Student Affairs department is a division that plans events and workshops which are effective for the students and prepares them to face challenges of the practical world. For instance, public speaking and critical thinking are required in most of the jobs today. These could be developed easily by participating in co-curricular and extracurricular activities.

At Ziauddin University a wide range of extracurricular activities, professional workshops for students, and seminars have been conducted for student’s capacity building, grooming and confidence building. Students are also provided career guidance and mentoring sessions for their professional development.

Regards
Dr. Almas Farhan

OBJECTIVES
• Facilitating student societies of Ziauddin University to conduct events that are according to their constitution and society objectives.
• Actively seek out student opinions on matters of concern.
• Advising the administration on any matters of concern to the student body.
• Maintaining communication and establishing strong relations between the students and the administration.
• Provide feedback and suggest amendments in university policies to create a better atmosphere for the students.
• Assisting students of Ziauddin in their queries, problems, etc.
• Promoting and ensuring accountability within the student societies.
• Arranging frequent extracurricular activities for the students.
Each participant was taught about different emergency scenarios and was given hands on training in applying bandages, performing CPR & more. All the participants are now certified first-aid responders. An amount of Rs. 56,825 was also generated and used for the treatment of underprivileged patients.

3. ANNUAL BLOOD DRIVE
216 lives were potentially saved as 72 pints of blood were donated by students and staff of Ziauddin University.

4. SURGICAL SKILLS WORKSHOP
Welfare Aid successfully conducted surgical skills workshop in June. The workshop was in collaboration with Neurosurgeon Dr. Tariq Mohammed and General surgeon Dr Zubia Masood. Each participant was taught multiple suturing techniques.

5. ANNUAL BAKESALE
A net profit of Rs.102,103, was generated from the bake sale! The processings were used to support the treatment of patients at Ziauddin University Hospital, Kemari.

6. Ramzan Drive 2019
Welfare Aid distributed a month’s worth of ration to 80 deserving families in Karachi. On the 7th of June, students also gathered under the banner of Welfare Aid, in the premises of Ziauddin Hospital, Kemari to distribute Iftar boxes to 150 staff members.

7. RATION DRIVE 2019
Welfare Aid collected Rs. 240,000 for their annual Ration Drive and supplied a month’s worth of ration to 116 families in Kemari, Gulshan-e-Sikanderabad, Baldia Town and Baba Bital to help them in the month of Ramadan.

8. EID-UL-FITR PROJECT 2019
Team Welfare Aid distributed gifts to 32 deserving individuals, including the hard-working staff members of Ziauddin Kemari Campus.
3. BONFIRE (DECEMBER 2019)
The last Saturday of January marked a momentous occasion for the students of Ziauddin University. Two of the university’s largest student run societies, Welfare Aid and Ziauddin Literary and Cultural Society (ZLCS), joined forces to host a Bonfire Movie night.

4. IFTAR DRIVE AT DARUL SAKUN
The annual Ziauddin Literary and Cultural Society Iftarnival was held on the 2nd of June at Dar-ul-Sukoon’s home for senior citizens. Many of the university students volunteered and helped with the distribution of iftar.

1. ZU Atlas have published 2 student magazines till 2019.

ZIAUDDIN UNIVERSITY ATLAS

An atlas is a collection of maps – a 2-D representation of reality. It serves as a lodestar, a guide for the weary traveller through dark nights and unfamiliar waters. The Ziauddin Atlas hopes to achieve the aim of mappers of yore. The society hopes to take the complex thoughts and dreams that characterise the student body of Ziauddin University and chart them on a magazine; an atlas that can be held in your hands and perused at leisure.

1. ZU Atlas have published 2 student magazines till 2019.

ZIAUDDIN LITERARY & CULTURAL SOCIETY

University life is not all about hitting the books. ZLCS keeps the student body active and entertained through extracurricular activities such as theatre, bake sales, musical events, and scavenger hunts amongst a multitude of other activities.

1. EXTRACURRICULAR WEEK AT ZMC (FEBRUARY 2019)
SCAVENGER HUNT: The extracurricular week started with a Scavenger Hunt. 24 teams were registered.

STAGE PLAY: Ziauddin Medical Students presented an urdu play “Jinnay Lahore nai Vekhiya”, directed by the Ziauddin students Preet Roshan and Fayez Mallick.

BEACH TRIP: The beach trip, is the most anticipated event of the year organised by ZLCS. It included adventure and entertainment with music, water sports and delicious live BBQ.

TALENT HUNT AT ZU: The talent show included approximately 30 performances presented by the students of Ziauddin University.

2. COMEDY NIGHT 2019
Famous stand-up comedian Mr. Akber Chaudhery was called to grace the event. Student leaders also presented their acts.

3. BONFIRE (DECEMBER 2019)
The last Saturday of January marked a momentous occasion for the students of Ziauddin University. Two of the university’s largest student run societies, Welfare Aid and Ziauddin Literary and Cultural Society (ZLCS), joined forces to host a Bonfire Movie night.

4. IFTAR DRIVE AT DARUL SAKUN
The annual Ziauddin Literary and Cultural Society Iftarnival was held on the 2nd of June at Dar-ul-Sukoon’s home for senior citizens. Many of the university students volunteered and helped with the distribution of iftar.
ZIAUDDIN UNIVERSITY DEBATING CHAMPIONSHIP

The tournament honours individual speakers and takes pride in having produced several polished speakers that have represented Pakistan at WSDC, WUDC, and ESDC.

ZIAUDDIN UNIVERSITY DEBATING CHAMPIONSHIP WAS HELD IN FEBRUARY 2019

The programme includes intense parliamentary debating and is open to schools (O-levels and A-levels) and universities. Teams compete with topics ranging from politics, community, economy and other wide variety of themes.

Ziauddin University Debating Championship, one of the most prestigious parliamentary debating championships of the country is hosted annually. Initiated in 2010, ZUDC has gradually evolved into the main event for parliamentary debate in Karachi, giving students an opportunity to articulate their thoughts through reasonable evidence. This year, the tenth edition was hosted over the course of three days, from 8th of February till 10th of February 2019. Over 100 participants representing institutions from all over Karachi came under one roof to participate in the most competitive edition of ZUDC till date. The exceptionally adept host team had their hands full with 24 teams which included institutions like Karachi Grammar School, The Lyceum School, Nixor College, Cedar College, St. Patricks’ High School, Haque Academy, Habib University, Jinnah Sindh Medical University, Institute of Business Administration, Dow Medical College, Szabist, and Beaconhouse Jubilee, as well as two private teams including one from Hyderabad and one comprising of seasoned debaters. A team from Ziauddin University also participated.

After a thrilling debate watched by many, Nixor Red was crowned as the winners while Pink Frued was declared the runner-ups. The most promising team award was given to Nixor O’levels for their tremendous performance while the best speaker award went to Humza Jami.

COUNCILS AT ZIAUDDIN UNIVERSITY

Ziauddin Student Affairs took the initiative of forming individual student councils irrespective of vicinities and student population of individual colleges, back in 2018. Since then, multiple student councils have been functioning and carrying out their extracurricular and co-curricular activities with the collaboration of respective college administration and Student Affairs Department. A universal hierarchy system is also followed in all councils so that it is easy for the student leaders to communicate and manage tasks accordingly.

ZIAUDDIN ADVENTURE SOCIETY

ZAS strives to embolden students to take part in outdoor activities by arranging numerous exploratory excursions that stimulate the mind, and provide an escape from the monotonous university life.

1. Trip to Gorakh Hills (February 2019)
2. Upnorth trip to Hunza (October 2019)
3. Upnorth trip to Kumrat (November 2019)
1. “ALOHA NOVATO”
On March 9, 2019, ZUFEST Student Council organised Aloha Novato, a welcome-cum-farewell party for the freshmen and graduating batch, respectively. It was arranged at Janus Banquet, Gulberg Town, Karachi. The objective of organising Aloha Novato for the students, management, and faculty of ZUFEST was to give the freshies a momentous beginning, and to bid Batch 6 a hearty goodbye.

2. “ZCL (ZIAUDDIN CRICKET LEAGUE) 1.0”
On March 23, 2019, ZUFEST Student Council organised a cricket tournament. The purpose of the event was to instil discipline and build the concept of working in teams.

3. EXTRACURRICULAR WEEK 2019
From Oct 9th to Oct 11th 2019, ZUFEST Student Council organised EC Week. The first day included sports such as futsal and a badminton tournament.

On October 10th, 2019 Thursday, ZUFEST Student council dressed up as their favourite characters. The variety of themes included culture, horror, medieval era, super heroes and some villains. Friday 11th Oct, 2019, was spent on the beach.

STUDENT COUNCIL AT ZIAUDDIN COLLEGE OF REHABILITATION SCIENCES
Patron: Mr. Usman Khan
President: Mr. Rehan Raza (North) and Ms. Unaiza Masood (Clifton)

1. STUDENT COUNCIL OATH TAKING CEREMONY ZCRS
A groundbreaking ceremony took place for the first time in the history of ZCRS, where the Student Council (2018-19) of the department pledged to execute their duties with candor and commitment, to follow the fundamental values of the University, and to abide by all rules and regulations.

2. BEACH TRIP 2019
The Beach Party was held on Saturday, 6th April, 2019 at Turtle Beach, Karachi. This event was distinctive for two reasons; it was the first event that the Student Council processed without substantial supervision. Secondly, it was the first democratic event in the history of ZCRS, which further strengthened the ties of the student body with the council.

3. CULTURE DAY 2019

4. EXTRACURRICULAR WEEK 2019
ZCRS ECA Week 2019 included a Movie Night, a Spring Carnival and two Sports Days. The Sports Days included cricket, football, throwball, badminton and table tennis. The Movie Night at Ziauddin University’s auditorium showcased the classic comedy, “Phir Hera Pheri”, followed by a musical performance by Ziauddin’s own Osaid Tabrez.

5. ANNUAL DINNER 2019
The Annual Dinner 2019 was the ‘big finish’ of the ECA Week. Scheduled at the Movenpick Hotel, on the 15th of July, 2019, AD proved to be a success with the presence of students and teachers.
Technology conducted “The Clean-up Challenge” on 14th September 2019. This was a cleaning activity targeting the vicinity of Ziauddin Hospital (North).

3. ANNUAL PICNIC
In December 2019, the students of Ziauddin University College of Medical Technology, Faculty of Law and Faculty of Eastern Medicine and Natural Sciences headed to turtle beach where the Annual Picnic was held.

ZIAUDDIN FACULTY OF LAW
1. OATH TAKING CEREMONY
Oath taking ceremony for Ziauddin Student Bar Association/ Student Council took place in Dec – 2019. As the newly formed student representative body for the faculty of Law, students were much excited and conducted multiple rehearsals to perfect their oath taking decorum. The ceremony was hosted by Coordinator Student Affairs and the respective oaths from the newly elected council was taken by Dean Law, Shahista Sarki.

PROSPECTUS 2020

STUDENT COUNCIL AT ZIAUDDIN COLLEGE OF NURSING
Patron: Ms. Mehtab
President: Mr. Niamatullah

ZUCON EXTRACURRICULAR WEEK 2019
The EC Week started with the “Cultural Day”. Organised by the students of BSN year III, the event was a didactic journey that showed the exquisite cultures of Pakistan.

Day two and three beckoned to the athletes of ZUCON. With cricket and throwball being the major events taking place, the intense competition magnetised the crowd. The winners, ZUCON Zalmi and BSN Year II, for cricket, and the combined team of BSN year I and RN year I, for throwball.

The fourth day was a result of incredible compassion of the Nurses of ZUCON. The Health and Fun Mela was attended by Dr. Inayat Ali Khan (Expert from Neurosurgery department) and Dr. Tazeen Soeed from Aga Khan University Hospital (Assistant Dean, Research and Assistant Professor AKUSON). The fair provided basic health screenings such as blood pressure checks, glucose and cholesterol blood tests, body composition, vision and hearing tests for little to no cost.

The Grand Tambola event took place on the fifth day of ECA Week, the busiest day of the week, since it incorporated research seminars and the closing ceremony.

Finally, the week ended with a tranquilising annual picnic held at the Countryside Chalet Resort, with students swimming, boating, and horse-riding into the sunset.

ZIAUDDIN COLLEGE OF MEDICAL TECHNOLOGY
Patron: Ms. Humera Rashid
President: Mr. Shahrukh Warsi

1. ANNUAL DINNER 2019
The College of Medical Technology in collaboration with the Department of Student Affairs welcomed its new batch and bade farewell to the outgoing batch.

2. CLEAN-UP CHALLENGE
The students of Ziauddin College of Medical
DEPARTMENT OF SPORTS

OVERVIEW
The vision of the Ziauddin University sports department is to have a positive impact on the students through programmes that endorse sports leadership, wellness, teamwork and ethics. These activities have a profound effect on the physical fitness and mental health of the students. In this regard ZU Sports Department provides full encouragement and a conducive environment for sports activities and programmes intended to teach the youth how to communicate, coordinate and maintain discipline.

OBJECTIVES
- Prepares annual sports budget.
- Manages facilities (ZU Mini Sports Complex and ZU Health and Fitness Centre), its costs, renovation, hiring, equipment, etc. And ensures a productive work environment, maintaining an inventory of all equipment and supplies.
- Makes sure every ZU Department receives an adequate supply of sports equipment.
- Manages uniform ordering, issuing of equipment and stock.
- Prepares and maintains an annual sports calendar of all departments.
- Enforces sports-related policies and procedures, and follows sports formats linked to major competitions.
- Provides and manages all sports facilities in the Clifton and North Nazimabad departments.

ACTIVITIES HELD UNDER SPORTS DEPARTMENT
Participation at a National and Regional level
1. LUMS Sports Fest 2019 (Jan 4-9 2019).
2. 4th Baharia Intercollegiate hard ball cricket tournament (19-28 Feb 2019).
5. Futsal Tournament at Rayden College (26-28 July 2019).
6. 10th Culligan Throwball Championship (17-21 September 2019).
8. 13th AKU Basketball Tournament (21 September 2019).

INTER BATCH AND INTERCOLLEGE ACTIVITIES
1. Ramadan futsal friendly matches.
2. Inter batch cricket matches throughout the year (ZMC).
3. Azadi cup tournament, College of pharmacy (17 August 2019).
4. Inter batch Cricket tournament Ziauddin College Of Dentistry (1 October 2019).
5. Futsal trials (all colleges of ZU) 25 September 2019.
8. Friendly matches of cricket, futsal and throwball.
9. Training sessions for cricket, futsal and throwball held in December.