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Ex-Vice Chancellor and Rector of Aligarh Muslim University

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 appointed as an assistant lecturer in M.A.O 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 to 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. He was single individual after Sir Syed did more in the cause of Muslim education than Dr. Ziauddin Ahmad. He was appointed as Pro-vice chancellor, 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 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.

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.
I welcome all students and their parents who are making a choice to join Ziauddin University.

Since its inception, Ziauddin University has been a dynamic and ever-growing institution. The University provides an enabling environment for quality teaching learning and research through its state-of-the-art facilities and renowned competent faculty members. It offers a wealth of study opportunities across a wide range of professional disciplines. I hope your time here at Ziauddin will help to provide a foundation on which you will make your contributions to a better future for yourselves and the generations that will follow.

Ziauddin University will provide you a variety of possibilities for growing and learning during the next few years, so keep yourselves prepared for availing the opportunities Ziauddin University is offering.

DR. ASIM HUSSAIN
CHANCELLOR, ZIAUDDIN UNIVERSITY

MESSAGE FROM THE CHANCELLOR

Ziauddin University is a renowned institute for higher education in Pakistan. All the programs offered by Ziauddin University are accredited and recognized by the professional bodies like the Higher Education Commission of Pakistan, the Pakistan Medical and Dental Council, the Pharmacy Council of Pakistan, the Pakistan Engineering Council and the Pakistan Nursing Council.

The distinction of Ziauddin University is the educational atmosphere and the meaningful interaction amongst the faculty and the students creating a remarkable environment for learning. The problem-based learning method is also a hallmark of Ziauddin University. The wholehearted contribution of the faculty in the teaching-learning process is indeed commendable. These qualities attract a large number of students each year who join different disciplines of the University.

I wish to welcome all those who have an interest and want to join Ziauddin University for their academic pursuits. Time would prove that this choice was the best.

PROF. DR. PIRZADA QASIM RAZA SIDDQUI
VICE-CHANCELLOR, ZIAUDDIN UNIVERSITY

MESSAGE FROM THE VICE CHANCELLOR
GOVERNING BODY

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

Dr. Nida Hussain,
Pro Chancellor

MEMBERS

Prof. Dr. Pirkada Gaziin Raza Siddiqui
Vice Chancellor, Ziauddin University
Justice Aziz-ur-Rehman,
Honorable Judge, Sindh High Court
Chairman, HEC
or his nominee
Mr. Dr. Manzoor Ahmed,
Dean, Faculty of Health Sciences

Lt. General (Retd.) Moinuddin Haider HI (M)
Former Governor Sindh
Sardar Yasir Malik, SI, NI,
Chairman, Hilton Pharma
Nawabzada Hasan Ali Khan,
Chief Executive, Continental Biscuits
Mr. Anwar Mansoor Khan,
Sr. Advocate Supreme Court of Pakistan

Prof. Dr. Vigarduddin Ahmed,
Vice Chancellor, University of Karachi
Mr. Faisal S. Syed,
Dean, Faculty of Health Sciences
Dr. Arshia Samin Naqvi,
Director Quality Enhancement Cell

Prof. Dr. Manzoor Ahmed,
Vice Chancellor, Ziauddin University
Mr. Faizan S. Syed,
Director Finance, Ziauddin University

Dr. Arshia Samin Naqvi,
Director Quality Enhancement Cell

ACADEMIC COUNCIL

CHAIR
Prof. Dr. Pirkada Gaziin Raza Siddiqui
Vice Chancellor, Ziauddin University

SECRETARY
Engr. Atique Baig
Registrar, Ziauddin University

MEMBERS

Dr. Nida Hussain,
Pro Chancellor
Prof. Dr. Anwar Ejaz Beg,
Advisor to Chancellor/Prof. Pharmacy
Prof. Dr. Abbas Zafar,
Dean, Faculty of Health Sciences
Prof. Dr. Mervyn Hosein,
Principal, Ziauddin College of Dentistry
Dr. Zahida Memon,
Principal, Ziauddin Medical College
Ms. Amina Siddiqui,
Principal, Ziauddin College of Speech Language & Hearing Sciences

Ms. Alta Nazir,
Principal, Ziauddin College of Nursing
Ms. Sumaira Imran,
Principal, Ziauddin College of Rehabilitation Sciences
Dr. Ayeshah Iqbal,
Principal, Ziauddin College of Medical Technology
Ms. Manzhe Ali,
Director, Ziauddin College of Media Sciences
Dr. Khalid Hussain Mahaldo,
Associate Director Academics (Clinical), Karachi Campus
Dr. Ahmed Fawad,
Associate Director Academics (Clinical), North Nazimabad

Dr. Uzma Ghous,
Associate Director Academics, (Clinical) Clifton Campus.
Dr. Arif Hussain.
Assistant Dean, Allied Health Sciences
Prof. Dr. Sadeed Baig,
Head of Department, Biochemistry
Prof. Dr. Jawad Usman,
Head of Department, Family Medicine
Dr. Arshia Samin Naqvi.
Director, QEC
Mr. Madiem Zafar,
Controller of Examinations
Dr. Iram Khursheed,
Director, DED
Dr. Almas Farhan,
Director, CPE

Mr. Syed Afta Atta Shah,
Chair, QEC
Engr. Muhammad Ali,
Chairperson, Electrical Engineering
Dr. Sarmad Shams,
Chairperson, Bio Medical Engineering
Prof. Dr. Munaf Rashid,
Chairperson, Software Engineering
Dr. Ghulam Bashir Pirzada,
Chairperson, Civil Engineering
The primary goal of these libraries is to provide quality information and literature to support and strengthen the university academic research:

**CUTFON SITE:**
1. Prof. Naeem A. Jafarey Library covers:
   - College of Medicine
   - College of Dentistry
   - Faculty of Pharmacy
   - College of Medical Sciences
   - Hospital Clinicians
2. College of Speech Language Therapy & Hear-
   ing Sciences Library
3. College of Rehabilitation Sciences

**NORTH NAZIMABAD SITE:**
4. Hospital Library covers:
   - College of Medical Technology
   - Hospital Clinicians
5. Faculty of Engineering Science & Technology Library
6. College of Nursing Library
7. College of Rehabilitation Sciences

**KEMARI SITE:**
8. KDIH Hospital Library covers:
   - College of Medicine
   - Faculty of Pharmacy
   - Hospital Clinicians

**Library Collection:**
- Printed Material Books
  - More than 15000
  - 79 Titles of International and 50 national Journals on related subjects

- Thesis: 188 Thesis
- CD/DVDS: 995

**Online Full Text Journals:**
- The Access of more than 3000 journals including HEC databases on Bio-Medical, Engineering and Social Science subjects are provided to the Facul-
  ty and Students.
- Basic Sciences: 10 subjects
- Clinical Sciences: 27 subjects
- Non-Medical: 26 subjects

**Library Faculties:**
- All ZU libraries have appropriate seating arrange-
  ments with well-equipped computers in quiet and
cosy environment.

**Library Services**
- Current Content Service
  - The library regularly disseminate the information of each incoming book and journal with their table of contents (and full text if available) to the all
Faculty and research students:

- ZU Faculty Publication Information
  Information of ZU faculty and students published papers is disseminated among the faculty members.

- Anti-plagiarism Software (Turnitin): Check the originality and issue the certificate for the ZU Research Work, e.g. Ph. D., M. Phil, M.D., M.S. M.C.H. etc., theses and other paper & publication before publishing or submitting in the conference.

- Training Provided to the Library users:
  - Training at Literature Search, Reference Management, Citation Verification, and Anti-Plagiarism Software (Turnitin) is provided to the faculty and students.

- Newspaper Clipping:
  - A Newspaper clipping of 16 newspapers on 15 related subjects is being done on daily basis.

- Public Services:
  - More than 100 library users contact to the librarians on daily basis for different purposes e.g. literature search (printed and online materials), literature management, Thesis Formatting, Similarity check, Reprographic services, reference services, E.L. DD. Printing issues, Issues in users’ computer (hardware & software) handling, queries about different services, Miscellaneous and petty support

Library Operations:

- To automate the library literature information and library services the KOHA software is being used in ZU Libraries. The KOHA software is also being used as database and to develop the networking systems.

- National Library of Medicine (NLM) for Literature Classification and Anglo-American Cataloguing Rules (AACR2) and MARC 21 are being used for literature cataloguing.

Library Staff:

- Chief Librarian: Syed Ataullah Shah
- Deputy Librarian: Seyed Khawar Zafar
- Assistant Librarian: Afshan Urooj, Aliya Fareed, Zubaida Teheram, Tabinda Naveed, Abida Younus, Rukhsar Fareed, Bisma Khan and Hira Khan.
- Library Timings: Monday to Friday 8:30 am to 10:00 pm
- Saturday 8:30 am to 4:30 pm

The DEPARTMENT OF RESEARCH

- INTRODUCTION
  Research excellence in all fields of study is central to the mission of Ziauddin University and a prime priority, as the key element to success of the University’s academic profile that need to be preserved.

- MISSION
  The Department facilitates research that enhances the knowledge building environment at Ziauddin University by:
  - 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 and Industry.
  - Resident’s and fellows independent research projects for the acquisition of degree within the life long learning through research and creation of new knowledge.
  - Ensuring that research meets the highest ethical and quality standards through open transparent processes.

- CORE FACILITIES
  The Research Laboratories (MDRL 1 & MDRL 2) at Ziauddin University provide:
  - Cell and Molecular Biology, Genomic and Proteomic techniques
  - Wet lab bench space
  - Services include training on all equipments, guidance on experimental design and technician assistance in all equipments operation
  - Cell culture facility
  - Imaging facility with high resolution microscopy
  - Immunohistochemistry facility
  - Pharmacy laboratories (MDRL 3 & MDRL 4)
  - Virtual lab facility connected to north site pathology & genetic laboratory

Research Lab Faculty:
- Prof. Saeeda Bajg, PhD (Associate Dean Research / Director Lab)
- Prof. Sharmil Mushtaq, PhD (Assoc. Prof./Additional Director Lab)
- Prof. Rehan Ahmed Siddiqui, PhD (Asst. Professor)
- Prof. Sharmila Umar, PhD (Asst. Professor)
- Waazam A. Shahid, MSc, MPhil, PhD (Research Fellow)

- ANABMIC & CLINICAL PATHOLOGY LABORATORIES AT NORTH SITE
  - This is a state of the art diagnostic facility at ZU with the availability of high technology equipment additionally for research purposes. The postgraduate students avail the services of CIffton Campus and also visit North site in the various sub specialties through coordinators mentioned
To be recognized as the icon of innovative, leadership body for research at Ziauddin University which Office of Research, Innovation & Commercialization (ORIC), Basic Research Coordination (BSRC), its offices of research innovation & commercialization are operational at the Ziauddin University. ORIC is the focal point for all academic research based institution. ORIC the backbone of Research Department is a 2018 initiative by the Research Department in collaboration with the Dept. of Community Health Sciences (CHS).

### ZIAUDDIN UNIVERSITY HOSPITAL FACILITIES FOR RESEARCH
- Dr. Shamim Mushtaq, PhD (Assoc. Prof./Additional Dean Research / Director Lab)
- Prof. Saeeda Baig, PhD (Associate Dean Faculty Affairs)
- Dr. Rizma Khan, PhD (Molecular Biology and Genetics Lab)
- Dr. Faisal Afridi, FCPS (Microbiology)
- Dr. Zulqarnain Imran, FCPS (Hematology)
- The Pharmacy Laboratories MDR13&MDR14 alongwith Animal House of Ziauddin University also provide research support if required in the projects.

### RESEARCH ACTIVITIES
Department of Research has designed Certificate Courses and workshops to facilitate physicians, junior faculty and mid-career clinicians, graduate & undergraduate students.

#### A) MONTHLY ACTIVITIES
- Research Methodology Courses & Workshops
- Research Ethics Course Work
- Application of Power Lab in Bio Medical Research
- End-of-year application and organizing research
- Manuscript writing skills
- Plagiarism software hands on workshop
- Workshops on Clinical trial
- Sample size calculation and data analysis, SPSS
- Research of undergraduate level - challenges and opportunities
- Protein, RNA, DNA isolation purification and quantification from tissue
- Guidelines for preparing effective Oral/Poster Presentations
- Developing Research Question and Hypothesis Testing
- Hands on workshops for Instrumentation & Biomedical Techniques

#### B) YEARLY ACTIVITIES
- National and International Health Sciences Thematic Conferences
- International conference on “Rehabilitation: Transitional, Clinical and Research Perspectives”. 2018
- Symposium/ Distinguished Lecture Series
- Hands on Workshops

### RESEARCH MONITORING AND PROMOTION COMMITTEES
- The University Research Council (URC)
  URC monitors and reviews the policies relating to the University’s research activities, including research and research training, internationalization and international reputation and their management.

#### Members:
- Vice Chancellor (Chair)
- Director Research (Deputy Chair)
- All Faculty Deans (or Delegate)
- Associate Dean Faculty Affairs

### RESOURCES
- DEPARTMENT OF RESEARCH
  - Office of the Dean of Research,
  - URL: www.zu.edu.pk
  - Email: deanresearch@zu.edu.pk
  - Tel: +92 21 35862397-9, Ext. 566

### FACULTY OF ENGINEERING
- College of Science & Technology
- College of Pharmacy
- College of Business & Legal Studies
- College of Liberal Arts
- College of Pharmacy

### PUBLICATION 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 PAN- C/NIC recognized journals:
  - The Pakistan Journal of Medicine and Dentistry
  - The Pakistan Journal of Rehabilitation & Physiotherapy
  - The Pakistan Journal of Rehabilitation

### NEW INITIATIVES INTERNATIONAL AND NATIONAL COLLABORATIONS
The Research Department’s overarching aim in supporting international research collaboration is to maximize ZU’s contribution to and benefit from international and national research collaborations, partnerships.
- University College of London and King’s College, London UK
- Karolinska Institute, Sweden
- University of Karachi
- Aga Khan University
- Dow University of Health Sciences

### RESEARCH METHODOLOGY COURSE & WORKSHOPS
Intensive training courses are designed to expose students to state of art techniques. 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.

### CORE FACILITY SERVICES
We will shortly be offering core labs services to the researchers at national level at an affordable cost such as protein isolation, separation and quantification beside SDS-PAGE, 2-D electrophoresis, immune blotting, immune fluorescence, PCR. Gel
Ziauddin University has always played a leadership role in accepting and adopting 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 Sindh 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 Departm ent of Family Medicine and Community Health Sciences, ZU and Rana Liaqat Ali Khan Craftsman Colony 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 Universi- ty of Bedfordshire. (27th July, 2009)
9. MOU between Ziauddin University and Peoples Medical College for Girls (PMCCG), Nawabshah. (20, Feb, 2010)
11. MOU between Ziauddin University and The international Adjunct Physical Therapy Faculty (IAPTF). (16th Sept, 2010)
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 (PMNN). (20th Aug, 2015)
16. MOU between Ziauddin University and Europe- an 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 (IJK). (9th Aug, 2016)
19. MOU for Clinical Affiliation between Ziauddin College of Speech Language & Hearing Scienc- es, Ziauddin University and Karachi Down Syndrome Program. (1st June 2017)

Memberships:

Ziauddin University is a growing university and endeavors to make its existence felt at interna- tional forums of higher educational bodies. Learn- ing 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
Ziauddin University has under its umbrella the Faculty of Health Sciences (FHS) which strives for advancement of societal health and well-being. We train physicians, nurses, physiotherapists, speech therapists, health care researchers, occupational therapists, physician assistants and midwives to work together and provide the finest patient care.

Our commitment to excellence is demonstrated through our faculty members who are nationally and internationally recognized experts in their fields. In addition, students benefit from learning opportunities that go beyond the classroom to include experiential education in a range of settings from laboratories to community health centers.

We are known for implementing small group, problem-based education, with a focus on self-directed, life-long learning, as well as the development of evidence-based medicine. Integral to our mission is our extensive research program. Our pioneering education advances and our excellence in world-class research has consistently placed Ziauddin University among the medical universities in the region. We look to translate what we learn in our laboratories into health care practice and are committed to improve the health standards for our people.

The faculty is involved in facilitating various programs in our colleges including:

- COLLEGE OF MEDICINE
- COLLEGE OF DENTISTRY
- COLLEGE OF REHABILITATION SCIENCES
- COLLEGE OF SPEECH LANGUAGE & HEARING SCIENCES
- COLLEGE OF NURSING
- COLLEGE OF MEDICAL TECHNOLOGY
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 Centres, Sindhurabad.
• Dr. Ziauddin Cancer Hospital, North Nazimabad.
• Dr. Ziauddin Maternal and Child Health Centre, Goli 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 centred learning strategies such as Problem-Based Learning (PBL) and Case Based Discussions, which also promote self-learning skills and team work. 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 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 foundation, 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 Health Sciences (CHS) and Clinical Sciences. The PHC programme introduces student-centred learning strategy and serves as educational site for community Health Sciences (CHS) and Clinical Sciences. The PHC programme serves as educational site for community Health Sciences (CHS) and Clinical Sciences.

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.


click here to view image

MBBS

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 an 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 teamwork.

The aim of problem-based learning is to create problem solving and critical thinking skills in students. It is designed to foster self-directed learning and help students to develop lifelong learning attitudes.

Electives

For MBBS students, elective experience is mandatory. It should be acquired from institutions which may or may not be 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 specialized field of interest. Responsibility of completing electives is undertaken by the students. The Dean’s Office facilitates placement of students for this purpose.

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.

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 examinations progression to second, third, fourth and fifth year is regularly determined by achieving satisfactory performance in the respective academic year.

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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 programmes 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 the college.

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/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 approved 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.

FEE STRUCTURE

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<tr>
<th>FOR LOCAL STUDENTS</th>
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<tr>
<td>Annual Tuition Fee per student excluding university Examination Fee, Taxes, Hostel Fee and Transport Fee, etc:</td>
<td>Rs. 950,000/-</td>
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<td>One Time Admission Fee:</td>
<td>Rs. 50,000/-</td>
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<td>Prospective Fee:</td>
<td>Rs. 3,000/-</td>
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<td>Annual Tuition Fee per student all inclusive, university Examination Fee, Taxes, Hostel Fee and Transport Fee, etc:</td>
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<td>One Time Admission Fee:</td>
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<td>Prospective Fee:</td>
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DIPLOMA/MASTERS IN HEALTHCARE MANAGEMENT

Health care management describes the leadership and managerial management of hospitals, hospital networks and healthcare systems. The focus of the Postgraduate Diploma leading to Masters in Healthcare Management is to train and educate graduates with contemporary knowledge related to the various components of a healthcare system. The program provides managers with the necessary technical expertise for the efficient operation of healthcare facilities, including hospitals, nursing facilities, clinics, home care delivery and pharmacies.

It is geared towards those working in public or private healthcare organizations; such as teaching-institutes, hospitals, community based organizations, non-governmental organizations and pharmaceutical industry. It will prepare students in becoming an effective leader and manages for managing health care delivery and becoming an agent of social change.

SCOPE OF THE MASTER’S PROGRAM
The Masters in Healthcare Management is designed for healthcare professionals to equip them with managerial and leadership skills with the holistic aim to galvanize the individual potential of healthcare employees for not only improving patient care but also for enhancing the capacity for entrepreneurship. By exploring the key elements of organizational effectiveness—form strategy to finance to operations—the student will master techniques and frameworks that expand their capacity to diagnose organizational weaknesses, develop innovative solutions, and enhance performance and outcomes in health care delivery system.

Graduates of this program will be able to improve their existing job descriptions, earn their place in the competing environment of healthcare industry and will be able to face the challenges of the new millennium.

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

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

OBJECTIVES
The Master’s Program will allow graduates to:
- Develop an understanding of the business functions of organizations
- Develop effective communication skills
- Develop critical and analytical thinking skills
- Develop an understanding of the political, legal and regulatory environment
- Develop skills for effective use of technology
- Build strong teams, anticipate and respond to competitive threats
- Contribute to their company’s growth on a more strategic level
- Develop an understanding of human psychology with respect to working environments
- Develop an understanding of the healthcare systems keeping the global perspective in mind

ELIGIBILITY CRITERIA
For Post Graduate Diploma Leading to Master’s Program, the applicant must have a Bachelor’s degree from HEC recognized educational institution in Medicine and Allied (nursing, pharmacy, biomedical engineering etc.)

1. 14 years education with 2 years’ post-qualification work experience (preferred)
2. 16/17 years education with 1 year post-qualification work experience (preferred)

Entry tests to be conducted by the Ziauddin University. Followed by preliminary interview for the successful candidates.

FEE STRUCTURE
Admission Fees: Rs. 20,000/-
Tuition Fees: Rs. 100,000/- Per Sem
Certificate Charges: Rs. 10,000/-

Note: Any additional taxes imposed by the government will be the liability of the student/parent/guardian. The University reserves the right to increase the fees if required according to the recommendation of the Governing Body.
Advance fees to be paid semester-wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.
POSTGRADUATE PROGRAMME IN BASIC HEALTH SCIENCES M.Phil/Ph.D

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 four semesters followed by 1 year of research and advanced technique. The programme is recognised 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

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 recognised 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

ADMISSION POLICY

ELIGIBILITY CRITERIA
a) Candidates possessing MBBB/BDS/ND/MBBS 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.

FEE STRUCTURE

M.Phil BHS
- Application Fees: Rs. 5,000/-
- Admission Fees: Rs. 50,000/-
- Tuition Fees: Rs. 65,000/- (Per Sem)
- Examination Fees: Rs. 10,000/- (Per Sem Exam)
- Thesis Defense Fees: Rs. 50,000/-

Ph.D
- Application Fees: Rs. 5,000/-
- Admission Fees: Rs. 200,000/-
- Tuition Fees: Rs. 70,000/- (Per Sem)
- Examination Fees: Rs. 10,000/- (Per Sem Exam)
- Thesis Defense Fees: Rs. 100,000/-

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.

POST GRADUATE PROGRAMME IN CLINICAL SUBJECTS

Ziauddin University offers MD/MS programme of 4 to 5-year duration in various disciplines. The course is designed to produce skilled practitioners, researchers, 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 often following programmes:

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

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

ADMISSION POLICY

ELIGIBILITY CRITERIA
i. Candidates possessing MBBS or equivalent qualification recognised by PMDC.

ii. Eligible candidates will be required to pass an GAT exam by university and will be interviewed for suitability by the Postgraduate Committee.

GAT exam by university and will be interviewed for suitability by the Postgraduate Committee.
## DIPLOMA PROGRAMMES

The University offers Postgraduate Diplomas in the following disciplines:

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

## POST GRADUATE TRAINING

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

### MCPS
- Chemical Pathology
- Haematology
- Microbiology
- Neurology
- Rheumatology
- Surgery
- Nephrology

### FCPS
- Anaesthesia
- Cardiology
- Dermatology
- ENT
- Family Medicine
- Gastroenterology
- Radiology
- Paediatrics

## FACULTY MEMBERS

### PRO CHANCELLOR
- Dr. Inayat Hussain

### DEANS
- **DEAN, FACULTY OF HEALTH SCIENCES**
  - Prof. Dr. Abbas Zafar

### PRINCIPAL, ZIAUDDIN COLLEGE OF MEDICINE
- Prof. Dr. Zahida Memon

### DIRECTOR, POSTGRADUATE STUDIES (CLINICAL)
- Prof. Dr. Ejaz Ahmed Yousuf

### ASSOCIATE DIRECTOR ACADEMICS, NORTH SITE (CLINICAL)
- Prof. Dr. Imran Sheikh

### ASSOCIATE DIRECTOR ACADEMICS, CLAYTON SITE (CLINICAL)
- Prof. Dr. Naerun Gohil

### ASSOCIATE DIRECTOR ACADEMICS, KDB (CLINICAL)
- Prof. Dr. Khalil Hussain Manjha

### ANATOMY

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<tr>
<th>PROFESSOR</th>
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**Notes:**
- MBBS: Bachelor of Medicine and Surgery
- FCPS: Fellowship of College of Physicians of Surgery
- FRCS: Fellowship of Royal College of Surgeons
- DAB: Diplomate of the American Board of Pediatrics
- MCPS: Member of College of Physicians of Surgery
- MRCP: Member of Royal College of Physicians
- MRCGP: Member of Royal College of General Practitioners
- FCPS: Fellowship of College of Physicians of Surgery
- FCPS: Fellow of College of Physicians of Surgery
- FRCS: Fellowship of Royal College of Surgeons
- FRCS: Fellowship of Royal College of Surgeons
- MCPS: Member of College of Physicians of Surgery
- MRCGP: Member of Royal College of General Practitioners
- MBBS: Bachelor of Medicine and Surgery
- FCPS: Fellow of College of Physicians of Surgery
- FRCS: Fellowship of Royal College of Surgeons
My journey here at Ziauddin College of Dentistry has been nothing short of amazing. I knew that I would end up here, as soon as I got out of my admission test. People might think that I am making this up, but this is not a hoax. Starting from the commencement day to the last day of university, I have learned and experienced many things and most of all I’ve grown as a human being. I have gone through different conundrums I must say, but on the flipside, I have had the privilege of meeting great people here, whom I look upon as life-long friends.

A lot of credit goes to the strong and learned faculty who invested their time in me throughout my tenure here at Ziauddin College of Dentistry. They taught me with great zeal and devotion, which made me love my profession even more. ZCD provided a learning environment which enabled me to successfully complete and enjoy my academics.

Working now as a house officer here at ZCD, I feel content and happy with what I have opted to do in the future. This would not have been possible without the constant love and support of my parents and family.

DR. SAAD SHAFQAT BUKHARI
HOUSE OFFICER
ZIAUDDIN COLLEGE OF DENTISTRY - DENTAL OPD

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.

### COURSE DETAILS

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

#### 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 team work.

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 years, study guides are supplied to all promoted students on the respective orientation day.

#### 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
- EDBU Kemari 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 Medicine, 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 strong influence on shaping students’ learning approach. At Ziauddin College of Dentistry, the structure, content and process of all assessments are designed to reflect and reinforce the specified learning objectives at each stage of the programme. Assessments serve the purpose of providing feedback to the students and the faculty as well as certification.

**EXAMINATIONS**

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 examinations. Promotion to next classes based on passing all the courses scheduled in a year.

**TOOLS OF ASSESSMENT**

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

**TOOLS OF ASSESSMENT**

General students are expected to fulfill the following:

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

BDS GRADUATES REGISTRATION

As per Pakistani 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 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 deadline by which to accept the offer of admission. Offers not accepted by the given deadline are cancelled.

REQUIREMENTS FOR SELECTED STUDENTS

Successful students selected for BDS programme are expected to fulfill the following:

- Verification of Educational Testimonials
- Original transcripts, mark sheets and certificates

FEE STRUCTURE

- Prospectus Fee: Rs. 3,000/-
- Registration Fee: Rs. 2,500/-
- Tuition Fee: Rs. 1,500/-
- Hostel Fee: Rs. 15,000/-
- Other Fees:
  - Transportation Fee
  - Exam Fee
  - University Examination Fee

FOR FOREIGN STUDENTS

- Prospectus Fee: Rs. 3,000/-
- Registration Fee: Rs. 2,500/-
- Tuition Fee: Rs. 1,500/-
- Hostel Fee: Rs. 15,000/-
- Other Fees:
  - Transportation Fee
  - Exam Fee
  - University Examination Fee

### GENERAL PRINCIPLES

- **At least 80% attendance in each course is mandatory for eligibility to appear in the final examinations. Promotion to next classes based on passing all the courses scheduled in a year.**
- **Tools of Assessment**
  - BCQ and Multiple Choice Questions (BCQs/MCQs).
  - Short essay questions (SEQ).
  - Objective Structured Practical/ Clinical Examinations (OSPE/OSCE).
  - Viva voce is used to assess knowledge mainly of a higher level.

### TOOLS OF ASSESSMENT

Students are trained in different clinical procedures.

- **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.
- **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.
- **Examinations**
  - It is conducted by the examination department of Ziauddin University. Continuous Assessment Tests (CAT) are held at the end of each module.

### 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.

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- Training for learning professional skills, leadership qualities and team work.

The aim of problem based learning is to overcome various drawbacks in the traditional methods of instruction; 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

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### EXAMINATIONS

It is conducted by the examination department of Ziauddin University. The exams are based on passing all the courses scheduled in a year.

### TOOLS OF ASSESSMENT

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

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.
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 approved 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.

FEE STRUCTURE

FOR LOCAL STUDENTS

<table>
<thead>
<tr>
<th>Fees</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Annual Tuition Fee per student excluding university Examination Fee, Taxes, Hostel Fee and Transport Fee, etc</td>
<td>Rs. 950,000/-</td>
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<tr>
<td>Prospectus Fee</td>
<td>Rs. 50,000/-</td>
</tr>
<tr>
<td>One Time Admission Fee</td>
<td>Rs. 3,000/-</td>
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FOR FOREIGN STUDENTS

<table>
<thead>
<tr>
<th>Fees</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Tuition Fee per student at inclusive, university Examination Fee, Taxes, Hostel Fee and Transport Fee, etc</td>
<td>USD 18,000/-</td>
</tr>
<tr>
<td>Prospectus Fee</td>
<td>Rs. 50,000/-</td>
</tr>
<tr>
<td>One Time Admission Fee</td>
<td>Rs. 3,000/-</td>
</tr>
</tbody>
</table>

CONTACT INFORMATION

Mr. Bilal Ahmad
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zcd@zu.edu.pk

Dr. Shehla Khon
Associate Professor
(Head Admission Cell, Ziauddin College of Dentistry)
+92-21-35862937(Ext: 484)

M.PHIL

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 be 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, practicals 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

CURRICULUM

The curriculum of M.Phil in Basic Dental Sciences is covered in three years. First two years comprise two semesters each year.
**FACULTY MEMBERS**

**PRINCIPAL**
- Prof. Dr. Mervyn Hosein    FDS RCSE, FDS RCS, FFD RCSI

**DEPARTMENT OF ORAL BIOLOGY**
- **Professor & HOD**
  - Prof. Dr. Mervyn Hosein    FDS RCSE, FDS RCS, FFD RCSI
- **Senior Lecturer**
  - Dr. Husnain Masood    BDS, MSC

**LECTURERS**
- Dr. Faiza Saher    BDS
- Dr. Sana Ikram    BDS
- Dr. Shafaq Saeed    BDS
- Dr. Hira Batool    BDS

**DEPARTMENT OF SCIENCE OF DENTAL MATERIALS**
- **Associate Professor & HOD**
  - Dr. Shoab Khan    BDS, MSC
- **Assistant Professor**
  - Dr. Nazish Fatima    BDS, MDS

**LECTURERS**
- Dr. Mahmood Moaz Khan    BDS
- Dr. Waqas Khan Jadoon    BDS

**DEPARTMENT OF COMMUNITY DENTISTRY**
- **Assistant Professor & HOD**
  - Dr. Sidra Mohiuddin    BDS, MDS

**Senior Lecturer**
- Dr. Atiya    BDS, MSc

**LECTURERS**
- Dr. Abeerah    BDS
- Dr. Khizra Rehman    BDS

**DEPARTMENT OF ORAL PATHOLOGY**
- **Assistant Professor & HOD**
  - Dr. Saima Akram Butt    BDS, MDS

**Assistant Professor**
- Dr. Sana Marya    BDS, MPhil

**LECTURERS**
- Dr. Sajal Khan Raffat    BDS
- Dr. Faiza Abid    BDS
- Dr. Zabeen Arif Abbasi    BDS
- Dr. Sana Fatima    BDS
- Dr. Khawal Iqbal    BDS

**DEPARTMENT OF ORAL MEDICINE**
- **Assistant Professor & HOD**
  - Dr. Afifa Razvi    BDS, FCPS

**Senior Registrar**
- Dr. Aiman Ali    BDS, MSc

**LECTURER**
- Dr. Nooshheen Nazir    BDS
- Dr. Uzair Akram    BDS

**DEPARTMENT OF PERIODONTOLOGY**
- **Assistant Professor & HOD**
  - Dr. Zaaheer Hussain    BDS, FCPS

**Senior Registrar**
- Dr. Zohaib Akram    BDS, MSC

**LECTURER**
- Dr. Ayesha Saghir    BDS
- Dr. Tahira Haider    BDS
- Dr. Ayeshah Hafiz    BDS

**DEPARTMENT OF ORAL SURGERY**
- **Professor & HOD**
  - Dr. Noorul Wahab    BDS, FCPS, FFD RCSI

**Assistant Professor**
- Dr. Atif But    BDS, MCPS

**LECTURER**
- Dr. Nadeem Chand    BDS
- Dr. Huzefa Saeed Ul Khair    BDS
- Dr. Tehreem Khan    BDS
- Dr. Saeed Ullah Shah    BDS
- Dr. Uzair Jamil    BDS
- Dr. Hina Jabeen    BDS
- Dr. Naimera Agha    BDS

**DEPARTMENT OF ORTHODONTICS**
- **Assistant Professor & HOD**
  - Dr. Sarwat Memon    BDS, FCPS

**Senior Registrar**
- Dr. Farhan Qadeer Shakh    BDS

**LECTURER**
- Dr. Nalwa Rizwan    BDS
- Dr. Farheen Naz    BDS
- Dr. Hasra Mahida    BDS

**DEPARTMENT OF PROSTHODONTICS**
- **Assistant Professor & HOD**
  - Dr. Maroon Rashid    BDS, MSC

**Senior Registrar**
- Dr. Jitesh Kumar Kaeela    BDS, FCPS

**LECTURER**
- Dr. Fakha Farhan    BDS
- Dr. Syed Shoab Razvi    BDS
- Dr. Muizatir Ali Khendi    BDS

**DEPARTMENT OF OPERATIVE DENTISTRY**
- **Professor & HOD**
  - Dr. Asmat Jamil    BDS, FCPS
DEPARTMENT OF OPERATIVE DENTISTRY

PROFESSOR & HO:
DR. ASMAT JAMIL  BDS, FCPS

ASSOCIATE PROFESSOR
DR. MEHNA AZMI  BDS, FCPS

ASSISTANT PROFESSORS
DR. YASIR RAJA  BDS, FCPS
DR. SADAF FEROZ ALI  BDS, M.Sc.

SENIOR LECTURER
DR. SAAD BIN IRFAN  BDS, M.Sc.

LECTURER
DR. POOJA BALANI  BDS
DR. TAHREEA JAMIL  BDS
DR. SAIMA THABEM  BDS
DR. ADHA ANYWAR  BDS
DR. FAHRA AMIN  BDS
DR. NIGAM ANYWAR  BDS
INTRODUCTION

Pakistan with a population of over 195 million individuals has an estimated over 23 million suffering from communication, swallowing and/or hearing disorders. To cater to this huge demand there are less than twenty Speech Language Therapists/ Pathologists (SLTs/SLP’s) in our metropolis Karachi, qualified internationally and locally at the CSSH. This was made possible because the Speech and Hearing Association of Pakistan (SHAP) and Ziauddin University (ZU) took 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 launches a dual degree program of Bachelor’s in Audiology and Speech Language Therapy (BS ASLT) with a post graduate 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 evaluate 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 is also offering 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

ADULTS WITH
- Swallowing disorders (dysphagia)
- Language disorders (e.g. aphasia after stroke)
- Voice disorders (e.g. vocal fold nodules, VFPalsy, 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 (dysfluency)
- Motor Speech Disorders (dysarthria, apraxia)
- Right Hemisphere Syndrome
- Mental health issues
- Learning difficulties
- Acquired Hearing loss
- 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)

WHAT’S NEW FOR 2018

After 10 years of commencement the CSLHS upgraded the undergraduate program last year, to a BS in Audiology & Speech Language Therapy. 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 (DCDP)
BS AUDIOLOGY & SPEECH - LANGUAGE THERAPY

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

The 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.

SEMIESTER 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
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 educators, and parents who want to enhance their knowledge in this area of early childhood development.

DCDP follows a modular curriculum, which emphasizes 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

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

FINAL EXAMINATION

- 40% of final grade

ADMISSION POLICY

Intermediate / A level from all disciplines

FEE STRUCTURE

Tuition Fees: Rs. 96,000/- (1st Yr)
Students Activity: Rs. 2500/-
Library Fee: Rs. 2500/-

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 counselling 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. JAMILuddin ALI

PART TIME ASSISTANT PROFESSOR

MS. AASIYA SACHWANI
MS. SAMINA MASOOD

FULL TIME SENIOR LECTURERS

MS. FATIMA YOUSUF
MS. SONIA SHAH
MR. ALI FUNJANI
MS. MISHA IRSHAD
MS. ANUSHAY HUSSAIN
MS. SABEEN IQBAL RAJPUT
MS. RABBIYAH BINTE RAHUL

PART TIME SENIOR LECTURERS

MS. MUBASH IQBAL
MR. RABAB SEHRI
MS. FATIMA NAZIR

PART TIME LECTURERS

MS. MAHMOOD HASAN
MS. HAFSA MUNEER

FULL TIME LECTURERS

MS. SUNDUS RAHIM
MS. TALEAH TARIQ
MS. INSIYA SAIFUDDIN
MS. ZAINAB SADIQ

VISITING FACULTY

MR. ARBAB HUSSAIN
MS. TEHWAHA WAQAS
MS. ABDUR REHMAN
DR. AMIR ASHRAF
MR. MUNEER UR REHMAN
DR. NAJAM UL HAQI
MS. ZAINAB SHARFA
MS. SHEHLA SIDDIQUI
MS. NAJMA ADAM
MR. AZAM WAFAI
MS. SHAHEENA ALVI
DR. HABBIA HASAN
DR. KHALID MAHDA
MR. LENNY MASSEY
INTERNATIONAL VISITING FACULTY

MS. MAHVASH AKBAR ALI SAI
MS. MEGHNA KHANNA
MS. TASNIM ALI
MS. BISHMA SULMAN DADABHOY
MR. ABDUL SAMAD MUKATI
MS. MAHNAZ MAQBOOL
MS. SABAH HABIB FAZI
I am Dr. Sadia Shafq (PT), a contented physical therapist and a lecturer at Ziauddin College of Rehabilitation Sciences (ZCRES), my parent institute. When I ventured into the field of physical therapy, preferring it over medicine, thousands of doubts were poured into my ears about this emerging incandescent discipline, but this couldn’t humble my firm ambitions, as the institution ahead, was ZCRES. After spending 185 days here, I’m incredibly gratified with my decision to opt this profession. My experience here has diversified my perspective towards life. Under the supervision of trained and qualified faculty, who not only instilled my academic, clinical and research skills but also embellished my interpersonal skills that groomed me both personally and professionally.

Now, I’m building my postgraduate physical therapy career with ZCRES. I must thank all of my mentors for providing me with such an amiable platform and opportunities to prove myself to carry forward the professional legacy as a member of the teaching faculty.

For all new students coming to the university pursuing Physical therapy “Do whatever you need to do to create success on your own terms!”

DR. SADIA SHAFQ
Lecturer
Ziauddin College of Rehabilitation Sciences

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 large setup of tertiary care hospitals. The clinical training provides a better chance of learning and practicing the skills in the field hence, prepares future therapists to play an important role in the improvement of healthcare quality in society. Students of 3rd, 4th & 5th Professionals complete their clinical training in physical therapy at all three sites of Dr. Ziauddin & 5th Professionals complete their clinical training in physical therapy at all three sites of Dr. Ziauddin Hospital. In addition, Ziauddin College of Rehabilitation Sciences (ZCRES) 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, Tabbio Heart Institute, Al-Umeed Rehabilitation Association (AURA), Rabia Moon Trust, Indus Hospital and Association for Children with Emotional and Learning Problems (ACELP).

- **SEMESTER SUMMARY**
  a. Basic Health Sciences
    • Anatomy
    • Physiology
    • Biochemistry
    • Pharmacology
    • Pathology
    • Movement Sciences
    • Biomechanics
    • Physics
    • Manual Techniques
  b. Clinical Sciences
    • Medical Condition
    • Surgical Condition
    • Radiology & Imaging
    • Emergency Procedures
  c. Physical Rehabilitation Sciences
    • Physical Agents and Electrotherapy
    • Musculo-skeletal Rehabilitation
    • Neurological Rehabilitation
    • Geriatric Rehabilitation
    • Paediatric Rehabilitation
    • Sports Rehabilitation
    • Women Health

- **LOCATION**
  D-20, Block – 6, Scheme 5, Clifton, Karachi.

- **MS/MPHIL IN PHYSICAL THERAPY**
  Doctor of Occupational Therapy
  Accelerated Doctor of Occupational Therapy
  Diploma in Fitness and Training
Acclerated Doctor of Physical Therapy is 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
- 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 of the Governing Body.

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

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

Students are continuously assessed during semester by above methods. This carries 30% weightage of the Governing Body.

**FEE STRUCTURE**
- Admision Fees: Rs. 30,000/-
- Tuition Fees: Rs. 92,000/- (1st Yr)
- Examination Fees: Rs. 15,400/- (1st Yr)
- Security Deposit: Rs. 10,000/-
- Student Fund: Rs. 1,000/-

**SEMESTER SUMMARY**
- a. 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
- a. Semester - II
  - a. Emergency Procedures And Radiology
  - b. Health and wellness / Ergonomics
  - c. Peads / Women Health / Genetic 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
MS/MPHIL IN PHYSICAL THERAPY

CRS is aiming to create a dynamic research community, enabling physical therapist to fully equip themselves with the skills they require to excel in their field through Higher Degree programmes such as MS/MPHIL. ZCRS is offering MS/MPHIL in Physical Therapy in the following Specialties:

- Musculoskeletal Rehabilitation
- Cardiopulmonary Rehabilitation
- Neuromuscular Rehabilitation
- Exercise Physiology and Sports Sciences
- Women Health and Pediatric Rehabilitation

LEARNING AND TEACHING STRATEGIES

Both national and international qualified teaching faculty promote better understanding through:

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

SEMESTER SUMMARY

- Semester I
  a. Applied Biomechanics
  b. Research, Biostatistics and Critical Appraisal in Physical Therapy
  c. Neuromuscular Rehabilitation
  d. Exercise Physiology
- Semester II
  a. Cardiopulmonary Rehabilitation
  b. Women Health and Paediatric Rehabilitation
  c. Musculoskeletal Rehabilitation
  d. Teaching Professional and Scientific Practice

STUDENT ASSESSMENT EXAMINATION POLICY

- a. MCQs
- b. Viva
- c. Short answer written examination

d. Directly Observed Clinical Skills
e. Group or individual presentation/assignments
f. Semester Examination

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

ADMISSION POLICY

Physical therapy graduates who have completed their 4-year BPT or 5-year DPT or equivalent from an accredited institution in Pakistan or equivalent to international standards. All candidates are selected on merit fulfilling the following criteria:

- a. DPT/BPT or equivalent
- b. Interview of short listed candidates
c. GAT General (50% cumulative score)

FEE STRUCTURE

- Admission Fees: Rs. 15,000/-
- Tuition Fees: Rs. 100,000/- (1st Yr)
- Examination Fees: Rs. 19,000/- (1st Yr)
- Security Deposit: Rs. 25,000/-
- Student Fund: Rs. 3,000/-

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.

CAREER OPPORTUNITIES

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

DOCTOR OF OCCUPATIONAL THERAPY

Doctor of Occupational Therapy is a 5-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. Skill based labs
- d. Projects
- e. Clinical Practice (Supervised/Independent)

CLINICAL TRAINING

Students of Doctor of Occupational Therapy have an exclusive advantage to be a part of an organization with a large setup of tertiary care hospitals. The clinical training provides a better chance of learning and practicing the skills in the field hence, prepares future therapists to play an important role in the improvement of healthcare quality in society. Students of 3rd, 4th & 5th Professionals complete their clinical training in 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 – OHA 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 Imran Rehabilitation Association (AURA), Rabia Moon Trust, Indus Hospital and Association for Children with Emotional and Learning Problems (ACELP).

SEMESTER SUMMARY

A. BASIC HEALTH SCIENCES:

- Anatomy
- Physiology
- Biochemistry and Genetics
- Rehabilitation Medicine
- Pathology
- Psychology
- Biomechanics & Ergonomics

B. CLINICAL SCIENCES:

- Medical Conditions
- Surgical Conditions
- Development & Abnormal Psychology
- Emergency Procedure

C. OCCUPATIONAL REHAB SCIENCES:

- Introduction to Occupational Therapy
- Occupational Therapy Assessment and Evaluation
- Occupational Therapy Intervention
- Applied Pediatrics for Occupational Therapy
- Applied Geriatric for Occupational Therapy
- Therapeutic Activities and their Techniques
- Occupational Therapy in Acute Care
- Sensory Integration
ACCELERATED DOCTOR OF OCCUPATIONAL THERAPY

Accelerated Doctor of Occupational Therapy is a one-year semester based degree program for Professional Occupational Therapist. Keen to update 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

SEASON SUMMARY

Semester-I
- Introduction to Computers
- Biomechanics and Ergonomics
- Professional Practices and teaching methodology
- Islamic studies / Pakistan studies
- Biostatistics
- English

Semester-II
- Health and Wellness in Occupational Therapy
- Applied Pediatrics and Sensory Integration
- Community Based Rehabilitation and Contemporary Issues
- Pathology and Microbiology
- Occupational Therapy in Acute Care
- Assistive Technology and Rehabilitative Environment
- Research

STUDENT ASSESSMENT
- a. MCQs
- b. Short answer written examination
- c. Viva
- d. Group or individual presentation/assignments students are continuously assessed during semester.

FEE STRUCTURE
- Admission Fees: Rs. 20,000/-
- Tuition Fees: Rs. 92,000/- (1st Yr)
- Examination Fees: Rs. 14,000/- (1st Yr)
- Security Deposit: Rs. 10,000/-
- Student Fund: Rs. 1,000/-

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.

ADMISSION POLICY
Open to all graduate Occupational therapy students with minimum 50% in Pakistan or equivalent to international standards. All candidates are selected on merit.

According to the following criteria:
- BOT/equivalent BOST.
- Interview

The course is offered at Clifton Location.

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.

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 Fees: Rs. 20,000/-
- Tuition Fees: Rs. 150,000/- (1st Yr)
- Examination Fees: Rs. 17,600/- (1st Yr)
- Security Deposit: Rs. 25,000/-
- Student Fund: Rs. 1,000/-

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
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.

Professional occupational therapist will be able to deliver evidence based occupational therapy treatment and evolve with changes in health care system.
DIPLOMA IN FITNESS AND TRAINING

Diploma in fitness and training is a 6 months fitness and training program for trainers providing competent services as a physical training instructor, that encourage professionalization in the field of exercise and training. It will help in enabling Physical trainers to understand the general principles of exercise and training and protocols of strengthening and endurance exercises.

ADMISSION POLICY
Any candidate with a minimum of 12 years of education is eligible for admission to the diploma in fitness training program.

LEARNING AND TEACHING STRATEGIES
Both national and international qualified teaching faculty promotes better understanding through:
- a. Presentation/Assignment/Seminar
- b. Tutorials
- c. Group or individual presentation/assignments
- d. Viva
- e. True and False

STUDENT ASSESSMENT EXAMINATION POLICY

- a. True and False
- b. Viva
- c. Group or individual presentation/assignments
- d. The examination shall be comprises of true and false and the practical evaluation of the students
- e. A minimum of 80% attendance is mandatory for the students. The student shall complete all the practical and other work as prescribed in the syllabus

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
Admission Fees: Rs 2,000/-
Tuition fees for six months: Rs 36,000/-
Examination and certificate fees: Rs 2,000/-

Note: All 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
Diploma in fitness and training program provides guidance of the fundamental basis of training to be 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
I am Zeeshan Gulfaraz, student of College of Medical Technology Batch-I Department of CVS. I am currently in my second year. The most significant thing that strikes me about CoMT is the way teaching and skills amalgamate to facilitate hands-on training and knowledge. The teaching and training modules have provided me with the array of learning activities to marvel in the field of Medical Technology. The CoMT’s combination of modern and efficient learning has given me top-notch learning environment, but has also provided me a way to excel with both my education and career at the same time. Indeed, it is right to say that the efforts of our valuable staff and faculty throughout the two semesters has not only imparted the course content but also groomed us personally and professionally.

ZEESHAN GULFARAZ
BS MT BATCH-I
ZIAUDDIN UNIVERSITY

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 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, upskill 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 (4 years)
• MS Medical Technology (1.5 years)
BS MEDICAL TECHNOLOGY
04 YEAR PROGRAM

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, cardiac disorders and diseases associated with cardiovascular systems. The students are taught and trained in diagnostics, treatment and preventive techniques related 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 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 respective careers in medical and healthcare profession. Placements are also offered at scientific equipment/companies. They can also contribute in education as faculty member or as a researcher.

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 machines/medical and automated testing which involves immunoassays, Electrophones, Blood and urine culture, Blood Grouping and Cross matching, manual and automated cell counting. The in-house training enables the trainee to master the operation of tools and equipment used while performing any test. These trainings start after every semester examination and the cycle continues till the final year 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. They can also contribute in educational sector as a faculty member or as a researcher.

Clinical Training
The teaching and learning scheme at Ziauddin University provides its learners inhouse 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 physicians.

- 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.

Clinical Training
The teaching and learning scheme at Ziauddin University provides its learners inhouse 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 physicians.

- 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.

Clinical Training
The programme offers training to the students at Ziauddin 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
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, spares and examines linear accelerators that treat patients with radiation.

In 85% Radiation therapy, students are taught the fundamental of human anatomy, physiology, pathology, radiobiology, radiation safety and techniques of radiation oncology in addition to management electives to enable student to become competent and skilled radiation therapist.

Clinical Training

The 85% programme offered at Ziauddin University gives students practical skills by providing in-house training after every semester examination and the cycles continues till the final year of the undergraduate programme.

Teaching and Learning Strategies

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 modernized 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’s clinical lab. Skills laboratories are well-equipped consisting of hi-tech instruments to provide hands-on training to students prior to dealing with patients.

Ziauddin is following the trail of modernization and since the concept of library has changed; it has evolved to a LEARNING RESOURCE CENTER which is a comprehensive learning area awarded for the concept of libraries and plastic museums. Therefore, Ziauddin has developed the latest Learning Resource Center which is a combination of library with wide range of books and plastic museum. It comprises of 4D models along with computing facility that provides access to e-books, e-journals and academic articles. In addition to this students can also benefit from the main library located at Ziauddin Hospital, North Nazimabad for utilizing extensive learning opportunities after university hours.

The College of Medical Technology is still oriented program and therefore, has made it mandatory for all the students to do practicums as a part of their course work. To achieve this, the 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 internships offers.

The practical labs are located within the hospital premises which train the students to handle multiple cases. Clinical scenario 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 bus stops 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 secured 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 doctors’ consultation.

Assessment Policies and Procedure

Enrolled candidates are assessed and examined for both theoretical and practical 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, portfolio, clinical practice and competencies.

Weightage for the Final Examination

• Attendance* 10%
• Continuous assessments 40%  
• Final Examination 50%
PROPOSED PROGRAM FOR ACADEMIC YEAR 2018-19

MASTER OF STUDIES
IN MEDICAL TECHNOLOGY (MS-MT)

Ziauddin University college of Medical Technolo-
gy introduces M.S in Medical Technology to
provide advanced and specialized training and
transferable skills in different disciplines of Medical
Technology to enhance the career prospects in
hospitals, clinical laboratories and in research
studies. This program develops student’s interper-
sonal skills, the ability to think critically and to
make objective judgments in addition to student’s
scientific knowledge.

Following are the Postgraduates courses of Medi-
cal Technology
1. Blood Banking
2. Chemical Pathology and Diagnostic Endocri-

nology
3. Clinical Microbiology
4. Hematology

● OVERVIEW OF POSTGRADUATE
PROGRAMMES IN MEDICAL
TECHNOLOGY

1. BLOOD BANKING
Technical progression in the field of Medical Tech-
ology elevates the exigency of technologists and
thus requires expertise in the relevant
disciplines. Blood bank technologists require
advanced skills to demonstrate superior level
technical competency at regular and specialized
testing, transfusion services, transfusion therapy
and blood collection concerning the safety of the
received blood. These technologists are responsi-
bile for demonstrating strong problem solving skills
to produce accurate diagnoses. In addition to this,
they are expected to exhibit managerial, admin-
istrative, quality assurance, and computer skills.
Such skills are developed through extensive
interdisciplinary education and therefore College
of Medical Technology has designed its postgradu-
ate programmes aiming to develop the compe-
tence in all technical areas of blood banking and
transfusion.

2. CHEMICAL PATHOLOGY AND
DIAGNOSTIC ENDOCRINOLOGY
Chemical Pathology and Diagnostic Endocrinolo-
gy conjunct as a whole that specializes technolo-
gists to investigate, analyze, and manage the
biomedical and metabolic disorders accompa-
nied by techniques, management and adminis-
tration of a laboratory. Medical technologists in
this discipline provide advice to the healthcare
professionals on appropriate test selection for
patients with a variety of metabolic disturbances
and provide clinical interpretations of biomedical,
endocrine and metabolic test results.

3. CLINICAL MICROBIOLOGY
The Postgraduate study at the College of Medical
Technology in clinical microbiology focuses on
the examination of the infectious agent of the
disease, which evades patient’s immune system.
This is operated on complex instruments and auto-
mated equipments by technologists. Furthermore,
technologist in Clinical Microbiology reports the
findings to the physician. Technologists of this
discipline can work with public and private
healthcare teams, in pharmaceutical companies,
hospital laboratories, and pharmaceutical and
diagnostic instrument companies.

4. HEMATOLOGY
Hematology technologist is mainly concerned
with the study of blood at cellular level. They are
specialized at detecting and determine the
cause of blood diseases while utilizing modernistic
instruments. Hematology technologists can
contribute their expertise in researches as well as
in academic settings; they can also work in blood
banks, medical laboratories, in private clinics and
hold managerial responsibilities in laboratories.

● ELIGIBILITY REQUIREMENTS
FOR ADMISSION: (MS-MT)
• Candidates applying for admission to the
MS-Medical Technology shall be a graduate (16
years of education) with minimum Higher Educa-
tion Commission (HEC) requirements i.e. CGPA of
2.5 or higher in BS/MSc semester system, 60% in
marks in annual system. However equivalence
certificate will be authorized to equate CGPA
and credit hours which will vary from case to
case.
• BS Medical Technology.
• BS/MSc biological sciences with two years of
relevant clinical laboratory working experience
(experience certificate is required)
• Entry Test and Interview will be conducted by
Ziauddin University.
• For enrollment in MS it is mandatory for all the

survey recently conducted suggests that the
demand of medical technologists is projected to
grow 21% from 2014-2024 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

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candidates to clear NTS. GAT (General) with 50% marks within the first academic provisional enrollment.

- Admission in 1 year of MS will be granted provisionally and will be confirmed only after passing the above-stated test and score within one academic year of admission.

Note: Students of Ziauddin University, BS – MT Clinical Laboratory Sciences will have to seek an equivalence certificate from an equivalence committee of Ziauddin University.

**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.

**ELIGIBILITY FOR FINAL SEMESTER EXAMINATIONS**

Attendance requirement for eligibility to appear in semester examination is 75%.

**MINIMUM PASS LEVEL FOR ALL SUBJECTS**: 61% (Theory & Practical)*

*Mid-semester and Semester examinations.

Mid-semester examination result will carry 30% weightage in the final semester examination results for theoretical courses only. All examinations will be conducted by Department of Examinations, Ziauddin University.

**ACADEMIC PATTERN AND DURATION**

- Semester System (16 Weeks followed by 2 weeks of examination)
- All MS are offered as regular and flexible Programme as per departmental accommodation capabilities.

**MANDATORY BRIDGE COURSE**

- Those students who have completed their required education from any university other than Ziauddin University’s Medical Technology Clinical Laboratory Sciences Programme will have to complete the prescribed Bridge courses.
- Bridge courses will be of relevant MS subject specialization.
- Duration of Bridge Course will be 4 weeks of study period followed by examination.
- Bridge Courses will have to be completed and passed before getting admission to Second/Next offered semester of MS.

**DURATION OF PROGRAMME**

Minimum duration to complete MS is 18 Months and 30 credit hours for all offered Programmes (coursework based).

Maximum Duration to complete MS is seven years from date of enrolment (course work based).

**FEE STRUCTURE**

**Admission Fees**: Rs. 20,000/-

**Tuition Fees**: Rs. 120,000/- (1st YR)

**Examination Fees**: Rs. 14,000/- (1st YR)

**Bridge Course**: Rs. 10,000/-

**Note**: Any additional taxes imposed by the government will be the liability of the students/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 settled within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

**CONTACT INFORMATION**

For further details visit our website: acmt.zu.edu.pk
Phone no. 021-3664756-7 Ext: 406, 389
Fax no. 021-36645670

**LOCATE US**

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Ziauddin University
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Block B North Nazimabad
Near Karimabad.
FACULTY MEMBERS

ASSISTANT DEAN
DR. ARIF HUSSAIN  PhD, MICROBIOLOGY

ADVISOR TO THE PRINCIPAL
DR. SABA JAYAVAL  M.B.B.S, DIPLOMAT AMERICAN BOARD OF ANATOMIC AND CLINICAL PATHOLOGY DIPLOMAT AMERICAN BOARD OF HEMATOLOGY

PRINCIPAL
DR. AYESHA IQBAL  MBBS, MCPS [CLINICAL PATHOLOGY]

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MR. MUSHAWAD IMRAN  B.SC. M.SC, M.PHI. PHD FELLOW MEDICAL TECHNOLOGY
MS. MEHUSHIREE ZEESAN  B.SC. M.SC. M.PHI. MEDICAL TECHNOLOGY
DR. REHAN AHMED SIDIQUI  PHD MOLECULAR MEDICINE

LECTURER
MS. QAMARUNNISA  M.SC. (CLINICAL MICROBIOLOGY)
MS. MLAJULIY DAHSH  B.SC. (MICROBIOLOGY)
MS. WAJHA SHUAAAT  B.SC MEDICAL TECHNOLOGY (BLOOD BANKING)
MS. YUGSHA ANES  M.A ENGLISH LINGUISTICS

INSTRUCTOR
MS. MAHRUZA SYED  BS MEDICAL TECHNOLOGY (CHEMICAL PATHOLOGY)
MS. MAHARAPA  BS MEDICAL TECHNOLOGY (CARDIAC PERFUSION)
MS. HAFSA  BS DENTAL HYGIENE

CLINICAL FACULTY

CLINICAL LABORATORY
DR. ASHWAJ MUHAMMAD ZEBAIRI  MBBS, DCP, FCPS, HOD CLINICAL LABORATORY
DR. FOUSAH LATIF  MBBS, MCPS, FCPS, HISTOPATHOLOGY
DR. FASAL IQBAL AHRIDI  MBBS, FCPS, MICROBIOLOGY
DR. AZIZ UN NISA  MBBS, FCPS, HISTOPATHOLOGY
DR. ZULQUIZZAN IMRAN  MBBS, FCPS, HEMATOLOGY
DR. UZHAAH ALI  MBBS, FCPS CHEMICAL PATHOLOGY
DR. ANNA QAMAR  MBBS, FCPS RESIDENT
DR. NAYAB AZHAL  MBBS, FCPS RESIDENT
DR. SABA RAZW  MBBS, FCPS RESIDENT
DR. AYESHA HABBI  MBBS, FCPS RESIDENT
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MR. INNAT ULLAH  MSC BLOOD BANKING, QA OFFICER BLOOD BANK
MS. MAVSHA KHAN  MSC BLOOD BANKING, SUPERVISOR BLOOD BANK

CARDIOVASCULAR SCIENCES
DR. NADEEM RANA  MBBS, M.D CARDIOLOGY, DIPLOMA IN CARDIOLOGY ARDS (RDCS).
CONSULTANT CARDIOLOGIST
DR. SYED SHAJAAT HUSSAIN  MBBS, DIPLOMAT AMERICAN BOARD OF CARDIOLOGY, CONSULTANT CARDIOLOGIST
DR. MAIZA YOUSUF BAIG  MBBS, M.D CARDIOLOGY

NEUROSCIENCES:
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DR. SULEiman MUHAMMAD  MBBS, FCPS, CONSULTANT NEUROLOGIST
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RADIATION THERAPY
DR. SUHAJ JAYAVAL  MR. AZH HADED SIDIQUI  M.SC. PHYSICS, DIPLOMA IN RADIATION SAFETY FROM SAASUYE, FRANCE,
CHIEF RADIATION PHYSICIST.
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NUCLEAR MEDICINE
DR. HAMD ALIYATT  HOOD AND CONSULTANT NUCLEAR MEDICINE
MR. RAED ALIYATT  HOOD AND CONSULTANT NUCLEAR MEDICINE
MR. ASAD JAIL  MBBS, RESIDENT NUCLEAR MEDICINE
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MR. M. ALI  MBBS, EDIR, FCPS, HOOD RADIOLoGY CLOFTON
MR. BISBAHUM KARMA  MBBS, FCPS, ASSISTANT PROFESSOR
MR. SHABA IMEET  MBBS, FCPS, CONSULTANT RADIOLoGY
MR. M. FARRNAH AHMED  MBBS, FCPS, REGISTERED
MR. HINA PATHAN  MBBS, CHIEF RESIDENT RADIOLoGY
I am Mr. Muhammad Hasnain Shaikh, had done my BScN as a Position holder from Ziauddin College of Nursing. College Faculty members taught me to think critically while providing patient care and time management. It is Ziauddin College of Nursing who has given me the confidence to enlighten the way for my future endeavors. The field of nursing is very challenging but I can honestly say that it enhanced my knowledge and skills which helped me to provide quality care to patients.

MUHAMMAD HASNAIN SHAH
BScN. STUDENT (BATCH-V)
COLLEGE OF NURSING
ZIAUDDIN UNIVERSITY

INTRODUCTION
Ziauddin College of Nursing earlier known as School 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 level to students coming from varied ethnic and socio-economic backgrounds of Pakistan. The reputation of Ziauddin College of Nursing has grown nationally and internationally owing to the competency, critical thinking and knowledge of the graduates.

MISSION
Ziauddin College of Nursing is committed to the development of human capacities through the discovery and dissemination of knowledge, and application through service. To advance this Mission, Ziauddin College of Nursing will:
• Provide high-quality client care based on strong knowledge in practice through education and research
• Benefit the university, profession and public through active individual and group involvement in service activities
• Promote Physical and Social Sciences through excellence in teaching, education, research and population services
• 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 practices, 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 graduates 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 scholarly 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 General Nursing (3 Years)
Diploma in Nurse Midwifery (1 Year)
The Master of Science in Nursing (MSN) program prepares nurse experts in advanced practice and/or management for leadership in professional nursing practice and patient-centered healthcare delivery. The program broadens the perspective of students by requiring them to take innovative interdisciplinary approaches to resolve healthcare problems.

**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**


The Pharmacology course focuses on the clinical uses and mechanisms of action of drug groups used in altered states of physiological function. The students also learn skills of advanced history taking and physical assessment and the interrelationship between normal physiology and pathophysiology across the lifespan in Health Assessment and Pathophysiology courses.

The course of Nursing Theory provides an opportunity to be able to link theory and practice in nursing. The students also integrate the ethical concepts, theories, and values applied in ethical decision-making that are related to a variety of ethical dilemmas in Nursing Practice and Health care.

**Semester II**


The course of Nursing Theory provides an opportunity to be able to link theory and practice in nursing. The Education Design course enables the students to discuss concepts of curriculum development, implementation and evaluation. In addition, students explore forces and issues that influence the implementation of curriculum.

Proposal Writing provides an opportunity for students to synthesize the knowledge gained in previous course work and to demonstrate an ongoing critical review of the literature as they develop their thesis research proposal.

**Semester III**

The third semester includes the courses such as: Nursing Leadership & Management, Scholarly Writing, Introduction to Biostatistics and Thesis.

As the terminal objective of MSN program is to prepare leaders therefore Nursing Leadership & Management course enable the students to examine organizational leadership and management theories and related research as applied to the healthcare system. Scholarly Writing courses provide an opportunity for students to synthesize the knowledge gained in previous course work and to demonstrate an ongoing critical review of the literature as they develop their thesis research proposal.

**Semester IV**

In fourth semester of MSN program students will be studying Public Health. The students also work to finalize their thesis work and defend their thesis and will undergo senior electives.

**ASSESSMENT OF DEGREE**

**a. Continuous Assessment**

- Continuous assessment is conducted by the College of Nursing for regular and repeating students.
- Continuous assessment weighs 50% towards the overall marking whereas the other 50% is evaluated by the University Examination Department.

**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.

The Master of Science in Nursing (MSN) program prepares nurse experts in advanced practice and/or management for leadership in professional nursing practice and patient-centered health care delivery. The program broadens the perspective of students by requiring them to take innovative interdisciplinary approaches to resolve healthcare problems.

**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.

**b. Interview**

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

**c. Application 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**

Based on Pakistan Nursing Council

- Age: No age limit
- Gender: Both

**FEE STRUCTURE**

- Admission Fees: Rs. 64,000/-
- Tuition Fees: Rs. 174,000/- (1st Yr)
- Examination Fees: Rs. 8,800/- (1st Yr)
- Security Deposit: Rs. 5,000/-
- Student Fund: Rs. 5,000/-
- Laboratory Expense: Rs. 1,000/-
- Enrolment Fee: Rs. 2,000/-
- Academic Transport: Rs. 4,000/-

**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.

**REQUIRED DOCUMENTS**

- 1 Copy of Matriculation/Intermediate certificate.
- Diploma in General Nursing/Post RN BS/MS in Cumulative Transcript & degree, Diploma in Midwifery or other Specialization certificate, domicile, applicant CNIC, Parents/Guardian CNIC, Valid PNC license, Expe-rence letters, 2
The Pharmacology course focuses on the clinical concepts in clinical practices. The first semester of MSN includes courses such as:

**SEMESTER SUMMARY**

- Nursing concepts in community health: This course prepares nurse experts in advanced practice and/or management for leadership in professional practice and knowledge. It also prepares nurses to be able to link theory and practice in community to be able to link theory and practice in community to practice.
- Academic skills: The students also learn skills of advanced history taking, exploration of trans-cultural concepts which will enable them to build on, the concepts and knowledge about sociocultural anthropology. It enhances students’ understanding of values, beliefs and practices of different societies and its relationship to health. It also deals with the responses of the body that participate in manifestation of disease. The usefulness of this course is to develop communicative skills of the learners in listening, speaking, writing and reading. The main focus is on how English is used in real-life situations. Through the items listed in the syllabus, the learners are expected to develop fluency in conversation and efficiency in interactional skills. They are also expected to learn to use grammar communicatively so that they become effective and efficient communicators in English.

**ELECTIVES**

- Evidence Based Clinical Practicum: This course will provide in-depth knowledge: understanding and clinical application of evidence-based clinical practice to enhance the advancement practice of professional nursing in a variety of health care settings. It will enable the learners to respond to the needs of society by helping persons, families, and communities through therapeutic nursing care. The learners use clinical judgement to assist the client in achieving optimal health and adapting to alter state of health. Students are required to select a practicum experience related to their specified area of interest. Clinical Education, Clinical Management, Health Care System and Occupational Health Nursing. This course will promote leadership qualities such as critical thinking, problem solving and decision making capacities among students. Analyze the trends and issues that influence the development of philosophy in their clinical practice setting. Apply knowledge of relevant theories and skills and in specified areas of nursing practice. Relate knowledge of the roles and responsibilities of the preceptor in her/his clinical practice setting. Participate collaboratively as a peer with other health professionals during Evidence Based Clinical Practicum. Evidence Based Clinical Practicum: 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 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
  - Life sciences enable the learners to apply learnt principles and concepts, from the various sciences necessary for a basic understanding of the biochemical and biophysical processes in the human body. It enhances the development of skills and knowledge needed to assess the basic health status of individuals of varying ages and conditions. These skills can be applied to identifying health problems and designing nursing care in a wide variety of clinical settings. The course strives to develop students’ understanding of values, beliefs and practices of different societies and its relationship to health and illness behaviors in general. Focus is on how English is used in real-life situations. Through the items listed in the syllabus, the learners are expected to develop fluency in conversation and efficiency in interactional skills. They are also expected to learn to use grammar communicatively so that they become effective and efficient communicators in English.

- Semester II
  - Advanced Concept of Nursing: I focuses on enhancing the advanced clinical skills of nursing assessment: analysis of client’s nursing care
needs, and implementing preventive and thera-
peutic nursing interventions based on physiologi-
cal, psychosocial, cultural and spiritual concepts.
In addition, the course also incorporates concepts
and knowledge of anatomy and physi-
ology, pharmacology and pathophysiology.
Introduction to Biostatistics will provide an
introduction to sound basic statistical principles
and their applications in various aspects of scientif-
ically studies. In addition, rules governing use of
descriptive and inferential statistics will also be
explored.

Introduction to nursing theories and models foun-
dational understanding of nursing as a discipline
and profession. Students will be introduced to
different theoretical frameworks in nursing
and to the contributions of selected nurse theo-
rists. Pathophysiology and Pharmacology II
provides students with the opportunities to build
on, the concepts and knowledge about the altered
Physiological mechanisms with integra-
tion of pharmacology including 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 this
course will increase nurse knowledge, skills and
attitudes towards pharmacodynamics and phar-
macokinetics in relation to disease process which
impact on cellular function of the body. Academ-
ic Language Development in this course includes:
listening comprehension, fluency development,
oral intelligibility, reading, grammar, writing,
and vocabulary development. Academic study skills
addressed include: test taking and note taking
skills, academic vocabulary usage, critical read-
ing and writing, comprehending academic
lectures, research and library skills, formal compo-
sition forms and development, including research
papers.

Semester - III
Advanced concepts in Nursing II will enable
the learners to identify the needs and provide holistic
care by utilizing evidence based practices to
people with mental health challenges. Moreover,
the learner will be able to provide special atten-
tion to family and their care taker who suffering
from various mental health conditions, dysfunc-
tional or mental disorders. Enhances the knowl-
edge and skills required for advance nursing
practice in community setting. It will help the
learner to develop higher ability to practice with
communities by applying planning cycle with the
integration of major concepts of community as a
partner, health promotion across life span, and
epidemiology and research. The course will also
address global health, demography, and devel-
opmental issues in relation to the diverse roles of
nurses in community health. Introduction to
Research is designed to stimulate scholarly inquiry
about a research idea. It focuses on developing
understanding of scientific approach and meth-
ods of the research process and critical appraisal
of existing nursing and related health literature.
The content will enable nurses to critique quali-
ative/quantitative research and utilize research
findings to promote relationships of research to
practice, education and administration. Introduc-
tion to Epidemiology is design to provide the
knowledge and skill to the learners of using epide-
miological concepts in assessing the contributing
factors, diagnosing the problems, planning
intervention and evaluating the results in the
health care system. In addition, the learners will be
able to make inferences on the impact popula-
tion demographics on social and health status in
Pakistan. Learners will also be able to correlate
epidemiological research findings to nursing
practice. Professional Development & Leadership
in Healthcare course provides the learners
concepts and principles of leadership and man-
gagement and professional development in a
health care system that fosters positive, creative
and caring environment. It prepares nurses to
assumed the role of leader along with their effective
application in a context that are consid-
ered important for professional nursing practices
in contemporary world. The English for Professional
Purposes course provides students with the
opportunities to include written and verbal communication
skills that employees find important but are difficult
to master in one’s second or third language. In the
courses, students learn basic concepts of gram-
matical and social practice as they focus on the most
practical skills for workplace and public commu-
nication.

Semester - IV
Evidence Based Clinical Practicum (Elective) This
course will provide in-depth knowledge, under-
standing and clinical application of evidence
based clinical practice to enhance the advance
practice of professional nursing in a variety of
health care settings. It will enable the learners
to respond effectively to society by helping people,
families, and communities through therapeutic
nursing care. The learners use clinical judgment
to provide meaningful, optimal health and adapting
to alter state of health. Students are required
to select a practicum experience related
to their specified area of interest i.e. Clinical
Education, Clinical Management, Health Care
System and Occupational Health Nursing. This
course will promote leadership qualities such as
critical thinking and problem solving making
opportunities among students. Scholarly
writing is a type of writing intended for an

academic audience based on a thoroughly
researched subject that the writer has informed or
expert knowledge about. Although scholarly
writing is typically aimed at a specific audience
educated in a specific field. Scholarly writing
communicates original thought, whether through
primary research or synthesis, that presents a
unique perspective on previous research. In a
scholarly work, the student is expected to have
insights on the issue at hand, but those insights
must be grounded in research, critical reading,
and analysis rather than personal experience or
opinion.

ASSESSMENT OF DEGREE PROGRAMS
a. Continuous Assessment
   • Continuous Assessment is conducted by the
     College of Nursing for regular and repeating
     student
   • Continuous assessment weights 50% towards
     the overall marking whereas the other 50% is evaluat-
     ed by the University Examination Department
   • Some courses will be evaluated 100% internally by
     College of Nursing (these 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 perfor-
     mance can lead to learning contract
   • Student has to pass both the components (theory and clinical)
     before appealing into final university exam

b. University Examination
   • It is conducted by Ziauddin University Examina-
     tion 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 following subjects
   are assessed in the admission test:
   Post BN ScN Program:
   The test comprises of three sections designed to
   assess each applicant’s performance in the areas of:
   (a) Nursing Knowledge
   (b) Mathematics & Logical Reasoning
   (c) English

b) INTERVIEW
   Applicant will be interviewed to assess their suta-
   bility to complete concern course and pursue a
   career in nursing services. Interview will be held at
   the Ziauddin College of Nursing.
The practicum experience. Demonstrate self-diagnostic skills applied to the nursing practice. Teach the learner will be able to provide special attention to the patient’s needs, and implementing preventive and therapeutic nursing care to patients. The learners for using epidemiological concepts in public health and community health. Knowledge of Anatomy & Physiology will provide a better understanding and integration to theoretical & clinical practice in nursing care situation. The fundamental of nursing course introduces the students to nursing as a professional discipline. The concept of a professional nurse is addressed through a brief overview of nursing history, development, definitions of nursing, nursing education, the practice, roles of the nurse and nurse’s accountability.

Semester II
The Second semester of BScN YR 1 includes courses such as: Fundamental of Nursing II, Anatomy & Physiology II, Community Health Nursing I, English II, Islamiat, 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 Factors on Health. This course introduces students to the factors influencing health of individual, family and community. Students will also develop knowledge regarding Pakistan’s Health Care System, components of health education, community services and organizations through field visits.

Semester III
The first semester of BScN YR II includes courses such as: General Health Nursing, Community Health Nursing, Health Assessment I, Anatomy & Physiology I, and Biochemistry for Nurses. English I, and Computer Skills. The microbiology 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 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 situation. The fundamental of nursing course introduces the students to nursing as a professional discipline. The concept of a professional nurse is addressed through a brief overview of nursing history, development, definitions of nursing, nursing education, the practice, roles of the nurse and nurse’s accountability.

Semester II
The Second semester of BScN YR 1 includes courses such as: Fundamental of Nursing II, Anatomy & Physiology II, Community Health Nursing I, English II, Islamiat, 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 Factors on Health. This course introduces students to the factors influencing health of individual, family and community. Students will also develop knowledge regarding Pakistan’s Health Care System, components of health education, community services and organizations through field visits.

Semester III
The first semester of BScN YR II includes courses such as: General Health Nursing, Community Health Nursing, Health Assessment I, Anatomy & Physiology I, and Biochemistry for Nurses. English I, and Computer Skills. The microbiology 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.
Pathophysiology: I, Pharmacology: I, Mathem-
atics, and English.

The Adult Health Nursing aimed to furnish students with the knowledge and skills to care for adult patients admitted to the hospital with various disease conditions. They also study Pathophysiology as a subject to build on the concepts and knowledge about the altered physiological mechanisms and their impact on the functional status of the body. In first semester, they introduce to the concept of care needed to assess the basic health status of individuals of varying ages is taught to students with the demonstration and hands on practice.

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 toward the nurse in his/her problem solving 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 level and 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 BSN includes courses such as: Adult Health Nursing, Pathophysiology II, Health Assessment – II, developmental psycholo-
gy, pharmacology, II, English IV and Nursing Ethics in Health Nursing provides opportunities to students to give safe & competent care for patients with various cardiovascular, respiratory, endocrine, musculoskeletal, Neurological and ENH 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 patient care situations, assessment of 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 need 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 BSCN III includes courses such as: Pediatrics Health Nursing, Community Health Nursing, Teaching Learning Principles & Practic-
es and English V. The focus of Pediatrics Health Nursing course is to develop knowledge, skills and attitudes in the care of children in primary, secondary and tertiary settings. Students apply the 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 learn-
ing process and strategies to facilitate the learning needs of patients in various health care settings.

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 students to improve their own writing process, and find ways to improve their summarizing/ writing techniques.

Semester VI

The second semester of BSCN III includes courses such as: Mental Health Nursing, Introduction to Biostatistics, Behavioral Psychology, Epidemiolo-
y. 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 prerequisite knowledge to basic statistical principles and their application to qualitative and quantitative research studies in health sciences. The Behavioral Psychol-
ology course will help the learner understand human behavior and provide insight into one’s personal attitudes, responses to everyday situa-
tion and interactions. The Epidemiology course is designed to provide the knowledge and skills for the learners for using epidemiological concepts in assessing public health problems, diagnosing the problems, planning intervention and evaluating the results in the community. The Culture, Health and Society guide students to the human interac-
tion and its impact on individual and group behavior. It also introduces learners to the field of socio-cultural anthropolgy. It focuses on the exploration of values, beliefs and practices relat-
ed 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 BSCN year IV students critically Analyze, the assessment data of the patient in an accurate physical, psychological, social, emotional and spiritual aspects of care.

They relate normal and altered physiological concepts to patient care in critical care and emergency setting 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, manag-
ing change and conflict management.

Furthermore they recognize the research process as a systematic approach to thought and the 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 BSCN 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 evidences based research so that, they can act as a change agent to promote quality improvement in the process of Evidence based health care.

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 weights 50% towards the overall marking whereas the other 50% is evaluat-
ed 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. Un satisfactory perfor-
mance can lead to learning contract

• Student has to pass both the components (theory and clinical) before appearing into final university examination

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:

(1) English
(2) Science
(3) General Knowledge
(4) Mathematics

b. INTERVIEW

Applicants will be interviewed to assess their suitabil-
ity 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

Tuition Fees:   Rs. 121,000/- (1st Yr)
Admission Fees:   Rs. 60,000/-
is strictly based on merit and applicants are considered on the basis of admission test and interview results.

### ELIGIBILITY CRITERIA
Fsc (Pre-Medical group) with minimum 50% score Age: 18-30 Years Gender: Both

### FEE STRUCTURE

**Admission Fees:** Rs. 60,000/-
**Tuition Fees:** Rs. 121,000/- [1st Yr]
**Examination Fees:** Rs. 3,400/- [1st Yr]
**Security Deposit:** Rs. 5,000/-
**Student Fund:** Rs. 4,000/-
**Laboratory Expense:** Rs. 3,000/-
**Enrolment Fee:** Rs. 2,000/-
**Academic Transport:** Rs. 4,000/-

**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 due need to be cleared within two weeks of commencement of the academic year. 2% surcharge per month will be levied on outstanding fees after the due date.

### REQUIRED DOCUMENT
- Copy of Matriculation/Intermediate matriculation & certificate verified by concerned board (pre-medical medical), domicile, applicant CNIC, Parent/Guardian CNIC, 3 reference letters, and 15 recent passport size photographs.

### 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 is a three years program, leading to practice as a registered Nurse. The goal is to prepare the students to deliver safe and competent nursing care to individuals, families and communities.

### 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 (individuals’ pairs), role play, field visit, problem solving exercises, self-study, brain storming, problem based tutorials, computer based language learning and clinical integration.

### SEMESTER SUMMARY

- **Semester-1:** Nursing students were taught Fundamental of Nursing, Anatomy & Physiology-I, Community Health Nursing-I, English and Pharmacology, Computer & Microbiology.
- **Semester-2:** Course was designed to provide knowledge related to theoretical & clinical practice in nursing care in a wide variety of clinical settings.
- **Semester-3:** Students are taught about the altered Physiological mechanisms and how they come to know the common problems about the different medical diagnosis and also asses their mental level and behavior so that they can provide holistic care to their patient. In this semester, there is an introduction to the content and skills to theoretical & clinical practice in nursing care in a wide variety of clinical settings.
- **Semester-4:** Students are taught about the community based nursing by various sections designed to assess each applicant’s qualifications.

### APPLICATION REQUIREMENTS
- Applicant must meet one of the following eligibility criteria:
  - Intermediate or Matric (Biology Science group) with minimum 55% score
  - A four-year degree in pre-medicine or pre-medicine (Biology Science group) with minimum 55% score

**Gender:** Both

### GOVERNING COUNCIL
- **Academic Policies:** Incorporated to the students for the human interaction in nursing profession.
- **Medical Ethics:** Taught about the different medical diagnosis and also asses their mental level and behavior so that they can provide holistic care to their patient.

### DIPLOMA IN GENERAL NURSING

In an introductory course of Microbiology the content focuses on the characteristics of living matter, the various disease-causing organisms and their effect on individuals and the environment.

### SEMESTER II

- **Nursing:** In continuation of Fundamental of Nursing-II, Anatomy & Physiology-II, Community Health Nursing-II. English, students are also taught History and Ethics of Nursing along with first Aid, Nutrition, Chemistry and Physics.

History and Ethics of Nursing introduces the students to the history and development of nursing in Pakistan and the world.

Nutrition is focused on the basic nutritional needs for growth and development throughout the life cycle which address the basic nutrients, nutrient value of foods, dietary needs of different age groups, specific diets and deficiency diseases.

Chemistry and its application is introduce in nursing care which is a basic introduction in this course.

Physics provides a basic knowledge applied to nursing care which includes weight and measures, body mechanics, management of medical devices and machines, heat production and energy.

### SEMESTER III

In the first semester of RN year I, students are taught about the community based nursing by this they come to know the common problems that already exist in the community. They also learn different tools that are used to prioritize these problems so that they can provide holistic care to individuals, families and communities at community level. And also they learn about pediatric nursing in which they learn disease under 13 year children, they also study psychology nursing to understand the role of nurse while assessing the client’s needs according to their disease process and also assess their mental level and behavior and attitude.

### SEMESTER IV

In the second semester of RN year I, students are taught about the different medical diagnosis including whole disease process so that they can relate it with normal physiology. Moreover they also learn about the nursing diagnosis according...
to the clinical manifestation to provide holistic care to their patient. In this semester, there is an emphasis on advance nursing procedures so that student can able to perform their clinical on critical area effectively. Furthermore, students are taught about the leadership and management in nursing to enhance their leadership’s skill to become future leader.

**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.

**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 following subjects are assessed in the admission test: *Diploma Program:*
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**
Applicant must meet one of the following academic level:

FSc (Pre-Medical group) with minimum 50% score or Matric (Biology Science group) with minimum 55% score

Age: 15-30 Years
Gender: Female

**FEE STRUCTURE**

- Admission Fees: Rs. 33,000/-
- Tuition Fees: Rs. 71,500/- (1st Yr)
- Security Deposit: Rs. 5,000/-
- Student Fund: Rs. 4,000/
- Laboratory Expense: Rs. 2,000/
- Academic Transport: Rs. 4,000/

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.

**REQUIRED DOCUMENTS**
- 1 Copy of Intermediate/ Matriculation marksheet/certificate verified by concern board (Biology Science Group)
- domicile, applicant CNIC (Above 18) / B. Form (Under 18) and Parents/Guardian CNIC
- 15 recent passport size photographs
- 3 reference letters

**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.
DIPLOMA IN NURSE MIDWIFERY

This is a One Year Program Leading to a Diploma in Nurse Midwifery and for those applicants who have passed RN Examination (Post Basic). The goal of this program is to reduce the high maternal mortality rates in 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
In the First and Second Semester, the Nurse Midwives Study in such subjects like Obstetrics And Obstetrical Nursing. Each Student must do at least 20 Antenatal Examinations in Clinics/Homes, 5 Vaginal Examinations Conduct, 25 Deliveries Including 5 in the Districts, Nurse 20 Lying In Women And Their Babies. Each Of Which Must Be Properly Maintained in The Prescribed Form. The Student Must Also Witness At Least 25 Cases Normal/Abnormal.

ASSESSMENT OF DIPLOMA Program
- This Program is assessed By Sindh Nurses Examination Board.
- Examination Policy Of Ziauddin College Of Nursing is applicable for all Diploma Programs.

ELIGIBILITY CRITERIA
Diploma In General Nursing
Gender: Female

Fee Structure
Admission Fees: Rs. 16,500/-
Tuition Fees: Rs. 88,00/- (1st Yr)
Security Deposit: Rs. 2,500/-
Student Fund: Rs. 1,200/-
Academic Transport: Rs. 2,000/-

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

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

Advance fees to be paid semester wise. All dues need to be cleared within two weeks of commencement of the academic year. 2% surcharge need to be cleared within two weeks of commencement of the Governing Body.

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

REQUIRED DOCUMENTS
- 1 Copy Of Matriculation Marksheet/certificate verified by Concern Board
- 1 Copy Of Diploma In Nursing, Domicile, Applicant CNIC (Above 18) / B. Form (Under 18) And Parent/guardian CNIC
- 15 Recent Passport Size Photographs

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.

ELIGIBILITY CRITERIA
- Diploma In General Nursing
- Gender: Female

Fee Structure
- Admission Fees: Rs. 16,500/-
- Tuition Fees: Rs. 88,00/- (1st Yr)
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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 need to be cleared within two weeks of commencement of the Governing Body.

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

REQUIRED DOCUMENTS
- 1 Copy Of Matriculation Marksheet/certificate verified by Concern Board
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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.

FACULTY MEMBERS

PRINCIPAL & ASSOCIATE PROFESSOR
MS. ALIA NAUSA
MAEHPIN (UK), POST RN BSN, RN, RM

ASSISTANT PROFESSOR
MR. BADAL DAS
MSCN, POST RN BSN, RN, RM

SENIOR LECTURERS
MS. STELLA NAHEED
POST RN BSN, RN, RM, DWA, DTA

MS. BELLA RICHARD
MSCN (IN PROGRESS), POST RN BSN, RN, RM

MS. NADIA ALI
POST RN BSN, RN, RM

MS. ABBER HUSSAIN
MSCN, POST RN BSN, RN

MS. MEHWHIS AMIN NATHANI
MBA HEALTH AND HOSPITAL MANAGEMENT (IN PROGRESS), BSCN

MS. DAIJ JAFFER
MSCN (IN PROGRESS), BSCN

MS. ASHRAF VALLIANI
POST RN BSN, RN, RM, MA ECONOMICS

MS. SHABNAM
POST RN BSN, RN, BA

MS. ABOUL REHAMAN
MSCN (IN PROGRESS), POST RN BSN, DIPLOMA IN CARDIOLOGY, RN, NURSE AID

MS. MEHTAB MEBBBOB (NON-NURSING)
MBA IN MICROBIOLOGY (GOLD MEDALIST), BSC IN MICROBIOLOGY

MS. JIBRAN KHAN (NON-NURSING)
MA IN ENGLISH LITERATURE, MA IN ENGLISH LITERATURE

MS. KASHWIR NAZLI (NON-NURSING)
MA IN ENGLISH LITERATURE

MS. AMBER HUSSAIN
MSCN, POST RN BSN, RN, RM

MS. NADIA ALI
POST RN BSN, RN, RM

MS. BELLA RICHARD
MSCN (IN PROGRESS), POST RN BSN, RN, RM

MS. SONIA SARDUDDIN JIWANI (PART TIME)
POST RN BSN, RN, RM

MR. ABDUL REHMAN
MSCN (IN PROGRESS), POST RN BSN, DIPLOMA IN CARDIOLOGY, RN, NURSE AID

MS. HANNAH NOOR (PART TIME)
MASTOR IN PSYCHOLOGY

Dr. HUMERA NOOR (PART TIME)
BACHELOR OF EASTERN MEDICINE AND SURGERY

LECTURERS
MS. SOHA MAHMOOD
POST RN BSN, RN

MR. IBRAHIM SIDDUXI
BS IN COMPUTER SCIENCE

MS. ARSALNAA NAQI KHAN
MASTERS OF MICROBIOLOGY

SKILL LAB COORDINATOR
MS. SAMINA KNOWSHER
POST RN BSN, RN

SKILL LAB NURSES
MS. BLOOM AI HRIO
RN, RN & LADY HEALTH VISITOR

MS. ZAINAB ZAREEN
BSCN
Studying Biomedical Engineering at Ziauddin University has widened my perspective and has given me an idea of the importance of Biomedical Engineering to maintain the healthy society. Being part of it, I have witnessed its transformation from College of Biomedical Engineering to Faculty of Engineering Science and Technology. This really widened its horizons and introduced a series of multiple events and inter-university competitions. The combination of dynamic teaching methodology and lab work helped me to obtain a better understanding of the concepts. The labs at Department of Biomedical Engineering are equipped with the state of the art facilities to aid in the learning process. The dedicated faculty with expertise in their field really inspiring and it motivates me for the research-based lifelong learning.

At Ziauddin University I interacted with many diverse knowledge and expertise in handling the stress of on-site Laboratory setups, Critical Care and Radiology Department, the concepts. The labs at Department of Biomedical Equipment Technology really widened its horizons and introduced a series of opportunities and bring positive change in the society.

Being part of it, I have witnessed its transformation from College of Biomedical Engineering to Faculty of Engineering Science and Technology. This really widened its horizons and introduced a series of multiple events and inter-university competitions. The combination of dynamic teaching methodology and lab work helped me to obtain a better understanding of the concepts. The labs at Department of Biomedical Engineering are equipped with the state of the art facilities to aid in the learning process. The dedicated faculty with expertise in their field really inspiring and it motivates me for the research-based lifelong learning.

Leadership of ZU is mindful of the fact that inner entrepreneurial attitude shall be the highlight of ZUFEST graduates. They should have potential to be the market leaders than just a job seeker. Entrepreneurial attitude shall be the highlight of ZUFEST graduates. They should have potential to be the market leaders than just a job seeker. Currently, ZUFEST embraces Departments of Civil Engineering, Electrical Engineering, Biomedical Engineering and Software Engineering.

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 potential to be the market leaders than just a job seeker.

Currently, ZUFEST embraces Departments of Civil Engineering, Electrical Engineering, Biomedical Engineering and Software Engineering. This year ZUFEST is introducing a new department of Management Technology & Information Sciences which will offer BS Management & Information Technology.

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 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 than just a publication. ZUFEST targets to emerge as one of the most responsive research unit to upcoming opportunities and social issues.

Capitalizing on its earned in the previous institution may be permitted to be transferred to other institutions to facilitate the senior batch students in getting their rights of approving requisites of registration & course selection before the registration shall be with concerned Batch Advisor followed by approval of Concerned Dean/Principal concerned may allow migration of faculty with relative grading (provided recommended approval for other programs at ZUFEST with due recognition from Pakistan Engineering Council) & BS Electrical Engineering programs. After getting the partnership in establishing first ever National Center for Big Data & Cloud Computing, ZUFEST is launching BS Data Science under the umbrella of Department of Software Engineering.
academic year. In a nutshell, ZUFEST has following programs to offer:

Engineering Programs
• BS Civil Engineering
• BS Electrical Engineering
• BE Biomedical Engineering

Computing Programs
• BS Software Engineering
• BS Data Science

Technology Programs
• BS Biotechnology (AgTech)
• BS Electrical Technology (Evening)
• BS Biomedical Equipment Technology

Management Programs
• BS Management & Technology (Morning)
• Finance, Marketing, Banking, HRM, Economics, Information Technology, Hotel Management

Postgraduate Programs
• MS Electrical Engineering [Telecommunication, Automation & Control, Computer Networks & Data Communication]
• PhD Electrical Engineering

GENERAL POLICIES

Admission Procedure
I. Obtain the admission form from the admission office or downloaded from official website of the university.
II. Fill the form and attach all the required documents with it and submit it to the same office before the last date.
III. Eligible applicants have to appear in admission test and an interview, at the time of interview bring the original testimonial for verification.
IV. Selected candidates shall be notified to submit fee according to the fee schedule within deadlines.

Semester Course Registration Rules
1. Student may not register for more than 20 CH per semester including regular or repeated courses.
2. Student may drop any registered course within semester registration fee according to the fee schedule within deadlines.
3. Pre-Requisite & its advance course may not be registered in the same semester. It shall only be permitted to be transferred to other institutions to its earned in the previous institution may be adjusted during next course registration.
4. Student may not register for more than 20 CH per semester including regular or repeated courses.

EXAMINATION & GRADING SYSTEM

• Semester system of examination is proposed as approved for other programs at ZUFEST with relative grading (provided recommended numbers of students by HEC are enrolled in a certain batch)
• Minimum CH limit for each semester is 9 and maximum is 20.
• Grading Map (for prospectus only)

ADMISSION BY MIGRATION

Under extraordinary circumstances, the Vice-Chancellor, on the recommendation of the Dean/Principal concerned may allow migration of a student from other recognized institutions to the university and vice versa, provided that:
1. The academic councils of the institutions are agreed on the migration of student.
2. The courses of studies are equivalent. The credits earned in the previous institution may be permitted to be transferred to other institutions to

DEPARTMENT OF BIOMEDICAL ENGINEERING

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 entitled BE Biomedical Engineering at Ziauddin University, Biomedical Engineering is more focused on the instrumentation and biomedical computing. The instrumentation or measurement. Biomedical 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, in order 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 the robotic suits, also known as Exo-Skeleton.
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 in order 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 is able to:
- 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 OUTCOMES

- 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 lifelong learning using modern tools and techniques and responsive to the demands of society in ethics, 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.

PROGRAM LEARNING OUTCOMES

Program learning outcomes are the knowledge, skills, and capabilities students should possess by the time of graduation. The ZUFEET Electrical Engineering program prepares students to attain the educational objectives by ensuring that students demonstrate achievement of the following outcomes. Electrical engineering student will demonstrate the following attributes by the time they graduate.

PLO 1: Engineering Knowledge: An ability to apply knowledge of computer science, software engineering fundamentals, applied mathematics, management science and an engineering specialization to the solution of complex software engineering problems.

PLO 2: Problem Analysis: An ability to identify, formulate, research literature and analyze complex software engineering problems reaching substantiated conclusions using software engineering principles, natural sciences and engineering sciences.

PLO 3: Design/Development of Solutions: An ability to design solutions for complex software engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO 4: Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis, and interpretation of experimental data, and synthesis of information to derive valid conclusions.

PLO 5: Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

PLO 6: The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

PLO 7: Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

PLO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PLO 9: Individual and Team Work: An ability to work effectively, as an individual or in a team, on multifaceted and/or multidisciplinary settings.

PLO 10: Communication: ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PLO 11: Project Management: ability to demonstrate management skills and apply engineering principles to one’s own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

PLO 12: Lifelong Learning: ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

Note: These PLOs are published on the faculty’s webpage. Furthermore, they are prominently displayed on several notice boards around the department.

SCHEME OF STUDY

SEMESTER 1

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<tr>
<td>BM-101</td>
<td>Introduction to Biomedical Engineering</td>
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<td>NS-104</td>
<td>Basic Biology</td>
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<tr>
<td>CS-201</td>
<td>Computer Aided Engineering Drawing</td>
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<td>Biochemistry</td>
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<td>Linear Algebra &amp; Differential Equation</td>
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<td>BM-112</td>
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<td>CS-311</td>
<td>Modeling &amp; Simulation</td>
<td>2+1</td>
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<td>BM-315</td>
<td>Biomaterials</td>
<td>3+1</td>
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SEMESTER 4

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<tr>
<td>MS-402</td>
<td>Entrepreneurship</td>
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<tr>
<td>BMP-402</td>
<td>Biomedical Engineering Project (Phase II)</td>
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SEMESTER 5

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<td>BM-XXX</td>
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<td>BM-411</td>
<td>Medical Imaging</td>
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<td>BM-312</td>
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<td>Data Mining</td>
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SEMESTER 7

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<td>BM-XXX</td>
<td>Elective VII</td>
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<td>BM-XXX</td>
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SEMESTER 8

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<tbody>
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FEE STRUCTURE

Fee/Credit hour + Exam fee: Rs. 5,500/-
No. of credit hours: 138
Semester Registration fee: Rs. 5,000/-
Total Semester:
Total Program fee: Rs. 788,000/-
Processing fee: Rs. 5,000/-
Admission fee: Rs. 25,000/-
Security Deposit: Rs. 25,000/- (refundable)
Student activity fee: Rs. 2,000/-

Note: Any additional taxes imposed by the government will be the liability of the student/parent/guardian. The University reserves the right to increase the fees if required according to the recommendation of the Governing Body. At the time of admission, selected candidates will be required to deposit fee. Therefore monthly or semester fee will be deposited by students within two weeks of commencement of every semester in advance according to the official notification on the notice board. 2% surcharge per month will be levied on outstanding fees after the due date. The students claiming exemptions from any course or courses will be required to pay exemptions fee i.e. Rs. 2,500/- per subject in the beginning of semester. Fees once deposited are not refundable, except security deposits, for any reason whatsoever.
BS BIOTECHNOLOGY

SCOPE & OPPORTUNITIES
Biotechnology is defined as the application of biological systems, processes and organisms to produce products and services, including but not limited to, food, drugs, vaccines, and biofuels. Biotechnology has applications in health, environment, and industry. The graduates of biotechnology program will play a significant role in the development of national and international level by rendering their services as a scientist, analyst, and expert.

The potential employment area for the graduates of Biotechnology are Pharmaceutical and Health 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:

1. 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.
2. 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.
3. PEO 3: To produce graduates with the ability to initiate scientific research and pursue higher education in reputed institute at national and international levels.

PROGRAM LEARNING OUTCOMES (PLO’S)
PLO 1: Knowledge: Graduates will gain and apply knowledge of Biotechnology and related Sciences in solving problems pertaining to the field of Biotechnology.
PLO 2: Problem Analysis: Graduates will be able to identify, analyze and understand problems relating to biotechnology and finding valid conclusions with basic knowledge in biotechnology Engineering.
PLO 3: Design/Development of Solutions: Graduates will be able to design and develop solutions to Biotechnology Engineering problems by applying appropriate tools.
PLO 4: Investigation: Graduates will be able to design, perform experiments, analyze and interpret data for investigating complex problems in biotechnology and related fields.
PLO 5: Modern Tool Usage: Graduates will be able to decide and apply appropriate tools and techniques in biotechnological analytics and manipulation.
PLO 6: Scientist and Society: Graduates will be able to justify societal, health, safety and legal issues and understand his responsibilities in biotechnological practices.
PLO 7: Environment and Sustainability: Graduates will understand the need and impact of biotechnological solutions on environment and societal context keeping in view need for sustainable solution.
PLO 8: Ethics: Graduates will have knowledge and understanding of related norms and ethics in Biotechnology practitioners.
PLO 9: Individual and Team Work: Graduates will be able to undertake any responsibility as an individual and as a team in a multidisciplinary environment.
PLO 10: Communication: Able to communicate effectively and clearly in both oral and written form.
PLO 11: Project Management: Graduates will have thorough knowledge in Biotechnology and will also be ready to engage themselves in lifelong learning.
PLO 12: Lifelong Learning: Graduates will be motivated and have the preparation ability to engage in lifelong learning for technological change.

DURATION OF STUDIES
Program: BS Biotechnology
Duration (Minimum): 4 years
Duration (Maximum): 7 years

ELIGIBILITY
1. 12 years of education with 50% marks or above in Intermediate (Pre-Medical) or equivalent examination.
2. Minimum score for eligibility is 50% in the ZU Admissions Test and Interview.

Note: Candidates who have completed 12 years of education and obtained degrees other than Matriculation (SSC) or Intermediate (HSSC) are required to obtain an equivalence certificate from the Inter Board Committee of Chairman (IBCC).

FEE STRUCTURE
Fee/ Credit hour + Exam fee: Rs. 4,500/-
No. of credit hours: 134
Semester Registration fee: Rs. 5,000/-
Total Semester 8
Total Program fee: Rs. 643,000/-
Processing fee: Rs. 5,000/-

Admission fee: Rs. 25,000/-
Security Deposit: Rs. 25,000/-
Student activity fee: Rs. 2,000/-

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

The University reserves the right to increase the fees if required according to the recommendation of the Governing Body. At the time of admission, selected candidates will be required to deposit fee. Thereafter monthly or semester fee will be deposited by students within two weeks of commencement of every semester in advance according to the official notification on the notice board. 2% surcharge per month will be levied on outstanding fees after the due date. The students claiming exemptions from any course or courses will be required to pay exemption fee @ Rs. 2,500/- per subject in the beginning of each semester.

Fees once deposited are not refundable, except security deposits, for any reason whatsoever.

FEES STRUCTURE

SEMESTER 1

<table>
<thead>
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</tr>
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<tbody>
<tr>
<td>1</td>
<td>English-I (C)</td>
<td>3+0</td>
</tr>
<tr>
<td>2</td>
<td>Islamic Studies/Ethics (C)</td>
<td>2+0</td>
</tr>
<tr>
<td>3</td>
<td>Mathematics (F)</td>
<td>3+0</td>
</tr>
<tr>
<td>4</td>
<td>Chemistry (G)</td>
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</tr>
<tr>
<td>5</td>
<td>Physics (G)</td>
<td>3+0</td>
</tr>
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<td>6</td>
<td>Statistics (G)</td>
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SEMESTER 2

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<tr>
<td>1</td>
<td>Introduction to Biotechnology (F)</td>
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</tr>
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<td>2</td>
<td>English-II (C)</td>
<td>3+0</td>
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SEMESTER 3

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<tr>
<td>2</td>
<td>Organic Chemistry (G)</td>
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<td>3</td>
<td>Cell Biology (F)</td>
<td>2+1</td>
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<td>4</td>
<td>Pakistan Studies (C)</td>
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SEMESTER 4

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<td>3</td>
<td>Microbial Biotechnology</td>
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<td>Analytical Chemistry &amp; Instrumentation (F)</td>
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</tr>
<tr>
<td>5</td>
<td>Biology (G)</td>
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<tr>
<td>6</td>
<td>Biological Physics (G)</td>
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SEMESTER 5

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<td>2 Islamic Studies/Ethics (C)</td>
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<tr>
<td>3</td>
<td>1 English-I (C)</td>
<td>3+0</td>
</tr>
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SEMESTER 6

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<td>1 English-I (C)</td>
<td>3+0</td>
</tr>
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SEMESTER 7

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SEMESTER 8

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<td>4</td>
<td>1 English-II (C)</td>
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BS BIOMEDICAL EQUIPMENT TECHNOLOGY

SCOPE & OPPORTUNITIES
With an associate degree in Biomedical Equipment Technology, students are prepared for entry-level jobs trouble shooting, diagnosing, repairing and calibrating biomedical equipment. Further, the graduation in the Biomedical Equipment Technology allows students willing to broaden their knowledge perspective after the completion of Diploma in Associate Engineering. The evening program allows them to continue their education without compromising with their job responsibilities. This will not only provide them with ease and fund but also enable them for self-sustainability.

Graduates of Biomedical Equipment Technology will be able to work in the Pharmaceutical industries, Hospitais, Patient care facilitation center, health practitioner offices, and Doctor’s offices with medical testing equipment.

PROGRAM EDUCATIONAL OUTCOMES
Consistent with the Department of BME Vision and Mission, the Program Educational Objectives at the study program BS Biomedical technology are:

- PEO 1: To produce graduates who will be equipped with the knowledge of Science, Technology, mathematics, modern tools and skills to perceive 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 equipment technology and generate the employment through entrepreneurship.
- PEO 3: To produce graduates who will be able to manage and communicate multidisciplinary teams and assist in the research and development.

PROGRAM LEARNING OUTCOMES
PLO 1: Knowledge: Graduates will gain and apply knowledge of biomedical equipment technology. Science and technology concepts to solve problems related to field of biomedical equipment technology.

PLO 2: Problem Analysis: Graduates will be able to identify, analyze and understand problems related to biomedical equipment technology and finding valid conclusions with basic knowledge in biomedical equipment technology.

PLO3: Design/Development of Solutions: Graduates will be able to design and develop solution to biomedical equipment technology problems by applying appropriate tools while keeping in mind safety factor for environmental & society.

PLO 4: Investigation: Graduates will be able design, perform experiments, analyse and interpret data for investigating complex problems in biomedical equipment technology and related fields.

PLO 5: Modern Tool Usage: Graduates will be able to decide and apply appropriate tools and techniques in biomedical equipment technological manipulation.

PLO 6: Technologist and Society: Graduates will be able to justify societal, health, safety and legal issues and understand his responsibilities in biomedical equipment technological practices.

PLO 7: Environment and Sustainability: Graduates will be able to understand the need and impact of biomedical equipment technology solutions on environment and societal context keeping in view need for sustainable solutions.

PLO 8: Ethics: Graduates will have knowledge and understanding of related norms and ethics in biomedical equipment technology technique development.

PLO 9: Individual and Team Work: Graduates will be able to undertake any responsibility as an individual and as a team in a multidisciplinary environment.

PLO 10: Communication: Able to communicate effectively and broadly defined technical activities. Also, able to comprehend and write effective reports and documentation to give and receive clear instructions.

PLO 11: Project Management: Graduates will have thorough knowledge in biomedical equipment technology and will also be ready to engage themselves in lifelong learning.

PLO 12: Lifelong Learning: Graduates will be motivated and have the preparation ability to engage in lifelong learning for technological change.

PROGRAM STRUCTURE
The following scheme of study is proposed for the BS Biomedical Equipment Technology.

DURATION OF STUDIES
Program: BS Biomedical Equipment Technology Duration (Minimum): 4 years Duration (Maximum): 7 years

ELIGIBILITY
1. 12 years of education with 50% marks or above in Intermediate (Pre-Engg. and Pre-Med) or DAE or equivalent examination.

Note: Candidates who have completed 12 years of education and obtained degrees other than Multilculation (SSC) or Intermediate (HSSC) are required to obtain an equivalence certificate from the Inter Board Committee of Chairman (IBCC).

FEE STRUCTURE
Processing Fees (Once): Admission Fee (Once): Security Deposit Rs. 2,500/- Rs. 15,000/- Rs. 5,000/- (Once & Refundable)
Tuition Fee: (First Year) Rs. 74,000/- (per year)
Option 1: Uniform Monthly Installment Rs. 10,000/-
Admission + Security (At the time of Admission): Rs. 15,000/- + Rs. 5,000/-
1st Installment (At the time of Admission): 7,000/-

Monthly Installment (47 Installments: tuition fee + Examination Fee): Rs. 7,000/-
Option 2: lump sum for each Year
First Year: Rs. 104,000/-
Next Three Years Rs. 84,000/- (Tuition + Examination Fee)

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.

At the time of admission, selected candidates will be required to deposit fee either under Option 1 or Option 2. Therefore monthly or semester fee will be deposited by students within two weeks of commencement of every semester in advance according to the official notification on the notice board. 2% surcharge per month will be levied on outstanding fees after the due date.

The students claiming exemptions from any course or courses will be required to pay exemption fee Rs. 2,500/- per subject in the beginning of semester.

Fees once deposited are not refundable, except security deposits, for any reason whatsoever.
DEPARTMENT OF ELECTRICAL ENGINEERING

INTRODUCTION
In the field of engineering and technology, Electrical Engineering is the branch of engineering that deals with the study and applications of electrical systems and equipment, which includes the power generation, distribution, transmission, utilization, communication, control, and protection of electrical systems for industrial and domestic usage. Electrical Engineering encompasses electronics, computer instrumentation, communication, and control engineering. Therefore, Electrical Engineering is essential for all engineering disciplines and its scope is vast and unlimited.

VISION
The vision of the department is: “To be the best at serving society with the acquired skill set in the domain of Electrical Engineering and Technology.”

MISSION
The mission of the department is: “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.”

DEPARTMENT OF ELECTRICAL ENGINEERING is offering following programs:
- BS Electrical Engineering
- BS Electrical Technology
- MS Electrical Engineering
- PhD Electrical Engineering

BS ELECTRICAL ENGINEERING

With current industrial and infrastructure growth in Pakistan such as CPEC, it is expected that human resource demand in engineering and technological areas shall rise. Huge market for Electrical Engineers are forecasted with the emerging Industrial Units, Power Generation & Distribution Plants etc. After completing the BS Electrical Engineering graduates can:
- Start their own business as an entrepreneur.
- Placements in power generating stations, k-Electric, WAPDA, public health, radio and TV broadcasting, Sui-gas etc.
- Start jobs in the industrial zone (textile, automobile manufacturing plants).
- Can work as Engineer in Pakistan Atomic Energy Commission, OGDCL, and Pakistan Railways and other Government and private organizations.
- Junior Lecturer in Engineering University/Institute.
- Pursue higher studies from national/international universities.

PROGRAM EDUCATIONAL OUTCOMES
- PLO 1: To produce graduates that are technically skilled and competent to formulate, analyze and solve complex engineering problems using appropriate technological tools and techniques.
- PLO 2: To produce employable graduates with effective communication skills that successfully & ethically practice electrical engineering and technology-related fields.
- PLO 3: To produce graduates motivated for lifelong learning through research and entrepreneurship.
- PLO 4: To produce graduates with the capacity to work as an effective team member and strong leadership qualities.

PROGRAM LEARNING OUTCOMES
Program learning outcomes are the knowledge, skills, and capabilities students should possess by the time of graduation. The BUITEMS Electrical Engineering program prepares students to attain the educational objectives by ensuring that students demonstrate achievement of the following student outcomes. Electrical Engineering student will demonstrate the following attributes by the time they graduate:
- PLO 1: Engineering Knowledge: An ability to apply knowledge of computer science, software engineering fundamentals, applied mathematics, management science and an engineering specialization to the solution of complex software engineering problems.
- PLO 2: Problem Analysis: An ability to identify, formulate, research literature and analyze complex software engineering problems and to propose solutions using software engineering principles, natural sciences and engineering sciences.
- PLO 3: Design/Development of Solutions: An ability to design solutions for complex software engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
- PLO 4: Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis, and interpretation of experimental data, and synthesis of information to derive valid conclusions.
- PLO 5: Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
- PLO 6: The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.
- PLO 7: Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
- PLO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
- PLO 9: Individual and Team Work: An ability to work effectively, as an individual or in a team, on multilayered and /or multidisciplinary settings.
- PLO 10: Communication: an ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PLO 11: Project Management: an ability to demonstrate management skills and apply engineering principles to one’s own work, as a member and/or leader in a team, to manage projects in a multi-
disciplines.

PLO 12: Lifelong Learning: ability to recognize the importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

**CREDIT HOUR DISTRIBUTION**
The Department of Electrical Engineering follows NCRC/HEC guidelines for distribution of credit hours between core and elective courses. Any changes to the curriculum are only made after a thorough deliberation in the board of studies (BOS) meetings, which is also attended by external experts. Following table shows the comparative analysis of NCRC and ZUFEST for Engineering and Non-Engineering domain courses.

<table>
<thead>
<tr>
<th>Domain</th>
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<th>Total Credit Hours</th>
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<tr>
<td>Management Sciences</td>
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<td>12</td>
</tr>
<tr>
<td>Natural Sciences</td>
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<td>12</td>
</tr>
<tr>
<td>Management Sciences</td>
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<td>4</td>
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<tr>
<td>Engineering, breadth</td>
<td>6</td>
<td>12</td>
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<tr>
<td>Management Sciences</td>
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<td>4</td>
</tr>
<tr>
<td>Natural Sciences</td>
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**SCHEME OF STUDY**

<table>
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<td>EE-101 Workshop Practices</td>
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<tr>
<td>EE-108 Electronic Devices &amp; Circuits</td>
<td>3+1</td>
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<tr>
<td>EE-324 Probability Methods in Engineering</td>
<td>3+0</td>
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<tr>
<td>EE-325 Signal and Systems</td>
<td>3+1</td>
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<tr>
<td>EE-451 Electrical Power Transmission</td>
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<td>MS-414 Engineering Economic &amp; Management</td>
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<tr>
<td>CS-211 Data Structures &amp; Algorithms</td>
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<tr>
<td>HS-114 Communication &amp; Presentation Skills</td>
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<tr>
<td>NS-112 Differential Equations</td>
<td>3+0</td>
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<tr>
<td>EE-341 Linear Control Systems</td>
<td>3+1</td>
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<tr>
<td>EE-355 Power Distribution &amp; Utilization</td>
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<tr>
<td>EE-342 Advanced Signal Processing &amp; Control Systems</td>
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<td>EE-499 Final Year Project – I</td>
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<tr>
<td>EE-XXX Elective – I</td>
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</table>

**LENGTH OF DEGREE PROGRAM**
- Minimum 4-years and maximum 7 years (136 Credit Hours)

**ELIGIBILITY**
To be admitted to the Bachelors of Science in Electrical Engineering BS degree Program students have to satisfy following requirements:
- Minimum 60% marks in HSC (Pre-Engineering Group) / A-Level or equivalent qualification / DAE in Electrical and Electronics Technology with 60% marks in the relevant discipline are required for admission.
- Students are required to appear for a written test and interview.

**FEE STRUCTURE**
- Fee/ Credit Hour + Exam Fee: Rs. 5,500/-
- No of Credit Hours: 136
- Total Semester Fee: Rs. 788,000/-
- Processing fee: Rs. 5,000/-
- Admission fee: Rs. 25,000/-
- Security Deposit: Rs. 25,000/-(refundable)
- Student activity fee: Rs. 2,000/-(refundable)

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.

At the time of admission, selected candidates will be required to deposit fee. Therefore monthly or semester fee will be deposited by students within two weeks of commencement of every semester in advance according to the official notification on the notice board. 2% surcharge per month will be levied on outstanding fees after the due date.

The students claiming exemptions from any course or courses will be required to pay exemption fee @ Rs. 2,500/- per subject in the beginning of semester.

Fees once deposited are not refundable, except security deposits, for any reason whatsoever.
BS ELECTRICAL TECHNOLOGY

With current industrial and infrastructure growth in Pakistan, it is expected that human resource demand in technical areas shall rise. Huge market for Electrical Technologist is forecasted with the emerging industrial units, Power Generation & Distribution Plants etc. After completing the BS-Electrical Technology graduates can:

• Start their own business as Electrical Technologist.
• Placements in power generating station, WAPDA, public health, radio and TV broadcasting, Sul gas etc.
• Start jobs in the industrial zone (textile, automotive, manufacturing plants).
• Can work as Technologist/Technician in Pakistan Atomic Energy Commission, OGDCL, and Pakistan Railways and other Government and private organizations.
• Junior Lecturer in Technical education.

PROGRAM EDUCATIONAL OUTCOMES

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

PEO 1: To produce graduates 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 programs 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 socioeconomic growth of the society and nation at large.

CREDIT HOUR DISTRIBUTION

The Department of Electrical Engineering follows NER/NEC guidelines for distribution of credit hours between core and elective courses. Any changes to the curriculum are only made after a thorough deliberation in the board of studies (BOS) meetings, which is also attend by external experts. Following show the total credit hours and duration of the programme along with duration, maximum load and maximum number of modules per semester.

Total numbers of Credit hours: 131
Duration: 4 years
Semester duration: 16-18 weeks
Module Load per semester: 15-18 Cr. Hrs
Number of Modules per semester: 5-6

LENGTH OF DEGREE PROGRAM

Minimum 4 years and maximum 7 years (131 Credit Hours)

ELIGIBILITY CRITERIA

To be admitted to the Bachelors of Science in Electrical technology BS degree Program students have to satisfy following requirements:
• Minimum 50% in SSC and HSC
• HSC with Pre-Engineering, Pre-Medical, Arts & Humanities with Additional Maths subjects.
• 3 years Diploma in Electrical/Electronics/Computer/Biomedical and any other relevant field with min. 50%.

FEE STRUCTURE

Processing Fees (Once): Rs. 2,500/-
Admission Fee (Once): Rs. 15,000/-
Security Deposit: Rs. 5,000/-
(Once & Refundable)
Examination: Rs. 74,000/- (per year)
Tuition Fee (First Year): Rs. 10,000/-
Option 1: Lump sum for each Year
First Year: Rs.104,000/-
Next Three Years: Rs. 84,000/- (Tuition + Examination Fee)

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.

At the time of admission, selected candidates will be required to deposit fee either under Option 1 or Option 2. Thereafter monthly or semester fee will be deposited by students within two weeks of commencement of every semester in advance according to the official notification on the notice board. 2% surcharge per month will be levied on outstanding fees after the due date.

The students claiming exemptions from any course or courses will be required to pay exemption fee i.e. Rs. 2,500/- per subject in the beginning of semester.

Fees once deposited are not refundable, except security deposits, for any reason whatsoever.

SCHEME OF STUDY

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-301</td>
<td>Total Quality Management</td>
<td>2+0</td>
</tr>
<tr>
<td>ET-323</td>
<td>Switch Gear &amp; Protective Devices</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>ET-214</td>
<td>Electrical Instrumentation &amp; Measurement</td>
<td>2+2</td>
</tr>
<tr>
<td>NS-107</td>
<td>Applied Chemistry</td>
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<tr>
<td>NS-108</td>
<td>Applied Mathematics – I</td>
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<tr>
<td>ET-123</td>
<td>Engineering Drawing</td>
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<tr>
<td>ET-114</td>
<td>Linear Circuits Analysis</td>
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</tr>
<tr>
<td>ET-214</td>
<td>Electrical Instrumentation &amp; Measurement</td>
<td>2+2</td>
</tr>
<tr>
<td>ET-224</td>
<td>AC Circuit Analysis</td>
<td>2+2</td>
</tr>
<tr>
<td>ET-234</td>
<td>Digital Electronics</td>
<td>2+2</td>
</tr>
<tr>
<td>ET-244</td>
<td>AC Machines</td>
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<tr>
<td>ET-250</td>
<td>Power Generation Systems</td>
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<tr>
<td>ET-252</td>
<td>Electromagnetic Fields</td>
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<td>ET-284</td>
<td>Power Electronics</td>
<td>2+2</td>
</tr>
<tr>
<td>ET-313</td>
<td>Microprocessor &amp; Microcontroller Systems</td>
<td>2+1</td>
</tr>
<tr>
<td>ET-323</td>
<td>Switch Gear &amp; Protective Devices</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>
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<tr>
<td>ET-353</td>
<td>Power System Analysis</td>
<td>3+0</td>
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<tr>
<td>ET-364</td>
<td>Data &amp; Computer Communication</td>
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<tr>
<td>ET-383</td>
<td>Industrial Drives and PLC</td>
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<td>ET-413</td>
<td>Project</td>
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<tr>
<td>ET-482</td>
<td>Supervisor Industrial Training</td>
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<tr>
<td>ET-501</td>
<td>Power System Analysis</td>
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<td>ET-502</td>
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<tr>
<td>ET-503</td>
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<td>Microprocessor &amp; Microcontroller Systems</td>
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<td>ET-508</td>
<td>Control Technology</td>
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</tr>
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<td>ET-510</td>
<td>Control Technology</td>
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<td>ET-512</td>
<td>Control Technology</td>
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</tr>
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</tr>
<tr>
<td>ET-516</td>
<td>Control Technology</td>
<td>2+1</td>
</tr>
</tbody>
</table>
There are three MS tracks offered in the field of Electrical Engineering at ZUFEST. These specialized streams/tracks and scheme of study are as follows:

### a) Control and Automation

- EE 821 Electronic System Design
- EE 822 Advanced Instrumentation
- EE 823 Advanced Power Electronics
- EE 801 Neural and Fuzzy Systems
- EE 821 Machine Vision
- EE 824 Robotics
- EE 825 Adaptive Digital Signal Design
- EE 850 Adaptive Filter Design

### b) Computer & Communication Networks

- CS 825 P Telephony and Voice over IP
- CS 824 Multi预留ary Switching Architecture
- CS 830 Network Management
- CS 831 Network Performance Analysis
- CS 812 QoS Architecture for Multimedia Networks
- TS 810 Telecommunication Traffic Engineering
- TS 804 Wireless and Mobile Communication Systems
- TS 821 Next Generation Networks
- TS 811 Wireless Multiple Access Communication
- CS 822 Wireless Sensor Networks
- TS 806 Satellite, Fixed and Mobile Radio Systems
- TS 814 Electromagnetic Compatibility and Interface
- TS 807 Digital Design for Communication Systems
- TS 851 Selected Topics in Communication Systems
- TS 832 Ge and Remote Sensing
- TS 808 Queueing Theory
- TS 809 Radar Systems
- EE 850 Adaptive Filter Design

### c) Telecommunication Systems

- EE 801 Research Methodology
- EE 802 Analysis of Stochastic Systems
- EE 803 Advanced Simulation and Modelling
- EE 811 Linear System Theory
- EE 812 Advanced Digital Signal Processing
- EE 813 Optimization Theory

### SPECIALIZATION: CONTROL AND AUTOMATION

- EE 821 Electronic System Design
- EE 822 Advanced Instrumentation
- EE 823 Advanced Power Electronics
- EE 801 Neural and Fuzzy Systems
- EE 821 Machine Vision
- EE 824 Robotics
- EE 825 Adaptive Digital Signal Design
- EE 850 Adaptive Filter Design

### SPECIALIZATION: COMPUTER AND COMMUNICATION NETWORKS

- CS 825 P Telephony and Voice over IP
- CS 824 Multi预留ary Switching Architecture
- CS 830 Network Management
- CS 831 Network Performance Analysis
- CS 812 QoS Architecture for Multimedia Networks
- TS 810 Telecommunication Traffic Engineering
- TS 804 Wireless and Mobile Communication Systems
- TS 821 Next Generation Networks
- TS 811 Wireless Multiple Access Communication
- CS 822 Wireless Sensor Networks
- TS 806 Satellite, Fixed and Mobile Radio Systems
- TS 814 Electromagnetic Compatibility and Interface
- TS 807 Digital Design for Communication Systems
- TS 851 Selected Topics in Communication Systems
- TS 832 Ge and Remote Sensing
- TS 808 Queueing Theory
- TS 809 Radar Systems
- EE 850 Adaptive Filter Design

### SPECIALIZATION: TELECOMMUNICATION SYSTEMS

- TS 801 Advanced Communication Networks
- TS 802 RF and Microwave Engineering
- CS 802 Advanced Computer Networks
- TS 805 Optical Communication Systems
- CS 803 Information Theory and Coding
- CS 804 Internet Protocols
- TS 803 Advanced Digital Communication
- TS 810 Computer and Network Security
- CS 831 Network Management
- CS 851 Advanced Artificial Intelligence
- TS 831 Network Performance Analysis
- TS 821 Next Generation Networks
- TS 805 Optical Communication Systems
- CS 812 QoS Architecture for Multimedia Networks
- TS 810 Telecommunication Traffic Engineering
- TS 804 Wireless and Mobile Communication Systems
- TS 811 Wireless Multiple Access Communication
- CS 822 Wireless Sensor Networks
- CS 841 Multimedia Networking
- CS 852 Selected Topics in Computer and Communication Networks
- CS 853 Web Services and Service Oriented Architecture
- CS 854 Cloud Computing
- CS 855 Cryptography
- CS 856 Ubiquitous Computing
- CS 857 Graphics Programming
- EE 850 Adaptive Filter Design

### DEGREE REQUIREMENTS

For the award of MS Equivalent degree, candidates will either need to complete 30 credit hours of coursework or complete 24 credit hours of coursework along with a minimum of 6 credit hours for research work/thesis.

### TITLE OF PROGRAM TO BE APPEAR ON DEGREE

Master of Science in Electrical Engineering

### ELIGIBILITY CRITERIA

16 years of education in the relevant discipline. Minimum CGPA 2.50/4.00 or 60% marks. Passed GAT (General) or the University admission test.

### DURATION OF DEGREE PROGRAM

Typical / Average duration for MS Electrical program is 1.5 years (4 years maximum). A general semester-wise break-up is as follows:

#### MS ELECTRICAL ENGINEERING

- Thesis Work

Besides 24 CH of coursework, MS students optionally complete 06 CH of research work instead of two courses. The thesis may be taken after completing 18CH (minimum).

### ELECTRICAL ENGINEERING DEGREE REQUIREMENTS

- Thesis Option
- Coursework + Thesis

### FEE STRUCTURE

- **MS (Non-Thesis)**
  - Processing Fee: Rs. 10,000/-
  - Enrollment Fee: Rs. 5,000/-
  - Security Deposit (Refundable): Rs. 5,000/-
  - Examination Fee: Rs. 5,000/-
  - Tuition Fee: Rs. 15,000/-
  - Admission Fee: Rs. 5,000/-

- **MS (With Thesis)**
  - Processing Fee: Rs. 5,000/-
  - Examination Fee: Rs. 5,000/-
  - Tuition Fee: Rs. 15,000/-

### FEE STRUCTURE

- **MS (Non-Thesis)**
  - Fees once deposited are not refundable, except security deposits, for any reason whatsoever.
  - Security Deposit (Refundable): Rs. 5,000/-
  - Examination Fee: Rs. 5,000/-
  - Tuition Fee: Rs. 15,000/-

- **MS (With Thesis)**
  - Fees once deposited are not refundable, except security deposits, for any reason whatsoever.
  - Security Deposit (Refundable): Rs. 5,000/-
  - Examination Fee: Rs. 5,000/-
  - Tuition Fee: Rs. 15,000/-

### GOVERNING COUNCIL

- College of Medical Sciences
- College of Engineering
- College of Electrical Engineering
- College of Management Science
- College of Computer Science

### DEGREE REQUIREMENTS

- **Thesis Work**

Besides 24 CH of coursework, MS students optionally complete 06 CH of research work instead of two courses. The thesis may be taken after completing 18CH (minimum).
PHD IN ELECTRICAL ENGINEERING

Every Ph.D. student must select one Area of Specialization (AoS) in consultation with 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**

<table>
<thead>
<tr>
<th>Area of Specialization (AoS)</th>
<th>No. of CH Courses</th>
<th>Compulsory Courses</th>
<th>Thesis/Dissertation</th>
<th>Total Coursework Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>12</td>
<td>30</td>
<td>48</td>
</tr>
</tbody>
</table>

**Eligibility Criteria**

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 minimum of 60% marks is required to take admission. Presently, minimum 3.0 CGPA out 4.0 and followed by a comprehensive examination for granting candidacy as Ph.D. researcher.

**Duration of Degree Program**

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

- **PhD Course Work**
  Course work of 18 credit hours preferably in the first year is required to be completed scoring minimum 3.0 CGPA out 4.0 and followed by a comprehensive examination for granting candidacy as Ph.D. researcher.

**Qualifying Examination**

- After successful completion of PhD coursework, a Ph.D. student will undergo qualifying/comprehensive examination from the entire coursework of Ph.D.
- The qualifying examination will be held twice a year.
- A student will take qualifying exam as soon as possible after completion of coursework but in no case beyond 06 months.
- The examination will be conducted in two parts
  - Part A – Written Comprehensive Examination
    - Chairperson of the department in consultation with Subject teachers will finalize the question papers for written comprehensive examination.
    - The examination will cover entire PhD coursework of the student.
    - Duration of the exam will be 03 hours with 60% as minimum passing marks.
  - Part B – Oral Examination
    - Oral examination will be held within 03 months after a student qualifies Part A of the exam.
    - Chairperson of the department will chair the committee for oral comprehensive exam which would include the GEC.
    - GEC members will be the voting members.
    - If number of votes for “Pass” equals the number of votes for “Fail”, then verdict of the supervisor will be taken as final decision.
    - A Ph.D. student must pass Part B by majority vote.
    - Maximum two attempts are allowed to appear in Part A and B of comprehensive exam.
    - The student will appear in failed part within time period specified by the supervisor.

**Guidance and Examination Committee (GEC)**

For every Ph.D. scholar, a Guidance and Examination Committee (GEC) will consist of:
- Supervisor
- Co-Supervisor (if appointed)
- GEC Member 1
- GEC Member 2
- GEC Member 3 (External)

**Approval of Ph.D. Dissertation Synopsis**

After passing Ph.D. Qualifying Examination Part A and B, a student must carry out literature survey and prepare a written synopsis of his/her intended topic of research and present the same along with research plan in Ph.D research proposal defense exam for evaluation by GEC. After evaluation of the synopsis, the case will be forwarded to BASR for approval. The case for any change in research topic or any change in GEC will also be forwarded to BASR for approval.

**PhD Candidacy**

Qualification and advancement to PhD candidacy is subject to:
- Passing PhD coursework with required CGPA.
- Writing and successfully defending the research proposal
- The examination will cover entire PhD coursework of the student.
- Duration of the exam will be 03 hours with 60% as minimum passing marks.
- 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.
- The foreign experts must be from HEC approved technologically/academically advanced foreign countries.
- The formal report by GEC and two foreign experts is essential.
- The foreign experts must be from HEC approved technologically/academically advanced foreign countries.
- A student must have a minimum of 02 research papers published/accepted for publication, with Subject teachers will finalize the question papers for written comprehensive examination.

**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.

**Dissertation Evaluation Report**

A Positive report by GEC and two foreign experts (in relevant area) from technologically/academically advanced foreign countries is essential.

**Dissertation Defense**

An open defense of dissertation is an essential part of the Ph.D. program after positive evaluation. The student must successfully defend his/her dissertation followed by viva-voce examination to be conducted by local external expert appointed by BASR.

**Dissertation Submission**

Within 15 days of the successful defense, six
bound copies of the dissertation are to be submitted. To incorporate any additional requirement of the defense committee, request may be made to Director to relax this period of submission.

Correspondence for Thesis Review
• The official emails may be used to send the thesis for review but personal email addresses 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

**FEE STRUCTURE**
- Processing Fee: Rs. 5,000/-
- Admission Fee: Rs. 20,000/-
- Enrollment Fee: Rs. 5,000/-
- Security Deposit: Rs. 5,000/-
- Final Examination Fee (Per Year): Rs. 50,000/-
- Viva Voce Exam Fee: Rs. 20,000/-
- Comprehensive Examination Fee: Rs. 5,000/-
- Examination fee/ semester: Rs. 9,000/-
- Tuition Fee (per course): Rs. 15,000/-

**GUIDANCE AND EXAMINATION COMMITTEE (GEC)**
For every PhD scholar, a Guidance and Examination Committee shall be formed in consultation with the supervisor preferably after admission. FEST RC will approve the composition. GEC will consist of:
- Supervisor
- Co-Supervisor (if appointed)
- GEC Member 1
- GEC Member 2
- GEC Member 3 (External)

**APPROVAL OF PHD DISSERTATION SYNOPTIS**
After passing PhD Qualifying Examination Part A and B, a student must carry out literature survey and prepare a written synopsis of his/her intended

**DEPARTMENT OF SOFTWARE ENGINEERING**

**INTRODUCTION**
Software Engineering derives its essence from computer science as other engineering disciplines do from natural or the 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 the science and technology already available to create products and tools for use.

ZUJEST offering a four year degree program (133 Cr. Hr.) 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 the 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. The average salary of Software Engineer ranges between 45,000 to 150,000 PKR. They can grow exponentially if keep updating the skill set with market needs. There’s a huge market for freelance SE graduate (Entrepreneur).

**MISSION**
“the Department of Software Engineering aims to produce graduates equipped with 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 career.”

Department of Software Engineering is offering following programs:
- BS Software Engineering
- BS Data Science
BS SOFTWARE ENGINEERING

SCOPE & OPPORTUNITIES
Software engineers 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 OUTCOMES
- PEO 1: Possess essential knowledge of software engineering fundamentals and ability to design, analyze and investigate the appropriate procedures using modern tools also capability 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, communicative, and interpersonal skills.
- PEO 4: Understand the importance of lifelong learning through professional development, specialized certifications and pursue postgraduate studies and succeed in industrial and research careers.

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

CREDIT HOUR DISTRIBUTION
The Department of Software Engineering follows NCEAC/HEC guidelines for distribution of credit hours between core and elective courses. Any changes to the curriculum are only made after thorough deliberation in the board of studies (BOS) meetings, which is also attended by external experts. The current ratio between core and elective courses is at 65:35, which is as per the guidelines of HEC.

SCHEME OF STUDY

<p>| SEMESTER 1 |SEMESTER 2 |</p>
<table>
<thead>
<tr>
<th>Sr.#</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Cr.</th>
<th>Hr.</th>
<th>Sr.#</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Cr.</th>
<th>Hr.</th>
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<td>1</td>
<td>11</td>
<td>CS-454</td>
<td>Software Engineering Economics</td>
<td>3</td>
<td>0</td>
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<tr>
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<td>CS-104</td>
<td>Programming Fundamentals</td>
<td>3</td>
<td>1</td>
<td>12</td>
<td>CS-453</td>
<td>Cloud Computing</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>CS-351</td>
<td>Computer Communication and Networks</td>
<td>3</td>
<td>1</td>
<td>13</td>
<td>CS-412</td>
<td>Web Engineering</td>
<td>2</td>
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1. **LENGTH OF DEGREE PROGRAM**
   - Program: BS Software Engineering
   - Duration (Minimum): 4 years
   - Duration (Maximum): 7 years

2. **ELIGIBILITY CRITERIA**
   - The criteria for students seeking admission to BS Software Engineering are as follows:
     - Minimum 50% in HSC and SSC
     - HSC with Pre-Engineering, Pre-Medical, Arts & Humanities with Additional Mathematics subjects
     - 3-year Diploma IT, CS with minimum 50%
   - Students are required to appear for a written test and interview.

3. **FEE STRUCTURE**
   - Fee/Exam fee: Rs. 4,500/-
   - No. of credit hours: 133
   - Semester Registration fee: Rs. 5,000/-(per subject in the beginning of the semester)
   - Total Semester: 8
   - Total Program fee: Rs. 638,500/-(refundable)
   - Security Deposit: Rs. 25,000/-
   - Security deposits, for any reason whatsoever. Fees once deposited are not refundable, except in the appropri- e manner.
   - Students claiming exemptions from any course or courses will be required to pay exemption fee of Rs. 2,500/-
   - Security deposits for any reason.

4. **INTRODUCTION**
   - With a BS in Data Science, you will become the next generation analyst — a data scientist with comprehensive analytical and technical skills covering all aspects of handling and analyzing data. By deriving key insights from data, you will be driving the decision-making of the future. You will learn to work in interdisciplinary teams and not only make sense of vast amounts of data, but also use your organizational knowledge and market understanding to make a difference.

5. **SCOPE & OPPORTUNITIES**
   - Data Science is 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, automobile, and the health sectors. They will also be able to engage in start-up businesses pertaining to Cloud services and data mining & management technologies.

6. **PROGRAM EDUCATIONAL OUTCOMES**
   - Consistent with the Department of SE Vision and Mission, the Program Educational Objectives of the study program BS Data Science are:
     - **PLO 1:** To produce team leaders having theoretical and practical knowledge with algorithms, instruments, techniques and methods used in field of Data Science & Management.
     - **PLO 2:** To produce graduates with the ability to design & analyze small and large-scale databases identifying problematic components, selecting solution strategies, implementing the necessary adjustments without compromising the professional ethics.
     - **PLO 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.

7. **PROGRAM LEARNING OUTCOMES**
   - Program learning outcomes are the knowledge, skills, and capabilities students should possess by the time of graduation. The ZUFEAST Software Engineering program prepares students to attain the educational objectives by ensuring that students demonstrate achievement of the follow- ing student outcomes:
     - **PLO 1:** Academic Education: To prepare graduates as computing professionals.
     - **PLO 2:** Knowledge for Solving Computing Problems: Apply knowledge of computing fundamen- tals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appro- priate for the computing specializa- tion to the 16 abstraction and conceptualization computing models from defined problems and requirements.
     - **PLO 3:** Problem Analysis: Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
     - **PLO 4:** Design/Development of Solutions: Design and evaluate solutions for complex computing problems and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environ- mental considerations.
     - **PLO 5:** Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to com- plex computing activities, with an understanding of the limitations.
     - **PLO 6:** Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.
     - **PLO 7:** Communication: Communicate effec- tively with the computing community and with society at large about complex computing activi- ties by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
     - **PLO 8:** Computing Professionalism and Society: Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional practice.
     - **PLO 9:** Ethics: Understand and commit to profes-
sional ethics, responsibilities, and norms of professional computing practice.
• PLO 10: Lifelong Learning: ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

DEPARTMENT OF CIVIL ENGINEERING

INTRODUCTION
Ziauddin University has recently established Faculty of Engineering Science & Technology. The endeavor of ZJU EST is Electrical Engineering, Biomedical Engineering, Civil Engineering & Software Engineering. As per the mission of University, Department of Civil Engineering is committed to provide state of the art lab facilities, interactive learning environment and highly qualified faculty.

Ziauddin University, Faculty of Engineering Science and Technology is offering 4 years program entitling BS Civil Engineering with the formulation of theory and laboratories providing complete information. The department of Civil Engineering is well equipped with laboratories of surveying, engineering mechanics, fluid mechanics, fluid mechanics, mechanics of solids, construction engineering, material testing, drafting halls and computing lab. 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. In order to strengthen the research area of Civil Engineering, departmental library has been established having sufficient number of civil engineering titles in specialization. The program has started with prior NOC from PIEC. The curriculum is in line with HEC/NCRC. In factual terms, by the end of course program, the student will be in position to select and set in stable point of Civil Engineering followed by technical skills learned.

VISION
The vision of the department is “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
The mission of the department is “To impart fundamental education leading to the independent knowledge and methodologies to help develop capacity for the graduates to plan, design, execute and manage the Civil Engineering projects and be outlets to the industry stakeholders.”

Department of Civil Engineering is offering following programs:
• BS Civil Engineering
• BS Civil Technology

LENGTH OF DEGREE PROGRAM
Program: BS Data Science
Duration (Minimum): 4 years
Duration (Maximum): 7 years

ELIGIBILITY CRITERIA
The criteria for students seeking admission to BS Data Sciences are as follows:
• 12 years of education with 50% marks or above in Intermediate or equivalent examination.
• Minimum score for eligibility is 50% in the Z.U. Admissions Test.
Note: Candidates who have completed 12 years of education and obtained degrees other than matriculation (SSC) or Intermediate (HSSC) are required to obtain an equivalence certificate from the Inter Board Committee of Chairman (IBCC).

FEE STRUCTURE
Fee/Credit hour + Exam fee: Rs. 4,500/-
No. of credit hours: 136
Semester Registration fee: Rs. 3,000/-
Total Semester: 8
Total Program fee: Rs. 65,000/-
Processing fee: Rs. 5,000/-
Admission fee: Rs. 25,000/-
Security Deposit: Rs. 25,000/-
Note: Any additional taxes imposed by the government will be the liability of the student/parent/guardian. The University reserves the right to increase the fees if required according to the recommendation of the Governing Body. At the time of admission, selected candidates will be required to deposit fee. Thereafter monthly or semester fee will be deposited by students within two weeks of commencement of every semester, in advance according to the official notification on the notice board. 2% surcharge per month will be levied on outstanding fees after the due date. The students claiming exemptions from any course or courses will be required to pay exemption fee of Rs. 2,500/- per subject in the beginning of the semester.
Fees once deposited are not refundable, except security deposits, for any reason whatsoever.
BS CIVIL ENGINEERING

SCOPE & OPPORTUNITIES
The field of Civil Engineering is achieving its high demand with the passage of time and with growing trend. It is an undoubted truth that there is increasing in number of development of high rise buildings and infrastructure so it is an immense need to be the part of profession of Civil Engineer in a broader perspective of field specialization. The demand of Civil Engineering is almost equal in its all areas including Construction Management, Traffic or Transportation Engineering, Geotechnical Engineering, Urban Engineering, Coastal & Harbor Engineering, Earthquake Engineering, Structural Engineering and Environmental Engineering. The area of Civil Engineering is very broad and linked with industrial development. Some salient features are as follows:

• The students will be able to explore or develop their own construction industries or business as consultants, contractors and designers.
• Importing their knowledge in 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 plans, road furniture and infrastructure improvement plans.
• Students may approach and join hands with the soil testing laboratories.
• Students may play vital role with the industries for water waste treatment and solid waste management in the purview of CPEC.
• Students can engage with the public, private and education sector as well.

PROGRAM EDUCATIONAL OUTCOMES
• PEO 1: Graduates having technical and sound knowledge of computer science, software engineering fundamentals, applied mathematics, management science and an engineering specialization to the solution of complex software engineering problems.
• PEO 2: Problem Analysis: An ability to identify, formulate, research literature and analyze complex software engineering problems reaching substantiated conclusions using software engineering principles, natural sciences and engineering sciences.
• PEO 3: Design/Development of Solutions: An ability to design solutions for complex software engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
• PEO 4: Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis, and interpretation of experimental data, and synthesis of information to derive valid conclusions.
• PEO 5: Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
• PEO 6: The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.
• PEO 7: Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and contribute knowledge of and need for sustainable development.
• PEO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

CREDIT HOUR DISTRIBUTION
The Department of Civil Engineering follows NCRC/HEC guidelines for distribution of credit hours between core and elective courses. Any changes to the curriculum are only made after thorough deliberation in the board of studies (BOS) meetings, which is also attended by external experts. Following table shows the comparative analysis of NCRC and ZUET for Engineering and Non-Engineering domain courses.

PROGRAM LEARNING OUTCOMES
Program learning outcomes are the knowledge, skills, and capabilities students should possess by the time of graduation. The ZUET Civil Engineering program prepares students to attain the educational objectives by ensuring that students demonstrate achievement of the following student outcomes. Civil Engineering student will demonstrate the following attributes by the time they graduate:

PLO 1: Engineering Knowledge: An ability to apply knowledge of computer science, software engineering fundamentals, applied mathematics, management science and an engineering specialization to the solution of complex software engineering problems.

PLO 2: Problem Analysis: An ability to identify, formulate, research literature and analyze complex software engineering problems reaching substantiated conclusions using software engineering principles, natural sciences and engineering sciences.

PLO 3: Design/Development of Solutions: An ability to design solutions for complex software engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO 4: Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis, and interpretation of experimental data, and synthesis of information to derive valid conclusions.

PLO 5: Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

PLO 6: The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

PLO 7: Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and contribute knowledge of and need for sustainable development.

PLO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PLO 9: Individual and Team Work: An ability to work effectively, as an individual or in a team, on multidisciplinary and/or multidisciplinary settings.

PLO 10: Communication: ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PLO 11: Project Management: ability to demonstrate management skills and apply engineering principles to one’s own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

PLO 12: Lifelong Learning: ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

SCHEME OF STUDY

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MESSAGES

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

**ELIGIBILITY CRITERIA**
The criteria for students seeking admission to BS Civil Engineering are as follows:
- 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**
Fees/ Credit hour + Exam fee:
- Rs. 5,000/- per subject in the beginning

- Rs. 5,000/- per subject in the remaining semester.
- Total Program fee: Rs. 87,400/-
- Processing fee: Rs. 25,000/-
- Security Deposit: Rs. 25,000/- (refundable)
- Student activity fee: Rs. 2,000/-

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.

At the time of admission, selected candidates will be required to deposit fee. Therefore monthly or semester fee will be deposited by students within two weeks of commencement of every semester in advance according to the official notification on the notice board. 2% surcharge per month will be levied on outstanding fees after the due date.

The students claiming exemptions from any course or courses will be required to pay exemption fee @ Rs. 2,500/- per subject in the beginning of semester.

Fees once deposited are not refundable, except security deposits, for any reason whatsoever.

**BS CIVIL TECHNOLOGY**

**SCOPE & OPPORTUNITIES**
The field of Civil Technology is achieving its high demand with the passage of time and with growing trend. It is an undoubted truth that there is increase in number of development of high rise buildings and infrastructure so it is an immense need to be the part of profession of Civil Engineering in a broader perspective of field specialization. The demand of this field is almost equal in its all areas including Construction Management, Traffic or Transportation, Geotechnical, Urban Engineering, Coastal & Harbor, Structures and Environmental Engineering. Some salient features are as follows:
1. The students will be able to explore or developed their own construction industries or business as consultants, contractors and designers.
2. Imparting their knowledge in water resources area with the development of dams, barrages, culverts etc.
3. Strengthen the area of Irrigation Engineering in undeveloped areas of Pakistan.
4. To produce and may get along with the transportation firms for traffic management studies, safety and accident studies, signage plans, road furniture and infrastructure improvement plans.
5. Students may approach and join hands with the soil testing laboratories.
6. Students may play vital role with the industries for waste water treatment and solid waste management in the purview of CPCB.
7. Students can engage with the public, private and education sector as well.

**PROGRAM EDUCATIONAL OUTCOMES**
- To produce graduates who are technically skilful and competent to formulate, analyze and solve problems using appropriate engineering tools and techniques.
- To produce effective and employable engineering graduates that successfully & ethically practice civil engineering skills in related fields.
- To produce graduates motivated for lifelong learning and create new knowledge and technical solution through cutting edge research and entrepreneurship.

- To produce graduates with the capacity to work as effective team member and strong leadership qualities.

**PROGRAM LEARNING OUTCOMES**
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**CREDIT HOUR DISTRIBUTION**
As per HEC guidelines.
## Scheme of Study

### Semester 1

<table>
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<tbody>
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<tr>
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### Length of Degree Program
- Program: BS Civil Technology
  - Duration (Minimum): 4 years
  - Duration (Maximum): 7 years

### Intake Mechanism
- Intake will be twice in a year (Spring & Fall).

### Eligibility Criteria
- Minimum 45% in SSC and HSC
- HSC with Pre-Engineering, Pre-Medical, Arts & Humanities with Additional Maths subjects
- 3-year Diploma Civil with min. 50%

### Admission Procedure
- Under extraordinary circumstances, the Vice-Chancellor, on the recommendation of the Dean/Principal concerned may allow migration of a student from other recognized institutions to the university and vice versa, provided that:
  - a. The academic councils of the institutions are agreed on the migration of student.
  - b. The courses of studies are equivalent. The credits earned in the previous institution may be permitted to be transferred to other institutions to which the student migrates.
  - c. Migrations are allowed for maximum 50% of total credits.

### Fee Structure
- Processing Fees (Once): Rs. 2,500/-
- Admission Fee (Once): Rs. 15,000/-
- Security Deposit (Once & Refundable): Rs. 5,000/-
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 production systems that are more efficient. 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 management and lifelong learning.

MISSION
The vision of the department is “To be recognized as a leader in management technology & information science education producing highly capable resource pool for relevant market.”

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

PROGRAMS OFFERED
- Bachelor of Science in Management & Technology (BSM&T)
- Bachelor of Business Administration (BBA)

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. Annual salaries in the US range between $48,000 and $130,000. IBM, BAE Systems, United Technologies Corporation, Lowe’s Companies, and Atmel Corporation are among popular companies.

In Pakistan, salaries for Technology Managers start from PKR 60K for a fresher and go on to Rs. 2 lakh per month in a few years.

PROGRAM EDUCATIONAL OUTCOMES
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 operation.
- PEO-3: Promote continuous development of technology operation.
- PEO-4: 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.

PROGRAM LEARNING OUTCOMES
After graduation students will be able to:
1. Explain the major concepts in the functional areas of accounting, marketing, finance, and technology management.
2. Evaluate the legal, social, and economic environments of business.
3. Describe and explain the ethical obligations and responsibilities of technology in use.
4. Apply decision-support tools to business decision making with effective oral and written forms of professional communication.
5. Apply knowledge of business concepts and functions in an integrated manner.
6. Lead individuals and teams in organizational environments to manage the performance of individual subordinates.

THE CREDIT HOUR DISTRIBUTION OF THE COURSES
The Department of Management Technology & Information Sciences follows MIBAC/NEC guidelines for distribution of credit hours between core and elective courses. The Program comprises of 136 credit hours.
SCHEME OF STUDY

SEMESTER 1
Sr. # Course Title Credit Hr.
1. English 3+0
2. Pakistan Studies & Institutions 3+0
3. Islamic Studies & Ethics 3+0
4. Mathematics 3+0
5. Calculus & Analytic Geometry 3+0
6. Linear Algebra 3+0
7. Pakistan Studies & Institutions 3+0
8. Islamic Studies & Ethics 3+0
9. Calculus & Analytic Geometry 3+0
10. Linear Algebra 3+0
11. Programming Fundamentals 3+1
12. Languages 3+0
13. English 3+0
14. Pakistan Studies & Institutions 3+0
15. Islamic Studies & Ethics 3+0
16. Mathematics 3+0
17. Calculus & Analytic Geometry 3+0
18. Linear Algebra 3+0
19. Programming Fundamentals 3+1
20. Languages 3+0
21. English 3+0
22.Pakistan Studies & Institutions 3+0
23. Islamic Studies & Ethics 3+0
24. Mathematics 3+0
25. Calculus & Analytic Geometry 3+0
26. Linear Algebra 3+0
27. Programming Fundamentals 3+1
28. Languages 3+0

SEMESTER 2
Sr. # Course Title Credit Hr.
1. English 3+0
2. Pakistan Studies & Institutions 3+0
3. Islamic Studies & Ethics 3+0
4. Mathematics 3+0
5. Calculus & Analytic Geometry 3+0
6. Linear Algebra 3+0
7. Pakistan Studies & Institutions 3+0
8. Islamic Studies & Ethics 3+0
9. Calculus & Analytic Geometry 3+0
10. Linear Algebra 3+0
11. Programming Fundamentals 3+1
12. Languages 3+0
13. English 3+0
14. Pakistan Studies & Institutions 3+0
15. Islamic Studies & Ethics 3+0
16. Mathematics 3+0
17. Calculus & Analytic Geometry 3+0
18. Linear Algebra 3+0
19. Programming Fundamentals 3+1
20. Languages 3+0
21. English 3+0
22. Pakistan Studies & Institutions 3+0
23. Islamic Studies & Ethics 3+0
24. Mathematics 3+0
25. Calculus & Analytic Geometry 3+0
26. Linear Algebra 3+0
27. Programming Fundamentals 3+1
28. Languages 3+0

BACHELOR OF BUSINESS ADMINISTRATION BBA

SCOPe & OPPORTUNITIES
The Bachelor of Business Administration (B.B.A) 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 and is designed to mix business theory with practical knowledge and professional skills, to prepare tomorrow’s business leaders.

PROGRAM EDUCATIONAL OUTCOMES
PEO1: To produce graduates with strong foundation in the areas like Mathematics, Statistics, Economics and functional Management in order to develop managerial qualities.
PEO2: To produce graduates with the ability to think creatively and critically, analyzing problems quantitatively, and using information technology to solve business issues.
PEO3: To produce graduates with understanding of social and ethical issues that is a concern to the whole business community.
PEO4: To produce graduates with strong entrepreneurial skills for creating and managing innovations, new business development and identifying high-growth potential entity.

PROGRAM LEARNING OUTCOMES
ZUFEST: Bachelor of Business Administration program prepares students to attain the educational objectives by ensuring that students demonstrate achievement of the following learning outcomes:
PLO1: Communication: An ability to communicate effectively in the context of business with strong presentation skills.
PLO2: Ethics: An ability to identify, collect, analyze, evaluate business data & information & transform empirical data into useful information.
PLO3: Intellectual Skills: An ability to identify, collect, analyze, evaluate business data & information & transform empirical data into useful information.
PLO4: Modern tool Usage: An ability to understand and apply modern tools & techniques to develop viable alternatives in an international business.
PLO5: Legal Knowledge: An ability to demonstrate an understanding of the law & its application to business and ability to understand industrial laws and its applications to the business units.
PLO6: Social Responsibility: An ability to understand social issues related to CSR involving different stake holders & make effective decisions.
PLO7: International Business: An ability to understand global business environment, comparative environmental frame works, global strategy, structure & implementation.

THE CREDIT HOUR DISTRIBUTION OF THE COURSES
The Department of Management & Information Sciences follows NBEAC/HEC guidelines for distribution of credit hours between core and elective courses. The program comprises of 136 credit hours.
SCHEME OF STUDY

SEMESTER 1

<table>
<thead>
<tr>
<th>Sr.#</th>
<th>Course Title</th>
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<tbody>
<tr>
<td></td>
<td>BA-105 Financial Accounting I</td>
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<td>HS-101 Islamic Studies</td>
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<td>HS-103 Pakistan Studies</td>
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<td>BA-103 Introduction to Psychology</td>
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<td>BA-101 Introduction to Information Technology</td>
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<tr>
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<td>BA-209 Macro Economics</td>
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<td>BA-207 Cost Accounting</td>
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<td>BA-205 Introduction to Sociology</td>
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<td>BA-203 Statistics</td>
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SEMESTER 3

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<td>BA-210 Principles of Management</td>
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<td>BA-208 Business Finance</td>
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<td>BA-206 Fundamentals of Marketing</td>
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<td>BA-204 Statistical Inferences</td>
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<td>BA-202 Business Communication</td>
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SEMESTER 4

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<tr>
<td></td>
<td>BA-306 Human Resource Management</td>
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<td>BA-312 Total Quality Management</td>
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<td>BA-302 Money and Banking</td>
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SEMESTER 5

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<td>BA-303 Marketing Management</td>
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<td>BA-307 Calculus</td>
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<td>BA-304 Consumer Behavior</td>
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SEMESTER 6

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<td></td>
<td>BA-106 Logic</td>
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<td>BA-107 Financial Accounting II</td>
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SEMESTER 7

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<td>Elective-V</td>
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<td>Elective-IV</td>
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<td>Project II</td>
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<td>BA-404 Management Information System</td>
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SEMESTER 8

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<td></td>
<td>Specialization in Finance</td>
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<td>Specialization in Marketing</td>
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<td>Specialization in HRM</td>
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<td>Specialization in Economics</td>
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<td>Specialization in Information Technology</td>
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<td>Specialization in Banking</td>
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LENGTH OF DEGREE PROGRAM

Minimum 4 years and maximum 7 years (135 Credit Hours)

ELIGIBILITY

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

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<tr>
<td></td>
<td>FN-620 International Financial Management</td>
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<td>FN-621 Financial Statement</td>
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<td>FN-622 Taxation Management</td>
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<td>FN-623 Seminar in Finance</td>
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<td>FN-624 Islamic Financial System</td>
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<td>FN-625 Investment &amp; Portfolio Management</td>
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<td>FN-626 Auditing</td>
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Specialization in Marketing

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<tbody>
<tr>
<td></td>
<td>MK-630 Marketing Research</td>
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<td>MK-631 Tourism Marketing</td>
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<td>MK-632 Services Marketing</td>
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<td>MK-633 Cyber Marketing</td>
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<td>MK-634 Export Marketing</td>
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<td>MK-635 Agriculture Marketing</td>
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<td>MK-636 Seminar in Marketing</td>
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Specialization in Information Technology

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<tbody>
<tr>
<td></td>
<td>IT-621 Computer Networking</td>
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<td></td>
<td>IT-622 Operating System</td>
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<td>IT-623 Experts System &amp; Artificial Intelligence</td>
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<td>IT-624 System Analysis &amp; Design</td>
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<td>IT-625 Seminar in MIS</td>
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Specialization in HRM

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<tbody>
<tr>
<td></td>
<td>HR-610 Performance Management</td>
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<td>HR-611 Organizational Development</td>
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<td>HR-612 Organizational Psychology</td>
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<td></td>
<td>HR-613 Industrial Relations</td>
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FEE STRUCTURE

Fee/Credit hour + Exam fee: Rs. 4,500/-
Semester Registration fee: Rs. 5,000/-
Total Semester: Rs. 65,000/-
Total Program fee: Rs. 652,000/-
I joined Ziauddin University’s pharmacy program as an enthusiastic student but not even in my wildest of dreams did I imagine that it would lead me to becoming a gold medalist. Achieving this accolade has not been an easy task and the road has been filled with challenges. I agree but it is to say that the Pharm.D program here at Ziauddin University’s Faculty of Pharmacy is structured in such a manner, along with competent faculty and a wonderful campus that it made the challenges seem easier. Not only this my time at Ziauddin University was filled with some fun times thanks to all our extra curricular activities. I made some lasting memories here and the teachings and degree that I have obtained from here are a perfect platform for any zealous student to build their career on, all I can say is that I have not only obtained a gold medal from here but I am also taking with me a great deal of both personal and professional coaching and counseling from the faculty. All I can say at the end is that great things come to those who work hard, so come in with an open mind and will to learn and work and great things will follow.

**DR. SIDRA MUNAWAR**
**GOLD MEDALIST - BATCH IX**
**GRADUATED IN 2017**

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 care environment.

**GOALS**
Ziauddin believes in “professionalism”. The key values include acting in a patient’s interest, responsiveness to the health need of society, maintaining the highest standards of excellence in the practice of Pharmacy and in the generation and dissemination of knowledge. In addition to knowledge and skills, pharmacists should possess psychosocial and humanistic qualities such as caring, empathy, humility and compassion, as well as social responsibility and sensitivity to people’s culture and beliefs. We believe that all these qualities are required to ensure safe and effective medication use which can be achieved through the well designed and sound education- al programs.

**SCOPE / AIM**
Today, a Pharmacist’s attention is directed towards the patient, his / her environment, and his / her state of general well-being. The profession has undergone a transformation whereby both practice and teaching of this area has been placed on more quantitative, rational and scientific bases, so much so that the Drug Oriented Pharmacy has now attired itself to Patient Orient- ed Pharmacy in United States and Canadian Universities. Accordingly, Pharmacy Council of Pakistan (a subsidiary body of Ministry of Health, Government of Pakistan) which is regulating Pharm- acy education in Pakistan, felt the global changing trends and therefore adopted a 5-year Doctor of Pharmacy (Pharm.D) programme instead of 4-year B.Pharm programme in 2004 all over Pakistan.

**WHAT’S NEW FOR 2018**
**JOB FAIR**
Ziauddin Faculty of Pharmacy has been actively engaged in organizing and facilitating its gradu- ate through campus job fair. In the coming year a job fair will be conducted. Inviting leading Phar- maceutical and Health care individuals to ensure better exposure for graduates & under graduates.

**INTERNATIONAL CONFERENCE-2019**
Faculty of Pharmacy is planning to host another International Pharmacy Conference in February 2019. The theme of the conference would be the subject of molecular medicine and nanotechnol- ogy. This conference will comprise of a several scientific meetings of international experts on novel areas of Pharmaceutical & academic sector. Scientists and scholars of international repute will present their research and share their experience in an articulated forum. The confer- ence proceedings will be published in the form of an abstract book.

**SEMINAR ON PHARMACOVIGILANCE AT NATIONAL- LEVEL**
Ziauddin Faculty of Pharmacy is planning to organize a national level seminar on Pharmacovigilance in collaboration with WHO & USP (United States Pharmacopeia).
The Pharm.D programme at Ziauddin Faculty of Pharmacy is 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.
- Recognizing 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.

**CLINICAL TRAINING**

Students of Pharm.D are lucky to be a part of an institute with a 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 skill in these fields than elsewhere. No Pharmacy institution in the country has such an ideal situation for the training as Ziauddin University has.

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. It will not be out of place to mention that Pharm.D is a patient-oriented programme rather than product-oriented four-year B.Pharm degree of the past. Students of 4th & 5th Professionals complete this training in Pharmaceutical service centres of Ziauddin Hospitals. In patient pharmacy, emergency room pharmacy, ambulatory dispensing area, bulk store, out-patient pharmacy, satellite pharmacy and different wards like Medical ICU, Cardiac care unit, Neonatal care unit, cardiac ward, Neuro, Psychiatry ward, Gastroenterology ward, Gynaecology ward, Paediatric Ward, Dialysis centre. This training is conducted at all three sites of Dr. Ziauddin Hospital i.e. North Nazimabad, Clifton & Kemari (KDB).

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

**COMMUNITY PHARMACY TRAINING AT ZIAUDDIN**

Community pharmacy training programmes focused on advancing skills in direct patient care, patient care service development and practice management. This is the unique training 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 practical exposure to:
  i. Community Pharmacy and its organisation.
  ii. Epidemiology and its control.
  iii. To educate and counsel the patient.
  iv. To control drug abuse and misuse.
- To control drug abuse and misuse.
- To develop a better understanding of principles of health promotion and patient care programmes such as immunisation in community.

**PHARMACY RESIDENCY PROGRAMME**

In order to expand graduates’ professional skills and to develop a patient-oriented attitude, one-year Pharmacy Practice Residency programme has been started in 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**

1. Students’ Activities
   - Students of Pharmacy always remain at the forefront in organising activities of academic & non-academic nature. Recently, the students of final year organised a seminar & a talent show which involved the participation of students from first to fifth year. We also have sports facilities for the students which include the following inter and intra departmental games like:
   - Cricket Matches
   - Foot Ball Matches
   - Table Tennis
   - Badminton etc.
   - Annual Picnic

**STUDENTS’ ADVISOR**

The role of student advisor is to:
- Provide academic progress support for student.
- Help the students with programme planning course selections and goal achievement.
- Assist students in development of functional educational plans.

**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)

**SELF DIRECTED STUDY**

Students may achieve objectives by assuming responsibilities of their own learning. How? By sharing and discussing with peers, working individu
Physician: Physical Pharmacy is the basic course related to physical aspects of pharmacy where the student applies his/her knowledge of Physics, Chemistry and Biology obtained during their intermediate studies to the development of a drug with a highly accessible approach. This course will help students comprehend and apply the principles of Physical Pharmacy in clinical practice.

SECOND PROFESSIONAL
Mathematics: Mathematics is an important tool in most scientific courses. This course focuses on solutions of linear equations, progression, logarithmic, analytical geometry, differential and integral calculus.

Statistics: This course focuses on application of statistical techniques in biological and pharmaceutical sciences. It is an introductory course covering presentation of data, graphing, measure of central tendency and dispersion, probability distributions (Binomial, Poisson, Student ‘t’, ‘z’ and ‘F’), hypothesis testing, analysis of variance, regression, and correlation.

Physiological Pharmacology: This course deals with the clinical and diagnostic aspects of disease and helps students understand the mechanism and course of disease.

Pharmacognosy: It is a course in which students get first-hand knowledge about the anatomy of plants and striking product of different medicinal plant origins, drug action and applying rationale pharmacotherapeutic decision-making in the treatment of various diseases.

Anatomy and Histology: Anatomy is the body’s detailed system i.e. gross anatomy including CNS, CVS, reproductive, tissue, urinary, respiratory, cardiovascular and musculoskeletal. It is the study of cellular system. The objective of this course is to ensure that students achieve an understanding of structural biology of the major body systems relevant to Pharmacy and of the anatomical and histological features of common diseases amenable to drug therapy.

Biochemistry: This course helps the student to understand how drug molecules act in the body by many biochemical reactions in presence of enzymes. This helps in avoiding drugs which may cause poor metabolism or those with excessive side effects from being prescribed or dispensed to the patients.

Physical Pharmacy: Physical Pharmacy is the basic course related to physical aspects of pharmacy where the student applies his/her knowledge of Physics, Chemistry and Biology obtained during their intermediate studies to the development of a drug with a highly accessible approach. This course will help students comprehend and apply the principles of Physical Pharmacy in clinical practice.

INDUSTRIAL VISITS
Industrial tours to different pharmaceutical industries are arranged frequently to expose the students to 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 in dosage forms manufacturing and different QC and QA techniques to maximise the product quality.

SEMINAR: SUMMARY
FIRST PROFESSIONAL
Pharmaceutical Organic Chemistry: Organic chemistry is more than simply the study of carbon and hydrogen or the study of chemicals in living organisms. Organic substances are present in our lives. Most of our drugs are organic compounds. The course is designed to illustrate the importance of organic compounds: aromatic, cyclic, heterocyclic, polycyclic aromatic through discussion of their nomenclature, synthesis, and reaction with a concentration on their medical and pharmaceutical importance.

English: English is one of the compulsory subjects which is taught in first two semesters. The focus is on all four language skills i.e. reading, writing, speaking and listening.

In the first semester, students study the basics of English, along with the techniques of grammar. While in the second semester the focus is shifted to academic reading and writing according to the professional and academic needs of PharmD programme.

PHYSICAL PHARMACY: PREPARATION
The course deals with the clinical and diagnostic aspects of disease and helps students understand the mechanism and course of disease.

Pharmacological Sciences: This course covers the study of biological and pharmaceutical science. It is an introductory course covering presentation of data, graphing, measure of central tendency and dispersion, probability distributions (Binomial, Poisson, Student ‘t’, ‘z’ and ‘F’), hypothesis testing, analysis of variance, regression, and correlation.

Pathology: This subject enables students to establish a liaison between Pharmacology and Clinical Practice. It deals with clinical and diagnostic aspects of disease and helps students understand the mechanism and course of disease.

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Pharmacognosy: It is a course in which students get first-hand knowledge about the anatomy of plants and striking product of different medicinal plant origins, drug action and applying rationale pharmacotherapeutic decision-making in the treatment of various diseases.

Anatomy and Histology: Anatomy is the body’s detailed system i.e. gross anatomy including CNS, CVS, reproductive, tissue, urinary, respiratory, cardiovascular and musculoskeletal. It is the study of cellular system. The objective of this course is to ensure that students achieve an understanding of structural biology of the major body systems relevant to Pharmacy and of the anatomical and histological features of common diseases amenable to drug therapy.

Biochemistry: This course helps the student to understand how drug molecules act in the body by many biochemical reactions in presence of enzymes. This helps in avoiding drugs which may cause poor metabolism or those with excessive side effects from being prescribed or dispensed to the patients.

Physical Pharmacy: Physical Pharmacy is the basic course related to physical aspects of pharmacy where the student applies his/her knowledge of Physics, Chemistry and Biology obtained during their intermediate studies to the development of a drug with a highly accessible approach. This course will help students comprehend and apply the principles of Physical Pharmacy in clinical practice.

SECOND PROFESSIONAL
Mathematics: Mathematics is an important tool in most scientific courses. This course focuses on solutions of linear equations, progression, logarithmic, analytical geometry, differential and integral calculus.

Statistics: This course focuses on application of statistical techniques in biological and pharmaceutical sciences. It is an introductory course covering presentation of data, graphing, measure of central tendency and dispersion, probability distributions (Binomial, Poisson, Student ‘t’, ‘z’ and ‘F’), hypothesis testing, analysis of variance, regression, and correlation.

Physiological Pharmacology: This course deals with the clinical and diagnostic aspects of disease and helps students understand the mechanism and course of disease.

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well as the study of existing drugs, their Biological properties, and their quantitative structure activity relationships. Medicinal chemistry is uniquely positioned to leverage recent scientific advances – in particular, the mapping of the human genome into the discovery and development of novel drugs.

Clinical Pharmacy: Clinical Pharmacy is the area of pharmacy concerned with the science and practice of rational and evidence based medication use.

Forensic Pharmacy: This course comprises the Laws & Rules & Regulations of Pharmacy Act and also discusses the restrictions & penalties as per drug law.

Pharmaceutical Management & Marketing: The course of Pharmaceutical Management is designed to teach students the requisite skills needed to perform managerial functions in a community and institutional Pharmacy. It includes planning and integrating professional services, budgeting, inventory control and HR management.

The Pharm.D programme at Ziauddin Faculty of Pharmacy) and different wards like Medical ICU, Emergency room pharmacy, ambulatory dispensing pharmacy, Dialysis centre. This training is conducted at all hospital pharmacies in the country. It will show which involved the participation of students trainees. This is the only institution of Pakistan that has been started in clinical and hospital pharmacy where the student applies his / her knowledge of historical perspective, government, politics, community and institutional Pharmacy. It includes teaching students the requisite skills needed to perform managerial functions in a community and institutional Pharmacy.

STUDENT ASSESSMENT METHODS

- Objective structured clinical
- Practical examinations / practice skills
- Student log book or written reports are evaluated
- Oral examinations
- Short answer written papers
- MCQs

REGULAR SEMESTER EXAMINATION

It consists of the following:

- Continuous assessment Tests:
  Students are continuously assessed during semester by above methods. It is conducted by Examination Cell, Faculty of Pharmacy. It carries 40% weightage for each course.

- Final Semester Examination:
  It is conducted by the Examination Department of Ziauddin University and held at the end of each semester. It carries 60% weightage of each course. Promotion to next class is based on passing all the courses (i.e. 100% of the credit hour) scheduled for that year.

SEMESTER REST EXAMINATION

It is conducted by the Examination Department of Ziauddin University. Rest Examination of both the semesters will be held at the end of the academic year (after declaration of 2nd semester result). The weightage of Continuous Assessment of any course shall not be counted towards Rest Examination and students must obtain minimum 50% marks to clear the course.

ELIGIBILITY FOR SEMESTER EXAMINATION

1. If a student fails in any course in the semester, s/he can appear in the rest exam.
2. Students with 75% attendance will be eligible to appear in rest examination after submitting assignments to concern course charge(s) (2 assignments per 5% shortage of attendance for each course).

ELIGIBILITY FOR REST EXAMINATION

- Final Semester Examination: It is conducted by the Examination Department of Ziauddin University and held at the end of each semester. It carries 60% weightage of each course. Promotion to next class is based on passing all the courses (i.e. 100% of the credit hour) scheduled for that year.

FEE STRUCTURE

Admission Fees: Rs. 50,000/-
Tuition Fees: Rs. 218,500/- (1st yr)
Examination Fees: Rs. 9,200/- (1st yr)
Security Deposit: Rs. 25,000/-
Documentation Fee: Rs. 4,000/-
Medical Examination: Rs. 3,500/-
Students Activity: Rs. 2,000/-
CO Study Guide: Rs. 400/-

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

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, physicians, and other health practitioners on the selection, dosages, 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 pharmacists required, are:

- Hospital Pharmacy & Other Institutional Settings.
- Clinical Pharmacy
- The Pharmaceutical Industry
- Community Pharmacy
- Retail Pharmacy
- Radio Pharmacy
- Pharmacy In Armed Forces
- Pharmacy Law Practice
- Pharmaceutical Marketing
- Drug control administration
- Research & Development
- ORAP (Drug Regulatory Authority of Pakistan)

SCHOLARSHIPS

Scholarships are awarded to needy and meritorious students with a good GPA, conduct and not having undergone any Rest examination. It is awarded from 2nd Professional onwards.

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:

<table>
<thead>
<tr>
<th>Examination / Interview</th>
<th>Weightage</th>
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</thead>
<tbody>
<tr>
<td>H.S.C</td>
<td>50%</td>
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<tr>
<td>Entry Test</td>
<td>30%</td>
</tr>
<tr>
<td>Interview</td>
<td>20%</td>
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</tbody>
</table>

Note: It is the responsibility of the applicant to submit the application according to instructions given with the application form.
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, Pharmacaceutics, 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 them with a thorough understanding of the subject. In addition, students can choose from a variety of elective courses that allow them to gain knowledge and skills which may be used for a career of independent research and teaching in pharmacy for academic institutions, industrial laboratories, hospitals, or government research and administrative agencies.

The Faculty 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.

LEARNING AND TEACHING STRATEGIES

Course work in the respective field of specialization will enable students to comprehend central issues or problems in their 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 projects.

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.

SEMINAR SUMMARY

Pharmacology: Students will learn the advanced level of the immunity, infection, virology, microbial control and antimicrobial agents. The application of Pharmacokinetics and Pharmaceutical Biotechnology in the field of Pharmacology is taught along with the advanced level of the physical and biological principles which apply to the design, development and evaluation of drug delivery system.

Pharmaceutical Chemistry: This subject deals with the chemistry of medicines, drug designing and discovery, drug synthesis by different methods. It also deals with the method development for analysis of drugs and drug related compounds by using different modern instrument and technology.

Pharmacognosy: The subject deals with the natural product’s biosynthetic pathways in order to enhance the production of beneficial products from natural origin. It also includes the methods for separation and isolation of bioactive compounds as well as their analysis.

STUDENT ASSESSMENT FOR M.PHIL

REGULAR SEMESTER EXAMINATION

It consists of the following:

Continuous Assessment:

• There are two Continuous Assessment Tests (CATs) in each semester.

• CATs are conducted for regular/repeat-grading candidates.

Final Semester Examination:

• It is conducted by Examination Department, Ziauddin University.

• Weightage of each semester examination will be 60% for each course.

SEMINAR RESIT EXAMINATION

• It is conducted by Examination Department, Ziauddin University.

• Retest examination of both the semesters will be held at the end of the academic year.

• The weightage of Continuous Assessment of any course shall not be counted towards Resit Examination.

MARKING SYSTEM/PASS LEVEL

• Each candidate will take 04 courses per semester.

• Each course of a semester carries 100 marks and 03 credit hours.

• The minimum passing marks of each course are 60%.

STUDENT ASSESSMENT FOR PH.D REGULAR SEMESTER EXAMINATION

It consists of the following:

• There are 02 semesters in a year.

• Teaching duration of seventeen weeks for each semester.

• The minimum passing marks of each course are 60%

• The maximum passing marks of each course are 100%

• Each candidate will take 03 courses per semester.

• Each course of a semester carries 100 marks and 03 credit hours.

• The minimum passing marks of each course are 60%

ADMISSION POLICY

For M.Phil Programme

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

Entry Test 50%
Interview 30%
Academic Record 20%

For Ph. D Programme
As per Admission policy of HEC

SELECTION CRITERIA

For M.Phil Programme
Pharm.D degree from any HEC recognized university. Candidates must have passed NTS GAT exam or will need to pass NTS GAT exam within six months of registration.

For Ph. D Programme
M.Phil / M.S / Equivalent Degree in any field of Pharmacy from any HEC recognized university with minimum CGPA 3.0 (out of 4.0 in semester system) or First Division (6 annual system) and must meet all admission criteria of HEC.

FEE STRUCTURE

Admission Fees: Rs. 25,000/-
Tuition Fees: Rs. 140,185/- (1st Yr)
Examination Fees: Rs. 11,500/- (1st Yr)

Note: Any additional taxes imposed by the government will be the liability of the students/parent/guardian.
The University reserves the right to increase the fees if required according to the recommendations 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 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:
- Hospital Pharmacy Services
- Clinical Pharmacy Practice including TDM
- Chain Pharmacies and retail outlets (special services)
- R&D sector / firms involved in Drug Designing, Pharmaceutical Product Development and Medicinal related researches like Clinical Trials, Pharmacovigilance, Pharmacoeconomics / 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)

DEPARTMENT OF PHARMACEUTICS

ASSOCIATE PROFESSOR & HOD

DR. MAGSOOD AHMED KHAN
B. PHARM., M. PHARM., LL.B. PH.D. (K.U.), CRT (UNI. OF NEW SOUTH WALES, AUSTRALIA), R.PH.

PROFESSOR & ADVISOR TO CHANCELLOR

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B. SC. (HONS.), M. SC., M. PHIL. (K.U.), PH.D. (BATH, ENGLAND)

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PHARM.D. (J.U.W.), M. PHIL. (B.M.U.), R.PH.
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DR. MARIA ASHFAQ
PHARM.D. (W.L), R.PH.

LECTURER

DR. NAJEEB KHANAN
PHARM.D., M. PHIL. (U.W), R.PH.

DEPARTMENT OF PHARMACOLOGY

ASSISTANT PROFESSOR & INCHARGE

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B. PHARM., PH.D. (K.U.), R.PH.

SENIOR LECTURER

DR. SARAH HAQUE
PHARM.D (U.W), M.B.A. (B.A.), R.PH.

LECTURER

DR. MEHMOOD QADRI
PHARM.D (U.W), R.PH.
DR. NAVEEL SYED
PHARM.D (U.W), R.PH.

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ASSISTANT PROFESSOR & INCHARGE

MS. ZARGAR AT-AIN LEGHARI
B. PHARM., M. PHARM. (K.U.), R.PH.

SENIOR LECTURERS

DR. AHMED SHARIE NARZA
B. PHARM., M. PHARM. (P.U.U.A.S.T), R.PH.
DR. RASHEEDA FAMHA
PHARM.D (U.W), R.PH.
DR. HIRRA SOOMRO
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<td><strong>Mr. Sajjad Bashir</strong> B.PHARM, M.PHARM, (K.U), PH.D, (U.M.U), R.PH.</td>
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<td><strong>Dr. Haroon Ali</strong> PHARM.D, M.PHIL, (Z.U), R.PH.</td>
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<td><strong>Dr. Anum Arif</strong> PHARM.D, M.PHIL, (Z.U), R.PH.</td>
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<td><strong>Dr. Arif Sabir</strong> B.PHARM, M.PHIL, M.PHARM, (K.U), PH.D, (U.M.U), MBA, (M.A.U), R.PH.</td>
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INTRODUCTION
The college of Media Sciences (ZCOMS) Ziauddin University directly 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 requisite 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 most 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 design 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 Studies

In their First Year all students begin with the Foundation Year, where they are introduced to the subjects they are to study for the next 4 years. The curriculum is designed to encourage clear and critical thinking, understand the 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 Bachelors degree. Each semester builds on the previous one, while becoming more demanding and complex. These 2 years train the student to work independently on various projects simultaneously, while constantly reinforcing personal visual vocabulary through different approaches and media.

A 9 credit hour thesis rounds up the 4 year Bachelors program. Students have to choose a topic they will work with, explore and research, both theoretically and practically. An external jury makes the final assessment.

OUR MISSION
Our mission is to instill the young mind with curiosities and creative ideas; with a distinct sense of understanding of media, and the courage to act on its beliefs. We stress the absolute development of each individual professionally, morally, intellectually and socially. Through the curricula we hope to push the minds of students beyond the class-
Digital Agency ‘East River’
a premier media institute in Pakistan.

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work towards creating a better and tolerant
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ed which helps us form a critical understanding of
moving images that we are constantly bombard-
We live in a media saturated world, and the
moving images that we are constantly bombard-

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 cours-
es on, video production, art. Illustration, typogra-
phy 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
the young graduates to explore from a variety of
options available. They can choose to become a
creative director, copywriter, graphic designer,
art director, commercial artist, web developer,
designer, digital media strategist and digital
artist and many other fields. Our alumni are doing well as a part of the diverse
fields of this discipline:
Mizra Amir is currently a Creative Manager at
Ogilvy Pakistan
Anam Shahid is currently working as a Brand
Manager at Kapray & Jelburray
Ribat Khan works as an Account Manager at
Vidapresso
Sana Shahnabuddin is working as a Digital Media
Strategist at Harley Willington
Nashua Qazi is currently employed as a
Digital Artist at East River

PROGRAMMES OFFERED
The undergraduate B5 program covers a variety
of liberal arts and technically-oriented subjects
covering theoretical, historical, analytical, critical,
and performance approaches to communication
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We offer three Majors:

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Anam Shahid is currently working as a Brand Manager at Kapray & Jelburray
Ribat Khan works as an Account Manager at Vidapresso
Sana Shahnabuddin is working as a Digital Media Strategist at Harley Willington
Nashua Qazi is currently employed as a Digital Artist at East River

• PROGRAMMES OFFERED
The undergraduate B5 program covers a variety of liberal arts and technically-oriented subjects covering theoretical, historical, analytical, critical, and performance approaches to communication processes and media. At the end of four years program, the graduates are equipped with necessary technical and professional orientation to qualify for jobs in business or institutions that desire effective communicators, as well as the background and necessary to pursue further education in communication or related fields. The institute is conceived with a vision to bridge in the gap between academics and practice. The crux of ZCOMS program is parallel application, be it in print, radio, TV or digital media and learning technologies. Given the kind of hands-on experience, ZCOMS is set to emerge as a premier communication, media and journalism institute in Pakistan

We offer three Majors:
LEARNING AND TEACHING STRATEGIES

ZCOMS believe 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:
- Guest lectures
  - Mrio Cramer Munich based fashion and social designer
  - ARZ-E-Pakistan Screening of Award winning films
  - Murtaza Shakir writer, creative director and filmmaker
  - Mahera Omer filmmaker and founder of Pakistan Animal Welfare Society (PAWS)
  - Khurram Qadeer, Associate Director Corporate Affairs GEO Network
  - Film Screening of ‘Mera-e-Mir’ and Interactive session with Director, Arjum Shehrtaz; Producer, Badar Iqram
- 2 Events
  - Pakistan International Film Festival (PIFF)
  - 60 Second International Film Festival (PSFF)
- Art Institution
  - Farewell 2018, Cisrul Night
  - Bilando Party
  - SpringFest
  - Beach Party
  - Dayout at Farm

ADMISSION POLICY

Basic Admission Criteria:
- Minimum A-Levels 3 passes/Intermediate (55% marks, including 1st year no supplementary) or equivalent from a recognized institution.
- Merit will be decided upon basic admission criteria
- Whereas, Final List will be displayed after evaluation of ZCOMS entrance test score, group discussion and interview.

*Candidates awaiting result can also apply.

FEE STRUCTURE

Tuition Fees: Rs. 12,500/- (1st Yr)
Examination Fees: Rs. 5,000/-
Security Deposit: Rs. 2,000/-

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

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

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

CONTACT INFORMATION

For more information:
Phone: 021-3562937-9
https://zcoms.zu.edu.pk/admission@zu.edu.pk
www.facebook.com/zuedu
Twitter: @ZCOMS_ZU

FACULTY MEMBERS

DIRECTOR

MANZEH ALI
MA VISUAL AND MEDIA ANTHROPOLOGY, FRIE UNIVERSITY, BERLIN
BFA., INDUS VALLEY SCHOOL OF ART AND ARCHITECTURE

LECTURER / ADMINISTRATION

FARYAL QUL
PROGRAM MANAGER, STUDENT ADVISOR AND LECTURER
MS MEDIA STUDIES (IN PROCESS), SZABIST BS MASS COMMUNICATION, UNIVERSITY OF KARACHI

FATIMA HATIM ANJARY
MA, MASS COMMUNICATION, UNIVERSITY OF KARACHI
PHD, MASS COMMUNICATION (IN PROCESS), UNIVERSITY OF KARACHI

VISITING FACULTY

DR. ABDUL JABBAR KHAN
PAID ORIENTAL STUDIES, UNIVERSITAS CAPOCARI, VENICE
MA GENERAL HISTORY (ARCHAEOLOGY), UNIVERSITY OF KARACHI
MEMBER OF DEPARTMENTAL RESEARCH COMMITTEE (DRC)

SAODAM TUFAIL
BS FILM & TV - SZABIST

SHEHJAHAN SATEEM
BS FILM & TV - SZABIST

LUBNA JARAR
HEAD OF CONTENT

SINUERA KHWAZ
CREATIVE DIRECTOR, SPECTRUM TV & F

JAVED NAYI
NATIONAL COLLEGE OF ARTS LAHORE (NCA)

ALI KAZMI
ACTOR, DIRECTOR AND GRADUATE MEMBER OF NATIONAL ACADEMY OF PERFORMING ARTS (NAPA)

KADIR KHAN
DIGITAL & PRODUCT PHOTOGRAPHER

STED ZEESHAN AHMED
BS MEDIA STUDIES - FILM & TV PRODUCTION, SZABIST

FARAZ IQBAL
BS FILM & TV PRODUCTION, SZABIST

STED REHAH HAIDER
 MBA MARKETING, IOM

S.A. RAFAHA HAIDER RIZVI
DIRECTOR, FACULTY AFFAIRS

BOARD OF STUDENTS MEMBERS

FOUNDDIR CREDITS

M. FAZAH SYED
FINANCE DIRECTOR, ZAUIDUNI UNIVERSITY

LECTURER/ DESIGNER/ DOCUMENTARY PHOTOGRAPHER

MS. NAFA MAHMOOD

DIRECTOR, CE I BA

MR. KAMAL SODDGI

FOUNDER AND CREATIVE DIRECTOR, MORANGO FILMS

DIRECTOR, QEC, ZAUIDUNI UNIVERSITY

PRINCIPAL COLLEGE OF SPEECH LANGUAGE & HEARING SCIENCES, ZAUIDUNI UNIVERSITY
UNIVERSITY POLICIES

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
Counselling is provided by a professional counsellor and staff member. This counselling is designed to assist students 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
Students 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 fee 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.
Students’ sense of belonging during their university education is an essential component in enhancing sense of persistence, and success. Here at ZU co-curricular activities cover a broad range of on campus programs, professional workshops for students and sessions that are designed to promote leadership and interpersonal skills, civic engagement and professional competence in students while increasing campus involvement.

We at ZU feel campus involvement plays a crucial role in the growth of every student personal growth. Whether it is being part of extracurricular or literary societies or getting involved in sports activities, the positive results are explicitly seen during their education as well as in life ahead. With more than 8 student societies on campus finding a niche in one or even more of them is easy for the students.

**MISSION**
Our mission at Ziauddin University is to offer a Student Life which is a learning and development through student led initiatives, experiential learning and civic engagement.

**VISION**
To create opportunities for students to clarify and challenge their values, potential, roles, and responsibilities within the University, the greater communities, and the global society.

**OBJECTIVES**
- Facilitating student societies of Ziauddin University in order 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 establish liaison between the students and the administration.
- Developing a fully functional Alumni board and to involve the most distinguished Alumni’s of Ziauddin University to initiate different programs that should be but not limited to guest speaker sessions, seminars, yearly alumni meet-up, student mentorship programs, student development events, sponsorships, scholarships etc.
- Conducting annual Job Fair for all the students of Ziauddin University.
- Assisting student of Ziauddin in their queries, problems etc. that they face while studying at Ziauddin which could be of academic or related to extra-curricular in nature.
- To provide, encourage and develop amongst its students the formation, organization and operation of clubs and societies for the above purposes and to guide, supervise, and facilitate the activities of all student societies.
- Arranging frequent extra-curricular activities for the student whose sole purpose would be to give recreational time to students that shall foster managing, operating and extra-curricular skills of the students.
- Enhance the educational environment by promoting, educating, and facilitating campus-wide understanding of students’ rights responsibilities, and freedoms.

**STUDENT SOCIETIES AT ZIAUDDIN UNIVERSITY**

**WELFARE AID FOR ILL AND DEPRIVED**
The welfare association for Ill and deprived is a student based non-profit organization founded in March 2007 on the observation that patients were refusing medical care due to the sole reason of being unable to pay for it. The goal is to provide financial support for underprivileged patients presenting at the KDBL campus of Ziauddin Hospital. However, have expanded to support needy patients in Civil Hospital, JPMC and Ziauddin North Campus.

**ZU ATLAS**
An atlas is a collection of maps — a 2D representation of reality. It serves as a lodestar, a guide for the weary traveler through dark rights and unfamiliar waters. The Ziauddin Atlas hopes to achieve the aims of cartographers of yore. We hope to take the complex thoughts and dreams that characterize the student body of Ziauddin University and chart them on a map; an atlas that can be held in your hands and perused at leisure.

**ZIAUDDIN LITERARY AND CULTURAL SOCIETY**
Our goal is to keep the Ziauddin University student body active and entertained through extracurricular such as theatre, bake sales, musical events, scavenger hunts and field trips amongst a multitude of other activities. It is a continuous effort on the part of this organisation to constantly come up with exciting new events and things to do.

**ZIAUDDIN UNIVERSITY DEBATING CHAMPIONSHIP**
The platform to cultivate and challenge the confidence and public speaking skills of the students to the highest degree. The program includes intense parliamentary debating followed by quarter finals, semi-finals and finals. This competition is open to schools (O levels and A levels) and universities. Teams compete one on one with topics that range from political, social, economic and other wide variety of themes to win the title of the winner, runners-up and most promising team respectively. The tournament honors individual speakers and takes pride and credit in having produced several polished speakers that have represented Pakistan at WSDC, WUDC and ESDC.

**ZIAUDDIN MEDIA SOCIETY**
Ziauddin Media Society is now registered as a student society at the Ziauddin University. It is run under the supervision of ZU faculty and by the students. Our mission is to undertake relevant, accessible and contemporary Media projects which explore multicultural Pakistan. One of the principal objectives of the society is to increase the participation of students in all aspects of the professional Media profession.

**ZIAUDDIN SPORTS SOCIETY**
Competitive sports and Recreational sports plays a crucial role in the personality grooming of the students. ZSU offers a platform for students to meet and share their sporting interests. At Ziauddin students are busy with inter and intra universities tournaments and have bagged trophies for the best Artistic, basketball, throw ball and cricket teams.