

ZIAUDDIN UNIVERSITY



**PH. D. PROGRAM
FACULTY OF HEALTH SCIENCES
GUIDEBOOK
2019-2020**

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Vision:

To be the icon of innovative education with cutting edge clinical and translational research focused on healthcare.

Mission:

Advancing research and developing the University's reputation as the most renowned private sector academic research based institution. Cutting edge clinical and translational research- bringing medical innovation to patients care and industry. Resident's and fellows independent research projects for the acquisition of degrees with a drive for lifelong learning through research and creation of new knowledge. Ensuring that research meets the highest ethical and quality standards through open transparent processes.

Introduction:

Ziauddin is well-known for its reputation in research excellence, innovation and quality of education. The postgraduate program in Health Sciences started at ZU in 1997. This program was initially aimed for faculty development, however, now we accommodate some external candidates as well. A wide range of research and clinical facilities for student learning and innovation are present in different campuses with extensive interaction between the basic science and clinical faculty. Students' learning experiences in biology and disease are enhanced by access to high profile teaching and service hospitals including:

- Dr. Ziauddin Hospital, Clifton
- Dr. Ziauddin Hospital, North Nazimabad
- Dr. Ziauddin Hospital, Kemari (KDLB)
- Dr. Ziaudddin Cancer Hospital, North Nazimabad
- Dr. Ziauddin Maternal and Child Health Care Centre, Nazimabad
- Primary Health Care Center, Sikanderabad

The expertise of many Health Sciences faculty covers a broad spectrum of disciplines that includes both basic science wet-lab research and clinical research in human health and disease, with a provision of expanding graduate program to be offered in Medicine, Pharmacy and Allied Health Disciplines. In addition, the state of the art infrastructure and an exceptional academic faculty is highly supportive of graduate program across the University which clearly demonstrates the research potential and firm commitment to achieve academic excellence, as already well-established for undergraduate training programs. Further recruiting both faculty and external Ph. D. students for the

University's key research areas will strengthen ZU's visibility and ranking as a renowned research institution.

ZU at the Ph. D. level aims to prepare students for independent scholarly work, supporting generation of new knowledge to improve the health care of the population. Graduates would possess updated advanced knowledge and methodological skills that enables them to engage in a broad range of research investigations relevant to basic and applied clinical health system issues.

The University provides its doctoral students excellent research opportunities in a conducive atmosphere, focused advising and options for financial aid. The Ziauddin University's research and teaching efforts concentrate on the areas defining the profile of the University.

Program objectives are achieved through a combination of formal course work, comprehensive examination and encouraging environment for independent research leading to thesis.

The Ph. D. Program at Ziauddin University has been restructured and renamed in 2015 as Faculty of Health Sciences (ZU-FHS-Ph. D.) program. This is an inter and multi-disciplinary program which aims to prepare students for independent scholarly work that results in the creation of new knowledge relevant to enhancing the health of our people. Research training in Health Sciences will cover studies in the field of Biomedical and Clinical Sciences.

The Faculty of Health Sciences organizes all (research) Ph. D. tracks within the Ziauddin University that are

- College of Medicine
- College of Dentistry
- College of Speech, Language and Hearing Sciences
- College of Physical Therapy
- College of Nursing
- College of Medical Technology

Program Structure:

The Ph. D. in Health Sciences is offered as full time Ph. D. Program for faculty development and external candidates at Ziauddin University.

The Ph. D. program duration is 3-8 years. This will comprise of course work of minimum 18 credits in two semesters required to be completed in the first year. It will be followed by a comprehensive examination with the declaration of success notified as satisfactory/unsatisfactory result to decide for the endorsement of Ph. D. candidacy. After that, the Ph. D. research synopsis would be allowed for submission, followed by a period of two

to three years onwards for original research work (6 credit hours) that leads to open thesis defense. Presently, we are offering Ph. D. in three basic sciences subjects only as per availability of HEC approved Supervisors in the specific subjects as follows,

- Biochemistry
- Pathology
- Pharmacology

ZU-FHS-Ph. D. Faculty:

- Prof. Dr. Pirzada Qasim Raza Siddiqui
- Prof. Dr. Talat Mirza
- Prof. Dr. Zahida Memon
- Prof. Dr. Saeeda Baig
- Prof. Dr. Qamar Jamal
- Prof. Dr. Bushra Wasim
- Prof. Dr. Fauzia Shaikh
- Prof. Dr. Qudsia Hassan
- Prof. Dr. Arif Hussain
- Dr. Shamim Mushtaq
- Dr. Rizma Khan
- Dr. Zil-e-Rubab
- Dr. Rehan Ahmed Siddiqui
- Dr. Shumaila Usman
- Dr. Ambrina Khatoon
- Dr. Rehan Imad
- Dr. Sumaira Farooqui
- Dr. Amna Amir Khan
- Dr. Syed Abid Ali Kazmi

Core Facilities

To foster research activities and to enhance the quality of research projects and publications by incorporating advanced molecular techniques. Different research projects are now undergoing in MDRL 1, MDRL 2, MDRL 3 and MDRL 4. Diagnostic Molecular Genetics lab in North Campus has now been declared as MDRL-3.

Multi-Disciplinary Research Lab 1 (MDRL 1)

MDRL1 comprises of two units

1. Cell Culture Lab
2. Molecular Biology Lab

1. Cell Culture Lab

Following equipments are available in the cell culture facility of Ziauddin University

- Class II Biohazard Safety Cabinet
- CO2 Incubator
- Live Cell Microscope
- Centrifuge machine
- Cell Counter
- Fridge
- Liquid Nitrogen Tank
- Freezer
- Water Bath

1. Molecular Biology Lab

- Thermal Cycler I
- Thermal Cycler II
- Gel Electrophoresis Unit
- Analytical Balance
- Refrigerated Centrifuge
- Gel Documentation System
- Multi Scan Sky Spectrophotometer
- Fridge
- Sample storage facility e.g. -80°C
- Vortex machine

Multi-Disciplinary Research Lab 2 (MDRL 2)

A well-established Histology & Cell Biology (MDRL 2) lab was established at Ziauddin University with the following mentioned equipments.

- Nikon Ts2R-FL Inverted Microscope
- Microtome
- Fume hood
- Magnetic Stirrer
- Water Bath
- Oven
- HPLC
- Power lab

Multi-Disciplinary Research Lab 3

Following equipments are available in the MRDL 3 (Diagnostic Molecular Genetics Lab) of Ziauddin University

1. Real Time thermal cycler
2. Biosafety level 2 cabinet
3. Gel Electrophoresis Unit
4. Fluorescent microscope
5. Refrigerated Centrifuge
6. Gel Documentation System

Multi-Disciplinary Research Lab 4

The Pharmacy Laboratories & Animal House (MDRL4) of Ziauddin University also provide research support if required in the projects.

Coordination with the Anatomic & Clinical Pathology Laboratories at North campus

This is a state of the art diagnostic facility with the availability of high technology equipment additionally for research purposes. The students avail the services at Clifton site and also visit North site in the various sub specialties through coordinators mentioned below:

- Dr. Adnan Mustafa Zuberi, FCPS (Chemical Pathology)
- Dr. Faisal Afridi, FCPS (Microbiology)
- Dr. Rizma Khan, Ph. D. (Molecular Biology and Genetics Lab)
- Dr. Fouzia Latif, FCPS (Histopathology Lab)
- Dr. Zulqarnain Imran, FCPS (Hematology)
- Dr. Rehan Imad, Ph. D. (Molecular Medicine)

Office of Research Innovation & Commercialization (ORIC):

Director: Mr. Ghous Qadri

Office of Research, Innovation & Commercialization (ORIC) provides end to end services for all matters pertaining to research & development, innovation, inventions, commercialization, patents, collaborations, arranging seminars/ colloquia/ symposium/ conferences/ workshops, etc. and/or research publication honorarium. By and large Office of Research, Innovation & Commercialization (ORIC) is the focal point for all research related activities of the University. ORIC facilitates the University researchers (faculty members and scholars) to promote their research work both nationally and internationally.

Ph.D. Program:

- Ph.D. Degree program of the University comprises of course work and research.
- At least three (03) relevant full-time Ph.D. Faculty members required in a department/Institute/Center to launch the Ph.D. program, as per HEC guidelines.

- The University will conduct only one admission cycle during an Academic year.

Admission requirements:

HEC Rules and Regulations will be followed in letter and spirit approved by the Statutory Bodies of this University.

Eligibility Criteria:

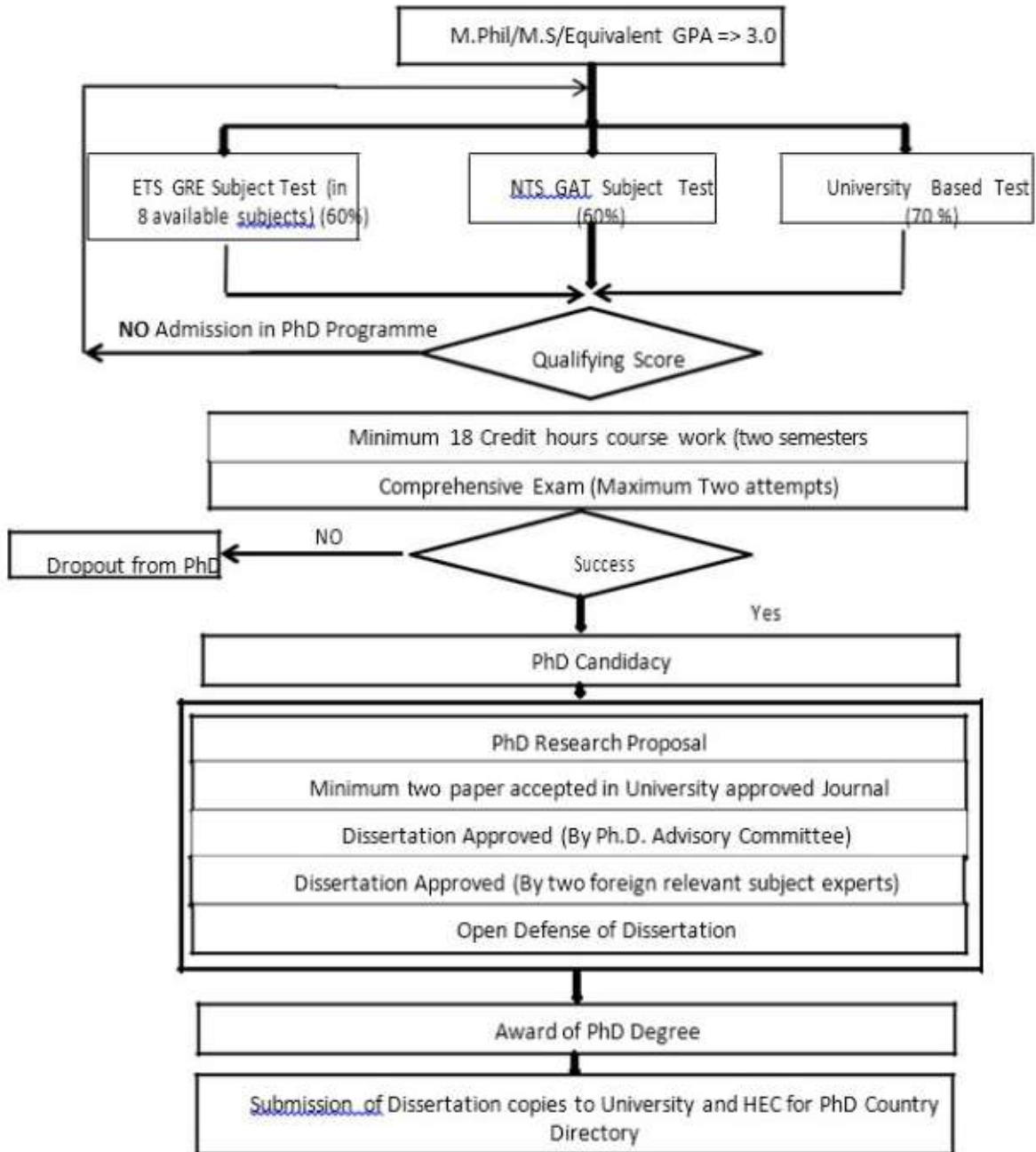
The Program seeks candidates who show high scholarly promise, and have a strong undergraduate background in the Biological and Biomedical Sciences.

1. Applicants who hold 18 years of schooling including a Masters or equivalent degree based on a minimum of 30 credits with an academic standing that is equivalent to at least a 3.0 CGPA (out of 4.0 in the Semester System) or First Division (in the Annual System) in **MS/MPhil/FCPS** equivalent degree, as per HEC policy.
2. Ph.D. degree program will be open for all candidates, meeting the admission criteria. However, external serving candidates will have to submit an N.O.C from their respective departments with the application form. A study leave document from their respective employer for a period of three years has to be submitted at the time of registration. The candidate will be a full time regular student for three years to cover the course work and the research.

Admission Process:

- National Testing Service (NTS) **GAT (General/ Subject)** at the time of application
OR
- If the test is not available in NTS subject list, then a University committee consisting of at least 3 Ph. D. faculty members in the subject area, approved by the HEC will conduct the ZU Subject GAT at par with GRE Subject Test and qualifying score for this will be 70%. The test carries both the subject specific components (70%) along with English Language and Analytical/Logical Reasoning (30%).
- Applicants should ensure that a complete application/ documents should be submitted online.
- Two academic references and a statement of research interest.
- Short listed candidates will be invited for interview with short research proposal presentation to the Ph. D. Admission Committee.

Flow Chart for PhD Programme



Course Work:

1. Courses of 18 credit hours shall be completed during the first year (two semesters) of Ph.D. degree program.
2. Course work of 18 credit hours includes core and electives and a semester shall not be more than 12 credit hours. The coursework will comprise of:

i) Compulsory Core Courses: These will be based on 12 credit hours and will be offered during the semester. These are essential for all students.

ii) Elective courses: Different elective courses will be available to students from which they can choose the ones related to their interest/specialty. These 06 credit hours elective courses will be taken during the semester.

3. Every concerned Department/Center/Institute is responsible for designing Ph.D. course including core and elective courses on semester system and get approval through proper channel.
4. Faculty members having Ph.D. degrees will be eligible to teach the Ph.D. courses
5. 75% attendance is mandatory for appearing in semesters' examinations for Ph.D. course work
6. The result of course work should be sent to controller of examination (semester) for announcement and issuance of transcript through concerned Dean Research & Ph. D. Coordinator.
7. After the declaration of the completion/result of all the requirement for the coursework, student will be eligible for comprehensive exam.

Comprehensive Exam:

The Comprehensive Exam consists of following

- MCQs & SAQs
- Assignments
- Oral exam / Viva

Schedule for FHS-Ph. D. program

Students are expected to follow the timelines provided by HEC guidelines. Candidates in health sciences will be full time student for a minimum period of three academic years. The award of degree shall be based on both, course work and thesis (total 24 credit hours).

Minimum Attendance Requirement

To appear in the final examination of any subject student will have to maintain at least 70% attendance in respective subjects

Semester Freezing Policy

A student may defer studies for maximum of two consecutive regular semesters, for medical or other genuine reasons as per policy.

Dropout Policy

The student shall be given two attempts for examination if his/her CGPA falls below 2.5 and will be dropped from the program if CGPA falls below 2.5 after second time.

Grading Policy:

The Relative grading policy shall be adopted with the following grade-GPA map:

Grade	Grade Points	Percentage obtained in a Semester System
A	3.67 - 4.00	85 and above
A-	3.34 - 3.66	80 - 84
B+	3.01 - 3.33	75 - 79
B	2.67 - 3.00	71 - 74
B-	2.34 - 2.66	68 - 70
C+	2.01 - 2.33	64 - 67
C	1.67 - 2.00	61 - 63
C-	1.31 - 1.66	58 - 60
D+	1.01 - 1.30	54 - 57
D	0.10 - 1.00	50 - 53
F	0.00	Below 50

Research Work

- Every student will pursue his/her research at the constituent Colleges/ Institutes/ Hospitals /Service and Advanced research laboratory at the Ziauddin University.
- Separate Ph. D. Advisory Committee would be constituted for each student separately, regarding the guidance for topic selection.
- The Committee would consist of four to five members including Executive Director Research and potential Ph. D. supervisors. The final supervisory committee would include a supervisor, co-supervisor and a clinical supervisor.
- The research work with thesis submission, carries 6 credits in all.

- The candidate would be allowed to work outside Ziauddin University provided a prior permission is obtained from FHS-Ph. D. committee with approval by the Board of Advanced Studies and Research (BASR) on with the condition if facilities do not exist in the specific department.
- The supervisor should certify in this case that the candidate did the work under personal supervision and knowledge.

Ph.D. Research Proposal / Proposal Defense:

1. Ph.D. candidates can submit research proposal after completion of 18 credit hours coursework with Minimum 3.0 CGPA.
2. Ph. D. Advisory Committee is constituted for individual students before Synopsis defense
3. The Ph.D. research proposal should not be more than 4000 words. The procedure of synopsis certification is as follows
 - Synopsis will be presented in **University Journal Club**.
 - Synopsis approval by **Research & Advocacy Committee (RAC)**.
 - Synopsis certification by **Ethical Review Committee (ERC)**.
 - Final synopsis endorsement by **Board of Advanced Studies & Research (BASR)**.

These committees shall examine the viability of the topic of research, its scope and the facilities available

1. Research grant of Rs. 0.2 million provided to the **internal candidates**.

Ph.D. Research Supervision:

1. The Ph. D. Advisory Committee and the candidate opts for a team of Supervisor and co-supervisor from the specific subject area with justification.
2. A Ph.D. Supervisor can register maximum 12 research scholars at a time.

Change of Supervisor/ Co-Supervisor:

If a student desire to change supervisor he/she shall apply through supervisor and /or Executive Director Research to BASR. Certificate from the present and proposed supervisor is necessary, specifying the ground and justification to such a change. In such cases Board may approve and shall determine the minimum time after which the thesis may be submitted.

Modification/ Change of Research topics:

- A candidate would allow to change the topic of research within the one year of the

BASR approval with justified reason. An application along with a revised copy of synopsis will be resubmitted to RAC duly forwarded by the Supervisor, Co-supervisor, and Executive Director Research.

- The final title of the thesis shall be approved by the Board of Advanced Studies and Research, follow the same procedure of synopsis defense.

Research Paper:

- Ph.D. candidate will submit thesis along with two research papers (one could be meta-analysis) published in any HEC recognized journals (Category W, X) from thesis.
- Candidate must be the first author of the research paper with names of supervisor/s as co-author.

Thesis Evaluation and Examination:

- Thesis submission for evaluation by two foreign experts to the Examination Department with a check list of required training documents (GAT result, Semester results, Comprehensive transcript, ERC certificate, BASR synopsis approval, two published articles in HEC/ PMDC recognized W/X category journals).
- A plagiarism test report of thesis is necessary, and must be submitted along with the submission of thesis.
- The Board of Advanced Studies and Research shall appoint two international and two national examiners with scholarly background in relevant field.
- After approval of international reviewers the thesis would be submitted to national examiners by the controller of examination for open thesis defense.
- Viva voce committee may comprise of the Executive Research Director, Supervisor, two External examiner, one internal examiner and Ph. D. Coordinator.
- Final step is the BASR endorsement for the degree award.
- Six copies of thesis with hard bound thesis as per ZU format along with softcopy on CD shall be submitted to the Controller of examination (Annual) through the office of Research.

Affiliation:

Every student will pursue his/her research at the affiliated Colleges/ Institutes/ Hospitals duly recognized for this purpose by the Ziauddin University. The University will, however, at its discretion allow the candidate to work outside Karachi provided a prior permission was obtained from FHS-Ph. D. committee and approved by the Board of Studies. This is on condition if the supervisor recommended that the facilities do not exist in his/her department for the work. The supervisor should certify that the candidate did the work himself/herself under his/her personal supervision.

Cancellation of Registration

The Supervisor may recommend to the BASR for cancellation of registration through the Executive Director Research if **the candidate:**

- a. fails to meet the continuous assessment criteria
- b. do not show satisfactory progress in research work.

Financial information:

ZU offers free tuition fee to all the ZU-faculty members as part of faculty development program. However, for external students the proposed tuition fees for the coming sessions is as follows:

For PH. D. External Candidate	Amount
Admission	2,00,000/-
Semester fee (two semester)	70,000/- (1,40,000/-)
Examination Fee (2 Semester & 1 Comprehensive)	10,000/- (30,000/-)
Thesis Defense	1,00,000/-
Total	4,70,000/-
For PH. D. Internal Candidate	
Admission	2,00,000/-
Semester fee (two semester)	Exempted
Examination Fee (2 Semester & 1 Comprehensive)	10,000/- (30,000/-)
Thesis Defense	1,00,000/-
Total	3,30,000/-
Research Grant for only Internal Students (Student will be required to sign the service agreement in line with ZU policy)	2,00,000/-

Fee Refund policy

Full amount of tuition fee shall be refunded to the students if the courses after being offered are cancelled by the University for any reason. In case a program is cancelled, the entire charges including admission fee shall be refunded to the student.

If in case of a student dropped from the post graduate program after grant of admission, shall not be refunded all charges. Refund claims shall normally be entertained up to a maximum period of six months after the date of leaving and ZU shall not entertain any claim or refund after this period. These cases shall be referred to the Registrar whose decision shall be final.

In case a student intends to cancel his/her admission, full tuition fee shall be refunded till 7th day of commencement of classes in semester system and till 15th day in the annual system. In addition, half of the fee shall be refundable from 8th-15th day of commencement of classes in semester system and from 15th-30th day of commencement of classes.

FHS-Ph. D. COURSES

<i>SEMESTER I</i>		
Code	Course Name	Credit Hours
ZU-HS-900	Advanced Research Methodology	3 (2+1)
ZU-HS-901	Advanced Epidemiology	1
ZU-MD-906	Elective I	3 (2+1)
ZU-HS-903	Molecular Biology & Genetics	3 (1+2)
Total Credits		10
<i>SEMESTER II</i>		
ZU-HS-904	Molecular Medicine & Genetics	2
ZU-HS-905	Advanced Research techniques	2
ZU-HS-902	Advanced Biostatistics	1
ZU-MD-907	Elective II	3 (2+1)
Total Credits		8
Grand Total		18
Research Thesis		6