INSTITUTE OF BASIC MEDICAL SCIENCES (IBMS)

Prospectus for Admission in Session 2009

DOW UNIVERSITY OF HEALTH SCIENCES
M.Phil Leading to Ph.D Program

AT

INSTITUTE OF
BASIC MEDICAL SCIENCES (IBMS)

PROSPECTUS

SESSION 2009

DOW UNIVERSITY OF HEALTH SCIENCES
(DUHS)
MESSAGE

We have got the greatest message in the Quran for our guidance and enlightenment. All that we have got to do is to know ourselves and the great qualities, virtues and powers that we possess, let us work up to that great ideal. Let us utilize our great potentialities in the right direction. Let us forego our personal interest and conveniences for the collective good of our people, and for a higher and nobler cause.

QUAID -E- AZAM MUHAMMAD ALI JINNAH
QUAID-E-AZAM MUHAMMAD ALI JINNAH

Father of the Nation
ASIF ALI ZARDARI
President
Islamic Republic of Pakistan
SYED YOUSUF RAZA GILLANI
Prime Minister
Islamic Republic of Pakistan
DR ISHRAT-UL-EBAD KHAN
Governor of Sindh
Chancellor DUHS
SYED QAIM ALI SHAH
Chief Minister of Sindh
HISTORY OF DUHS

Sir Hugh Dow
was the
second Governor of Sindh.
He laid the foundation stone of the
Dow Medical College
in December 1945.

58 YEARS LATER

Dr. Ishrat-ul-Ebad Khan
Present Governor of Sindh.
Established
Dow University of Health Sciences

Dr. Ishrat-ul-Ebad Khan took the initiative for the establishment of the Dow University of Health Sciences. He is a Dow Graduate. He was elected as member of the provincial assembly in 1990. and, later on became Minister of Housing, Town planning, Environment and Public Health Engineering at a young age, due to his dynamic personality.

He was appointed as Governor of Sindh in 2002 and eversince is striving to upgrade the facilities of medical education and health care in Sindh.

His efforts were crowned by
the establishment of the
Dow University
of Health Sciences
in December 2003
EXTRAORDINARY

The Sindh Government Gazette

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PART - IV

PROVINCIAL ASSEMBLY OF SINDH

NOTIFICATION

Karachi, the 19th July, 2004

NO. PAS/LEGIS-B-1/2004. The DOW University of Health Sciences Bill. 2004 having been passed by the Provincial Assembly of Sindh on 26th April, 2004 and assented to by the Governor of Sindh on 14th July, 2004, is hereby published as an Act of the Legislature of Sindh.


SINDH ACT NO. X OF 2004

(First published after having received the assent of the Governor of Sindh in the Gazette of Sindh (Extra-Ordinary) dated 19th July, 2004)
It is certified that Dow University of Health Sciences, Karachi is a chartered university established under Sindh Govt. Ordinance No. VI of 2003 dated 29-12-2003 in public sector. Accordingly, the degrees/diplomas/certificates awarded by Dow University of Health Sciences, Karachi would validated/recognized by Higher education Commission/Government of Pakistan.

(Muhammad Javed Khan)
PROFESSOR MASOOD HAMEED KHAN
Tamgha-e-Imtiaz (TI)
FCPS(PAK), FCPS(Bangl), PhD(Hon),
FRCP(Edin), FRCP(London)
VICE CHANCELLOR
Dow University of Health Sciences,
Karachi.
Alhamdolillah the Dow University of Health Sciences has acquired International standard within a short span of four years by virtue of the team efforts of the faculty members.

**THIRTY (30) NEW DEPARTMENTS OR INSTITUTES HAVE BEEN ADDED TO THE INITIAL THREE CONSTITUENT INSTITUTES OF DOW UNIVERSITY** namely Dow Medical College (DMC), Sindh Medical College (SMC) and Ojha Institute of Chest Diseases (OICD) since the time of its establishment in December 2003.

The vision and mission from the beginning has been:
- To achieve academic excellence in undergraduate & postgraduate health care education.
- To train Doctors, Specialists in various fields, Nurses, Medical Technologists and Health Managers.
- To promote research in basic and clinical specialties, through, capacity building and National & International research collaborations.
- To introduce concept of scientific hospital administration and management techniques to increase efficiency.

The Dow University of Health Sciences recognizes the education of students and prevention strategies for community health care as one of its primary missions. The fundamental goal is to graduate students with the knowledge, clinical skills and desire to excel in their chosen areas of medicine. In conjunction with appropriate institutions and professional bodies, we endeavor to guide students to choose among various areas of
interest, general or clinical specialties, academic practice and basic research to fulfil society’s needs. The Dow University strives to provide its graduates with the skills to be life long learners, ability to analyze, incorporate new knowledge and possesses attitudes and values that include respect for life and a desire to serve the nation.

The entrance test for admission to first years MBBS are held at Expo Centre to accommodate about 6000 (six thousand students) who are admitted purely on the basis of merit.

**THE DEPARTMENT OF MEDICAL EDUCATION** has been established and the curriculum of MBBS & BDS course has been redesigned and updated to impart integrated teaching through small group teaching, which includes problem based learning (PBL), research methodologies, basic life saving skills, ethics and communication skills, besides standard teaching methods and frequent undergraduate symposia.

**THE QUALITY ENHANCEMENT CELL (QEC)** at Dow University of Health Sciences was established in the last quarter of 2006 along with 29 other cells in various public sector universities throughout Pakistan under the direction of HEC. The prime objective of these cells is to practice evaluative measures to achieve excellence in performance in all areas of quality education.
The cell is functioning under Director Dr. Abdul Wahid Usmani, who has dynamically introduced systems through his extensive experience in Academic Audit. He has conducted several training programmes for various universities and institutions. He has initiated pioneering quality assurance measures at Dow University.

Following are few measures that have been introduced at Dow University:

1. **Mentor System.** It has been introduced first time in Pakistan at Dow University to supervise every student regarding his problems related to learning, stress, social interaction, ill health and over all performance. Students of MBBS are divided among faculty members nominated as mentors. Regular meetings and submission of progress reports through the Students’ Portfolio is the main feature of this system which allows not only a better student teacher relationship to develop but also regular feedback through their learning and concerns.

2. **Self Assessment Report.** Each department of MBBS programme is supposed to prepare a self assessment report which is evaluated by QEC and HEC. This leads to the improvement of the performance of each department. Under this system, teachers are also evaluated and the results are used for performance, appraisal and quality improvement.

3. **Teachers’ Portfolio.** It is maintained in a file that contains their teaching plan, students’ progress and their achievements. This makes teaching more effective and result oriented.
4. Faculty Development programs. These programs are regularly being conducted by QEC so that the faculty members may come up with more effective teaching and learning techniques for their students.

Dow University was the only university which participated in the International Conference on Quality Assurance through mentor system held in Japan. The director, Dr. Usmani, presented a paper on Mentor system which was very much appreciated, QEC is constantly engaged in taking quality measures for better teaching and learning scenario at the University.

SEMESTER SYSTEM has also been introduced in Dow University for the first time in any medical college of Pakistan. It has been specially designed to complete all the required credit hours in each subject besides giving time for cover up semester and sufficient vacations. The faculty and the logistics have also been enhanced to meet the requirements.

Objective Structure Practical Examination (OSPE) have also been introduced to replace old subjective examination so as to have transparency in examination and make the atmosphere student friendly.

EXAMINATION DEPARTMENT has special software and machines to generate question paper with specification, conduct examination with water tight security and quick announcement of results saving precious time.

FIRST INTERNATIONAL CONFERENCE ON “RECENT TRENDS IN MEDICAL EDUCATION” was conducted at Dow University, sponsored by Higher Education Commission (HEC) in collaboration with other universities in which the facilitators were from Canada, Malaysia,
Australia and Pakistan. They conducted two days workshop on Curriculum Development, Assessment and Evaluation for MBBS course. About 100 participants from all over Pakistan attended this conference.

**COMPUTER LEARNING CENTRE** was established four years back where a full time trainer is imparting computer skills, much needed now a days for grooming the teachers in every field so as to keep pace with advancement and to update their knowledge.

After training all the faculty members and doctors of Dow University this centre is also now providing three weeks training to teachers of other public and private institutions on Saturdays and Sundays, only for Rs.500/- for the whole course.

**STAFF DEVELOPMENT COURSES** were conducted on regular basis for two years by Dow University with the sponsorship of NAHE, HEC. These were **twenty four days courses**, based on modules of **educational psychology, advance teaching skills, administrative planning, communication skills, curriculum development, research skills, assessment and evaluation**, along with **microteaching and computer skills**, conducted by twenty highly qualified and experienced resource persons. Participants were teachers of all subjects including arts, science, literature, commerce and engineering besides medical education. Ten
such courses were completed in two years. Various workshops for enhancement of the skills of faculty members are being conducted on regular basis by the Professionals Development Centre in which National and International speakers are facilitators.

RESEARCH is one of the most important components of any university for academic excellence. The faculty members of Basic and Clinical departments are actively involved in research besides teaching and routine work. Although Dow Medical College was established in 1945, the scientific periodical was started after the establishment of University. It is a peer-reviewed journal, having editorial board which makes final decisions about the publications. Uptil now three issues of JOURNAL OF DOW UNIVERSITY OF HEALTH SCIENCES (JDUHS) have been published. The Pakistan Medical & Dental Council (PM&DC) has recognized JDUHS for academic promotions on the basis of quality of articles and the presentations. The JDUHS has also been indexed in Pak Medi Net, IMEMR and international CODEN service and has got ISSN number.

PROFESSIONAL DEVELOPMENT CENTRE has been established for continuous medical education programs and training workshops. During the last three years more than 500 (five hundred) lectures have been delivered by highly competent National and International speakers on various topics of medical field for update of knowledge.
About 300 (three hundred) hands on workshops, both basic and HIGHLY SPECIALIZED were conducted by this centre which included Six on Primary Trauma Care (PTC), twenty six on Advanced Cardiac Life Support (ACLS), twenty six on Basic Life Support (BLS), Six on Obstetric Life Support (ALSO), Six on Pediatric Advanced Life Support (PALS), Six on Primary Surgical Skills and two on Orthopedic Skills.

Besides above mentioned life support skills, more than 50 workshops were held on highly specialized skills for the faculty members and the Postgraduate students.
These included those on, Temporal bone dissection (Ear surgery), endoscopic nasal and sinus surgery (FESS), post burn plastic surgery on hands, plastic surgery for cleft lips, critical care and intensive care skills for the faculty members and other health care personnel.

All these hands on workshops are being carried on most modern specially designed mannikin’s simulators, modules simulated intensive care unit and simulated operation theatre in the professional development centre of the university where internationally recognized facilitators train master trainers. The interested national and international participants attend these workshops on regular basis and are being certified after the training. These training courses are also conducted in other medical institutes on their request. Hamdard University and Karachi Medical & Dental College (KMDC) have several above mentioned workshops organized and conducted by Dow University. Hands on training were also provided in the interior of Sindh hospitals for the benefit of doctors and paramedicals.
INTERNET DIGITAL LIBRARY has been established at five different campuses of Dow university, having more than 300 computer stations connected to the main high standard server to have HEC connectivity for access to more than 22,000 journals and textbooks. It has been sponsored by HEC for the benefit of the students and the faculty to help in updating knowledge and acquire information for research. All four campuses have digital library, interconnected by satellite. VIDEO CONFERENCES IS ALSO CONDUCTED IN INTERNET DIGITAL LIBRARY.

THE DEPARTMENT OF INFORMATION TECHNOLOGY (IT) has been established by Dow University. The Computer Network, Systems and website are part of IT department. This Computer Network is stretched over 4 campuses of DUHS at 4 different locations, which are connected to each other via high tech radio frequency bridges, to provide the resource sharing capabilities as well as facility of internet to the students and employees. Each campus is running its own Digital Library, which is one of the largest and High Tech Digital Library of Pakistan. A high speed 8Mb wireless Radio frequency link through PTCL Via 4 E1 Lines is being provided for speedy Internet surfing, emails retrieving, World Wide Video Conferencing and access to the National Digital Library of HEC and Pakistan Educational Research Network (PERN). The intranet internet connectivity of Dow University is through fiber optic, which provides high speed data rate and is completely secured and reliable. A high speed, secured Wi-Fi environment is also being installed within the various premises of Dow University to enable users to access all the internet and intranet facility on their Laptops & Mobiles with limited access. Following set of parameters and configurations have been made to manage the network at Dow University of Health Sciences (DUHS).

- A Master Domain Controller Server along with its replication (Child Domain) at each campus is installed to manage users account information, helping to implement the centralized security policy.
- A Backup Server is being maintained to restore the state of DUHS network in the event of any disaster.
- A File Server is the main source of data storage and retrieval by the Domain users through a secured password protection system.
• A Unix based Free BSD corporate firewall is configured to provide more security, Web Catching, Content filtering and blocking anonymous Web surfing for each connected system.

• A separate Server is being configured to provide access to Digital Library access for home internet users.

• A corporate Antivirus server is also installed in order to identify, neutralize or eliminate malicious software’s / viruses / malwares.

• The IT Department is also looking after the various Computer related complains, which are categorized into three components:
  • Network related complains
  • Software related Complains
  • Performance Related issues

• The IT Department is also providing Voice communication network between all the Departments of Dow University through AVAYA Exchange. The AVAYA digital telephone exchange is also installed at the Network Operation Control (NOC) and is totally monitored by the IT Department.

THE DOW UNIVERSITY WEBSITE HAS ALSO BEEN DESIGNED AND DEVELOPED.

• The Dow University Official Website is being updated from time to time. (http://www.duhs.edu.pk) by using most Advance Technologies and Tools.

• Separate websites for Professional Development Centre (PDC) (http://pdc.duhs.edu.pk) & Quality Enhancement Cell (QEC) (http://qec.duhs.edu.pk). have also been developed.

• The salient features of websites are:
  a. Search Engine Optimization (SEO) based links and user friendly environment.
  b. Content Management System.
  c. Optimization for major internet browsers such as Internet Explorer, Mozilla, Firfox etc for fast rendering & loading.
• Electronic Continuing Medical Education (e-CME) for family physicians.
• Creating and managing a Simple Mail Transfer Protocol server for providing the Electronic Mail (Email) facility to the faculty and administrative staff.

A SPECIAL SOFTWARE has also been adopted by Dow University known as “ORACLE PEOPLE SOFT CAMPUS SOLUTION RELEASE 9.0, introduced at Dow University with the help of HEC. This is a comprehensive suite of software, specifically designed for Higher Education Institutions to effectively meet and adapt changing needs and expectations of constituent institutions.

Oracle software works closely with education industry leaders to develop and deliver the most responsive, comprehensive and flexible data collection, processing and control to enhance institution’s academic service and meet their goals. It can capture and analyze student recruiting information from multiple sources including test loads and evaluation practices, monitor enrollment targets, track progresses and analyze decision patterns, helping faculty members to timely interact with students regarding requirements courses and record.

This software will help Dow University to acquire and maintain international standard.

THE INTERNATIONAL COMPUTER DRIVING LICENSE (ICDL), is an internationally recognized qualification which enables individuals to have competency in using computer for improving productivity at work, acquire help at home also on the basis of computer skills. Thus helping them utilizing competently and more confidently. It has seven modules and a test for each must be passed before the KBC certificate is awarded, which is certified by UK. These modules include word processing, data base and communication etc. The Dow University has been selected as the only centre to impart this training, to the faculty members of the public institutions which is providing this course on regular basis.
THE SECOND MAIN FOCUS OF THE DOW UNIVERSITY HAS BEEN HUMAN RESOURCE DEVELOPMENT, in health care and paramedical strength of Pakistan.

INSTITUTE OF NURSING (ION) which is funded by HEC was established 2 years back. A team of health professionals, trained in different skills are needed for high quality health care system. Quality of health facility is directly proportional to the knowledge and skills of nursing. Highly educated nurses play vital role in hospital, community health centres, home care agencies, nursing colleges and other health related professional association. Increasing population has also increased the demand of qualified and skilled nurses world over.

While the construction of the new building started three years back when the foundation stone was laid by Prof. Ata-ur-Rahman chairman HEC. The building was under construction, hence the classes of Post RN BSc were started in a renovated old building.

Now recently this institute has been shifted in its own most modern high class building.

Two batches of fifty nurses each with bachelors degree have already passed out, while another hundred nurses are undergoing two years training for Post RN BSc degree.

18 month midwifery courses have also started from 2008. Post-graduate programs leading to Masters and PhD will also be offered.

INSTITUTE OF MEDICAL TECHNOLOGY (IMT) was also established two years back by Dow University to provide four years bachelor degree, besides two years diploma courses in four disciplines namely clinical pathology, operation theatre, critical care and ophthalmology. Presently about five hundred students are studying in these disciplines. Previously this institute was located at Ojha campus but
now it has been shifted to the renovated old boys’ hostel of Dow Medical College. **This new campus for medical technology students also has digital library and modern laboratories for practical training.**

Medical Technologists are recognized all over the world as the backbone of health care system in routine or emergency care. **Medical technology program focuses on all of the major clinical disciplines.** The students go through intensive training program with sound theoretical knowledge of the subject. In disaster management, qualified Medical Technologists play very active role to reduce sufferings when needed. This new institute of medical technology will meet the demands of modern and sophisticated health care system. Currently, the available technicians are diploma holders or have been trained while working on job. Therefore, they lack quality education. In Pakistan there are very few institutes to offer graduate courses in specialized disciplines. Hence, the graduates from this institute of Dow University will be an asset for the country.

**INSTITUTE OF PHYSICAL MEDICINE AND REHABILITATION (PM&R)** was also established one year back to provide four years bachelor courses in occupational therapy and orthosis & prosthesis. The Dow University is the first institute in Pakistan to establish a separate institute to impart highly specialized training for Rehabilitative care to disabled persons who need to be independent at home and in the society within their limitations.

The field of physical Medicine and Rehabilitation includes knowledge of Physical therapy, exercise physiology, orthosis, adaptive aids, artificial limbs, occupational therapy, speech therapy, special education, vocational training and physical modalities to help patients with acute or chronic disability. The disability is increasing due to population growth, aging, chronic conditions, congenital malnutrition, war and disasters eg earth quakes, landmines, traffic accidents, domestic and occupational injuries.

This institute serves people from all over Pakistan and of all age groups to rehabilitate them through a dynamic, trained, dedicated team with latest equipments and technology. The students of occupational therapy, prosthesis and orthosis are exposed to clinics, home and community rehabilitative care programs of rural and urban localities for practical implementation and delivery of prevention element of rehabilitative care. These trained personnel will eventually improve rehabilitative health care in primary, secondary & tertiary hospitals in the community, besides providing services at home and at public places.

Presently, about 125 students are undertaking bachelors course of international standard. The syllabus is based on theory and practicals. As per syllabus research protocol in 3rd year and clinical practice in 4th year will be mandatory.
In Pakistan there are about 8 lacs disabled persons. The occupational therapist who help and rehabilitate special persons.

This institute is fully equipped with required machineries and related equipments. Highly qualified staff imparts training to students of **occupational therapy, orthosis and prosthesis** besides managing patients.

**DOW INTERNATIONAL MEDICAL COLLEGE (DIMC)**, a new Medical College has been established mainly for children of overseas Pakistanis at the Ojha Campus of Dow University with the help of HEC. While the new building was under construction, the classes were started in a renovated building which has fully air conditioned lecture halls with multimedia and audiovisual system, fully equipped power labs, Internet digital library alongwith a big standard library having 3500 books and spacious reading cubicles.

This college was inaugurated by Governor Sindh Dr. Ishrat-Ul-Ebad Khan. The construction of new building is about to be completed and with in few months the college may be shifted in the new campus. Which has covered area of 1 lac 75000 sqft.

There is a newly built girls hostel, which has most modern facilities having double sharing rooms with attached bathroom.

Presently, three batches are studying. The first and second batches have already given their semester examination, as the DUHS has recently been shifted to semester system. The students of DIMC are mainly from USA, Canada, UK and Middle East.
The studies are being monitored by the Quality Enhancement Cell (QEC) and the mentor system, as mentioned above.

The construction of sports complex, including gymnasium, cricket ground, squash, tennis and badminton courts sponsored by HEC will also be completed soon. Gymnasium will also have many Indoor games.

The Dow International Medical College (DIMC) has been added to International Medical Education Directory (IMED), while Dow Medical and Sindh Medical Colleges are already included in the data base.

The IMED provides an accurate and up-to-date resource of information about international medical schools, recognized by appropriate government agencies in the countries where the medical schools are located, which is usually Ministry of Health. These schools are then also recognized and listed by International Medical Education Directory (IMED).
DIMC is affiliated with the Dow University Ojha Hospital which is presently a 300 bedded hospital and it is being renovated and upgraded to 500 bedded General Hospital not only for the clinical training of the medical students but also to provide health care facilities to the general public.

Presently, the Ojha institute of chest diseases (OICD)) is basically a hospital with five peripheral chest clinics namely Iqbal Yad, Nazimabad, Organgi Town, Lyari and Malir clinics. Yearly attendance in these clinics is about 3 lacs patients from all over Pakistan.

Besides TB cases the OICD looks after cases of Asthma, COPD, Pneumonia, Cancer and other chest diseases. The expansion of the hospital will add upto the existing diagnostic and treatment facilities for the patients. The Iqbal Yad clinic has also been renovated recently so as to provide maximum facilities to TB patients. Separate hospital for tuberculous patients will also be completed soon.

**DR. ISHRAT-UL-EBAD KHAN INSTITUTE OF ORAL HEALTH SCIENCES (DIKIOHS) was established two years back at the SMC campus of Dow University in a 150 years old colonial building, after complete renovation from inside, according to modern standards, whereas the external heritage look has been preserved and strengthened.**
By virtue of history, it is one of the oldest building in Pakistan, to be renovated with modern architecture to house most advanced and well equipped state of the art institute for BDS courses. The foundation stone of this institute was laid by Governor Sindh in Sept. 2004 and renovation was completed in two years time.

It has been inaugurated by Prime Minister of Pakistan Mr. Shoukat Aziz. The building has three lecture halls, each having capacity of 144 students and fully equipped with multimedia, wireless mike and a sound system adequate enough for lectures. They have high roof of old teak wood. There are eight seminar rooms and fully equipped laboratories. The dental material is one of the most well equipped in Pakistan. It has imported model trimmers, engine driven drills, model framer and an electrically operated plastic dispenser.

The various departments of this institute of oral health sciences includes, departments of:
- Orthodontics
- Oral Maxillo Facial Surgery
- Prosthodontics
- Oral Pathology & Oral Microbiology
- Oral Medicine
- Periodontology
- Oral Biology
- Tooth Morphology
- Community Dentistry
  and
- Science of Dental Materials
The phantom head lab or skills lab consists of 25 imported statues, each provided with a face mannikin with artificial teeth having adaptable mouth cavity for clinical procedures and practice.

The DIKIOHS has also got a dental hospital. There are 120 (one hundred and twenty) high quality dental chairs for the clinical facilities in the eight fully functional clinical departments of DIKIOHS, which are providing all possible treatments almost free of cost, scaling, filling, root canal, capping, dentures, bracing minor and major surgeries x-rays including OPF, at negligible costs, with the help of most sophisticated, top of the list instruments.

The teaching strength of DIKIOHS stands at over 70 teachers, out of which 23 are senior faculty members with post graduate degrees and diplomas, approved by PM&DC. This is one of the best teacher student ratio in any dental college of Pakistan.

Separate sterilized kits of small instruments are used for every patient after being used and packed in disposable packets from sterilization department, having ultraviolet rays after washing. Daily about 200 patients attend this dental hospital for treatment by highly skilled professionals.
The PM&DC has recognized the clinical faculty for 100 seats of BDS and 50 seats for house job at DIKIOHS. Postgraduate teaching is being imparted in the department of orthodontics, after being recognized by CPSP for four years training towards FCPS. Soon other clinical departments will also be inspected by CPSP for postgraduate training.

MASTERS OF DENTAL SURGERY (MDS) has also been started in basic dental subjects. Fourteen postgraduate students have been selected on merit, after the aptitude test for this full time masters course, first of its kind in Pakistan. The aim of MDS program is to train personnel who wish to enter teaching and research career in dental and Allied Health sciences. The program involves course work and original research thesis components. Postgraduates in Basic Dental Sciences will enjoy a wide variety of career opportunities, ranging from faculty positions in dental institutions, marketing and dental research in Pharmaceutical industry, in addition to laboratory based careers.

DENTAL CARE PROFESSIONALS SCHOOL (DCPS) has also been established by Dow University at DIKIOHS so as to develop human resource in the field of dental technology which is lacking in Pakistan.

The diploma courses in dental technology and dental hygiene have been taken up by three batches at this DDCP school.

DOW COLLEGE OF PHARMACY (DCOP) has also been established last year at the Ojha campus of DUHS, where about 255 premedical students of two batches are studying after selection on merit for five years degree of doctorate in Pharmacy. They will be obtaining ‘Pharm D’ degrees which has great demand within and outside Pakistan in health related fields. Their classes started in a renovated block at the Ojha campus of DUHS.
Pharmacists are a vital part of health care system. They are the medication experts, specialists in its science and clinical use, having knowledge about composition of drugs, their chemical & physical properties, uses and tests for purity & strength. Pharmacists are the principal resource to patients and other health professionals in assuring appropriate use of medications. They are uniquely prepared, available and committed to public service. They also render services to doctors and simultaneously play a key role in public education. The curriculum of pharmacy doctorate mainly focuses on the core subjects. The semester based programs having two semesters per year will have total of 10 semesters in five years period.

INSTITUTE OF BASIC MEDICAL SCIENCES (IBMS) has also been established early this year for MPhill program leading to PhD in basic medical sciences. Forty (40) postgraduate students have been admitted for courses in Anatomy, Physiology, Biochemistry, Pharmacology, Hematology, Histopathology and Microbiology on the basis of merit after the entrance test. The IBMS is located at Ojha campus of DUHS, being a part of the MEDICAL RESEARCH CITY, a mega project which includes most of the newly established institutes of the Dow University. It has spacious air conditioned lecture halls and seminar rooms, having necessary audio visual multimedia facilities. The contemporary techniques involved in basic sciences research activities, will be conducted in the labs of different departments, which are well equipped with modern instruments for variety of anatomical, physiological, biochemical, haematological, pathological, pharmacological, immunological and molecular biological experiments for specific research. The program covers course work and research.

The curriculum has been designed on multidisciplinary approach, focusing offered subjects at molecular and cellular level. In addition, core and supportive courses will provide competencies in research methods, Epidemiology, Biostatistics, Critical Analysis, Interpersonal communication and computer skills. This institute will help in bridging the deficiency gap of human recourses in basic medical sciences. Highly qualified faculty members will train these participants with the help of well equipped laboratory and other high standard facilities including animal house of international standard.
DOW DIAGNOSTIC RESEARCH AND REFERENCE LABORATORY (DDRRL) has also been established at the Ojha campus of DUHS for advanced basic and clinical research in medical sciences and critical evaluation of current researches in different disciplines. The Dow lab provides reliable high quality diagnostic services of international standard, offering broad range of routine and special tests at highly economical rates. These tests are performed by a team of qualified and experienced technologists and technicians under the supervision of a group of board certified pathologists. The laboratory services and consultations are readily available to meet the patients, need and include hematology, chemistry, coagulation, urinalysis, serology, therapeutic drug monitoring, pathology and morgue services.

The DDRRL also provides research facilities to students of MPhil, PhD, MS and MD in pathology. It provides accurate and precise diagnostic, prognostic and predictive testing services in a timely manner with high accuracy. The laboratory services are available daily for the general public from 8:00 am till 8:00 pm on all working days and until 1:00 pm on holidays.

Presently there is one collection point at National Institute of Liver and GI diseases (NILGID) DUHS opposite NICVD Karachi, besides the main laboratory at Ojha campus. Second collection points near Dow Medical College and Civil Hospital Karachi is near completion.

The vision and mission for DDRRL is to make it a leading pathological laboratory of international standard for comprehensive diagnostic services.

Dow Radiology department has also been established where computerized tomography (CT), Magnetic resonance Imaging (MRI), Monography, Fluorescopy, dopler machines and ultrasound machines are being installed.
INSTITUTE OF HEALTH MANAGEMENT (IHM) has been in 2007 for three years MBA courses in Health Care, Hospital administration and pharmaceutical sciences.

The first and second batch have thirty students each, admitted after the entrance test on the basis of merit, to study in semester system.

The practical training to these students will be provided in different private & Public sector hospitals and pharmaceutical industries. Highly qualified faculty members are conducting the classes, which are held in the evening for the benefit of the students who perform various duties in the morning.

The curriculum of MBA courses have been designed according to the global and local requirements. The main purpose for establishing this institute is to train doctors who can provide advance health service management programs, can create knowledge through research, provide outstanding practical education for students, create and disseminate
applied knowledge, promote the understanding and ethical practices of businesses, add value to the organizations and create better human resources for the country.

FOREIGN SCHOLARSHIPS PHD PROGRAM was initiated about two and half years ago for faculty development of DUHS, funded by HEC. The selection of these scholars is based purely on merit. Candidates apply from all over Pakistan including AJK. They have to pass written test, GAT (NTS) and protocol writing test after which they go through interviews on subject knowledge and of DUHS selection board. Selection of the best candidates deserving are made irrespective of race, color or socio economic considerations (19) scholars from total of 510 applicants have been selected. Six of them have already gone to UK, Australian and German Universities for PhD in Molecular Biology, Biochemistry, Medical Education and Biotechnology.

THE POSTGRADUATE STUDENTS FOR FELLOWSHIP PROGRAM are also selected after the entry test and on the basis of merit, against the vacant seats.

Previously the postgraduate students were working as honorary residents to fulfill the requirements of FCPS II. The efforts were made for the stipend to these students and now they are getting stipend of Rs. 12000 (twelve thousand) / month on the pretext that they will not do private jobs and will solely work and study for part II examination.
NATIONAL INSTITUTE OF DIABETES AND ENDOCRINOLOGY (NIDE) was established 2 years back at the Ojha Campus of DUHS so as to provide maximum health care services to diabetic patients.

Facilities for specialized diagnostic and treatment options including laser therapy has also been provided at this institute, in collaboration with 1980 Dowite batch. The laser treatments privately cost approximately Rs. 5000/- where as at NIDE only Rs. 500/-are charged, for laser therapy.

Experienced doctors attend patients in daily outdoor patient department, besides providing training to postgraduate students of Master course. This Institute also carries out public awareness programs regularly for the benefit of the community as diabetes is becoming increasingly common in Pakistan.

The Dow University has created new opportunities for Postgraduate students MASTERS COURSE IN DIABETES has also been started last year. Ten students were selected after the written test on the basis of merit, to undergo two years extensive training program in diabetes. It is a two years course, based on four semesters, two in diabetes and two in endocrinology. Teaching strategies includes lectures, demonstrations, workshops, hands on training and discussions etc. the students will also be posted in departments of medicine, pediatrics, gynae & obstetric and orthopedics for clinical rotation.
COMMUNITY HEALTH CARE is the third main of Dow University.

SARWAR ZUBERI LIVER CENTRE (SZLC) was established four years back by the Dow University for the benefit of patients of chronic liver diseases, third common problem in Pakistan. Uptil now more than 10,000 patients have been registered and daily about 100 patients attend the OPD.

NATIONAL INSTITUTE OF LIVER & GI DISEASES (NILGID) has recently been established at shah lateef campus (part of old Sindh Medical College Boys Hostel), considering the patient load at Sarwar Zuberi Liver Centre. So as to provide all possible diagnostic and treatment facilities under one roof. In the first phase all the facilities just short of Liver transplant will be provided, while in the second phase INSHALLAH Liver Transplant facility will also be provided at NILGID.
This Institute also has a collection point of Dow Diagnostic Lab (DDRRL) not only to provide diagnostic facilities at NILGID but also to all other patients not related to NILGID. This Liver Institute has started services for outdoor patients after the foundation stone was laid by Governor of Sindh Dr. Ishrat-Ul-Ebad Khan. Renovations are going on simultaneously for maximum diagnostic and treatment facilities at minimum cost so as to cater the needs of patients from all over Pakistan.

DEPARTMENT OF EMERGENCY OBSTETRIC CARE (EMOC) is also being established at Ojha campus, as a part of community health care of DUHS, as maternal mortality is very high in Pakistan. This department will also train lady health visitors for safe home deliveries. It will also deal with all possible complications related to deliveries. The Dow University students and faculty members have been providing voluntary services in times of emergencies and disasters.

Dow University also plays role in National needs required after calamities.

DOW UNIVERSITY ARTIFICIAL LIMB (DUAL) CENTRE has also been established by the Dow University in the old hostel block of Dow Medical College. It is equipped with all the required equipments and material so as to provide artificial limbs, almost free of cost to needy patients. A manufacturing unit for artificial limb from high density polyethylene (HDP) material has been setup. The raw material is locally available. It allows
amputees, the facility of cross legged sitting, hence these people can also offer prayers like a normal man. Specially designed foot have also been purchased from China. Flexible ball joints have been made in sialkot, now artificial hands are also available.

**VOCATIONAL TRAINING CENTRE (VTC) DUHS** has also been established at Ojha campus so as to provide skills training to uneducated or handicapped people for their respectable living. Wide variety of skills are being included to impart training. Some of the skills for training men include tailoring, carpentry, electrician courses, air-condition, fridge or TV technician courses etc. Females will be having training in embroidery, cooking tailoring and painting etc.

The aim is to provide maximum skill training opportunities at vocational centre which will eventually reduce financial and psychological stress not only of the person trained but also his family thus contributing to status of physical and mental health resulting in healthy nation.

**JINNAH GENOME CENTRE** has also been established to keep pace with the latest trends needs and future requirements of medical education. Genome centre was planned and the scheme has already been approved by the Higher Education Commission (HEC) and the construction has started. A renowned international scientist Professor Hameed Khan, presently working in National Institute of Health (NIH), USA will be guiding and contributing technically for the establishment of this centre, which will inshallah be one of its kind in this part of the world.
It will produce doctors meeting the future requirements which will be mainly based on genetic studies for the diagnosis and gene therapy.

MEDICAL RESEARCH CITY (MRC) is established at Ojha campus which has 130 acres of land to lodge most of the DUHS departments, newly established as well as renovated ones, related to academics, human resource development, provision of health related diagnostic and management services, research and postgraduate studies.

It will inshallah be a REGIONAL EDUCATIONAL HUB OF INTERNATIONAL STANDARD not only for students of Pakistan but of South East Asia. Presently it includes:

1. Dow International Medical College (DIMC)
2. Girls hostel for DIMC
3. Sports Complex having gymnasium cricket ground, squash, tennis and Badminton Courts alongwith facilities for indoor games.
4. College of Pharmacy (DCOP)
5. Institute of Basic Medical Sciences (IBMS)
6. Dow University Hospital (500 Beded)
7. Emergency Obstetric Care Unit (EMOC)
8. Dow Laboratory (DDRRL)
9. Radio Imaging department including CT scan, MRI. fluroscope, mamograph and dopler machines etc.
10. TB Hospital for complicated indoor patient with 200 beds.
11. TB out door clinic (Renovated)
12. Theatre Complex (Under construction)
13. Department of Infectious Diseases (Under construction)
14. Jinnah Genome Centre. (Under construction)
15. Public Library (Under construction)
16. Mosque
THE MISSION has always been to make Dow University of Health Sciences besides an institution with academic excellence and a source for Human resource development a centre of excellence in prevention and treatment for Infectious and Non infectious diseases with emphasis on emergency diseases of both categories through:

- Clinical, Epidemiological & Basic Research
- Provision for quality health care
- Health education of masses,

To have a holistic approach towards health and set an example for the entire country by applying best practices in medical sciences.

The MOTTO of Dow University IS ‘PREVENTION IS BETTER THAN CURE’ as the future is of preventive medicine specially for third world countries like Pakistan having very little budget for health to match the burden of existing diseases.

Mobile team of about sixty (60) Dow University doctors and Para Medicals served earth quake affected people by setting up field hospitals in Bagh, Neelam Valley and Balakot areas, in groups of 6-8 persons after the disaster of 8th Oct. 2005. These volunteers carried medicines, equipments and other accessories worth several million rupees donated by DUHS and flew on the night of 8th Oct. Their transportation from Islamabad to various affected areas were jointly coordinated by members of National Assembly and Dow University Administration DUHS. It was the first equipped and organized team to reach earth quake affected areas, teams collected articles and cash for the affercters.

DOW UNIVERSITY IS ALSO WORKING ON VARIOUS PROJECTS TO IMPROVE THE HEALTH OF THE COMMUNITY. Purity of drinking water is unquestionable but 150 million population can only get it if huge amount is spent by the Government.

Researchers at Dow University have found that direct ultraviolet rays of sun passing through a crystal clear bottle for 12 hours, kills the bacteria hence purifying it for drinking purposes. Further work is still being done by DUHS to simplify this procedure.

Another research project is being carried out to reduce fluoride content in the drinking water of Thar district. The increased floride content in water is a great health hazard in many different ways.
Prevention of several diseases can easily be achieved by specific vaccination, but since these vaccines are usually imported, due to high cost only a small percentage of population is being benefited. The Dow University is also trying to have biotechnology in collaboration with foreign countries for local manufacturing of vaccines which can then be easily available to public at low cost for prevention of many diseases.

The illiteracy rate of Pakistan is high which is no doubt making them economically poor but with the disease the financial burden gets worse.

Dow University has also started PUBLIC AWARENESS PROGRAMS at regular intervals in which they are informed about most common diseases eg Obesity, Diabetes, Hypertension and Hepatitis, HIV, AIDS etc as well as about specific epidemics as and when required eg on SARS, Bird Flu and Dengue Fever etc.

Many programs have also been delivered on TV and radio also by various faculty members of DUHS. Now the plans are to have organized and structured series of health awareness programs for which, soon a studio will also be established.

STUDENT HEALTH EDUCATION PROGRAM has also been launched so as to create awareness in children about the importance of health and the possible measures to prevent common diseases.

FACULTY ENHANCEMENT
The Dow University enhanced the faculty and staff strength as per requirement and the decision of the syndicate so as to meet the requirements of the newly established institutes and the existing colleges due to the revised integrated and upgraded MBBS & BDS curriculum.

The new appointments were made as per rules & regulations, laid down by regulatory bodies. Promotions and upgradations of the teaching and non teaching staff were also made as per rules & regulations. The staff and the faculty members have been made well versed with new teaching methodologies and teaching aids. They were also provided with the related infrastructure and miscellaneous requirements for smooth teaching atmosphere.
The admission department, administration and the teaching units are all being supported by electronically required equipments and are also computerized.

DEVELOPMENTAL PROJECTS COMPLETED BY DOW UNIVERSITY since the inception of Dow University include:

- **CONSTRUCTION OF FOUR STOREYED BUILDING ALONGWITH BASEMENT**, with Granite marble and stone for face lifting a new academic block at Dow Medical College.
- **Dow International Medical College (DIMC)** has been established in one of the old blocks after high class renovation fixations and installation of equipments at Ojha campus.
- Renovation / Addition / Alteration of old Gulshan town building for **Institute of Diabetes and Endocrinology (NIDE)**.
- Renovation / Addition and Alteration of women health project building for **Dow College of Pharmacy**.
- Renovation and restoration of heritage building near Sindh Medical College to lodge “Institute of Oral Health Sciences”.
- **Fixation of 125 dental chairs and other required equipments** at Dr. Ishrat-ul-Ebad Khan Institute of Oral Health Sciences (DIKIOHS) alongwith furnishing lecture halls, laboratories, library and administrative rooms.
- **Old auditorium converted in Oral Health Sciences Hospital** at SMC campus.
- **Dow Diagnostic Research and Reference Laboratories (DDRRL)** have also been established after high class renovation of old buildings at Ojha campus.
- **Installation of CT, MRI, mammography machine, fluroscopy and dopler machines**.
- The out patient department (OPD) **block for TB patients** have been established in HRD building at Ojha campus.
- Maintenance and repair of old Ojha hospital being done for emergency obstetric care (**EMOC Services**).
- Renovation / Rehabilitation and addition in kitchen block of Ojha hospital is being done to convert it in emergency Gynae ward.
- **Renovation / Rehabilitation / Addition / Alteration** is being done in the front wing of OICD at Ojha campus for the part of **teaching hospital** of DIMC.
- **Renovation / Rehabilitation of Main building (back wing) of OICD** is also being done for part of **teaching hospital**.
Renovation / Rehabilitation / Addition in old EPI building is done to establish **consultant clinics** (ground floor) at Dow University hospital at Ojha campus.

Renovation / Rehabilitation in old EPI building is done to establish **consultant clinics** (first floor) for DUHS hospital.

Renovation / Rehabilitation / Addition of **operation theatre for teaching hospital** at Ojha campus (Ground floor & first floor) to lodge **labour room** and operation theatres for Gynae and general surgeries.

Renovation / Rehabilitation of **laundry for teaching hospital** at Ojha campus.

Additional **drainage line** provided at Ojha campus.

Renovation / Rehabilitation of **Director office at Ojha campus**.

Renovations and furnishing of lecture halls at Dow and Sindh Medical Colleges alongwith audiovisual aids and fixed multimedia.

**Complete Renovations** and furnishing of all laboratories of basic sciences at Dow and Sindh Medical Colleges and provision of all required modern equipments.

**Complete Renovation of auditoriums** at Sindh Medical College and Dow Medical College.

**Renovations of canteens** and **common rooms** for students at Dow and Sindh Medical Colleges. (boys and girls separately).

Old boys hostel blocks at Sindh Medical College are being renovated to lodge **National Institute of Liver & GI Diseases (NILGID)**.

**Renovation of girls hostels** of DMC and SMC.

Old boys hostel blocks at Dow Medical College completely renovated, furnished and equipped for **Institute of Medical Technology (IMT), Institute of Physical Medicine & Rehabilitation (PM&R), Institute of Health Management (IHM)** and Dow University Artificial Limb (DUAL) Centre.

Construction of main gate of Ojha campus.

**Complete Renovation of liberaries at DMC and SMC.**

**Complete Renovation of old administrative blocks** at Dow and Sindh Medical Colleges.

Dissection halls of DUHS, fixed with mortuaries.

**Two heavy duty (500 KV) generators** are fixed at all the three campuses of DUHS namely Dow Medical College, Sindh Medical College and Ojha Campus.

Fixation of **500 KVA generator with armored cables AMF / ATS panel** at Dow International Medical College.

Fixation of another **diesel generator set 500 KVA** with armored cable & AMF panel for other departments at Ojha campus.
• **Fixation of external light cable and poles at Ojha campus.**

• **Animal house of High standard,** established in existing vacant bungalows by Addition / Alteration and Renovation for experiments by the MPhil and PhD students of Institute of Basic Medical Sciences.

• **150 KV generator fixed at Institute of Medical technology** and physical medicine.

• **Fixation of 200 KVA Diesel generator** with all accessories for administration block of DUHS.

• **Air conditioners were also fixed in the lecture halls and different departments of DUHS.**

• **Fixation of 1000 KVA transformer** & payment of security deposit of Rs. 1088000/- to Karachi electric supply corporation (KESC).

• Part of old boys hostel of DMC, converted into examination centre of DUHS.

• **Old lift** of DMC removed and installed at institute of physical medicine and rehabilitation where as new large lift is installed at Dow Medical College.

• Construction of **studio building at DMC** is in process, for recording state of the art lectures.

• Since the Ojha institute of chest diseases having 130 acres of land having many constructed blocks lodging EPI and other health department offices were given to the Dow University as per charter, the Dow University made a comprehensive plan to have different buildings vacated so as to lodge new departments of university.

• The I I depot, having huge blocks were already vacated after the Sindh Govt. policies were changed to decentralize purchases. Hence the Dow University completely renovated I I depot so as to shift health department offices from the Ojha campus including EPI office, WHO office, world food office, TB control office, malaria office, and chief drug inspector offices to I I depot after renovations by DUHS.

• **Different departments** of Dow University were equipped with new furniture and some old ones repaired.

• **Intercom system has been fixed in various buildings of Dow University.**

• Fixation and supply of instruments / equipments in different departments of civil hospital, Karachi.

• However new construction of Dow International Medical College comprising of 17500 Sq ft will Inshallah be completed by the end of Dec. 2008. New construction for girls hostel has already been completed and the students have been shifted from the old block.

• **College canteen** of good standard has also been established for Dow International Medical College (DIMC) at Ojha campus.
• Establishment of vocational training centre (details mentioned above) at the Ojha campus.

FUTURE PLAN HAVE ALSO BEEN WORKED UP TO HAVE DEVELOPMENT IN PHASES, THESE INCLUDE:
• Convention Centre
• Institute of Neurosciences
• Institute of Cardiac Surgery
• Institute of Blood Diseases
• Institute of Mental Health
• Institute of Burns and Reconstructive Surgery
• Institute of Public Health
• Institute of Oncology
• Institute of Immunology, Allergy and Auto Immune Disorders
• Organs Transplantation
• Disaster Management Cell

The emergency medical management on a large scale has not been developed in Pakistan up till now. The need was felt after the disastrous earth quake of Oct. 2005. in which various National and Foreign medical missions rendered their services.

The plan includes establishment of infrastructure at Dow University for emergency management in the next five years. Medical officers will be sent abroad for training. They will then impart training to other doctors and paramedicals as master trainers.
General public will also be educated through seminars, print and electronic media for special measures and actions to be taken not only to prevent themselves but also training them how to work as volunteers.

Mobile disaster team structure, for resource and management will also be developed and equipped with all necessities.

Mechanical and electrical gadgets, including folding operation table, anaesthetic machine, defibrillators, ventilators, orthopedic implants and sutures etc, will also be provided with specialized training not only to help our country but also to provide emergency help to other countries in times of emergencies, as we were being helped. We need to do a comprehensive planning, Keeping in view our present situation and future targets. The template of future is focused on:

- Improvement in Physical infrastructure, including classrooms, libraries, laboratories and other required equipments.

- Promotion research including grants from industry and commercialization of reserve.

- Industrial & international linkage.

- Student service facilities including provision of placement centre.

- Funding requirements.

We really hope to succeed in our future mission with the help of Almighty Allah as we have been blessed during the last five years.
The university offers full-time postgraduate program in the key areas of Basic Medical Sciences and has developed the modular format to allow a greater range of options within the program to meet the requirements of medically trained personnel who wish to enter teaching and research career in medical and allied health sciences. It provides a sound understanding of human health and disease and diagnostic approaches at the molecular level applying contemporary techniques of modern biomedicine. It provides opportunities to acquire and develop the skills of synthesis, analysis and decision making, required for careers in the field of medical research. Thus, the students are trained as the subject specialist, a researcher and a resource person, well equipped with the methodologies of modern trends of teaching and research in basic medical sciences. The program involves course work and original research thesis components.

SIGNIFICANCE
During the beginning of the 21st century, emergence of new technologies and strategies have become available to study a variety of biological and health related disorders in contrast to traditional approaches. New clinical insights, of clinical disorder are being explored by variety of newly developed and modified techniques to understand: for example, how genes vary from individual to individual and to establish how and where their expression is regulated and how useful and therapeutically novel nature e.g. receptor orientated and customized mature natural products, can be identified and commercially produced. Basic Medical Sciences degree covers a range of interdisciplinary units in areas of modern biomedical sciences, human biology and public health. These include aspects of anatomy, biochemistry, clinical medicine, epidemiology and preventive medicine, genetics, immunology, microbiology, molecular biology, pharmacology, and physiology. Students study core modules and choose from a range of discipline-based major subjects. Multidisciplinary approaches have become the cornerstone of the various subjects in different departments which are integrated to offer programs leading to M.Phil, and Ph.D. degrees. The program particularly covers the application of these approaches in preventive and diagnostic medicine. Currently, applications of tools of biomedicine and clinical medical research increasingly being exploited for understanding etiology and diagnosis of both heritable and non-heritable diseases and these technologies include: genomics, proteomics, pharmacogenodynamics, molecular diagnostics, electrophysiology, microarrays, hormone analysis, demographic approaches, medical imaging including CT, MRI, PET. Further, there is going to be highly competitive environment to seek a reputable and glorified career in both clinical and basic sciences areas due to involvement of skilled expertise in nearly every discipline of health and medicine. Development of human resources trained in contemporary knowledge of various disciplines particularly in basic sciences is of immense importance for the country.
VISION

The Institute of Basic Medical Sciences (IBMS) plans to develop human resources for medical and dental institutes and research organizations indulged in research activities related to health and medicine. It provides an opportunity for generation of synthesis of learning, grooming of analytical mind and critical thinking. The IBMS prepares its graduates for a life-long learning as a subject specialist, a trained teacher and a skilled researcher well equipped with the strategies and methodologies of modern trends in medical education and research becoming an essential entity for contemporary competitive world.

MISSION

Our mission is to advance medical education and research through multidisciplinary programs of quality education and research that provides outstanding practical knowledge and experience, create and disseminate applied information, enhance understanding, ethical practice of medical education and research to serve the nation.
PROGRAM

The University offers 2-4 year Program of M. Phil leading to Ph.D., governed by BASR, in the following disciplines:

1 Anatomy
2 Biochemistry
3 Pathology
   a) Hematology
   b) Histo-pathology
   c) Microbiology
   d) Molecular Pathology and Genetics
4 Pharmacology
5 Physiology

- 2-5 year program of M. Phil leading to Ph.D., governed by BASR
- Modular in structure, spread over two semesters per year; each course has 1-3 Cr Hr rating
- **Duration:**
  
  Minimum duration
  - for M. Phil = 2-3 years (at least 24 Cr. Hr of Course Work)
  - for PhD = additional 2-4 years (at least 18 Cr. Hr of Course Work)

The IBMS is housed at Ojha Campus of DUHS, which is a part of the **MEDICAL RESEARCH CITY**, a mega project of Dow University. It has spacious air-conditioned auditoriums, lecture halls, seminar rooms- all having necessary audiovisual multimedia facilities for teaching and demonstration purposes. The contemporary techniques involved in basic sciences research activities will be conducted in the labs of different departments; which are well equipped with modern instruments for variety of anatomical, physiological, biochemical, hematological, pathological, pharmacological, immunological and molecular biological experiments. This advanced instrumentation is available for students to undertake research program in specific areas of IBMS.
ACADEMIC POLICIES AND PROCEDURES

The scheme of studies for postgraduate degrees (M.Phil, PhD) shall comprise of course work and research thesis. There shall be two terms/semesters per year of 18 weeks duration (16 teaching weeks and the rest for exams etc.); there may be a summer semester for those desirous of deficiency courses to make up for improvement or failure status. The syllabi and courses of studies, approved by the BASR are given, which can be modified as and when required. The program covers both course work and research. There shall be a one major subject with a number of advanced courses, and a few Core, Supportive or Skill-related courses. The complete program and schedule for 2-4 years and the break-up for course and research components during the whole period is tabulated. There will be continuous assessment throughout the program; final examination of all the courses for which a student has registered himself shall be conducted at the end of each semester and the thesis examination (viva voce) shall be examined at the end of 2nd year of M Phil. The rules and regulations for admission, registration, appointment of examiners, examinations (course and research thesis), the appointment of supervisors and internal External Examiners of theory and thesis examinations to be strictly followed as approved by BASR.

CONTENTS AND DESIGN

COURSEWORK

The coursework program covers

- A structured program of **COMPULSORY CORE COURSES** related to contemporary areas of basic medical sciences
- **SUPPORTIVE AND SKILL-RELATED COURSES** which enhance research skills to develop the ability, to interpret, to evaluate and present scientific data.
- **ADVANCED COURSES OF THE MAJOR DISCIPLINE** to provide extensive, in-depth an update knowledge, along with one minor subject selected by the candidate for enhanced knowledge. Coursework updates extend one’s knowledge and understanding of the area of interest and acquire skills to improve one’s career prospects. Core modules will cover concepts involved in both cellular and molecular biology and also an introduction to the understanding of the applications of bioinformatics in this area. The student will be provided with practical experience of a wide range of advanced laboratory techniques currently used in the field of medical and dental research. On completion of the course, each candidate will have a considerable knowledge and understanding of the fundamentals of basic sciences; will have critically reviewed the current relevant literature; and will have the ability to undertake independent scientific investigation - research projects.
RESEARCH

Thesis is the formal, systematic exposition of a coherent piece of work carried out over the period of registration. It shall be an original contribution in the field of studies as recognized by standards (HEC and PM&DC). Research component of at least 50% of the total teaching program, of which some Cr Hrs are allocated for topics which support and enhance skills to improve research capacity.

Research study gives the candidate an opportunity to explore questions that one finds stimulating. With the guidance of the supervisor, the student determines the topic and the structure of his/her program. Research degrees include; Master of Philosophy and Doctor of Philosophy (PhD). The candidate studies research program to:

- gain a deeper understanding of his/her chosen field of study
- focus on specific issues
- test certain theories
- expand one’s current knowledge

EDUCATIONAL OBJECTIVES

Knowledge:
The courses provide a sound understanding of the cellular and molecular basis of modern medicine, with both theoretical and practical approaches. Each course is designed to introduce and evaluate molecular biological principles and to explore them in relation to disease processes and clinical applications.

Skills: Objectives of Research Supportive and Skill related Modules/Courses
To train the students so as to gain specialization in particular area of study and have expertise in specific technologies related to one’s research interests supported by relevant core and supportive courses linked to medical education and research.

Methodology
The learning experience will include formal lectures, group work, tutorials, practical classes, seminars, workshops and computer based learning. To assess progress a wide range of assessment tasks are used: short essays, mini-poster production, portfolio production, group poster presentations, patient study reports, laboratory practical reports, short answer tests and multiple choice question tests.
General Learning Objectives:
At the end of the program the candidate should have:

- Comprehensive knowledge about the major subject of his choice and sound background of the supportive and skill related courses
- Ability to organize and conduct courses in BMS disciplines
- Ability to write instructional objectives
- Ability to plan and implement an appropriate instructional strategy according to the objectives
- Ability to design relevant assessment and evaluation
- Ability to conduct original research, present research work, write research publications and research projects.

CURRICULUM
The curriculum has been designed on multidisciplinary approach sharply focusing on the disciplines of one’s choice among the offered subjects at the molecular and cellular level. In addition, core and supportive courses provide the following competencies:

- Biostatistics as applied to research in health, medicine and dentistry
- Fundamental of epidemiology
- Current approaches to medical education and ethics
- Conceptual understanding of behavioral and environmental status
- Creative and reflective thinking with strong critical and analytical skills.
- Communication skills, including research paper writing and presentation skills.
- Interpersonal, intra-personal relationships and team work.
- Computer literacy in relation to biology, biographics and literature review using Digital Library
- Quality Assurance and Plagiarism
- Instrumentation employed in research activities related to medical and dental research
- Research methodology including research design
COURSE COMPONENTS

1ST SEMESTER

CORE, SUPPORTIVE & RESEARCH SKILL COURSES

- BMS- 701 (2): Fundamentals of Molecular Biology
- BMS- 703 (2): Medical Genetics
- BMS- 705 (1): Research Methodology-I
  (Library Science- Critical Analysis & Interpretation of Scientific Literature, Lab. Animals for Biomedical Research)
- BMS- 707 (1): Seminar on special Topics (Journal Club)/ Internship

2ND SEMESTER

- BMS- 702 (2): Molecular Medicine
- BMS- 704 (1): Biostatistics in Health & Medicine
- BMS- 706 (1): Epidemiology
- BMS- 708 (1): Research Methodology-II
  (Experimental Design, Synopsis and Project Writing Skills, Communication & Computer Skills, Biographies)
- BMS- 710 (1): Seminar on special Topics (Journal Club)/Internship

3RD & 4TH SEMESTER

- BMS- 709 (2): Workshops on Medical Education & Quality Assurance, Bioinformatics in Medicine, Behavioral & Environmental Sciences
- BMS- 711 (2): Advanced Techniques in Basic Medical Sciences (Instrumentation)
- BMS- 713 (1): Seminar on special Topics (Journal Club)/Internship
- BMS- 712 (0.5): Research Work Presentation
- BMS- 714 (0.5): Submission of Research paper in Peer Reviewed journals

- BMS- 799 (6) : Research thesis
LIST OF COURSES OF MAJOR DISCIPLINES/ SUBJECTS

ANATOMY

- **Major –I**
  AN 701: Microscopic Anatomy

- **Major-II**
  AN 703: Microtechniques

- **Major-III**
  AN 702: Developmental Anatomy

- **Major-IV**
  AN 704: Neuroanatomy

BIOCHEMISTRY

- **Major –I**
  BIO 701: Intermediary metabolism and minerals

- **Major-II**
  BIO 703: Advanced Enzymology

- **Major-III**
  BIO 702: Proteomics & Genomics

- **Major-IV**
  BIO 704: Neurochemistry & Cell-Cell Communication
PHYSIOLOGY

- **Major – I**
  PHYSIO 701: Cellular & Clinical Neurophysiology

- **Major – II**
  PHYSIO 703: Cardio-Respiratory Physiology

- **Major – III**
  PHYSIO 702: Renal Physiology & Gastro-Entero-pancreatic Physiology

- **Major – IV**
  PHYSIO 704: Clinical Endocrinology & Reproductive Physiology

PHARMCOLOGY

- **Major – I**
  PHARM 701: General Pharmacology

- **Major – II**
  PHARM 703: Autonomic Nervous System

- **Major – III**
  PHARM 702: CNS & Anesthetics

- **Major – IV**
  PHARM 704: Endocrinology, Reproduction & GIT
PATHOLOGY

- **Major – I**
  PATH 701: Systemic Pathology I
  PATH 705: Systemic Microbiology I
  PATH 709: Hematology I
  PATH 713: Molecular Pathology and Genetics I

- **Major – II**
  PATH 702: Systemic Pathology II
  PATH 706: Systemic Microbiology II
  PATH 710: Hematology II
  PATH 714: Molecular Pathology and Genetics II

- **Major – III**
  PATH 703: Systemic Pathology III
  PATH 707: Systemic Microbiology I
  PATH 711: Hematology III
  PATH 715: Molecular Diagnostic and Genetics III

- **Major – IV**
  PATH 704: Systemic Pathology IV
  PATH 708: Systemic Microbiology II
  PATH 712: Hematology II
  PATH 716: Molecular Diagnostic and Genetics IV
MECHANISM OF EVALUATION

Mid-term and final exam based on BCQ’s
Continuous Assessment
Mid-term test, Assignments /lecture presentation: evaluation through structured proformas) : 20
Final Test ---------------------- 80
Total-------------------------- 100

LIST OF EQUIPMENT

A fully functional lab (DDR) installed with many high-tech instruments currently in vogue for basic medical sciences
These include:
thermocycler, electrophoresis units, gel systems, Eliza, UV spectrophotometers, high speed centrifuges, balances,
atutomated blood analyzers, shakers, incubators, fluorescence microscope, 3-head teaching microscope, autoclaves, ultrafreezers
Power labs (6 at each campus) for electrophysiological experiment
Infrastructure of small routine instruments at relevant departments of the 3 campuses
CENTRALIZED ANIMAL HOUSE

Rooms for small laboratory animals like mice, rat, guinea-pigs, rabbits
Animal breeding/experimental station room
Feed preparation room
Bedding room
Vet procedure room
Cleaning & washing rooms

Incharge: Dr. Zameer, DVM
AREAS OF RESEARCH

ANATOMY

- Medical Neuroscience
- Teratology
- Clinical & Morbid Anatomy
- Clinical, Imaging and Toxicological Anatomy
- Developmental Biology
- Andrology

BIOCHEMISTRY

- Diabetes mellitus
- Obesity
- Stress
- Molecular Biology of Metabolic Syndromes

PHYSIOLOGY

- Molecular & Clinical Endocrinology: Diabetes mellitus, obesity, Metabolic Syndrome; thyroid disorders, osteoporosis
- Reproductive Physiology: Fertility Regulation & Infertility, Premenstrual Syndromes, Polycystic Ovarian Syndrome, Hirsutism, regulation of spermatogenesis, menopause & fetal physiology,
- Reproductive Health
- Cardiopulmonary Physiology; hypertension; Iron homeostasis; Pulmonary Function tests in diseased conditions
- Behavioral Physiology /Psychophysiology; Lifestyle in relation to health & fitness and systemic diseases –Osteoporosis
- Stress physiology
- Geriennontology (dementia)
AREAS OF RESEARCH

PHARMACOLOGY
- Mechanism of action of general anesthetics
- Antidepressants
- ANS
- Molecular mechanisms of Benzodiazepines
- Synthesis of medicinal antibiotics from natural products
- Inflammation
- Micronutrients

PATHOLOGY (HEMATOLOGY, HISTO-PATHOLOGY, MICROBIOLOGY, MOLECULAR PATHOLOGY)
- Molecular evaluation of diseases (HBV, HCV, HPV, HSV, HIV, Pylori etc.)
- Histopathological and cytological studies of tumors
- Inflammatory and autoimmune diseases
- Immunological histochemical markers of various diseases;
- Infectious diseases (TB, malaria, STI’s, RTI’s, diarrhoeal diseases);
- MDR, XDR and mycobacterium tuberculosis strains in Pakistan;
- Antimicrobial resistance of pathogenic bacteria in local strains;
- Development of newer and economic diagnostic tests;
- Etiological and pathological basis of malignancies (ca breast, ca lung, ca colon, stomach, and ca prostate);
- Biochemical and hematological conditions in local population;
- Chromosomal and genetically transmitted diseases (Thalassemia, hemophilia);
- Endocrine and metabolic disorders (DM); autoimmune disease;
- Clinical trials supporting clinicians and industry
DIGITAL LIBRARY & IT FACILITIES

The university has already established a digital library which provides free access to thousands of international and national journals and text books from almost all international publishers. The library will remain open on every working day during the prescribed hours and students will have to follow the rules and regulations of the library. Additionally, the main library has hard copies of variety of updated text books of all the health related fields.

CAREER OPPORTUNITIES

Graduates in Basic Medical Sciences enjoy a wide variety of career opportunities. The majority of such skilled professionals will embark upon interesting and varied career in the area of science underpinning medicine. These may range from graduate entry to faculty positions in Basic Sciences Departments of national/international medical institutions, medical marketing and medical research. For those wishing to pursue laboratory based career there are excellent opportunities in Physiology, Biochemistry, Immunology, Hematology, Pathology, Pharmacology. Graduates wishing to join the pharmaceutical industry may be employed in research, sales or marketing areas. Those wishing to continue studying in their interested disciplines have opportunities to undertake postgraduate programs leading to Ph.D. degree so as to compete for better prospects in medical and dental institutions.
**ENTRANCE REQUIREMENTS**

This program is open preferably to medical and dental graduates but candidates with Masters degree in related biological discipline/subject from a recognized university can also apply, to be considered only if seats are available. Entry to the program is on a competitive basis based on University ‘Entry Test’ (Subject Test). All candidates must be proficient in spoken and written English.

**ADMISSION & ENROLMENT PROCEDURE**

An Admission Committee, constituted by BASR to supervise the process of admissions. Admissions shall be made purely on the basis of merit based on University Entrance Test.

**ENTRANCE TEST PATTERN**

**SINGLE BEST MULTIPLE CHOICE QUESTIONS**

1- Subject applied for..........................80%
2- Write-up of research interest..............20%

**Note:** 50% passing marks in entrance test are mandatory to be eligible for merit consideration.
A test equivalent to GRE test will be necessary for admission to M. Phil/MS leading to Ph.D. those without GRE at the time of admission must pass GRE test within six months of admission.

- The admission committee will recommend the list of selected candidates to BASR/VC for final approval.
- The number of students each year for admission in each discipline shall be decided by the Admission Committee with consultation of the Dean and Heads of the Basic Sciences Departments, approved by the BASR/VC.
- The prospective candidate shall make an application for admission in response to advertisement, on a prescribed proforma along with relevant documents as specified in the admission form.
- The candidates for admission who are in Government service, shall route their application through proper Channel, accompanied by a NOC certificate from the employer and they will have to obtain ‘Study Leave’ for the specified period of the program.
- All the candidates shall have to undertake a bond at the time of registration.
- Students dropped or struck off the rolls of the university teaching departments due to shortage of lectures, poor performance, non appearance in examination, non payment of dues, poor performance or action on disciplinary grounds etc. shall not be granted admission.
- Following candidates will not be eligible for the admission:
  - Anyone who has been rusticated or expelled by any university or college for misconduct or use of unfair means in the examinations or any offence involving moral behavior.
  - Anyone who was admitted earlier to postgraduate program but later was declared to have ceased to be a student of the university as per rules and regulations.
  - All admissions made in contravention of these regulations shall be void.

**REGISTRATION**

All the students shall have to register for the course of study at the beginning of each session in the prescribed manner, within 15 days of the commencement of the academic session.
STUDENTS DISCIPLINE

- All students shall abide by the Student Conduct Rules, of Dow University.
- No student shall undertake any employment during the course of Study.
- No student shall take part in any political activities or form any student union, association or any other organized body.
- No students shall, through a document or by any communication, should approach the press or media, in his own capacity or though an association. **VIOLATION OF THESE RULES SHALL ENTAIL RUSTICATION / EXPULSION UNDER THE PROVISIONS OF THE UNIVERSITY ORDINANCE.**
SELECTION BOARD OF IBMS

- Prof. Masood Hameed Khan (Vice Chancellor, DUHS)
- Prof. Masood Qureshi (Program Director)
- Prof. Zeenat Ayoob
- Prof. Zia Iqbal
- Prof. Nazeer Ahmed
- Dr. Talat Mirza
- Dr. Meher F. Hansotia
FACULTY OF IBMS

Department Of Anatomy
- Prof. Dr. M. Zia Iqbal, MBBS, M. Phil
- Prof. Dr. Raheel Irfan, MBBS, M. Phil
- Dr. Khalida Perveen, MBBS, M. Phil
- Dr. Muhammad Rafique, MBBS, M. Phil
- Dr. Syed Samiullah, MBBS, M. Phil

Department Of Biochemistry
- Dr. Nadeem Alam, MBBS, M. Phil
- Dr. Zeba Haque, MBBS, M. Phil
- Dr. Fauzia Imtiaz, MBBS, M. Sc, M. Phil, Ph. D
- Dr. Ruksana Rubeen, MBBS, M. Phil

Department Of Pharmacology
- Prof. Dr. Tariq Sharafatullah, MBBS, M. Phil
- Dr. Nasim Karim, MBBS, MPhil (SMC)
- Dr. Syed Saud Hasan, MBBS, M. Phil
- Dr. Nasimullah Siddiqui, MBBS, M. Phil
- Dr. Farooq Alam, MBBS, M. Phil

Department Of Physiology
- Prof. Dr. Zeenat Ayoob, MBBS, M. Phil
- Prof. Dr. Masood Qureshi, M.Sc., Ph.D.
- Dr. Masroor Bukhari, PhD
- Dr. Nighat Rukhsana, MBBS, M. Phil
- Dr. Dr. Kelash Nankani, MBBS, M. Phil
- Dr. Nusrat Zareen MBBS, M. Phil
- Miss Hussan Bano, MSc, M.Phil
- Miss Neelofer Sultana, MSc, M.Phil

Department Of Pathology
- Dr. M.Rafique Khanani, MBBS, M. Phil
- Dr. Talat Mirza, MBBS, Ph. D.
- Dr. Khursheed Hasan Hashmi, MSc, PhD (SMC)
- Dr. Shaheen Sharafat, MBBS, MPhil, PhD (DIMC)
- Dr. M.Saleem Khanzada, MBBS, M. Phil
- Dr. Imtiaz Hussain, MBBS, MPhil (DMC)
- Dr. Muhammad Akbar Agha, MBBS, DCP, M. Phil
VISITING FACULTY

- Prof. Dr. A. Naeem Jaffery, Academic Advisor, Ziauddin Medical University
- Prof. Dr. H. R. Ahmed, Dean & Prof. of Physiology, Ziauddin Medical University
- Prof. Rashida Qasim, SIUT
- Prof. Dr. Tashmeem Razzaki, Prof. of Microbiology, SIUT
- Prof. Dr. Muhammad Ishaque, Prof. of Biochemistry, Sir Syed College of Medical Sciences for Girls
- Prof. Dr. Rana Muzaffer, SIUT
- Prof. Dr. Shahid Rasheed, Liaquat College of Medicine & Dentistry
- Prof. Dr. Shaikh Saeed, HEJ Research Institute University of Karachi
- Prof. Dr. Shahana Urooj, Prof. of Immunology, University of Karachi
- Prof. Dr. Anwar Gailani, Aga Khan Medical University
- Prof. Dr. Anwar Ahmed Siddiqui, Director, Postgraduate Studies, AKU
- Prof. Dr. Shamshad Zareena, Prof. of Biochemistry, University of Karachi
- Prof. Dr. Nusrat Qadeer, Prof. of Microbiology, University of Karachi
- Prof. Dr., Abid Azhar, Co-Director, KIBGE, University of Karachi
- Prof. Dr. Kaneez Fatima Shad, Panjwani Center of Drug Research, University of Karachi
- Prof. Javed Altaf Baig, LNH
- Dr. Khalid Zafar Hashmi, SIUT
- Dr. Tahir Shamsi, Bismillah Taqi Hospital
- Dr. Parveen Zaidi, CSO, Kiran Hospital
- Dr. Shakeel-ur-Rahman, University of Karachi
- Dr. Asghar Medhi, FJDC
- Dr. Sydqa Syed, FJDC
- Dr. T. Shamsi, Bismillah Taqi Hospital

DUHS RELATED STAFF

- Prof. Dr. Nazeer Ahmad, Prof. of Statistics, Director Research DUHS (Foreign Faculty HEC)
- Dr. Syed Khaqan Hasan, M.Sc., Ph.D. (Eminent Scholar, HEC)
- Dr. M. Ilyas, MBBS, MPhil (Professional Training Center)
- Dr. Abdul Wahid Usmani, PhD, Director Quality Enhancement Cell, DUHS
- Dr. Mehjabeen, MBBS, MPhil (Research Department)
- Dr. Rukhsana Rubeen, MBBS, MPhil (Professional Training Center)
- Dr. Zulfiqar Shaikh (DMC)
# Academic Program

- **Two Semesters Per Year**
  - Spring (May - Oct)
  - Fall (Nov.-April)

- **Each of 18 Week Duration**
  - 16 teaching weeks & two for exams
  - There may be a summer semester
  - For those desirous of deficiency courses to make up for improvement or failure status

- **Candidate with an M Phil Degree Can**
  - Move into Ph. D program after obtaining minimum GPA 3.00
  - To study for additional minimum of 18 CR Hr followed by comprehensive examination along with theses defense
  - The program involves both theoretical & research components

<table>
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<tr>
<th>YEAR</th>
<th>SEMESTER</th>
<th>Cr Hr</th>
<th>Type of Study</th>
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<tr>
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<td>Core courses + courses of major discipline, Internship</td>
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<td>Second</td>
<td>12</td>
<td>Core courses + courses of major discipline Supported &amp; Skill related courses, internship</td>
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<td>2</td>
<td>First</td>
<td>09</td>
<td>Supportive &amp; Skill related courses + Workshop, Internship, research work</td>
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<td>Second</td>
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<td>Research Seminar, Research publications Research thesis compilation and submission</td>
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**Entering into Ph. D Program**

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<td>Core Courses, Advanced course for major subject + Support and Skill related courses, Internship, Research work.</td>
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<td>Research Seminars, Research paper publication, Workshops/ Conferences, Research work, thesis compilatin &amp; submission.</td>
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## DISTRIBUTION OF CREDIT HOURS

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<tr>
<th>COMPONENTS</th>
<th>M. Phil</th>
<th>Ph. D.</th>
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<td><strong>THEORY:</strong></td>
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<td>Major</td>
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<td><strong>RESEARCH:</strong></td>
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<td>Skills / Support</td>
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<td>Research work/thesis</td>
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<td><strong>TOTAL</strong></td>
<td>42 Cr Hrs</td>
<td>30 Cr Hrs</td>
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# Teaching Program & Schedule for M. Phil

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<th>COURSE #</th>
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<td>BMS 701</td>
<td>Fundamentals of Molecular Biology</td>
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<td>Research</td>
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OVERVIEW OF M.PHIL PROGRAMME

1. Advertisement & Entrance Test
2. Interview & Selection
3. First Semester (16 weeks)
   - Examination (2 weeks)
   - Semester Break 2 weeks
4. Second semester (16 weeks)
   - Examination (2 weeks)
   - Semester Break (2 weeks)
5. Third semester (16 weeks)
   - Examination (2 weeks)
   - Semester Break (2 weeks)
6. Fourth semester (16 weeks)
   - Examination (2 weeks)
   - Thesis Presentation
   - Thesis Submission
7. Comprehensive Examination and Viva Voce,
   Thesis Defense on thesis reports Approval

Formulation & Presentation of Synopsis

Research Work
- Research Seminar

YEAR ONE

YEAR TWO

CONTINUOUS ASSESSMENT
Admission Procedure
FOR
M. Phil and PhD Program

1. SELECTION BOARD:
   - Prof. Masood Hameed Khan
     Vice Chancellor, DUHS
   - Prof. Masood Qureshi
     Program Director
   - Prof. Zeeat Ayub
   - Prof. Zia Iqbal
   - Prof. Tariq Sharafat-ullah,
   - Dr. Meher F. Hansotia,
   - Prof. M. Nazeer Khan
   - Prof. Raeesa Anjum
   - Dr. Talat Mirza

   The decision of the selection board shall be final.
   
   If considered necessary, the selection board may investigate any document, and may call any candidate for that purpose.

   The selection board shall have the discretion to refuse admission to any candidate, who indulges in violence, uses abusive language, becomes insolent or misbehaves with the members of the selection board.

   The selection board shall not consider any candidate for admission if he/she is found to be involved in any form of unfair means / fraud at any stage of selection.

   - In case of any controversy or query, the decision of the selection board shall be final.

2. SUBJECT & ALLOCATION OF SEATS

   - Anatomy ...............06 Seats
   - Physiology ..............06 Seats
   - Biochemistry ...........06 Seats
   - Pharmacology ...........06 Seats

   - Pathology ...............  
     - Hematology ............2 Seats
     - Histopathology ........4 Seats
     - Microbiology ..........4 Seats
     - Molecular Pathology
       and Genetics ............4 Seats

   Candidates will have to bring a payorder of Rs. 55,000/- (Fifty five thousand only) in favour of Dow University of Health Sciences, for admission and first semester fee at the time of final allocation of seat on the specified date.

   - Semester fee of Rs. 40,000/- (Forty thousand only) for next semester will have to be paid at the time of obtaining admit card of previous semester examination in case of default the candidate will not be able to appear in the examination.
3. **ELIGIBILITY ADMISSION AND ENROLLMENT PROCEDURES**
   - As prescribed by the Admission Committee (HEC /PMDC eligibility criteria) approved by the BASR by:
     - The University Admission Committee & Controller of Examination
     - To supervise the process Admission shall be made on the basis of merit
   - Criteria:
     - MBBS from a university recognized by PM&DC
     - One year house job in a medical institution recognized by the PM&DC
     - Candidate with Master’s degree (1st Division) in biological related discipline can also apply

4. **MERIT LIST FORMULA:**
   - The merit of all candidates will be based on total marks obtained in the entrance test.
   - In case there is a tie in entrance test marks candidate having higher marks in the prior exam will be selected.

5. **ADMISSION REQUIREMENTS:**
   - Original Application form (in the prospectus) should be submitted, alongwith the required documents.
   - Application should also be submitted online at our website: [www.duhs.edu.pk](http://www.duhs.edu.pk)
   - Two Photocopies of all required documents mentioned at No. 6, should be sumitted with the application form.

6. **DOCUMENTS REQUIRED:**
   - Two attested Photocopies of the following documents must be attached with the application form:
     - MBBS Degree with valid PM&DC Certificate.
     - House Job Certificates.
     - Masters degree of biological related disciplines (If applicable).
     - Sindh Domicile of Father.
     - National Identity Card (NIC) issued by NADRA of Father.
     - Sindh Domicile of the Candidate.
     - Candidate’s Permanent Residence Certificate (PRC).
     - Candidate’s National Identity Card (NIC) or Form ‘B’ of NADRA.
     - Candidate’s Six recent Passport Size Photographs with name (3 Attested from Front and 3 from back).
     - A certificate of affidavit / declaration, with statement to abide by the rules and regulations of admission.
     - Bank Challan of Rs. 1500/-

7. **ENTRANCE TEST:**
   - All eligible candidates will have to appear in the ENTRANCE TEST on specified date:
- In complete applications will be rejected.
- This Entrance Test will be valid only for the current session of admission.
- The admit card for entry test will be dispatched via courier.
- In case the admit card is not received by the candidate by 27th March 2009 he / she should contact University on email: admissions@duhs.edu.pk.
- The entrance test will be based on MCQ’s from biological related disciplines. Curriculum and personal statement on chosen speciality.

**NOTE**
Please keep visiting DUHS website for any notices or changes.

8. **CLOSING DATE OF ADMISSION**:
- Admissions in all categories will be closed after 15 (Fifteen) days of the academic session and then no candidate will be admitted.
- If at any stage of the course, it is proved that the candidate has been admitted on the basis of false/incorrect documents, his/her admission will be cancelled immediately by the University, after giving him/her an opportunity through a show cause notice and receiving a reply within 7 (seven) days. The entire fee paid by him/her will be forfeited and the University will have the right to take any legal action against the candidate as per law.
- Any case of fraud or tampered document will be notified to all medical institutions of the country. Such a candidate will be debarred from getting admission in any institution and will be imposed a fine of Rs. Fifty thousand (50,000) after a show cause notice of seven days.
RULES AND REGULATIONS

1. Attendance will be taken separately during theory classes, practicals and subject training, separately.

2. 80% attendance is mandatory to be eligible for examination.

3. Leave applications are not only necessary for the purpose of attendance but also for information about health and whereabouts of the student.

4. Any student who is absent for seven days or more from the lectures, demonstrations or subject training without prior permission will not be able to continue the course.

5. Leave applications must be submitted three days prior to the date of availing leave, except for emergency leave.

6. The student must display the identity card, issued by the DUHS, while in the premises of the Institute/affiliated hospitals.
DOW UNIVERSITY STUDENTS CONDUCT RULE

1. Institute of Basic Medical Science (IBMS) will have a disciplinary committee to deal with all disciplinary matters.
2. The disciplinary committee of the Institute is empowered to take any disciplinary action on cases reported by
   the Director of the respective institute.
3. Any student who’s name appears in the F.I.R. pertaining to any non-bailable offence as specified in the criminal
   procedure code (Cr.P.C.) will be suspended. During the pendency of the case he/she will not be allowed to attend
   classes or take up any examination.
4. The action for situation warranting suspension, rustication or expulsion will be according to the specified
   procedures as follows:-

   **PROCEDURE**

   a) The Director may initiate action against any student of the Institute and recommend the case to the disciplinary
      committee of the Institute for suspension, rustication or expulsion, as the case may be.

   b) Before taking any action, the Director shall serve a show cause notice to the student indicating briefly the charges
      against him. The concerned student will have to give a written reply within seven days after which action will
      be finalized by the disciplinary committee, than the student will not be entitled to personal hearing.

   **STUDENTS CONDUCT RULES**

   1. No student shall form society/ association/organization.
   2. No outside person will be invited by the students to address any meeting of the Institute.
   3. Students union will not be formed without the prior permission of the Director of the Institute.
4. The Director can issue disciplinary orders of permanent or temporary nature from time to time to regulate the conduct of the students within the Institute.

5. Students will not be permitted to do any job, such cases will be reported to the disciplinary committee.

6. If any student wants to publish his literary article, he/she must get the approval of the draft by the Director and also required to submit the copy of the draft for record purposes.

7. Students will not be allowed to address the national press on any of the following topics:
   a) Any Politically related issues.
   b) Matters directly or indirectly connected with the administration of the Institute.
   c) Matters pertaining to the policies of Government.

8. Students are forbidden to address higher authorities directly. Any communication intended for higher authorities needs to be routed through the Director.

9. Smoking, use of drugs and other activities prejudicial to the conduct of the class are prohibited.

**SUSPENSION**

A student shall be liable for suspension upto six months if he/she commits any of the following act:-

1. Uses unfair means during examination:-
   The Director can suspend any student who is found indulged in unfair means during examination. Further action against him will be taken by the committee for breach of the rules and regulations. He/She will not be allowed to appear in the remaining papers for the examination till the final decision by the committee.

2. Misbehaves or quarrels with any teacher or member of the staff.

3. Is generally disobedient.

4. Spreads false rumours.
5. Uses unbecoming, indecent or filthy language.
6. Incites other students to violence.
7. Is inappropriately dressed.
8. Shouts, abuses, quarrels or fights with the fellow students.
9. Raises slogans to hurt others, politically or religiously.
10. Interferes with the administration, including the mode or schedule of the examination.
11. Indulges in acts of immorality.
12. Indulges in any kind of political activity including displaying posters or playcards within the Institute.
13. Remains absent continuously for more than 4 weeks without prior permission.

**RUSTICATION**

A student may be rusticated by the disciplinary committee of the Institute for a period up to 3 years due to any of the following acts:-

1. Taking forceful possession, making unauthorized use or damaging any University/Institute property.
2. Involving himself in any agitational activity.
3. Found indulging in activities, prejudicial and detrimental to the good order of the Institute.
4. Adopting unfair means during examination.
5. Disobeying an order of suspension passed against him/her.
6. Any other act, which the Director or the disciplinary committee considers inappropriate.
7. Any body who does not submit the prescribed undertaking about non-involvement in political activities.

**NOTE :-**
Any student suspended or rusticated for the reasons mentioned above shall not be allowed to appear in the examinations.
EXPULSION

A student is liable to be expelled from the Institute by the disciplinary committee, if he/she commits any of the following act and this order shall be final and irrevocable. If he/she:

1. Is found in possession of fire arms or lethal weapons or Narcotic drugs in the Institute premises, hostels, examination halls, teaching hospital or any other area as specified by the University administration.
2. Remains absent for more than three months without permission of the Director, his / her admission shall be cancelled by the disciplinary committee of the Institute.
3. Is convicted by a court of law for any criminal act.
ELIGIBILITY FOR EXAMINATION

1. The final examination shall be held at the end of each semester.
2. All examinations shall be based on MCQs and SEQ papers.
3. The student will be graded in each course as per university rules, securing at least 70% in each course; the distinction shall be awarded only if cleared in first attempt
4. 70% attendance in each course is required to appear in the final examination.
5. The candidate must clear at least 80% of the courses (or Cr. Hr) for promotion to the next session.
6. The candidate shall have to pass the examination in a maximum of 3 attempts to enable him/her to continue his/her studies; Alternately, he may be allowed to change the subject/ discipline -readmission to be approved by BASR.

ACADEMIC RECORD

1. Academic record of every student will be maintained by the Institute.
2. The progress of the student or the academic record will be communicated to their parents / guardian
LIBRARY

1. The library will remain open on every working day during the prescribed hours and the students will have to follow the rules of the library.
2. Books and journals will be issued to the students only after deposit of their identity cards with the librarian, which will be returned after the books are returned.
3. Students are not permitted to take the books outside the library.
4. The book card placed (in the end of the book), must be delivered to the librarian after signature, before the book is taken away while at the time of returning the book, check that the card is promptly replaced with return entries.
5. Any student, who loses, defaces or otherwise seriously damages any book is liable to replace the same or pay the cost of replacement and if the book is one of the set or series, the cost of the whole set or series will be charged from the concerned student.
7. A suggestion book is available in the library, where in suggestions can be made by the students.
8. Students can have books from the lending library which will be organized by the students themselves under the guidance of university administration.

IDENTITY CARD

After admission every student will be issued a non transferable identity card having a photo duly signed by the Director, this card must be kept by the student within the premises. Duplicate cards will not be issued except under special circumstances and after payment of Rs. 50/- only.
DECLARATION/UNDERTAKING / AFFIDAVIT ON STAMP PAPER

To be produced once provisional admission is offered

I, _____________________________ S/o ____________________________ selected for the Institute of Basic Medical Science (IBMS), DUHS, Karachi.

1. I will abide by rules and regulation of this Institute enforced OR. as amended from time to time.

2. The result of the Evaluation Test will be fully acceptable to me and I will not dispute it in any case.

3. I will not ask for any change of subject at any stage of the course. I will not object to any change in the period of the course.

4. I will not be involved in any sort of political, linguistic and sectarian activities neither I will organize OR become member of any political student party / organization or any student grouping.

5. I will not dispute / challenge the Diploma/Degree issued by the DUHS, Karachi in the court of law and neither liaison with any Newspaper.

6. I will not object if the security deposit is fore-fitted due to termination from the course on disciplinary grounds OR discontinuation due to personal reasons.

7. Damage to the installations/items can be recovered from the security deposit.
8. In case of expulsion / termination from courses on basis of gross misconduct / violence / terrorism I will not challenge the decision in any court of law in Pakistan.

9. I accept that continuous absence for more than 15 days without prior information may lead to termination from the course by the authorities concerned.

10. I will abide by all the rules and regulations of the course, student conduct and library etc as mentioned in the prospectus.

11. I undertake that if I am found involved in any unlawful activity or providing incorrect information at any stage, the institute shall have the right to cancel any admission without assigning any reason.

Signature of Father/Guardian_________________________   Signature of Student_________________________

N.I.C. No. ___________________________   Student of ___________________________

Witness ___________________________   Session ___________________________

N.I.C. No. ___________________________   Date: ___________________________
RULES FOR THE PAYMENT OF FEE:

1. Fee is non-refundable.
2. Fee for the 1st & 2nd semesters, will have to be paid at the time of verification of documents and allocation of seat alongwith the admission fee.
3. Fee for the 3rd & 4th semesters will have to be paid at the start of third semester within 15 days otherwise the attendance will not be marked and the student will not be able to appear in any examination. Similarly fee for 5th & 6th semesters will have to be paid within 15 days of the start of 5th semester.
4. The fee may be revised by the University at any time during the course of the study.

FEE STRUCTURE

The prospective students shall be required to pay all the fees (registration and tuition and examination fee) and such other charges as and when prescribed by the University. The proposed fee structure is as follows:

A) Admission fee --------- 10,000/- Rs.
B) Tuition fee -------------- 120,000/- Rs. (for two semesters 60,000 per semester)
   TOTAL ------------------ 130,000/- Rs. (to be paid at the time of admission)
   - Extra Course fee ------ 15,000/- Rs. (Core & Major Courses)

For repeaters, fee will be charged according to the University rules and regulations
## SCHEDULE OF ADMISSION
### INSTITUTE OF BASIC MEDICAL SCIENCE (IBMS)

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<thead>
<tr>
<th>S.No.</th>
<th>Schedule</th>
<th>Date</th>
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<tbody>
<tr>
<td>1</td>
<td>Date for inviting applications</td>
<td>01\textsuperscript{st} March 2009</td>
</tr>
<tr>
<td>2</td>
<td>Last date for submitting applications</td>
<td>21\textsuperscript{st} March 2009</td>
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<tr>
<td>3</td>
<td>ENTRANCE TEST</td>
<td>29\textsuperscript{th} March 2009</td>
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<td>4</td>
<td>Interview and verification of original documents and Final allocation of seat</td>
<td>11\textsuperscript{th} April 2009</td>
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<td>5</td>
<td>Start of Semester</td>
<td>04\textsuperscript{th} May 2009</td>
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