



HYDERABAD CAMPUS

ISRA UNIVERSITY

PROSPECTUS 2020 – 21



VISION STATEMENT

“Excellence in education and knowledge creation with empathy for societal development”

MISSION STATEMENT

“To impart quality education, foster scientific research and entrepreneurship, and produce graduate with strong interpersonal skills, responsibility and ethical values to serve their profession and the society”

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The Campus is located 5 kilometers away from the city center, in the backdrop of agricultural land, on the national highway locally known as Hala Road. It is approachable by the fast moving Hyderabad bypass, which is only 2 kilometers to the north of the Campus. Frequent public transport, operating along Hala Road, provides a regular access to the Campus from the city center, as well as nearby settlements on the outskirts of Hyderabad.

The Imam of Haram-al-Makki laid the

foundation of the Campus in 1986, and the construction activities started in 1989. The four most distinctive buildings on the Campus are the Academic Block, the 300-bed Isra University Hospital, 300-bed Isra University Welfare Hospital and the Jamia Masjid.

These, together with newly built addition to Academic Block on its south side and several ancillary buildings and elaborately laid down infrastructure spread over an area of 20 acres, give this purpose-built campus a touch of

architectural beauty and splendor. The infrastructure incorporates water treatment and distribution installations, waste water collection and solid waste disposal facilities, ground and surface water collection and disposal systems, power, gas, and communication networks, radio based telecommunication link and standby power generation facility. Well-laid parking lots, roads, and trees and plantation of a wide variety of foliage and flowers contribute to the landscape.





Academic Block

This comprises of three buildings. Block A, which houses the University Administration, the Basic Medical Sciences Division of the Faculty of Medicine & Allied Medical Sciences. Block B, which houses the Faculty of Engineering, Science & Technology and Faculty of Commerce, Economics & Management Sciences. Block C houses the Isra School of Nursing & Isra Institute of Rehabilitation Sciences, skills lab, computer lab, classrooms, laboratories, lecture halls and the library, as well as offices of the teaching staff. All three blocks are well furnished with air conditioners, including classrooms.

Isra University Hospital (IUH)

The 300-bed unit integrates the modern facilities at general and sub-specialty levels under one-roof. It has well-equipped clinics in General Medicine, Surgery, Cardiology, Cardiac Surgery, Gastroenterology, ENT, Eye, Gynecology, Neurology, Neuro Surgery, Nephrology, Oncology, Orthopedics, Pediatrics, Psychiatry, Pulmonology, Skin, and Urology. The hospital is proud to have highly advanced diagnostic equipments, ISO certified laboratory, pharmacy with complete range of drugs, fully furnished private AC/Non AC and deluxe rooms, general wards and daycare surgery facility. Isra University Hospital is also the pioneer in introducing services in Hyderabad and interior Sindh like the band ligation facility to control gastric bleeding, removal of gall stones through laparoscope, the eye-care services among others cover botox, bronchoscopy, EEG, EMG, nerve conduction study, and spirometry. Some of the services that are very specialized, include primary PCI (immediate angioplasty after heart attack) and open heart surgery. Renal Dialysis Unit with a facility of complete consultation and emergency dialysis is also available in the Hospital. The hospital has four operation theatres equipped with state of the art surgical and monitoring facilities. These are supported by a superb recovery room that has life saving monitors and machines, as well as special pain relief services, a separate maternity suite where epidural service for painless delivery is offered under international protocols.

Isra University Welfare Hospital

The Isra University Welfare Hospital has been

created to provide quality health care to the needy people on non-profit basis in all fields of medicine and surgery. This unit provides 300 bedded facility next to Isra University Hospital connected by bridge to allow free movement of patients, trolleys and medical staff between two units. A patient pays only rupees ten in OPD for registration, screening and examination by consultant if required, along with 3 days off the counter free medication. Highly subsidized packages are offered for admitted patients where only consumables are charged from them. Patients who even can't afford subsidized package are partly or fully supported through available Zakat Fund after satisfying the committee members consisting of notable persons of repute and not belonging to the staff of Isra University Hospital.

Isra Dental College

Isra Dental College (IDC) provides education in dental surgery at under and post-graduate levels. The College is housed in purpose-built



building and supported by hightech laboratories and clinical equipment. The IDC Hospital is manned and equipped to provide tertiary level

dental care.

Jamia Masjid

This elegantly built Masjid was the first building to be erected on the Campus. It has a capacity of 1000 worshippers.

Library

The library stocks more than 10,000 textbooks, reference works and local as well as international journals to meet the needs of the students and the faculty. Together with an online Internet facility, it has a growing collection of audio, video and multimedia resources that help the students and the faculty to explore information available worldwide. The library facilities are housed in three different buildings. Block A essentially contains books on basic medical sciences, physical therapy, nursing and some other subjects, while the books and periodicals on clinical sciences are housed in the hospital premises. The reading material pertaining to computer and management sciences is housed in Block B of the University. The University also has access to a vast collection of research journals accessible through the digital library program sponsored by the Higher Education Commission of Pakistan.

Canteen

The canteen offers regular meals and snacks at reasonable prices. It caters for the faculty,





students, staff, patients and visitors. Various kiosks in student areas serve snacks and soft drinks.

PERN Connection

High speed internet access is provided to the university community through Pakistan Education and Research Network (PERN), subsidized by the Higher Education Commission of Pakistan.

Computing Services

The computing services include a campus wide

backbone that links all the computers with the central server. In addition to separate computer laboratories for post graduate students, several computer laboratories comprising high speed machines are open to students, teaching staff, and for general computing tasks. The laboratories are equipped with web cameras for conducting in-house video and audio conferencing and software development. The University has developed an integrated in-house system for complete automation of its functions and procedures, including finance and account, inventory, library services,

personnel management, student activities, examination system, general and hospital administration.

Sports Complex

The multi-purpose sports complex provides facility for cricket, football, tennis, basketball, table tennis, badminton and athletics. The newly constructed ground is also equipped with modern floodlights to facilitate night tournaments.



Faculty of Medicine & Allied Medical Sciences

Mortuary Ophthalmology Library
Paediatrics Anatomy Pathology
Surgery Physiology Gynaecology
Nursing Community Medicine
Forensic Medicine Otorhinolaryngology
Internal Medicine Biochemistry
Doctor of Physical Therapy





Faculty of Medicine & Allied Medical Sciences

The Faculty of Medicine & Allied Medical Sciences is committed to academic excellence in medical, rehabilitation sciences, vision sciences and nursing education. It caters for the urgent need for community oriented, competent, dedicated and above all caring medical doctors, vision scientists, physical therapists and nurses who through their comprehensive understanding and acquisition of relevant skills can deal with the health problems of the people.

The academic year runs from January to December (Classes of new batch 2020-2021 will start from January 2021).
The Faculty of Medicine and Allied Medical Sciences is divided into four constituent divisions:

- Division of Basic Medical Sciences
- Division of Clinical Sciences
- Division of Allied Medical Sciences [Nursing, Physiotherapy, Paramedical Technologies]
- Division of Ophthalmic Sciences

The first two divisions, at undergraduate level, offer Bachelor of Medicine and Bachelor of Surgery (MBBS).

Furthermore, division of Basic Medical Sciences at postgraduate level offers M. Phil degrees in Pathology (Histopathology, Hematology), Pharmacology, Physiology, Anatomy and Biochemistry. Ph.D in Hematology, Histopathology, Physiology, Biochemistry, Pharmacology and Anatomy.

The Division of Clinical Sciences offers MS degree in General Surgery, Gynecology & Obstetrics and Ophthalmology; MD degree in General Medicine, Pediatrics, Gynaecology, Cardiology. Diploma courses in DGO, DO, Dip Card and DLO.

The Division of Allied Medical Sciences offers Bachelor of Science in Nursing, Doctor of Physical Therapy and several other programs in paramedical technologies.

Besides these, the Division conducts residency program for postgraduate degree (MCPS/FCPS) from College of Physicians and Surgeons of Pakistan. The approved fields of residency are Ophthalmology, Pediatrics, General Surgery, Internal Medicine, Gastroenterology, Nephrology, Gynecology & Obstetrics and Anesthesiology.





BACHELOR OF MEDICINE & BACHELOR OF SURGERY

The MBBS degree is a five-year program of 236 credit hours. The first two years mostly cover the pre-clinical studies in basic medical sciences. The courses taught in the pre-clinical years deal with the normal structure and function of the organs of the body. The program also incorporates community-oriented medicine, biostatistics and preliminary clinical medicine.

In the subsequent years of clinical education and training, the students gain a broad systematic knowledge of para-clinical, medical and surgical subjects. The clinical teaching is mainly performed at Isra University Hospital and Isra University Welfare Hospital. It prepares the students to learn how the disease process affects the body, and provides them necessary skills to examine, investigate and treat the patients.

During the clinical period, the students are also exposed to clinical laboratories and hospital wards where they get an opportunity to become

familiar with the most commonly encountered health problems. From time to time, the students are also required to participate in clinico pathological conferences to integrate various aspects of a particular disease.

Courses of Study

The curriculum conforms to the rules and regulations laid down by the Pakistan Medical Commission (PMC). It aims at stimulating the cognitive, affective and psychomotor domains of learning. There are two broad categories of subjects covered in the MBBS program, namely basic medical sciences & para-clinical and clinical subjects.

PMC now requires that throughout the tenure of MBBS program the courses are to be taught in integrated system-based modular form. During the first two years the major thrust [80%] is on basic medical sciences and during the following years on the clinical sciences. Thus, the total period of training is five years before a student qualifies to practice medicine.

Anatomy (Contact hours 600)

The subject matter is structured to give an understanding of the cell biology, gross anatomy, microscopic anatomy (histology), neuro anatomy and embryology with emphasis on clinical implications. The subject is taught with the help of models, dissected cadavers, projections, films, CDs, slides, and other audiovisual aids. MDAT 111, 212.

Physiology and Behavioral Sciences (Contact hours 600)

The discipline of physiology includes the study of living systems from sub-cellular and cellular levels to organ function and whole body behavior. The topics covering the major organ systems of the body include cardiovascular, digestion, respiration, internal homeostasis, voluntary and involuntary motor control, energy balance and geriatric physiology. Experimental work in physiology is designed to include and illustrate important physiological concepts and measurements. The use of advanced recording and monitoring equipment and techniques is



demonstrated, emphasizing the importance of precise recording and analysis of data in the solution of medical problems. MDPL 121, 222.

The discipline of behavioral sciences include the study of consciousness and its altered states, psychological development of learning, memory, personality and human motivation in health and illness. MDBS 223.

Biochemistry (Contact hours 300)

The science of biochemistry is fundamental to the understanding of relationships between the structure and function of bio molecules in the human body. Students are taught those areas of biochemistry that are important for the understanding of nutritional, metabolic and genetic

disorders, relevant to common disturbances of body functions, gene structure and its function. The course is integrated with concomitant studies of the morphology and physiology of the human organ systems. Experimental work in biochemistry highlights important clinical applications of biochemical tests. Methods of biochemical analysis by various techniques are used for separation, identification, and measurement of bio molecules relevant to clinical sciences. MDPC 131, 232.

Pharmacology & Therapeutics (Contact hours 300)

The science of pharmacology is concerned with the effects of drugs on the cells, organs of human

beings, influence of drugs on cellular mechanisms and the fate of drugs in the body. The teaching of pharmacology is limited to general principles of pharmacokinetics and pharmacodynamics of groups of commonly used drugs. The course also contributes to studies in the clinical disciplines in which the therapeutic uses of drugs and an appreciation of adverse drug reactions form an essential part of the preparation of clinical practice. Experimental work in pharmacology is aimed at the demonstration of actions of drugs on isolated tissues and living subjects. MDPM 351.

Pathology (Contact Hours 600)

This subject includes general and special pathology, clinical and chemical pathology,

microbiology, hematology and immunology. The general pathology presents a scientific study of diseases, the genetic basis of some diseases, the body's normal responses to noxious environmental stimuli and the principles of homeostasis. Abnormal and deleterious effects of the immune responses, neoplasia, infection and metabolic derangement constitute an important part of the course. The course on microbiology consists of bacteriology, mycology, virology, immunology and parasitology. Emphasis in microbiology is given on the knowledge of various infections in humans and the application of this knowledge in the diagnosis and management of infectious diseases. Practical work in the laboratory complements instruction delivered through in lectures and tutorials. Teaching of general principles is supplemented by experimental work. Students are trained in collection of various specimens for analysis and performing commonly used tests. MDGP 341, MDMB 342, MDSP 343.

Forensic Medicine & Toxicology (Contact hours 100)

Students are taught the legal aspects of medical practice and the legal implications of medical disorders, in collaboration with the departments of pathology, pharmacology, hospital casualty, and other clinical sciences. The emphasis is placed on those legal aspects of medicine that a

young medical graduate may be expected to face in professional life. MDFM 344.

Community Medicine / Public Health Courses

M.Phil Course Community Medicine Major (Total credit hours 12)

Community Medicine is important field for Promotion of health, maintenance of optimal level of Health, control of communicable and Non-communicable Diseases, prevention of diseases causing epidemics and pandemic as well making health care system efficient and sensitive to community needs. Primary Health Care Services follows the gnitatio as agreed at Alma Ata Declaration 1978 to achieve Health for All, now Sustainable Development Goals (SDGs) and Astana Declaration 2018 of Universal Health Coverage (UHS). This subject also deals to prevent pandemics like coronavirus COVID-19 that emerged in 2019-20.

The M.Phil course trains with latest evidence based interventions, teaching skills and research techniques in solving community health problems and developing teachers and researcher manpower for the current and future of country and the region.

The courses are: MDCM 667, MDCM 668.

Community Medicine Minor (Total credit hours 06)

The courses are: MDCM 669, MDCM, 670. Minor II (Compulsory) (Total credit hours 06) MDMP 791.

Synopsis Research Work and Writing Dissertation / Thesis (Total credit hours 12)

M.P.H (Master of Public Health) Course (Total credit hrs. 36)

The aim of the programme is to produce public health specialist having sufficient knowledge and attitude to plan, run and implement preventive services and programs with confidence. This is a two year program with 30 credit hrs. of course and dissertation 06 credit hrs.

The courses are : MDCM , 671,672,673 and 674. FCPS Community Medicine 4 year course as per CPSP & Isra University admissions and training rules.

MCPSP Community Medicine 2 year course as per CPSP & Isra University admissions and training rules.

Islamic and Pakistan Studies (Contact hours 40)

These courses, though not falling under basic sciences curriculum, are important for a medical student in Pakistan. The causes of ailments of body go beyond the derangement of physiological systems of body. Its roots go deep down in the society and culture of a diseased person.

Pakistani culture and moral values are derived from its religion, Islam. The courses consist of an overview of Islam as a religion, its contribution to human civilization, its concepts of moral values, and the chief characteristics of an Islamic society. While emphasizing the moral, constructive and reformative values of Islam, the students are guided to evolve their own codes of behavior with respect to medical ethics and relationships with patients and society.

HMPS 113, HMIS 114.

Computer Applications (Contact hours 40)

The subject involves rigorous training over 48 contact hours that enables students to use popular computer software packages and learn the





course related subject matter through computer simulated educational programs that are available at the Isra University library and elsewhere. CSMO 115.

Professionalism & Communication Skills

In today's competitive world, effective communication skills training is more essential than ever before. It is the foundation on which careers are built and a crucial component of lasting success. The communication skills and professionalism courses help young doctors to develop a truly engaging and responsive communication style, leading to positive professional attitude.

Clinical Skill Lab

The present domain of medicine demands high level of competency in both clinical examination and performance of procedures on patients. The

traditional methods of bedside skill learning and teaching are supplemented by instruction in clinical skills lab which serves as a fundamentally important method of teaching clinical skills.

Clinical Subjects

Clinical clerkships in various clinical disciplines are essential to develop basic clinical skills for accurate assessment, analysis, synthesis, and critical thinking, leading to appropriate diagnosis and management. Students are exposed to common health problems of the community. They spend much of their time in clinics, hospitals, and community health facilities, with less reliance on conventional classroom lectures. Students actively involve in the day-to-day management of patients in the wards, outpatient clinics, community health facilities, operation theaters, and so forth. They perform their duties under the supervision of their professors.

Clinico-pathological conferences are held and a multidisciplinary, integrated approach is adopted to correlate clinical presentations with pathology and include comprehensive management of health problems.

Obstetrics and Gynecology (Contact hours 300)

These courses cover concepts of childbirth, reproductive health, family planning and aspects of diseases specific to women. Students are assigned to take part in maternity & child welfare clinics and other community health facilities. While on duty in obstetrics and gynecology unit, the residence of student in the hospital premises is made compulsory so that they take active part in labor room procedures. MDOG 481.

Pediatrics (Contact hours 300)

Teaching of pediatrics includes understanding of

normal child growth and development, neonatology and theoretical as well as clinical aspects of diseases specific to children. The students are also familiarized with child health statistics and national health programs. MDPD 462.

Ophthalmology (Contact hours 100)

This is a very advanced field of surgery beyond the scope of undergraduate students to diagnose and manage all the common problems of the eye. However, the students are taught and trained to diagnose and manage minor common eye problems. They are trained to recognize and refer complicated eye problems to the concerned specialists. MDOP 472.

Otorhinolaryngology, ENT (Contact hours 100)

This is a very advanced field of surgery beyond the scope of undergraduate students to diagnose and manage all the common problems of the ENT. However, the students are taught and trained to diagnose and manage minor common ENT problems. They are trained to recognize and refer complicated ENT problems to the concerned specialists. MDOL 473.

Internal Medicine (Contact hours 600)

This field of study deals with medical diagnosis, treatment and care of a diseased person. It introduces the students to the art of history taking, teaches them the basic skills in performing the physical examination of patients, trains them to prescribe appropriate investigations, interpret the results rationally, to formulate their findings orally and in writing, and provide them with the basic knowledge needed to stimulate them to reach a reasonable differential diagnosis. Internal Medicine and allied specialties include, among others, disciplines like cardiology, dermatology, psychiatry, and radiology. MDMD 561.

Surgery (Contact hours 600)

Included under this broad heading are subjects of general surgery and allied specialties consisting of orthopedics, anesthesiology, radiotherapy and radiology. Students are taught the general principles, indications and contra-indications of common surgical procedures. Emphasis is laid on developing skills in aseptic techniques, dressing,

and mastering of minor surgical procedures along with pre and post-operative care of patients. Students are given the opportunity to observe the live operations of patients through closed circuit TV, and at times be physically present, to see the whole process from beginning to the end. In addition to this, training in the skills for giving local anesthesia, intubation and resuscitation is provided during clinical clerkship in anaesthesia. MDSG 571.

Clinico-Pathological Conferences (Contact hours 80)

Clinico-pathological conferences are held regularly in the fourth and final years. These conferences are held in rotation by the various units. The students are encouraged to use their knowledge and skills to gather relevant information, and present case studies employing an integrated approach involving concerned specialists. Students are encouraged to attend mortality and morbidity sessions in the hospital.

Furthermore, the conferences provide a platform for discussion of topics of practical importance, as well as updating and reviewing of specific clinical issues. This process also improves the students' competence and skills of public speaking and communication, and boosts up their ability to carry out literature survey, review the subject and become familiar with the art of report writing. MDCP 541.

Electives (Contact hours 150)

Students are encouraged to gain further experience in one or two clinical subjects or carry out research on some aspect of medical sciences during annual vacations. This requirement can be fulfilled by gaining the required experience either inside Isra University or its hospitals. In some instances, arrangements can also be made so that the same can be accomplished in accredited institutions in Pakistan or abroad. For outside work, students themselves have to bear the financial burden.



SUMMARY OF M. Phil PROGRAMS

| Scheme of Courses in Basic Medical Sciences | |
|--|--|
| M. Phil Program | |
| Minimum qualifications & entrance requirements | Five years Bachelor's degree (MBBS or equivalent) and one year house job in PMC recognized degree awarding institute |
| Duration | Minimum 2 years, maximum 3 years (1 extension with the approval of statutory body) |
| Coursework | 24 Credits |
| Research | 12 Credits |

STUDY SCHEME MPHIL PROGRAM OF BASIC SCIENCES

| | 1 st Semester (Probationary Period) | 2 nd Semester | |
|---|--|--|------------------------|
| Year one | <ul style="list-style-type: none"> • Major 4(3+1) • Minor-I 4(1+1) • Research Methodology 2(2+0) • Journal club 1(0+1) | <ul style="list-style-type: none"> • Major 4(3+1) • Minor-II 2(1+1) • Biostatistics 2(2+0) • Journal club 1(0+1) | Submission of synopsis |
| Credit Hours | (09) | (09) | |
| | 3 rd Semester (Probationary period) | 4 th Semester | |
| Year two | <ul style="list-style-type: none"> • Major 4(3+1) • Medical Education 2(2+0) • Research-I 3 | <ul style="list-style-type: none"> • Research-II 9 | Thesis defense |
| Credit Hours | (09) | (09) | |
| Compulsory workshop (Animal handling, instrumentation and biosafety) | | | |

Evaluation and examination

| Mode of assessment | Marks | Weightage |
|--|----------|-----------|
| Internal assessment | Semester | 20% |
| Continuous assessment test (02 Per semester) | 50 | |
| Semester examination (Each semester) | 200 | 80% |

Final Certifying Examination:

| | |
|------|---|
| i) | There shall be a final certifying examination after successful completion of the course work of the degree program. |
| ii) | Three external examiner & one internal examiner in addition to inspector from PMC (in first examination of the program only) will be invited in the final certifying examination to assess the candidate in the concerned subject. To pass final certifying examination, the candidate has to secure 60% marks in both theory & practical components separately. |
| iii) | |

Format of Examination

| S.No | Mode | Management | Distribution of marks |
|------|------------------------------|---|---------------------------------|
| 1 | CAT | Theory: 15 MCQs, 2 short essays | 25 |
| | | Practical examination | 25 |
| 2 | Semester examination | Theory: 50 MCQs, 04 short answer question, 02 long essay question | 100 |
| | | Practical examination | 100 |
| 4 | Final certifying examination | Theory: 50 MCQs, 04 short answer question, 02 long essay question | Paper I & II 100 + 100 = 200 |
| | | Practical examination | 200 |

Thesis defence examination

It comprises thesis defence, oral examination in major subject in the presence of external examiners and possible participation by PMC supervisor



DESCRIPTION OF M. Phil PROGRAMS IN BASIC MEDICAL SCIENCES

The M.Phil programs are offered in the fields of Anatomy, Physiology, Biochemistry, Pharmacology, Pathology and Hematology. The goal of this program is to prepare future teachers and researchers with a background of higher learning. These professionals are trained in skills and techniques so that they can provide services in diagnostic laboratories and conduct research in the field of basic medical sciences. The M.Phil coursework comprises of:

- Major in the disciplines of Anatomy, Physiology, Biochemistry, Pharmacology, Pathology, and Hematology. [Courses of 12 credit hours in each discipline, compulsory requirement].
- Minor in any other than major disciplines. [Courses of 6 credit hours in a discipline, an

interdisciplinary optional requirement].

- Research Methodology, Biostatistics and Pedagogy. [Courses of 06 credit hours, compulsory requirement for all disciplines].
- Research component of 12 credit hours thesis.

M.Phil Courses

Anatomy (Total credit hours 36)

This course is designed to provide an indepth knowledge of medically oriented anatomical sciences with the perspective structural and functional correlation. Experimental work includes cadaver dissection, preparation of specimens, slide preparations from human and animal tissues, routine and special microscopic techniques and preparation of chick embryo. Clinical sessions include practical application of

knowledge especially in neuroanatomy.

M.Phil Courses

Physiology (Total credit hours 36)

Physiology seeks to explain living phenomena in terms of physics and chemistry. The course work provides an opportunity to extend studies in a specific area of interest within the broad fields of physiology and demonstrates in-depth knowledge of all disciplines. The research interests of the department provide a wide selection of possible research opportunities to prepare students for a research career in basic and applied physiology. Experimental physiology includes blood, muscle, ECG, respiratory, GIT, renal, endocrine and reproductive physiology, and nervous system, experiments by advanced technological equipments and methods.

M.Phil Courses**Biochemistry (Total credit hours 36)**

The science of biochemistry is fundamental to the understanding of the structure, organization, and functions of living matter in molecular terms. The courses are designed to impart advanced knowledge of the subject and to enable the students to conduct independent research and apply the knowledge in teaching and practice of medicine.

M.Phil Courses**Pharmacology (Total credit hours 36)**

The science of pharmacology is concerned with the effects of drugs on the cell and organs of

living beings. The courses are designed to impart advanced knowledge of basic, systemic and clinical pharmacology, and to enable the students to conduct, experiments on isolated tissue and independent research and to become competent teacher at medical institution.

M. Phil Courses**Pathology (Total credit hours 36)**

Pathology deals with the scientific study of disease process. The course work is designed to train a student to adequately deal with diagnostic work in all disciplines of pathological investigations and to become a competent teacher at medical institutions.

**M. Phil Courses****Hematology (Total credit hours 36)**

Hematology deals with diagnosis, treatment, prevention and investigation of disorders of the hemopoietic, haemostatic, and lymphatic system and disorders of the interaction between blood and blood vessel wall. The course work is designed to train a student to adequately deal with diagnostic work in hematological disorders and to become a competent teacher at a medical institution.

M. Phil Courses**Community Medicine (Total credit hours 36)****2 year duration conducted at department of community medicine**

The Course in community medicine deals with common health problem in population & its prevention as well as teaching and research for health care delivery system at national and international level.

M. Phil Courses**Master in Public Health (Total credit hours 36)****2 year duration conducted at department of community medicine**

Master in public health deals with epidemic & pandemic diseases like corona virus pandemic. It studies new methods of public health problems of national and international level. It trains professional in administration and planning filed of health care delivery system and health services at community level.

MCPS Community Medicine 2 year course

It is CPSP recognized course of two year duration conducted at department of community medicine Isra University Hyderabad. Doctors with MBBS degree can apply as per CPSP requirements.

FCPS**Community Medicine 4 year course**

It is a CPSP recognized course of four year duration conducted at department of community medicine Isra University Hyderabad.

Only FCPS part I pass candidates can apply for admission.

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|--|
| Scheme of Diploma [Total of 36 credit-hours] |
| First Year [Two semester examinations; minimum of 9 credits each semester] |
| Second Year [Two semester examinations; minimum of 9 credits each semester] |

Format of Examination for Diploma

| S.No | Mode | Management | Distribution of Mark |
|------|------------------------------|---|---------------------------------|
| 1 | CAT | Theory: 15 MCQs, 2 short essays | 25 |
| | | clinical examination | 25 |
| 2 | Semester examination | Theory: 30 MCQs, 02 short answer question, 01 long essay question | 50 |
| | | Clinical examination | 50 |
| 4 | Final certifying examination | Theory: 50 MCQs, 04 short answer question, 02 long question | Paper I & II 100 + 100 = 200 |
| | | Clinical examination | 200 |

Final Certifying Examination:

| | |
|------|---|
| i) | There Shall be a final certifying examination after the successful completion of clinical training, completion of coursework of the degree program. |
| ii) | Three external examiners and one internal examiner in addition to inspector from PMC (in first examination of the program only) will be invited in the final certifying examination to assess the student in the concerned subject. |
| iii) | To pass final certifying examination, the candidate has to secure 60% marks both in practical and theory components separately. |

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|--|
| Scheme of MS/MD Programs in Clinical Sciences [Total of 89 credit-hours] 4 year program |
| First Year [two semester examinations; minimum of 9 credits each semester] + Research Methodology & Biostatistics 5 Credits Hours |
| Second Year [two semester examinations; minimum of 9 credits each semester] |
| Third Year [two semester examinations; minimum of 9 credits each semester] |
| Fourth Year [two semester examinations; minimum of 9 credits each semester] |
| Dissertation [12 credit hours] |

Examination System

| | | | |
|--|---|-------|------------------|
| a) | Semester Examination: | | |
| <p>Semester examination is conducted at the end of semester. This is in addition to class work activities including continuous assessment tests, quizzes, and assignments or projects whatever applicable. This internal assessment carries 20% weightage and the end of semester.</p> <p>Examination will carry 80% weightage. The Students must secure 60% marks to pass the semester examination.</p> | | | |
| b) | Assessment system in degree programs shall be as under | | |
| Mode of Assessment | Marks | | Weightage |
| Internal assessment | Semester | Total | 20% |
| Continuous assessment test (01 per semester) | 50 | 400 | |
| Semester Examination (08 semesters) | 100 | 800 | |
| Final certifying examination | -- | 400 | 80% |
| Total | -- | 1600 | 100% |

| c) Mid-Term Assessment (MTA): | | | |
|--|------------------------------|---|---------------------------------|
| i) MTA will be held in all MD and MS degree program after passing first four semesters of the program and completion of workshops of the tenure. | | | |
| ii) For MTA, there shall be at least two examiners in each subject, out of which at least one shall be under the supervision of external examiner, invited from another recognized university/college and/or oral part of examination. | | | |
| d) Format of Examination for MS/MD | | | |
| S.No | Mode | Management | Distribution of marks |
| 1 | CAT | Theory: 15 MCQs, 2 short essays | 25 |
| | | Clinical examination | 25 |
| 2 | Semester examination | Theory: 30 MCQs, 02 short answer question, 01 long essay question | 50 |
| | | Clinical Examination | 50 |
| 3 | Mid-term assessment | Theory: 50 MCQs, 04 short answer question, 02 long essays | 100 |
| | | Clinical examination | 100 |
| 4 | Final certifying examination | Theory: 50 MCQs, 04 short answer question, 02 long Essay | Paper I & II 100 + 100 = 200 |
| | | Clinical examination | 200 |

Final Certifying Examination

The student is required to appear in Final Certifying Examination at the end of fourth & fifth year.
The examination comprises theory and practical from the whole program
and
defense of dissertation

DESCRIPTION OF POSTGRADUATE PROGRAMS IN CLINICAL SCIENCES

MD, MS and Diploma programs are offered in various fields of clinical sciences, as stated under.

MD in Cardiology

The aim of this training program is to advance clinical and theoretical knowledge of clinical cardiology by promoting the exploration of the current evidence for diagnosis and treatment, and to educate postgraduate students to use this evidence towards good clinical practices at consultant level.

This is a four year program with 90 credit hours of clinical and practical training in the field of cardiology.

MD in Internal Medicine

The aim of this training program is to produce a general physician in internal medicine having sufficient knowledge, skills and attitude to provide care at the consultant level with confidence.

This is a four-year program with 78 credit hours of clinical training and dissertation of 12 credit hours.

MD in Paediatrics

The aim of this training program is to produce a paediatrician having sufficient knowledge, skills and attitude to provide care at the consultant level with confidence.

This is a four-year program with 78 credit hours of clinical training and dissertation of 12 credit hours

MS in Ophthalmology

The aim of this training program is to produce an ophthalmologist having sufficient knowledge, skills and attitude to provide care at the consultant level with confidence.

This is a four-year program with 78 credit hours of clinical and surgical training and dissertation of 12 credit hours.

MS in Gynaecology & Obstetrics

The aim of this training program is to produce a gynaecologist & obstetrician having sufficient knowledge, skill and attitude to provide care at the consultant level with confidence.



This is a four-year program with 78 credit hours of clinical and surgical training and dissertation of 12 credit hours.

MS in General Surgery

The aim of this training program is to produce a general surgeon having sufficient knowledge, skill and attitude to provide care at the consultant level with confidence.

This is a four-year program with 90 credit hours of clinical and surgical training in the field of general surgery.

Diploma in Otorhinolaryngology (DLO)

The aim of this training program is to produce a specialist having sufficient knowledge, skills and attitude to provide care at the specialist level with confidence.

This is a two-year program with 42 credit hours of clinical and surgical training in the field of ENT.

Diploma in Gynaecology & Obstetrics (DGO)

The aim of this training program is to produce a gynaecologist & obstetrician having sufficient knowledge, skill and attitude to provide care at the specialist level with confidence.

This is a two-year program with 42 credit hours of clinical and surgical training in the field of gynaecology & obstetrics.

Diploma in Cardiology (DIP-CARD)

The aim of this training program is to produce a cardiologist having sufficient knowledge, skill and attitude to provide care at the specialist level with confidence.

This is a two-year program with 42 credit hours of clinical and surgical training in the field of cardiology.



Doctor of Physical Therapy

Physical Therapy, also known as physiotherapy is a dynamic profession concerned with the evaluation and rehabilitation of patients disabled by pain, disease, or injury and their treatment by physical therapeutic measures. The objective of the program is to produce a group of highly competent physiotherapists to fulfill the increasing demand at national and international level.

Course of Study

This is a five year undergraduate program of full time study. Each year of study comprises of two semesters. The duration of each semester is 18 weeks. The first two years cover the basic medical sciences, communication skills and basic physiotherapy concepts. The last three years will cover clinical medical sciences along with practical physical therapy applications.

**A TYPICAL STUDY PLAN
DOCTOR OF PHYSICAL THERAPY (DPT)**

DURATION: 5 YEARS

Minimum degree requirements: This program comprises a minimum of 200 credit hours.

YEAR 1

First Semester

| Course title | Credit hours |
|---|--------------|
| Anatomy-I | 4 (3+1) |
| Physiology-I | 3 (2+1) |
| Kinesiology-I | 3 (2+1) |
| English-I (Functional English) | 3 (3+0) |
| Pakistan Studies | 2 (2+0) |
| Introduction to Physical Therapy & Rehabilitation | 2 (2+0) |
| Total credits | 17 |

Second Semester

| Course title | Credit hours |
|---|--------------|
| Anatomy-II | 4 (3+1) |
| Physiology-II | 3 (2+1) |
| Kinesiology-II | 3 (2+1) |
| English-II (Communication Skills) | 3 (3+0) |
| Islamic Studies/ Ethics | 2 (2+0) |
| Information Systems & Computer Applications | 3 (2+1) |
| Total credits | 18 |

YEAR 2**First Semester**

| Course title | Credit hours |
|---|--------------|
| Anatomy-III | 4 (3+1) |
| Physiology-III | 3 (2+1) |
| Bio Mechanics & Ergonomics-I | 3 (2+1) |
| English-III (Technical Writing & Presentation Skills) | 3 (3+0) |
| Sociology | 2 (2+0) |
| Moleculer Biology & Genetics | 2 (2+0) |
| Medical Physics-I | 3 (2+1) |
| Total credits | 20 |

Second Semester

| Course title | Credit hours |
|--|--------------|
| Anatomy-IV | 4 (3+1) |
| Exercise Physiology | 3 (2+1) |
| Bio Mechanics & Ergonomics-II | 3 (2+1) |
| Biochemistry- I | 3 (3+1) |
| Therapeutic Exercise & Techniques | 3 (2+1) |
| Behavioral Science (Psychology & Psychiatry) | 2 (2+0) |
| Medical Physics-II | 3 (2+1) |
| Total credits | 21 |

YEAR 3**First Semester**

| Course title | Credit hours |
|-------------------------------------|--------------|
| Pathology / Microbiology-I | 3 (2+1) |
| Pharmacology & Therapeutics-I | 3 (2+1) |
| Physical Agent & Electrotherapy-I | 3 (2+1) |
| Biochemistry-II | 3 (2+1) |
| Manual Therapy | 3 (2+1) |
| Community Medicine & Rehabilitation | 3 (3+0) |
| Supervised Clinical Practice-I | 3 (0+3) |
| Total credits | 21 |

Second Semester

| Course title | Credit hours |
|---|--------------|
| Pathology / Microbiology-II | 3 (2+1) |
| Pharmacology & Therapeutics-II | 3 (2+1) |
| Physical Agent & Electrotherapy-II | 3 (2+1) |
| Education Techniques & Teaching Methodology | 2 (2+0) |
| Human Development & Growth | 2 (2+0) |
| Health Promotion & Wellness | 3 (2+1) |
| Supervised Clinical Practice-II | 3 (0+3) |
| Total credits | 19 |

YEAR 4**First Semester**

| Course title | Credit hours |
|---|--------------|
| Medicine-I | 3 (3+0) |
| Surgery-I | 3 (3+0) |
| Radiology & Diagnostic Imaging | 3 (2+1) |
| Musculoskeletal Physical Therapy | 3 (2+1) |
| Biostatistics-I | 3 (3+0) |
| Consultation, Screening, Delegation & Cultural Competency | 2 (2+0) |
| Supervised Clinical Practice-III | 3 (0+3) |
| Total credits | 20 |

Second Semester

| Course title | Credit hours |
|---------------------------------|--------------|
| Medicine-II | 3 (3+0) |
| Surgery-II | 3 (3+0) |
| Evidence Based Practice | 3 (2+1) |
| Neurological Physical Therapy | 3 (2+1) |
| Prosthetics & Orthotics | 3 (2+1) |
| Biostatistics-II | 3 (3+0) |
| Supervised Clinical Practice-IV | 4 (0+4) |
| Total credits | 22 |

YEAR 5
First Semester

| Course title | Credit hours |
|---|--------------|
| Primary Care & Emergency Procedures in Physical Therapy | 3 (2+1) |
| Cardio Pulmonary Physical Therapy | 3 (2+1) |
| Clinical Decision Making and Differential Diagnosis | 3 (3+0) |
| Integumentary & Metabolic Physical Therapy | 3 (2+1) |
| Professional Practice, Law, Ethics & Administration | 2 (2+0) |
| Scientific Inquiry & Research Methodology | 3 (2+1) |
| Supervised Clinical Practice-V | 4 (0+4) |
| Total credits | 21 |

Second Semester

| Course title | Credit hours |
|--|--------------|
| Obstetrics & Gynecological Physical Therapy | 3 (2+1) |
| Pediatrics Physical Therapy | 3 (2+1) |
| Geriatrics & Gerontological Physical Therapy | 3 (2+1) |
| Sports Physical Therapy | 2 (2+0) |
| Supervised Clinical Practice-VI | 4 (0+4) |
| Project/Dissertation | 6 (0+6) |
| Total credits | 21 |

Note

- This scheme of curriculum is also applicable to annual system; in which two consecutive semesters will be considered as one professional year.
- Credit hour distribution is as following
 - Theory: one credit hour shall be equal to one hour of teaching per week throughout the semester
 - Practical / lab: one credit hour shall be equal to two hours of lab work per week throughout the semester
 - Clinical: one credit hour shall be equal to three hours of clinical work per week throughout the semester
 - Thesis: one credit hour shall be equal to three hours of research work per week throughout the semester



Post Graduate Certificate in “Certified Clinical Research Professional” (CCRP)

Certified Clinical Research Professional (CCRP) is a skill development program of 6 months duration with a primary focus on drug discovery and clinical trial processes, good clinical practice (GCP) guidelines, drug regulatory affairs, roles and responsibilities of various clinical trial stakeholders. The prime objective is to provide highly trained individuals and enhance the employment prospects.

**A TYPICAL STUDY PLAN
POST GRADUATE CERTIFICATE IN “CERTIFIED CLINICAL RESEARCH PROFESSIONAL” (CCRP)**

Minimum degree requirements: This program comprises a minimum of 12 credits.

**YEAR 1
First Semester**

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|---|--------------|--------------------------|
| CRPM 6111 | Introduction to Pharmaceutical Medicine. | 3 (3+0) | 54 |
| CRPF 6112 | Good Clinical Practice Foundation (GCP). | 3 (3+0) | 54 |
| CRDR 6113 | Drug Regulatory Affairs. | 3 (3+0) | 54 |
| CRCT 6114 | Roles & Responsibilities of Clinical Trail. | 3 (3+0) | 54 |
| | Total credits | 12 | 216 |





PGD in Sports Medicine & Manipulative Physical Therapy

Sport Medicine & Manipulative Physical Therapy (SM& MPT) is a rapidly growing specialty that has the potential to impact upon all areas of rehabilitation sciences. This world-class course is for physiotherapists seeking a specialist qualification in Sports Medicine & Manipulative Physical Therapy, compliant with international standards of practice. Sports Medicine & Manipulative Physical Therapy is becoming an increasingly popular method of treating athletes with musculoskeletal problems. The primary theoretic basis for the claimed beneficial results of manipulation is the restoration of motion with subsequent effects on ligamentous adhesions, muscle spasm, disk nutrition, and central nervous system endorphin systems. Research trials suggest that sports medicine & manipulation is beneficial in relieving or reducing the duration of acute low back pain and acute neck pain. It is evident that sports medicine & manipulative physical therapy enhances certain parameters of motion of the spine and peripheral joints. The postgraduate diploma is of one year of study, while the M.Phil is a two year program.

A TYPICAL STUDY PLAN**POSTGRADUATE DIPLOMA IN SPORTS MEDICINE & MANIPULATIVE PHYSICAL THERAPY (SM&MPT) DURATION: 01 YEAR****Minimum degree requirements:** 12 credits hours**YEAR 1****First Semester**

| Course title | Credit hours | Contact hrs per semester |
|---|--------------|--------------------------|
| Research Methods, Data Analysis & Scientific Inquiry | 3 (3+0) | 54 |
| Advanced Principles & Practice of Manipulative Physical Therapy | 3 (2+1) | 54 |
| Musculoskeletal Sciences (Musculoskeletal Injuries, Diagnosis & Management) | 3 (2+1) | 54 |
| Advanced Manipulative Physical Therapy Techniques (Upper, lower Quadrant & Spine) | 3 (2+1) | 54 |
| Total credits | 12 | 216 |

Second Semester

| Course title | Credit hours | Contact hrs per semester |
|---|--------------|--------------------------|
| Sports Medicine (Sports Injuries, Diagnosis & Management) | 3(2+1) | 54 |
| Sports Psychology | 3(2+1) | 54 |
| Applied Exercise Physiology & Nutrition | 3(1+2) | 54 |
| Pain Management (Musculoskeletal & Sports Injuries) | 3(1+2) | 54 |
| Total credits | 12 | 216 |



PGD in Orthopedic Physical Therapy (OPT)

Purpose: The degree program in Orthopedic Physical Therapy is designed to prepare the students for working as contributing members of the modern health care team concerned with treatment, management, and care of patients with Musculoskeletal disorders. In addition to the general entry requirements for the MS/M.Phil program, student should have the experience to be able to demonstrate an interest in Orthopedics Rehabilitation.

Objectives: This course has been designed to introduce basic orthopedic science, orthopedic practice principles, and treatment techniques required in the day to day management of patients with movement impairments, functional limitations, and disabilities due to musculoskeletal pathologies affecting the extremities. Clinically related orthopedic sciences including anatomy, biomechanics, pathology and radiology will serve as the foundation for technique application and overall patient management. Practice principles include evidence based practice, clinical decision making skills, clinical hypothesis building, treatment planning and progression. The technique portion includes physical examination and interventions for the extremities including advanced active and passive motion examination, translational movement evaluation, and select differential evaluation techniques. Soft tissue, articular and therapeutic exercise interventions for the extremities are emphasized.

Eligibility: 4 year Bachelor Degree in Physiotherapy/ Physical Therapy or 3 years B.Sc. in Physiotherapy with one year additional certificate course in Physiotherapy or 5 year Doctor of Physical Therapy program or Post Professional DPT or Masters in Physical Therapy or equivalent from a HEC recognized University.

Duration: Minimum 1 year



**A TYPICAL STUDY PLAN
POST GRADUATE DIPLOMA IN ORTHOPEDIC PHYSICAL THERAPY (OPT)**

DURATION: 01 YEAR

Minimum requirements: 12 credit hours.

First Semester

| Course title | Credit hours | Contact hrs per semester |
|---|--------------|--------------------------|
| Fundamentals of Orthopedic Rehabilitation | 2 (2+0) | 36 |
| Applied Movement Sciences | 3 (3+0) | 54 |
| Principles of Orthopedic Medicine | 2(2+0) | 36 |
| Orthopedic Management I | 3 (2+1) | 54 |
| Biostatistics | 2 (2+0) | 36 |
| Total credits | 12 | 216 |

Second Semester

| Course title | Credit hours | Contact hrs per semester |
|---|--------------|--------------------------|
| Orthopedic Clinical Methods | 2 (2+0) | 36 |
| Manual Therapy | 3 (2+1) | 54 |
| Orthopedic Management II | 3 (2+1) | 54 |
| Clinical Pharmacology of Musculoskeletal System. | 2 (2+0) | 36 |
| Evidence Based Clinical Practice and Research Methodology | 2 (2+0) | 36 |
| Total credits | 12 | 216 |



PGD in Neurological Physical Therapy (NPT)

Purpose: The aim of this program is to develop understanding of sensory-motor control and learning - particularly how it enables skill acquisition within the context of rehabilitation, and how learning is affected by other physical and psychological factors. In addition to the general entry requirements for the MS/M.Phil program, candidate should have experience of and be able to demonstrate an interest in Neurological Physical Therapy.

Objectives: To understand the basic neurophysiology of sensory motor control, learning and neuroplasticity.

1. Understand how skills are learnt, consolidated and used.
2. Critically appraise methods of measurement at levels of systems function and participation within the international classification of functioning and health framework.
3. Critically explain current ideas in control and measurement of human movement.
4. Summarize the importance of sensory, psychological, social and cognitive factors in sensory motor learning and skill acquisition.
5. Explain how knowledge of sensory motor learning and measurement is applied in neurological rehabilitation, and demonstrate an ability to translate knowledge into clinical practice.
6. Critically appraise the mechanisms and evidence for the use of technologies in neurological rehabilitation for both therapy and measurement. Critically appraise research into understanding mechanisms of sensory motor control and learning, interventions, measurement and methods of management in rehabilitation.
7. Critically appraise research into understanding mechanisms of sensory motor control and learning, interventions, measurement and methods of management in rehabilitation.

Eligibility: 4 year Bachelor degree in Physiotherapy / Physical Therapy or 3 years B.Sc. in Physiotherapy with one year additional certificate course in Physiotherapy or 5 year Doctor of Physical Therapy program or Post Professional DPT or Masters in Physical Therapy or equivalent from a HEC recognized University.

Duration: Minimum 1 year

**A TYPICAL STUDY PLAN
POST GRADUATE DIPLOMA IN NEUROLOGICAL PHYSICAL THERAPY (NPT)**

DURATION: 01 YEAR

Minimum requirements: 12 Credit hours.

First Semester

| Course title | Credit hours | Contact hrs per semester |
|---|--------------|--------------------------|
| Fundamentals of Neurological Rehabilitation | 2 (2+0) | 36 |
| Applied Neuro-anatomy & Clinical Neuroscience | 3 (2+1) | 54 |
| Rehabilitation of Neurological Disorders I | 3 (2+1) | 54 |
| Exercise Sciences | 2 (2+0) | 36 |
| Biostatistics | 2 (2+0) | 36 |
| Total credits | 12 | 216 |

Second Semester

| Course title | Credit hours | Contact hrs per semester |
|---|--------------|--------------------------|
| Fundamentals of Neurological diseases | 2 (2+0) | 36 |
| Neuro-diagnosis, Case Studies of Persons with Neuromuscular Disorders | 3 (2+1) | 54 |
| Rehabilitation of Neurological Disorders II | 3 (2+1) | 54 |
| Evidence Based Clinical Practice and Research Methodology | 2 (2+0) | 36 |
| Advanced Neurological Physical Therapy Techniques | 2 (0+2) | 36 |
| Total credits | 12 | 216 |



PGD in Cardiopulmonary Physical Therapy

Purpose: The degree program in Cardiopulmonary Physical Therapy is designed to prepare students for roles as contributing members of the modern health care team concerned with treatment, management, and care of patients with breathing, and cardiopulmonary disorders.

Objectives: Objectives include employment opportunities as cardiopulmonary therapy practitioners in hospitals, clinics, research facilities, home care agencies, and alternate care sites. The cardiopulmonary physical therapist will be able to administer gas therapy, humidity therapy, aerosol therapy, and hyperinflation therapy; assist with mechanical ventilation, special therapeutic and diagnostic procedures, cardiopulmonary resuscitation, and airway management techniques; and follow therapeutic protocols. The cardiopulmonary physical therapist works under the supervision of a physician.

Eligibility: 4 year Bachelor degree in Physiotherapy / Physical Therapy or 3 years B.Sc. in Physiotherapy with one year additional certificate course in Physiotherapy or 5 year Doctor of Physical Therapy program or Post Professional DPT or Masters in Physical Therapy or equivalent from a HEC recognized University.

Duration: Minimum 1 year PGD.

**A TYPICAL STUDY PLAN
PGD IN CARDIOPULMONARY PHYSICAL THERAPY (CPT)**

Minimum degree requirements: 1 year

First Semester

| Course title | Credit hours | Contact hrs per semester |
|----------------------------------|--------------|--------------------------|
| Cardiopulmonary Sciences | 3 (2+1) | 54 |
| Cardiopulmonary Health | 2 (2+0) | 36 |
| Physical Assessment | 2 (2+0) | 36 |
| Cardiopulmonary Rehabilitation I | 3 (2+1) | 54 |
| Biostatistics | 2 (2+0) | 36 |
| Total credits | 12 | 216 |

Second Semester

| Course title | Credit hours | Contact hrs per semester |
|--|--------------|--------------------------|
| Thoracic Diagnostic Radiology and Therapeutic Procedures | 3 (2+1) | 54 |
| Evidence Based Practice and Research Methodology | 3 (3+0) | 54 |
| Cardiopulmonary Rehabilitation II | 3 (2+1) | 54 |
| Emergency Procedures and Critical Care Monitoring | 3 (2+1) | 54 |
| Total credits | 12 | 216 |



Bachelor of Science (Nursing)

This program is offered by the School of Nursing. The objective of the program is to produce competent nurses to practice efficiently in the fields of patient care, nursing research, nursing administration and teaching. It will supplement needs of IUH and IUWH and the country at large.

Courses of Study: The BS (Nursing) is a 4 year program of 136 credits.

The first two semesters cover initial levels of nursing, biochemistry, mathematics and English courses. Subsequently, the students are exposed to advanced studies in adult health, family health, and knowledge about various drugs. Clinical teaching is undertaken in the hospital setting from the very beginning through four years of studies.

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The BS (Nursing) is a 4 year program of 136 credits. The first two semesters cover initial levels of nursing, biochemistry, mathematics and English courses. Subsequently, the students are exposed to advanced studies in adult health, family health, and knowledge about various drugs. Clinical teaching is undertaken in the hospital setting from the very beginning through four years of studies.

Fundamentals of Nursing I, II (8 Credits).

This course introduces the students to nursing as professional discipline. It introduces basic concepts of nursing as a profession, defines nursing and role of a nurse in developing therapeutic relationship with clients using therapeutic communication techniques. It guides in identifying needs of clients using nursing process. Students learn nursing skills in the skills lab and apply in the clinical settings. (NUFN-131&135).

Adult Health Nursing I, II, (16 Credits).

This course furnishes learners with knowledge and skills to care for an adult patients admitted to the hospital with disease conditions. It emphasizes on effective utilization of nursing process to provide care to the client and facilitates them in restoration of optimum health. The assessment tool is utilized for recognizing the responses towards disease process on individuals and their families and care is planned accordingly. Learners are exposed to the variety of clinical settings to integrate theory into practice under supervision. (NUAH -235 & 237).

Community Health Nursing I, II & III (14 Credits).

This course introduces students to the factors influencing health of individuals, family and

community. Students develop knowledge about Pakistan's health care system, components of health education, community services and organization through field visits.

This course enhances the knowledge and skills required for advanced nursing practice in community setting. It helps learners to develop their ability to work with communities by utilizing nursing process and epidemiological concepts. (NUCH-132, 337 & 440).

Nursing Ethics (01 Credit).

This course is designed to provide the learners with an overview of basic concept of nursing ethics, theory, principles and norms. Nursing ethics aims to raise the awareness of factors that need consideration when dealing with decisions. It also provides forum for learners to reflect upon issues or ethical dilemmas which they identify during their clinical practices. (NUNE-233).

Pediatric Health Nursing (07 Credits).

The focus of this course is to develop knowledge, skills and attitudes in the care of children in primary, secondary and tertiary settings. Learners apply concepts related to growth and development and its deviation in all aspects of children's health. Emphasis is placed

on common health problems occurring in Pakistan and in South Asian countries. (NUPH-338).

Nursing Leadership and Management (03 Credits).

This course provides learners basic concepts and principles of leadership and management in a progressive health care system that fosters positive, creative and caring environment. (NULM-432).

Health Assessment I, II (04 Credits).

This course provides knowledge and skills necessary to perform health assessment of individual clients of all ages. This course emphasizes on taking a comprehensive health history and use of appropriate nursing diagnosis. Opportunities are provided to apply assessment skills in a variety of clinical settings. (NUHA-236, 238).

Mental Health Nursing (06 Credits).

This course introduces the learners the concepts of mental health and mental illness, various concepts of psychiatric nursing, its development in general and in Pakistan in particular. It further develops understanding of holistic approach to mental health nursing by applying the nursing



process for the patients and families in hospital setting. The course is also intended to explore personal and cultural perspectives, values and beliefs about mental health problems and the needs and relevance of the community mental health care in Pakistan. (NUMH-333).

Critical Care Nursing (07 Credits).

The course builds on previous nursing courses (Health Assessment, Adult Health Nursing I, and II). It focuses on concepts of critical care, analyzing client's problems so that appropriate care could be planned with more advanced concepts. Learners are expected to apply critical care concepts, nursing process and implement evidence based care while integrating pathophysiological, pharmacological, psychological, spiritual and cultural concepts and theories within critical and emergency settings. (NUAC-431).

Anatomy & Physiology I, II (06 Credits).

This course introduces learners to the structures and functions of the human body. Knowledge of anatomy and physiology provides better understanding and integration to theoretical and clinical practices in nursing care situations. (NSAP-141,142).

Pathophysiology I, II (05 Credits).

This course provides learners with the opportunities to build on the concepts and knowledge about the altered physiological mechanisms and their impact on the functional status of the body. It also deals with the responses of the body that participate in the manifestation of disease. The usefulness of knowledge, skills and attitudes to the nurses in their problems solving in the hospital, school, community or home is the determining factor in the selection and integration of the content. (NSPP-245, 247).

Biochemistry (03 Credits).

This course is intended to provide the health professional with an understanding of the major organic substances of living organisms and their functions (protein, carbohydrates and lipids). It also provides an introduction to the chemistry of biogenetics, metabolism, biosynthesis and molecular biology. (NSBC-144).

Microbiology (03 Credits).

This course is designed to furnish the learners with the knowledge of basic concepts and scientific principles of microbiology. It facilitates the learners to learn the application of

principles of microbiology in hospital and community environment. (NSMB-143).

Nursing Research (03 Credits).

This course develops conceptual understanding of the research process and its application to nursing practice and helps students to become successful researchers. (NUNR-433).

Pharmacology I, II and Mathematics (05 Credits).

The course emphasizes on knowledge about drugs, their classification, therapeutic effects, anticipated reactions, toxic effects and abuse. The emphasis is on application of concepts to patient care situations, including patient assessment, drug doses calculations and administrations, patient and family teaching and documentation of patient responses to specific medications. Major emphasis will be placed on nursing management practice that minimizes adverse effects and maximizes therapeutic effects for patients, including the role of a nurse in pharmacological research. (NSPC-246, 248) and (SMMT-271).

Computer Skills (01 Credit).

The purpose of this course is to give learners a basic understanding of computers and describe the use of information technology in the modern world. Students learn how to use software programs which include Word, Excel, Power point and Outlook. Learners study computer applications in nursing education and practice. (CSCS-151).

Applied Nutrition (01 Credit).

This course covers basic concepts of nutrition and nutritional requirements for maintaining health. It discusses factors affecting eating habits and their relationship to individual's health. It emphasizes the role of nutrition in prevention and treatment of diseases in hospital and in communities. (AMAP-161).

Developmental Psychology (02 Credits).

This course facilitates learners to understand the general field of psychology in its initial stages and development of human behavior as a science. The course is further aimed to enhance learners' interpersonal skills and understanding



of human behavior in order to enable them in providing care to clients with specific age groups. (SCDP-221).

Behavioral psychology (03 Credits).

This course helps learners to understand human behavior and provide insight into one's personal attitudes and responses in everyday situations and interactions. It further assists the learners to understand the way psychology can address issues concerning various spheres of life. (SCBP-323).

Biostatistics (03 Credits).

The course aims to polish students with knowledge and skills to present and analyze data in community and make inferences about population. (SMBS-372)

English I to VIII (16 Credits).

The eight courses in English aim to develop and enhance speaking, listening, reading and writing skills in general, academic and nursing contexts. (HMEN-114, 115, 216, 217, 318, 319, 420 & 421).

Culture, Health and Society (02 Credits).

This course introduces human interaction and its impact on individual and group behavior. It also introduces learners to the field of socio-cultural anthropology. It focuses on the exploration of values, beliefs and practices related to health and illness between general and specific groups of people in Pakistan. (SCCH-322).

Islamic Studies (02 Credits).

This course helps students to understand issues related to faith and religious life. It examines issues related to Islamic traditions and formulates key religious concepts. This course facilitates students in discussion of concepts that formulate Muslim philosophy in providing nursing care to individuals and families in a variety of clinical settings. (HMIS-111).

Teaching, Learning Principles and Practices (03 Credits).

This course introduces basic concepts of adult learning in order to better understanding of one's individual learning process and strategies to facilitate the learning of others in various health

care setting. (HMTL-316).

Pakistan Studies (02 Credits).

This course introduces the understanding of ideology and emergence of Islamic rule in Pakistan. Attention is given to the various developments leading to and following the creation of Pakistan as an Islamic state including study of the constitutional and political developments, social problems and foreign policies. (HMPS-112).

Nursing Theories (02 Credits).

This course focuses on understanding different nursing theories and their applications in clinical practice. It emphasizes on practical applications of nursing theories with the help of simulations and clinical observations. (NUNT-434).

Advance Clinical Nursing Practice (05 Credits).

This elective course helps students to develop an ability to integrate the application of nursing concepts with clients' population of interest. Students work with preceptors in a variety of

settings to formulate learning within the context of the course. (NUEL-439).

Nursing Seminar / Role Transition (02 Credits).

This course is designed to provide learners an overview of critical, professional, and ethical issues confronting the learners and contemporary issues effecting profession practice, nursing care, education, and research. (NUNS-438)

Epidemiology (02 Credits).

This course provides knowledge and skills to learners for using epidemiological concepts in assessing the contributing factors, diagnosing problems, planning interventions and evaluating results in the community. It helps learners to make inferences regarding impacts on populations' demographic, social and health status in Pakistan. Learners are also able to correlate epidemiological research findings to community health nursing practice. (SMEP-373).



A TYPICAL STUDY PLAN

BS Nursing

DURATION: 4 YEAR

Minimum degree requirements: This program comprises on minimum of 136 credit hours.

YEAR 1

First Semester

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|---------------------------|--------------|--------------------------|
| NUFN-131 | Fundamentals of Nursing-I | 4 (2+6) | 144 |
| NSMB-143 | Microbiology | 3 (2.5+1.5) | 68 |
| NSAP-141 | Anatomy & Physiology-I | 3 (3+0) | 54 |
| HMIS-111 | Islamiat | 2 (2+0) | 36 |
| HMEN-114 | English-I | 2 (2+0) | 36 |
| CSCS-151 | Computer Skills | 1 (0+3) | 54 |
| | Total credits | 15 | 432 |

Second Semester

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|----------------------------|--------------|--------------------------|
| NFFU-135 | Fundamentals of Nursing-II | 4 (2+6) | 144 |
| NSBC-144 | Biochemistry | 3 (2+3) | 90 |
| NSAP-142 | Anatomy & Physiology-II | 3 (2+3) | 90 |
| NUCH-132 | Community Health Nursing-I | 2 (2+0) | 36 |
| HMEN-115 | English-II | 2 (2+0) | 36 |
| HMAN-161 | Applied Nutrition | 1 (1+0) | 18 |
| HMPS-112 | Pakistan Studies | 2 (2+0) | 36 |
| | Total credits | 17 | 540 |

YEAR 2**Third Semester**

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|------------------------|---------------|--------------------------|
| NUAH-235 | Adult Health Nursing-I | 8 (4+12) | 288 |
| NSPP-245 | Pathophysiology-I | 2 (1.75+0.25) | 54 |
| NUHA-236 | Health Assessment -I | 2 (1+3) | 72 |
| NSPC-246 | Pharmacology-I | 2 (2+0) | 36 |
| SMMT-271 | Mathematics | 1 (1+0) | 18 |
| HMEN-216 | English-III | 2 (2+0) | 36 |
| NUNE-233 | Nursing Ethics | 1 (1+0) | 36 |
| | Total credits | 18 | 531 |

Fourth Semester

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|--------------------------|---------------|--------------------------|
| NUAH-237 | Adult Health Nursing-II | 8 (4+12) | 288 |
| NSPP-247 | Pathophysiology-II | 3 (2.75+0.25) | 68 |
| NUHA-238 | Health Assessment-II | 2 (1+3) | 72 |
| NSPC-248 | Pharmacology-II | 2 (2+0) | 36 |
| HMEN-217 | English-IV | 2 (2+0) | 36 |
| SCDP-221 | Developmental Psychology | 2 (2+0) | 36 |
| | Total credits | 19 | 531 |

YEAR 3
Fifth Semester

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|--|--------------|--------------------------|
| NUPH-388 | Pediatric Health Nursing | 7 (4+12) | 288 |
| NUCH-337 | Community Health Nursing-II | 6 (3+ 9) | 216 |
| HMTL-316 | Teaching- Learning Principles & Practice | 3 (3+0) | 54 |
| HMEN-318 | English V | 2 (2+0) | 36 |
| | Total credits | 18 | 594 |

Sixth Semester

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|-------------------------------|---------------|--------------------------|
| NUMH-333 | Mental Health Nursing | 6 (3+9) | 216 |
| SMBS-372 | Introduction to Biostatistics | 3 (2.50+0.50) | 72 |
| SCBP-323 | Behavioral Psychology | 3 (3+0) | 54 |
| SMEP-373 | Epidemiology | 2 (2+0) | 36 |
| HMEN-319 | English-VI | 2 (2+0) | 36 |
| SCCH-322 | Culture, Health and Society | 2 (2+0) | 36 |
| | Total credits | 18 | 450 |

YEAR 4**Seventh Semester**

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|------------------------------------|---------------|--------------------------|
| NUAC-431 | Critical Care Nursing | 7 (2.50+13.5) | 288 |
| NUNT-434 | Introduction to Nursing Theories | 2 (2+0) | 36 |
| NULM-432 | Leadership & Management in Nursing | 3 (2+3) | 90 |
| NUNR-433 | Nursing Research | 3 (3+0) | 54 |
| HMEN-420 | English VII | 2(2+0) | 36 |
| | Total credits | 17 | 504 |

Eighth Semester

| Course Code | Course title | Credit hours | Contact hrs per semester |
|-------------|--|--------------|--------------------------|
| NUCH-440 | Community Health Nursing-III | 5 (2+9) | 198 |
| NUNS-438 | Nursing Seminar/Role Transition | 2 (2+0) | 36 |
| NUEL-439 | Advance Clinical Nursing Practice (Clinical Practicum) | 5 (0+15) | 270 |
| HMEN-421 | English- VIII | 2 (2+0) | 36 |
| | Total credits | 14 | 540 |



Isra School of Paramedics

Course Description:

One year diploma program in Health Care Assistant for male and female candidates is designed to provide the students with the knowledge and skills necessary to perform basic health care services. It prepares the students to function in the role of nurse assistant under the supervision of a staff nurse. Satisfactory completion of the course makes the students eligible for the diploma to practice as a nurse aide to provide basic health care to patients. Students must successfully complete specified hours of class room lectures, skills lab and clinical practice. Throughout this description, the term Nursing Assistant and Health Care Assistant is used interchangeably with Nurse Aide.



Course Description

One year diploma program in Health Care Assistant for male and female candidates designed to provide the students with the knowledge and skills necessary to perform basic health care services. It prepares the students to function in the role of nurse assistant under the supervision of a staff nurse. Satisfactory completion of the course makes the students eligible for the diploma to practice as a nurse aide to provide basic health care to patients. Students must successfully complete specified hours of class room lectures, skills lab and clinical practice. Throughout this description the term nursing assistant and healthcare assistant is used interchangeably with nurse aide.

Nature of Work

Nursing assistant can perform routine duties for

caring patients. These duties might include bed making, bed bathing, oral hygiene, taking vital signs, feeding, helping patients to transfer in and out bed, maintaining safety and cleanliness in the patients' general surroundings. Hand washing is expected at all time in the clinical setting.

Course Objectives

Upon successful completion of this course the students will be able to:

1. Identify the role and responsibilities of a nurse aide.
2. Understand the basic knowledge necessary in providing basic health care services.
3. Demonstrate skills essential in providing basic health care services.
4. Communicate accurately and appropriately in the role of a nurse aide.

Theory Subjects

Anatomy & Physiology (Credit hours 08)

This course introduces learners to the structures and functions of the human body. Knowledge of anatomy and physiology provides better understanding and integration to theoretical practices in nurse care situations. (HCAP 141)

Fundamentals of Nursing (Credit hours 10)

This course introduces the students to nursing as professional discipline. It introduces basic concepts of nursing as a profession, define nursing and role of nurse in developing therapeutic relationship with clients using therapeutic communication techniques. It guides in identifying needs of clients using nursing process. Students learn nursing skills in the skills lab and apply in the clinical settings. (HCFN -131)

Clinical Course

Basic Skills (Credit hours 06)

The objective of basic skills teaching is to enable students to receive and pass an accurate written and verbal information regarding patients and related work. (HCBS - 151)

Practical / Clinical Course

Specialty Skills (Credit hours 12)

Students learn following specialized skills in their specialty areas. Knowledge application and hands on practice is provided by the nurse incharge and ward doctors in their assigned clinical placements.

- a. E.C.G
- b. Cardiac Monitoring
- c. Care of Body Drainage System
- d. Care of Urinary Catheter
- e. Specimen Collection
- f. Surgical Dressing
- g. Removing Sutures
- h. Bandaging and Splinting
- i. Care of IV Cannula
- j. Oxygen Therapy
- k. Nebulizing
- l. Care of endo tracheal tube
(under supervision of trained staff)



Faculty of Dentistry & Allied Sciences

Dental Materials Prosthodontics
Orthodontics Oral Medicine
Maxillofacial Surgery Oral Biology
Operative Dentistry Oral Pathology
Pediatric Dentistry Periodontology
Community & Preventive Dentistry





Faculty of Dentistry & Allied Sciences

The Faculty of Dentistry is committed to academic excellence in dental education. It caters for the urgent need for community oriented, competent, dedicated and above all, caring dental professionals who, through their comprehensive understanding and acquisition of relevant skills, can deal with the oral problems of the people.

The academic year runs from January to December (Classes of new batch 2020-2021 will start from January 2021). Isra Dental College (IDC) offers a four year bachelor's program in Dental Surgery which is recognized by PMC. The program aims at training highly competent dental surgeons in order to bridge the gap between demand and supply at national and international levels.

The four year Bachelor of Dental Surgery

program is spread over a minimum of 154 credit hours of coursework and practical training. The first two years cover the basic medical subjects (Physiology, Anatomy, Biochemistry, Pharmacology & Pathology), basic dental science subjects (Science of Dental Material, Oral Pathology & Community Dentistry) and Islamic Studies, Pakistan Studies & IT. The following two years cover clinical Medical Sciences like General Medicine and General Surgery, and

clinical dental surgery subjects (Orthodontics, Operative Dentistry, Peri odontology, Prosthodontics, Oral Maxillofacial Surgery).

The fifth year is compulsory, which covers the house job (one year clinical training). A separate certificate will be issued by the University after at the end of one year training.





BACHELOR OF DENTAL SURGERY Science of Dental Materials (Credit hours 7)

The following topics will be covered: introduction to dental materials, classification, physical, thermal, electrical, and mechanical properties of dental materials. Theoretical concepts and practical application of impression material, gypsum products, dental waxes, polymers, dental cements, composite, metals and separating media used in dentistry.

Overview and basic concepts of investment and duplicating materials and dental casting with Gold and wrought alloys ceramics finishing and polishing materials (BDDM 181 & 182).

Oral Biology and Tooth Morphology (Credit hours 6)

The following topics are covered: introduction of embryology of head, face and oral cavity. Focus on the concepts of developmental histology and function of bone / cartilage, enamel, dentine pulp complex, peri odontium, oral mucosa, salivary glands, tooth eruption and shedding,

temporo-mandibular joint and oral physiology. Focus on the tooth morphology and occlusion. Preparation of slides with different staining techniques and histological practical use of microscope, microtome and preparation of ground section of teeth. (BDOB 283 & 282).

Community and Preventive Dentistry (Credit hours 6)

The following topics are covered: introduction to community dentistry and dental public health. Concepts of health; disease and illness and factors affecting these states; activities carried in the field of community dentistry. Focus on oral epidemiology; research designs; dental surveys; clinical trails; screening; oral health assessment indices; current concepts about etiology, natural history and epidemiology of oral diseases and conditions having public health implications, assessment of disease risk and predictive tests. Introduction of preventive behavioral sciences, introduction of bio statistics: (BDCD 285 & 286).

Oral Pathology (Credit hours 10)

The following topics are covered: Theoretically focused on the developmental disturbances of teeth, pre malignant, benign and malignant lesions, salivary gland tumors and diseases, odontogenic & non-Odontogenic tumors, tooth wear, caries, diseases of pulp and peri apical tissues, spread of infections, wound healing, diseases of bones and joints, cysts of jaws and oral cavity and immunology. Practically focuses on the study of histopathological slides, radiographs and histochemical techniques (BDOP 343).

Oral Medicine (Credit hours 06)

The following topics will be covered: Introduction to oral medicine, oral examination, examination of temporo mandibular joint, roentgen logical examination, laboratories aids, analysis, treatment planning and patient management. Oral bacterial, fungal, viral infection, white lesions, pigmented lesions, ulceration vesiculo-bullous lesions, oral aspects of systemic disease and their dental management,

oral malignancies diagnosis and management, i.e. patients on radiotherapy patients on chemotherapy, diseases of salivary glands, xenostamic, clinical features diagnosis and management.

Peri odontology (Credit hours 6)

The following topics will be covered: introduction to peri odontology, acute gingivitis, chronic gingivitis, desquamative gingivitis, periodontal pocket, peri odontitic, tumour and tumour like lesion of the peri odontium, periodontal abscess and treatment, peri odontium and AIDS, GTR (Guided Tissue Regeneration), periodontal dressing, periodontal suturing, periodontal treatment of medically compromised patients and Occlusal Analysis. (BDPR 392).

Operative Dentistry (Credit hours 12)

The following topics will be covered: introduction to the concept of dental caries, examination, diagnosis and treatment planning, principles of cavity design and preparation, sterilization and cross infection control, isolation. Inlays and on lays, restoration of pulp less teeth, pin-retained restorations, management of medically compromised patients with special reference to HIV and hepatitis. It provides basic concept of paedodontics and emphasis on the child management on dental practice. The acid etch techniques in caries prevention, pit & fissure sealants & preventive resin, periodontal disease in children, injury to the primary & permanent teeth, pulp therapy for the primary & young permanent teeth and restorative dentistry for the primary dentition, introduction to the crowns and emphasis on the terminology, types, impressions, clinical procedures and CAD-CAM, providing basic concepts on the periodontology. (BDOD 371 & 475).

Endodontics

1. Access cavity preparation & teeth morphology
2. Working length determination
3. Endodontic instruments
4. Biomechanical preparation
5. Radiograph in Endodontics
6. Dental Trauma

Oral and Maxillofacial Surgery (Credit hours 15)

The following topics will be covered: providing knowledge and skills necessary to perform the dento alveolar surgery, surgical aid to orthodontics, maxillary antrum (Oro-antral



fistula, foreign body), oro-facial infection, benign and malignant tumors of oral cavity, jaws and associated tissue, principles of different treatment modalities (including surgery, radiotherapy, chemotherapy cryotherapy, lasers), salivary glands (including tumors, sialadenitis, sialoithiases, means of investigation, management), temporo-mandibular joint (diseases and disorders), classification and management of

fibro-osseous lesion, types and management of giant cell lesion, developmental anomalies (introduction and management of cleft lip and palate), maxillofacial injuries, first aid treatment of soft tissue injuries of head and neck, dento-alveolar injuries, fractures of mandible, fractures of mid-face orthognathic surgery, management of medically compromised patients and implantology. (BDMS 373 & 474).

Orthodontics (Credit hours 8)

The following topics will be covered: introduction of orthodontics and focus on basic concepts of the growth and development, occlusion, diagnostics aids in orthodontics including history, clinical evaluation, radiographs, tooth mass and size analysis and formulation of problem list, development of dentition and occlusion, malocclusion, preventive and interceptive orthodontics, bone metabolism, biomechanics, retention and relapse, removable and fixed appliances, treatment planning, surgical orthodontics and cleft lip and palate, practical and clinical orthodontics including wire bending exercises, making removable and fix appliances, cast analysis, cep analysis and a comprehensive orthodontic case presentation of a non skeletal malocclusion (BDOR 475).

Prosthodontics (Credit hours 15)

The following topics will be covered: providing knowledge and skills necessary to make artificial substitutes of naturally missing or lost natural teeth and adjoining structures i.e. Partial dentures, complete dentures, crowns, bridges and maxillofacial prosthesis.

Definitions, oral manifestation of local and systemic disorders, history and general oral examination, evaluation, diagnosis and treatment planning, prognosis, classification, components, surveying, design of partial dentures, impression techniques, trial, maxillo mandibular relationship, selection of teeth, arrangement of teeth, processing and finishing, insertion of partial dentures.

Bridges, crowns, over dentures, precision retained dentures, relining, rebasing and repairs, maxillo facial prosthesis.

Along with above subjects specific to the dental surgery, following subjects of the basic sciences, clinical sciences, computer sciences and humanities are covered:

Anatomy, Physiology, Biochemistry, Pharmacology, Pathology, General Medicine, General Surgery, Information Technology, English, Pakistan Studies.

DESCRIPTION OF POSTGRADUATE PROGRAMS IN DENTISTRY

M.Sc, M.Phil and MDS programs are offered in various fields of dentistry, as stated under.

Master of Dental Surgery (MDS)

The aim of the training program is to produce dental specialists in the relevant field having sufficient knowledge, skill and attitude to provide



care at the consultant level with confidence. This is a four year program with 90 credit hours . The program is offered in the areas of Oral & Maxillofacial Surgery and Operative Dentistry.

Master of Science (M.Sc.)

The aim of the training program is to produce dental specialists in the relevant field having sufficient knowledge, skill and attitude to provide care at the consultant level with confidence. This is a two year program with 45 credit hours of clinical and surgical training. The program is offered in the areas of Periodontology.

Master of Philosophy (M.Phil)

The aim of the training program is to produce basic subject dental teacher & researchers in the relevant field having sufficient knowledge, skill

and attitude to provide care and education at the consultant level with confidence. This is a two year program with 48 credit hours of training. The program is offered in the areas of Community Dentistry.

Fellowship of the College of Physicians & Surgeons (FCPS)

The aim of the training program is to produce dental specialists in the relevant field having sufficient knowledge, skill and attitude to provide care at the consultant level with confidence. This is a four year program and is offered in the field of Operative Dentistry. This program is recognized by the College of Physicians & Surgeons Pakistan (CPSP).



**Faculty of Engineering,
Science & Technology**

C++ Data Structure

VLSI Design Calculus Digital Logic
Internet & IP Telephony Optical Fiber
Distributed Programming Soil Machines
Construction Management Automobile
Control System Artificial Intelligence
Thermodynamics Machine Design





Faculty of Engineering, Science & Technology

The Faculty of Engineering, Science & Technology aims to foster an academic environment of learning and research that can inspire the next generation of creators and innovators in the fields of civil engineering, electrical engineering & computer science. Its programs are designed to enrich students with basic knowledge of their respective fields and accommodate the rapid changes of the modern world. Of far greater importance is the reality that these changes have created enormous opportunities for engineering and computer related expertise in the world. The students are equipped with the necessary background and skills to excel in the job market in spite of the growing competition.

The faculty offers the following undergraduate and postgraduate degree programs, the details of which are presented in the accompanying tables giving an overview of typical study plans.

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

This is a four year, full-time program of 136 credits. It offers courses covering the core areas of computer science along with technology oriented courses. The graduates of this program will be well equipped to meet the challenges posed by the dynamic needs of the software industry.

The BS(CS) program is accredited by the National Computing Education Accreditation Council (NCEAC).

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

This is a four year, full-time program of 136 credits. It offers a mixed blend of computer science, management and communication. The program is designed to produce graduates who can utilize their technical expertise and interpersonal skills to meet the job requirements of the information technology industry and play a vital role in the growing entrepreneurship in these areas.

BACHELOR OF SCIENCE (SOFTWARE ENGINEERING)

This is a four year, full-time program of 136 credits. It offers courses covering core areas in computing along with courses in software design, development, maintenance and project management.

The graduates of this program will be equipped with the skills required to meet the mounting challenges in the field of software engineering.

The BS(SE) program is accredited by the National Computing Education Accreditation Council (NCEAC).

BACHELOR OF SCIENCE (TELECOMMUNICATION)

This is a four year, full-time program of 136 credits. It offers courses covering a broad spectrum ranging from basic

telecommunication systems to modern mobile wireless communication systems. The program is designed to produce graduates who can meet the growing demand of the emerging telecom industry and can play an active role in enhancing the telecommunication infrastructure in the country.

BACHELOR OF SCIENCE (ELECTRONICS)

This is a four year, full-time program of 136 credits. It offers courses covering a broad spectrum ranging from basic circuit systems to advanced integrated circuits. The program is designed to produce graduates who can meet the growing industrial demand of qualified personnel in design, manufacturing and maintenance of electronic systems.

BACHELOR OF ENGINEERING (ELECTRICAL)

This is a four year, full-time program of 136 credits. It offers a degree in the parent discipline of Electrical Engineering, along with specialization in the four streams of Electronics, Telecommunication, Electrical Power and Computer Systems. The program is designed to produce engineering graduates

who have sufficient breadth in the field of electrical engineering to meet the diverse demands of the industry. The program has been designed in accordance with HEC guidelines and has been approved by the Pakistan Engineering Council.

BACHELOR OF ENGINEERING (CIVIL)

This is a four year, full-time program of 136 credits. The program is designed to produce engineering graduates who have sufficient breadth in the field of civil engineering to meet the diverse demands of the industry. The program has been designed in accordance with HEC guidelines and has been approved by the Pakistan Engineering Council.

BACHELOR OF ENGINEERING (MECHANICAL)

This is a four year, full-time program of 136 credits. The program is designed to produce engineering graduates who have sufficient breadth in the field of mechanical engineering to meet the diverse demands of the industry. The program has been designed in accordance with HEC guidelines and has been approved by the Pakistan Engineering Council.



MS / M. Phil & Ph.D PROGRAMS

The Faculty of Engineering, Science & Technology also offers degree programs in MS / M. Phil and Ph.D. The MS program is offered in the fields of computer science, telecommunication and information technology.

It is a two year, full-time program of 36 credits based on 24 credits of coursework and 12 credits of research. The program also offers a variety of elective courses in novel technologies and emerging trends which help broaden the students' field of expertise. The M. Phil program on the

other hand is a two year, full time commitment of 36 credits based on 24 credits of coursework and 12 credits of research. The Ph.D program is a three year, full time commitment of 84 credits based on 18 credits of coursework and 66 credits of research.



A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE (COMPUTER SCIENCE), BS (CS)

DURATION: 4 YEARS

Minimum degree requirements: This program comprises a minimum of 136 credit hours of coursework that includes a final year project of 6 credits.

YEAR 1
First Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| CSIT 111 | Introduction to Information and Communication Technology | 3 (2+3) |
| CSPF 112 | Programming Fundamentals | 4 (3+3) |
| MTCA 113 | Calculus and Analytical Geometry | 3 (3+0) |
| HSEN 114 | English Composition and Comprehension | 3 (3+0) |
| HSPS 115 | Pakistan Studies | 2 (2+0) |
| | University Elective-I | 3 (3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------|--------------|
| MTDS 121 | Discrete Structures | 3 (3+0) |
| ESBE 122 | Basic Electronics | 3 (2+3) |
| CSOP 123 | Object Oriented Programming | 4 (3+3) |
| HSEN 124 | Communication Skills | 3 (3+0) |
| HSIS 125 | Islamic Studies / Ethics | 2 (2+0) |
| MTES 126 | Probability and Statistics | 3 (3+0) |
| | Total credits | 18 |

YEAR 2
First Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| MTLA 211 | Linear Algebra | 3 (3+0) |
| CSDL 212 | Digital Logic and Design | 4 (3+3) |
| CSDS 213 | Data Structures and Algorithms | 4 (3+3) |
| CSDN 214 | Data Communication and Computer Networks | 4 (3+3) |
| | University Elective-II | 3 (3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------------|--------------|
| CSSE 221 | Software Engineering | 4 (3+3) |
| CSDA 222 | Design and Analysis of Algorithms | 3 (2+3) |
| CSST 223 | Operating Systems | 4 (3+3) |
| CSDB 224 | Database Systems | 4 (3+3) |
| | Supporting Science Elective-I | 3(3+0) |
| | Total credits | 18 |

YEAR 3**First Semester**

| Course code | Course title | Credit hours |
|-------------|------------------------------------|--------------|
| CSMA 311 | Microprocessor & Assembly Language | 3 (2+3) |
| | CS-Elective-I | 3 (3+0) |
| | CS-Elective-II | 3 (3+0) |
| | University Elective-III | 3 (3+0) |
| | Supporting Science Elective-II | 3 (3+0) |
| | Total credits | 15 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| CSHC 321 | Human Computer Interaction | 3 (2+3) |
| CSCA 322 | Computer Architecture and Organization | 3 (3+0) |
| CSIS 323 | Information Security | 3 (3+0) |
| HSEN 324 | Technical Report Writing | 3 (3+0) |
| | University Elective-IV | 3 (3+0) |
| | CS-Elective-III | 3 (3+0) |
| | Total credits | 18 |

YEAR 4
First Semester

| Course code | Course title | Credit hours |
|-------------|---------------------------------|--------------|
| CSTA 411 | Theory of Automata | 3 (3+0) |
| CSAI 412 | Artificial Intelligence | 3 (2+3) |
| | CS-Elective-IV | 3 (3+ 0) |
| BSCS 499-A | BSCS Project I | 3 (0+9) |
| | Supporting Science Elective-III | 3(3+0) |
| | | 15 |
| | Total credits | |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------|--------------|
| HSPP 421 | Professional Practices | 3 (3+0) |
| CSCC 422 | Compiler Construction | 4 (3+3) |
| | CS-Elective-V | 3 (3+0) |
| | CS-Elective-VI | 3 (3+0) |
| CSCS 499-B | BSCS Project II | 3 (0+9) |
| | Total credits | 16 |

Computer Science Electives

| S.No. | Course title | Credits (Th + Pr) |
|-------|-------------------------------------|-------------------|
| 1. | Human Computer Interaction | 3(2+3) |
| 2. | Big Data Analytics | 3(3+0) |
| 3. | Cloud Computing | 3(3+0) |
| 4. | Computer Graphics | 3(3+0) |
| 5. | Data Encryption and Security | 3(3+0) |
| 6. | E-Commerce | 3(3+0) |
| 7. | Game Application Development | 3(3+0) |
| 8. | Global Software Development | 3(3+0) |
| 9. | Mobile and Pervasive Computing | 3(3+0) |
| 10. | Management Information Systems | 3(3+0) |
| 11. | Mobile Application Development | 3(3+0) |
| 12. | Software Construction & Development | 3(2+3) |
| 13. | Natural Language Processing | 3(3+0) |
| 14. | Real Time Systems | 3(3+0) |
| 15. | Web Engineering | 4 (3+3) /3(2+3) |
| 16. | Software Project Management | 3(3+0) |
| 17. | Python Programming | 3(2+3) |
| 18. | Software Requirements Engineering | 3(3+0) |
| 19. | Theory of Programming Languages | 3(3+0) |
| 20. | Visual Programming | 4(3+3) / 3(2+3) |
| 21. | Data Science | 3(3+0) / 3(2+3) |
| 22. | Machine Learning | 3(3+0) / 3(2+3) |
| 23. | Network Management & Security | 3(3+0) |
| 24. | Internet of Things | 3(3+0) / 3(2+3) |
| 25. | Enterprise Software Development | 3(3+0) / 3(2+3) |

A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY), BS (IT)

DURATION 4 YEARS

Minimum degree requirements: This program comprises a minimum of 136 credit hours of course work that includes a final year project of 6 credits.

YEAR 1**First Semester**

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| CSIT 111 | Introduction to Information and Communication Technology | 3(2+3) |
| CSPF 112 | Programming Fundamentals | 4(3+3) |
| MTCA 113 | Calculus and Analytical Geometry | 3(3+0) |
| HSEN 114 | English Composition and Comprehension | 3(3+0) |
| HSPS 115 | Pakistan Studies | 2(2+0) |
| | University Elective I | 3(3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------|--------------|
| MTDS 121 | Discrete Structures | 3(3+0) |
| ESBE 122 | Basic Electronics | 3(2+3) |
| CSOP 123 | Object Oriented Programming | 4(3+3) |
| HSEN 124 | Communication Skills | 3(3+0) |
| HSIS 125 | Islamic Studies / Ethics | 2(2+0) |
| MTES 126 | Probability and Statistics | 3(3+0) |
| | Total credits | 18 |

YEAR 2**First Semester**

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| ITTM 211 | Technology Management | 3(3+0) |
| CSDL 212 | Digital Logic and Design | 4(3+3) |
| CSDS 213 | Data Structures and Algorithms | 4(3+3) |
| CSDC 214 | Data Communication and Computer Networks | 3(3+0) |
| | University Elective - II | 3(3+0) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------|--------------|
| CSSE 221 | Software Engineering | 4(3+3) |
| ITIS 222 | Information Systems | 3(3+0) |
| CSOS 223 | Operating Systems | 3(3+0) |
| CSDB 224 | Database Systems | 4(3+3) |
| ITMD 225 | Multimedia Systems and Design | 3(2+3) |
| | Total credits | 17 |

YEAR 3
First Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------------|--------------|
| ITOD 311 | Object Oriented Analysis and Design | 3(2+3) |
| ITDA 312 | Database Administration | 3(2+3) |
| ITWT 313 | Web Systems and Technologies | 3(2+3) |
| | IT Elective - I | 3(3+0) |
| | University Elective - III | 3(3+0) |
| | Total credits | 15 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------------|--------------|
| CSHC 321 | Human Computer Interaction | 3(2+3) |
| ITIP 322 | Internet Architecture and Protocols | 3(3+0) |
| ITDS 323 | Data and Network Security | 3(3+0) |
| HSEN 324 | Technical Report Writing | 3(3+0) |
| | IT Elective - II | 3(3+0) |
| | IT Elective - III | 3(2+3) |
| | Total credits | 18 |

YEAR 4**First Semester**

| Course code | Course title | Credit hours |
|-------------|-------------------------------------|--------------|
| ITSA 411 | System Integration and Architecture | 3(3+0) |
| ITPM 412 | IT Project Management | 3(3+0) |
| | IT Elective - IV | 3(3+0) |
| | IT Elective - V | 3(3+0) |
| ITIT 499-A | BSIT Project - I | 3(0+9) |
| | Total credits | 15 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------------|--------------|
| HSPP 421 | Professional Practices | 3(3+0) |
| ITSA 422 | Systems and Network Administration | 3(2+3) |
| ITCC 423 | Cloud Computing | 3(3+0) |
| | IT Elective - VI | 3(3+0) |
| | IT Elective - VII | 3(3+0) |
| ITIT 499-B | BSIT Project - II | 3(0+9) |
| | Total credits | 18 |

Information Technology Electives

| S.No. | Course title | Credits (Th + Pr) |
|-------|-------------------------------------|-------------------|
| 1. | Human Computer Interaction | 3(2+3) |
| 2. | Big Data Analytics | 3(3+0) |
| 3. | Design & Analysis of Algorithms | 3(3+0) |
| 4. | Computer Graphics | 3(3+0) |
| 5. | Data Encryption and Security | 3(3+0) |
| 6. | E-Commerce | 3(3+0) |
| 7. | Game Application Development | 3(3+0) |
| 8. | Global Software Development | 3(3+0) |
| 9. | Information Systems Audit | 3(3+0) |
| 10. | Management Information Systems | 3(3+0) |
| 11. | Mobile Application Development | 3(3+0) |
| 12. | Software Construction & Development | 3(2+3) |
| 13. | Python Programming | 3(2+3) |
| 14. | Real Time Systems | 3(3+0) |
| 15. | Web Engineering | 4 (3+3) /3(2+3) |
| 16. | Project Management | 3(3+0) |
| 17. | Network Administration | 3(3+0) |
| 18. | Digital Signal Processing | 3(3+0) |
| 19. | Data Science | 3(3+0) / 3(2+3) |
| 20. | Visual Programming | 4(3+3) / 3(2+3) |
| 21. | Machine Learning | 3(3+0) / 3(2+3) |
| 22. | Internet of Things | 3(3+0) / 3(2+3) |
| 23. | Mobile and Pervasive Computing | 3(3+0) |
| 24. | Artificial Intelligence | 4(3+3) / 3(2+3) |
| 25. | Optical Fiber Communication | 3(3+0) |

ATYPICAL STUDY PLAN
BACHELOR OF SCIENCE (SOFTWARE ENGINEERING), BS (SE)

DURATION: 4 YEARS

Minimum degree requirements: This program comprises a minimum of 136 credit hours of coursework that includes a final year project of 6 credits.

YEAR 1
First Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| CSIT 111 | Introduction To Information and Communication Technology | 3 (2+3) |
| CSFP 112 | Programming Fundamentals | 4 (3+3) |
| MTCA 113 | Calculus and Analytical Geometry | 3 (3+0) |
| HSEN 114 | English Composition and Comprehension | 3 (3+0) |
| HSPS 115 | Pakistan Studies | 2 (2+0) |
| | University Elective-1 | 3 (3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------|--------------|
| MTDS 121 | Discrete Structures | 3 (3+0) |
| | Supporting Science Elective-1 | 3 (2+0) |
| CSOP 123 | Object Oriented Programming | 4 (3+3) |
| HSEN 124 | Communication Skills | 3 (3+0) |
| HSIS 125 | Islamic Studies/ Ethics | 2 (2+0) |
| MTES 126 | Probability and Statistics | 3 (3+0) |
| | Total credits | 18 |

YEAR 2
First Semester

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| MTLA 211 | Linear Algebra | 3 (3+0) |
| CSDL 212 | Digital Logic and Design | 4 (3+3) |
| CSDS 213 | Data Structures and Algorithms | 4 (3+3) |
| CSDN 214 | Data Communications and Computer Networks | 4 (3+3) |
| | University Elective-II | 3 (3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| CSSE 221 | Software Engineering | 4 (3+3) |
| CSST 223 | Operating Systems | 4 (3+3) |
| CSDB 224 | Database Systems | 4 (3+3) |
| | SE Elective-I | 3 (3+0) |
| | Supporting Science Elective-II | 3 (3+0) |
| | Total credits | 18 |

YEAR 3**First Semester**

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| SESR 311 | Software Requirements and Specification | 3 (3+0) |
| CSOS 312 | Object Oriented Software Engineering | 3 (2+3) |
| | University Elective-III | 3 (3+0) |
| | SE-Elective-II | 3 (3+0) |
| | Supporting Science Elective-III | 3 (3+0) |
| | Total credits | 15 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|----------------------------------|--------------|
| CSHC 321 | Human Computer Interaction | 3 (2+3) |
| CSSA 322 | Software Architecture and Design | 3 (3+0) |
| CSDC 323 | Distributed Computing | 3 (3+0) |
| HSEN 324 | Technical Report Writing | 3 (3+0) |
| | SE- Elective-III | 3 (3+0) |
| | University Elective-IV | 3 (3+0) |
| | Total credits | 18 |

YEAR 4
First Semester

| Course code | Course title | Credit hours |
|-------------|--------------------------------------|--------------|
| CSSV 411 | Software Verification and Validation | 4 (3+3) |
| CSSP 412 | Software Project Management | 3 (3+ 0) |
| | SE-Elective-IV | 3 (3+0) |
| | SE-Elective-V | 3 (3+0) |
| CSCS 499A | BSSE Project I | 3 (0+9) |
| | Total credits | 16 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| HSPP 421 | Professional Practices | 3 (3+0) |
| CSFM 422 | Formal Methods in Software Engineering | 3 (3+0) |
| | SE- Elective-VI | 3 (3+0) |
| | SE- Elective-VII | 3 (3+0) |
| CSCS 499B | BSSE Project II | 3 (0+9) |
| | Total credits | 15 |

Software Engineering Electives

| S.No. | Course title | Credits (Th + Pr) |
|-------|----------------------------------|-------------------|
| 1. | Agent Based Software Engineering | 3(3+0) |
| 2. | Big Data Analytics | 3(3+0) |
| 3. | Cloud Computing | 3(3+0) |
| 4. | Computer Graphics | 4 (3+3) / 3(2+3) |
| 5. | Data Encryption and Security | 3(3+0) |
| 6. | E-Commerce | 3(3+0) |
| 7. | Game Application Development | 3(3+0) |
| 8. | Global Software Development | 3(3+0) |
| 9. | Information Systems Audit | 3(3+0) |
| 10. | Management Information Systems | 3(3+0) |
| 11. | Mobile Application Development | 3(3+0) |
| 12. | Multimedia Communication | 3(3+0) |
| 13. | Natural Language Processing | 3(3+0) |
| 14. | Real Time Systems | 3(3+0) |
| 15. | Artificial Intelligence | 4 (3+3) /3(2+3) |
| 16. | Software Engineering Economics | 3(3+0) |
| 17. | Software Metrics | 3(3+0) |
| 18. | Systems Programming | 3(3+0) |
| 19. | Topics in Software Engineering | 3(3+0) |
| 20. | Visual Programming | 4(3+3) / 3(2+3) |
| 21. | Web Engineering | 4(3+3) / 3(2+3) |
| 22. | Python Programming | 3(2+3) |
| 23. | Machine Learning | 3(3+0) / 3(2+3) |
| 24. | Internet of Things | 3(3+0) / 3(2+3) |
| 25. | Enterprise Software Development | 3(3+0) / 3(2+3) |

Supporting Science Electives for BS (CS, IT & SE)

| Course code | Course title | Credit hours |
|-------------|----------------------------------|--------------|
| MTMC 224 | Multivariable Calculus | 3(3+0) |
| MTDE 315 | Differential Equations | 3(3+0) |
| MTNS 414 | Numerical and Symbolic Computing | 3(3+0) |
| ESBE 122 | Basic Electronics | 3 (2+3) |



University Electives for BS (CS, IT & SE)

| Course code | Course title | Credit hours |
|-------------|-----------------------------|--------------|
| MSHB 112 | Human Behavior & Psychology | 3 (3+0) |
| MSMG 125 | Principles of Management | 3 (3+0) |
| HMSC 231 | Sociology | 3 (3+0) |
| MSHR 233 | Human Resource Management | 3 (3+0) |
| MSFA 235 | Financial Accounting | 3 (3+0) |
| MSMK 245 | Principles of Marketing | 3 (3+0) |
| MSOB 364 | Organizational Behavior | 3 (3+0) |
| MSET 473 | Entrepreneurship | 3 (3+0) |



A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE (TELECOMMUNICATION), BS (TC)

DURATION: 4 YEARS

Minimum degree requirements: This program comprises a minimum of 136 credit hours of coursework that includes a final year project of 6 credits.

YEAR 1

First Semester

| Course code | Course title | Credit hours |
|-------------|---------------------------------------|--------------|
| CSIC-111 | Introduction to Computing | 3 (2+3) |
| GSPS-112 | Physics | 3 (2+3) |
| MTCA-113 | Calculus and Analytical Geometry | 3 (3+0) |
| HSEN-114 | English Composition and Comprehension | 3 (3+0) |
| HSPS-115 | Pakistan Studies | 2 (2+0) |
| MSMG-116 | Principles of Management | 3 (3+0) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------|--------------|
| MTLA-121 | Linear Algebra | 3 (3+0) |
| ESBE-122 | Basic Electronics | 4 (3+3) |
| CSOP-123 | Object Oriented Programming | 4 (3+3) |
| HSEN-124 | Communication Skills | 3 (3+0) |
| HSIS- 125 | Islamic Studies / Ethics | 2 (2+0) |
| | Total credits | 16 |

YEAR 2
First Semester

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| ESEC-211 | Electrical Circuits | 4 (3+3) |
| CSDL-212 | Digital Logic and Design | 4 (3+3) |
| TCSS-213 | Signals and Systems | 3 (3+0) |
| CSDC-214 | Data Communication and Computer Networks | 4 (3+3) |
| TCIT-215 | Introduction to Telecommunication Systems | 3 (3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| ESDC-221 | Electronic Devices and Circuits | 4 (3+3) |
| MTDE-222 | Differential Equations | 3 (3+0) |
| ESMA-223 | Microprocessor and Assembly Language | 4 (3+3) |
| TCAD-224 | Analog and Digital Communication Systems | 4 (3+3) |
| MSMK-225 | Principles of Marketing | 3 (3+0) |
| | Total credits | 18 |

YEAR 3
First Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| MTCV-311 | Complex Variables and Transforms | 3 (3+0) |
| MSOB-312 | Organizational Behavior | 3 (3+0) |
| ESME-313 | Microcontroller and Embedded Systems | 4 (3+3) |
| ESEF-314 | Electromagnetic Field Theory | 3 (3+0) |
| MTPS-315 | Random Variables and Probability Distributions | 3 (3+0) |
| | Total credits | 16 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------|--------------|
| CSIS-321 | Information Security | 3(3+0) |
| HSPP-322 | Professional Practices | 3(3+0) |
| MTNA-323 | Numerical Analysis | 3 (3+0) |
| HSEN-324 | Technical Report Writing | 3 (3+0) |
| TCWP-325 | Antenna and Wave Propagation | 3 (2+3) |
| ITPM-326 | Project Management | 3 (3+0) |
| | Total credits | 18 |

YEAR 4**First Semester**

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| TCPR-411 | Telecommunication Policies and Regulations | 3 (3+0) |
| TCOF-412 | Optical Fiber Communication | 4 (3+3) |
| TCTS-413 | Transmission and Switching Systems | 3 (3+ 0) |
| TCNM-414 | Telecommunication Network Management | 3 (3+0) |
| | TC Elective-I | 3 (3+0) |
| TCTC-499A | BSTC Project-I | 2 (0+6) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------------|--------------|
| TCMW-421 | Mobile and Wireless Communication | 3 (3+0) |
| TCRS-422 | Radar Systems | 2 (2+0) |
| | TC Elective-II | 3 (3+0) |
| | TC Elective-III | 3 (3+0) |
| TCTC-499B | BSTC Project-II | 4 (0+12) |
| | Total credits | 15 |

TC Electives

| Course code | Course title | Credit hours |
|-------------|-----------------------------|--------------|
| TCSC 414 | Satellite Communication | 3 (3+0) |
| TCIC 415 | Information & coding Theory | 3 (3+ 0) |
| TCBD 426 | Broadband Digital Networks | 3 (3+0) |
| ESRT 424 | Radio & TV Receivers | 3 (3+0) |
| TCCS 417 | Communication Systems | 3 (3+0) |
| TCSP 511 | Stochastic Processes | 3 (3+ 0) |
| CSDI 321 | Digital signal Processing | 3 (3+0) |
| TCIN 414 | Internship | 3 (3+ 0) |
| | Total credits | 3 (3+ 0) |



A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE (ELECTRONICS), BS (ES)

DURATION: 4 YEARS

Minimum degree requirements: This program comprises a minimum of 136 credit hours of coursework that includes a final year project of 6 credits.

YEAR 1
First Semester

| Course code | Course title | Credit hours |
|-------------|---------------------------------------|--------------|
| CSIC-111 | Introduction to Computing | 3 (2+3) |
| GSPS-112 | Physics | 3 (2+3) |
| MTCA-113 | Calculus and Analytical Geometry | 3 (3+0) |
| HSEN-114 | English Composition and Comprehension | 3 (3+0) |
| HSPS-115 | Pakistan Studies | 2 (2+0) |
| MSMG-116 | Principles of Management | 3 (3+0) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------------|--------------|
| MTLA-121 | Linear Algebra | 3 (3+0) |
| ESBE-122 | Basic Electronics | 4 (3+3) |
| CSOP-123 | Object Oriented Programming | 4 (3+3) |
| HSEN-124 | Communication Skills | 3 (3+0) |
| HSIS-125 | Islamic Studies / Ethics | 2 (2+0) |
| ESED-126 | Computer Aided Engineering Design | 1(0+3) |
| | Total credits | 17 |

YEAR 2
First Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| ESEC-211 | Electrical Circuits | 4 (3+3) |
| CSDL-212 | Digital Logic and Design | 4 (3+3) |
| TCSS-213 | Signals and Systems | 3 (3+0) |
| CSDC-214 | Data Communication and Computer Networks | 4 (3+3) |
| ESOE-215 | Opto Electronics | 3 (3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| ESDC-221 | Electronic Devices & Circuits | 4 (3+3) |
| MTDE-222 | Differential Equations | 3 (3+0) |
| ESMM 223 | Microprocessor and Microcontroller | 4 (3+3) |
| TCAD-224 | Analog and Digital Communication Systems | 4 (3+3) |
| MSMK-225 | Principles of Marketing | 3 (3+0) |
| | Total credits | 18 |

YEAR 3**First Semester**

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| MTCV-311 | Complex Variables and Transforms | 3 (3+0) |
| MSOB-312 | Organizational Behavior | 3 (3+0) |
| ESED 313 | Embedded Systems Design | 4 (3+3) |
| ESEF-314 | Electromagnetic Field Theory | 3 (3+0) |
| MTPS-315 | Random Variables and Probability Distributions | 3 (3+0) |
| | Total credits | 16 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------|--------------|
| ESVL-321 | VLSI Design | 3 (3+0) |
| HSPP-322 | Professional Practices | 3(3+0) |
| MTNA-323 | Numerical Analysis | 3 (3+0) |
| HSEN-324 | Technical Report Writing | 3 (3+0) |
| TCWP-325 | Antenna and Wave Propagation | 3 (2+3) |
| ITPM-326 | Project Management | 3 (3+0) |
| | Total credits | 18 |

YEAR 4
First Semester

| Course code | Course title | Credit hours |
|-------------|----------------------------------|--------------|
| ESCS-411 | Control Systems | 3 (2+3) |
| TCOF-412 | Optical Fiber Communicaiton | 4 (3+3) |
| ESIM-413 | Instrumentation and Measurements | 4 (3+ 3) |
| | ES Elective-I | 3 (3+0) |
| ESES-499A | BSES Project Part-I | 3 (0+9) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|--------------------------|--------------|
| ESFP-421 | FPGA Based System Design | 4 (3+3) |
| ESRB 422 | Introduction to Robotics | 2 (2+3) |
| | ES Elective-II | 3 (3+0) |
| | ES Elective-III | 3 (3+0) |
| ESES-499B | BSES Project Part-II | 3 (0+9) |
| | Total credits | 15 |

ES Electives

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| TCSC 414 | Satellite Communication | 3(3+0) |
| ESPE 415 | Power Electronics | 3(3+ 0) |
| TCBD 426 | Broadband Digital Networks | 3(3+0) |
| ESRT 424 | Radio & TV Receivers | 3(3+0) |
| ESNT 411 | Nonotechnology | 3(3+0) |
| ESBI 412 | Biomedical Instrumentation | 3(3+0) |
| ESRE 422 | Renewable Energy | 3(3+0) |
| CSCA 322 | Computer Architecture and Organization | 3(3+0) |
| ESFL 415 | Fuzzy Logic | 3(3+0) |
| ESMA 421 | Mechatronics Applications | 3(3+ 0) |
| CSDI 321 | Digital Signal Processing | 3(3+0) |
| TCIN 414 | Internship | 3(3+ 0) |





Department of Electrical Engineering

Vision

Fostering excellence in electrical engineering education for sustainable development and industrial growth at the regional level.

Mission

To provide students of electrical engineering with sound technical knowledge and practical skills of relevance to the contemporary industry, together with the spirit of teamwork, ability to communicate effectively and inculcating professional ethics leading to a successful career with lifelong learning

Program Educational Objectives (PEOs)

PEOs given below, form the basis of the Bachelor of Engineering (Electrical) degree program at Isra University. Within a few years of graduation, the students are expected to attain the following:

PEO 1: Strong competence in electrical engineering resulting in successful careers

PEO 2: Ability to pursue innovation and be able to provide industrial solutions for engineering and technical problems

PEO 3: Interpersonal skills & professional ethics to perform and grow effectively in their career

PEO 4: Aptitude to enhance their professional development and technical knowledge through continuing education

Program Learning Outcomes (PLOs)

Program outcomes are the narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills and attitude that the students acquire while progressing through the program.

PLO-01: Engineering Knowledge: An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PLO-02: Problem Analysis: An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PLO-03: Design/Development of Solutions: An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO-04: Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and

interpretation of experimental data, and synthesis of information to derive valid conclusions.

PLO-05: Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

PLO-06: The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

PLO-07: Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

PLO-08: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PLO-09: Individual and Team Work: An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.

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

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

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



A TYPICAL STUDY PLAN
BACHELOR OF ENGINEERING (ELECTRICAL), BE (EE)

DURATION: 4 YEARS

Minimum degree requirements: This program comprises a minimum of 136 credit hours of course work that includes a final year project of 06 credits.

YEAR 1

First Semester

| Course code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| MTCA-111 | Calculus & Analytical Geometry | 3(3+0) |
| CEEM-112 | Engineering Mechanics | 3(3+0) |
| CSIC-113 | Introduction to Computing | 2(1+1) |
| HSFE-114 | Functional English | 3(3+0) |
| HSIS-115 | Islamic Studies | 2(2+0) |
| NSAP-116 | Applied Physics | 4(3+1) |
| EEWP-117 | Workshop Practice | 1(0+1) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------------|--------------|
| MTLA-121 | Linear Algebra | 3(3+0) |
| METD-122 | Applied Thermodynamics | 4(3+1) |
| EEED-123 | Electronic Devices & Circuits | 4(3+1) |
| EECA-124 | Computer Aided Engineering Drawing | 1(0+1) |
| HSPS-125 | Pakistan Studies | 2(2+0) |
| EELC-126 | Linear Circuit Analysis | 4(3+1) |
| | Total credits | 18 |

YEAR 2
First Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------|--------------|
| MTDE-211 | Differential Equations | 3(3+0) |
| HSCS-212 | Communication Skills | 2(1+1) |
| EEDL-213 | Digital Logic Design | 4(3+1) |
| EEEN-214 | Electrical Network Analysis | 4(3+1) |
| CSPF-215 | Programing Fundamentals | 3(2+1) |
| SSSC-216 | Sociology | 2(2+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|----------------------------------|--------------|
| MTCV-221 | Complex Variables and Transforms | 3(3+0) |
| MSEE-222 | Engineering Ethics | 3(3+0) |
| EEEM-223 | Electrical Machines | 4(3+1) |
| EEET-224 | Electromagnetic Field Theory | 3(3+0) |
| EEIM-225 | Instrumentation and Measurements | 4(3+1) |
| | Total credits | 17 |

YEAR 3
First Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------------|--------------|
| EETM-311 | Probability Methods in Engineering | 3(3+0) |
| EES-312 | Signals and Systems | 4(3+1) |
| EEMS-313 | Microprocessor Systems | 4(3+1) |
| MSEE-314 | Engineering Entrepreneurship | 2(2+0) |
| XXXX-XX | Breadth Core-I | 4(3+1) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------|--------------|
| MTNA-321 | Numerical Analysis | 3(3+0) |
| EELC-322 | Linear Control Systems | 4(3+1) |
| EECS-323 | Communication Systems | 4(3+1) |
| CSDS-324 | Data Structures & Algorithms | 3(2+1) |
| XXXX-XX | Breadth Core-II | 4(3+1) |
| | Total credits | 18 |

YEAR 4**First Semester**

| Course Code | Course Title | Credit Hours |
|-------------|--------------------------------|--------------|
| EEFY-411A | Final Year Project-I | 3(3+0) |
| HSTR-412 | Technical Report Writing | 2(2+0) |
| MSEP-413 | Engineering Project Management | 3(3+0) |
| XXXX-XXX | Depth Elective-I | 4(3+1) |
| XXXX-XXX | Depth Elective-II | 4(3+1) |
| | Total Credits | 16 |

Second Semester

| Course Code | Course Title | Credit Hours |
|-------------|-----------------------|--------------|
| EEFY-411B | Final Year Project-II | 3(3+0) |
| XXXX-XXX | Depth Elective -III | 4(3+1) |
| XXXX-XXX | Depth Elective-IV | 4(3+1) |
| XXXX-XXX | Depth Elective-V | 4(3+1) |
| | Total Credits | 15 |

Electrical Power Engineering Breadth-Core Courses

| Course code | Course title | Credit hours |
|-------------|-----------------------------|--------------|
| EEPG-315 | Electrical Power Generation | 4(3+1) |
| EEPE-325 | Power Electronics | 4(3+1) |

Electrical Power Engineering Depth Elective Courses

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| EEPT-415 | Electrical Power Transmission | 3(3+0) |
| EEPD-416 | Electrical Power Distribution & Utilization | 4(3+1) |
| EEPP-417 | Power System Protection | 4(3+1) |
| EEPA-422 | Power System Analysis | 4(3+1) |
| EEPC-423 | Power System Operation & Control | 4(3+1) |
| EEHV-418 | High Voltage Engineering | 4(3+1) |
| EESC-425 | Power System Stability & Control | 4(3+1) |
| EEAM-424 | Advanced Electrical Machines & Drives | 4(3+1) |
| EESP-411 | Digital Signal Processing | 4(3+1) |
| EEAI-415 | Artificial Intelligence | 4(3+1) |

Electronics Engineering Breadth-Core Courses

| Course code | Course title | Credit hours |
|-------------|---------------------------|--------------|
| EEEC-315 | Electronic Circuit Design | 4(3+1) |
| EEPE-325 | Power Electronics | 4(3+1) |

Electronics Engineering Depth Elective Courses

| Course code | Course title | Credit hours |
|-------------|---------------------------|--------------|
| EEVD-415 | VLSI Design | 4(3+1) |
| EEDE-416 | Digital Electronics | 4(3+1) |
| EERA-423 | Robotics & Automation | 4(3+1) |
| EESP-421 | Digital Signal Processing | 4(3+1) |
| EEME-417 | Microwave Engineering | 4(3+1) |
| EESD-418 | Digital System Design | 4(3+1) |
| EEOE-425 | Optoelectronics | 4(3+1) |
| EEDC-415 | Digital Control Systems | 3(3+0) |
| EEES-424 | Embedded Systems | 4(3+1) |
| EEAI-415 | Artificial Intelligence | 4(3+1) |

Telecommunication Engineering Breadth-Core Courses

| Course code | Course title | Credit hours |
|-------------|---------------------------|--------------|
| EECD-315 | Electronic Circuit Design | 4 (3+1) |
| EEME-325 | Microwaves Engineering | 4 (3+1) |

Telecommunication Engineering Depth Elective Courses

| Course code | Course title | Credit hours |
|-------------|-----------------------------|--------------|
| EEOF-424 | Optical Fiber Communication | 4(3+1) |
| EERS-425 | Radar Systems | 4(3+1) |
| EEWP-422 | Wave Propagation & Antennas | 4(3+1) |
| EESD-422 | Digital System Design | 4(3+1) |
| EEOE-423 | Optoelectronics | 4(3+1) |
| EEDC-415 | Digital Control Systems | 3(3+0) |
| EEES-424 | Embedded Systems | 4(3+1) |
| EEDE-414 | Digital Electronics | 4(3+1) |
| EESP-41 1 | Digital Signal Processing | 4(3+1) |
| EEDC-415 | Digital Communication | 3(3+0) |
| EEIC-427 | Information & Coding Theory | 3(3+0) |
| EEAI-423 | Artificial Intelligence | 4(3+1) |

Computer Systems Engineering Breadth-Core Courses

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| CSDC-315 | Data Communication & Computer Networking | 4 (3+1) |
| CSOS-325 | Operating Systems | 4 (3+1) |

Computer Systems Engineering Depth Elective Courses

| Course code | Course title | Credit hours |
|-------------|--------------------------------------|--------------|
| CSCA-414 | Computer Architecture | 3(3+0) |
| EEES-424 | Embedded Systems | 4(3+1) |
| CSDS-422 | Data Structures & Algorithms | 4(3+1) |
| CSDD-423 | Database Design & Management Systems | 4(3+1) |
| CSMS-425 | Multimedia System | 4(3+1) |
| CSSE-426 | Software Engineering | 4(3+1) |
| CSAI-415 | Artificial Intelligence | 4(3+1) |
| CSCG-415 | Computer Graphics | 4(3+1) |
| CSIP-416 | Digital Image Processing | 4(3+1) |
| CSCC-414 | Compiler Construction | 4(3+1) |
| CSBI-413 | Bioinformatics | 4(3+1) |
| EESP-411 | Digital Signal Processing | 4(3+1) |



Department of Civil Engineering

Vision

Fostering excellence in civil engineering education for sustainable development and industrial growth at the regional level

Mission

To provide students of civil engineering with sound technical knowledge and practical skills of relevance to the contemporary industry, together with the spirit of teamwork, ability to communicate effectively and inculcating professional ethics leading to a successful career with lifelong learning



Program Educational Objectives (PEOs)

The PEOs given below, form the basis of the Bachelor of Engineering (Civil) Degree Program at Isra University. Within a few years of graduation, the students are expected to attain the following:

PEO 1: Strong competence in Civil Engineering resulting in successful careers

PEO 2: Ability to pursue innovation and be able to provide industrial solutions for engineering and technical problems

PEO 3: Interpersonal skills & professional ethics to perform and grow effectively in their career

PEO 4: Aptitude to enhance their professional development and technical knowledge through continuing education

Program Learning Outcomes (PLOs)

Program outcomes are the narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills and attitude that the students acquire while progressing through the program.

PLO-01: Engineering Knowledge: An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PLO-02: Problem Analysis: An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PLO-03: Design/Development of Solutions: An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO-04: Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and

interpretation of experimental data, and synthesis of information to derive valid conclusions.

PLO-05: Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

PLO-06: The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

PLO-07: Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

PLO-08: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PLO-09: Individual and Team Work: An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.

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

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

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



A TYPICAL STUDY PLAN
BACHELOR OF ENGINEERING (CIVIL), BE(CE)

DURATION: 4 YEARS

Minimum degree requirements: This program comprises a minimum of 137 credit hours of course work that includes a final year project of 06 credits.

YEAR 1
First Semester

| Course code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| CEED-111 | Engineering Drawing | 4 (2+2) |
| MTCA-112 | Calculus & Analytical Geometry | 3 (3+0) |
| HSFE-113 | Functional English | 2 (2+0) |
| HSIS-114 | Islamic Studies | 2 (2+0) |
| CEEM-115 | Civil Engineering Materials | 4 (3+1) |
| CSIC-116 | Introduction to Computing | 3 (2+1) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------------|--------------|
| HSEM-121 | Engineering Economics & Management | 2 (2+0) |
| HSPS-122 | Pakistan Studies | 2 (2+0) |
| CEEM-123 | Engineering Mechanics | 4 (3+1) |
| HSCS-124 | English (Communication Skills) | 2 (2+0) |
| CEES-125 | Surveying - I | 4 (3+1) |
| MTDE-126 | Differential Equations | 3 (3+0) |
| | Total credits | 17 |

YEAR 2
First Semester

| Course code | Course title | Credit hours |
|-------------|---------------------------|--------------|
| CEED-211 | Civil Engineering Drawing | 3 (2+1) |
| CEES-212 | Surveying - II | 4 (3+1) |
| HSSC-213 | Sociology | 2 (2+0) |
| MTNA-214 | Numerical Analysis | 3 (3+0) |
| CECE-215 | Construction Engineering | 3 (3+0) |
| CESM-216 | Strength of Materials | 3 (3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------|--------------|
| MTSP-221 | Statistic & Probability | 3 (3+0) |
| CESA-222 | Structural Analysis -I | 3 (3+0) |
| CEMS-223 | Mechanics of Solids | 3 (3+0) |
| CEFM-224 | Fluid Mechanics | 4 (3+1) |
| CEEG-225 | Engineering Geology | 3 (3+0) |
| | Total credits | 16 |

YEAR 3
First Semester

| Course code | Course title | Credit hours |
|--------------------|---------------------------------|---------------------|
| CEQS-311 | Quantity Surveying & Estimation | 3 (3+0) |
| CEFM-312 | Plain & Reinforced Concrete | 4 (3+1) |
| CECM-313 | Construction Management | 3 (3+0) |
| CESA-314 | Structural Analysis-II | 3 (3+0) |
| CESM-315 | Soil Mechanics | 4 (3+1) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|--------------------|---------------------------------------|---------------------|
| CEPR-321 | Plain & Reinforced Concrete | 4 (3+1) |
| CEAT-322 | Architecture & Town Planning | 2 (2+0) |
| CETE-323 | Transportation Engineering | 3 (3+0) |
| CEFE-324 | Environmental Engineering-I | 3 (2+1) |
| CEGF-325 | Geotechnical & Foundation Engineering | 4 (3+1) |
| | Total credits | 16 |

YEAR 4
First Semester

| Course code | Course title | Credit hours |
|-------------|---------------------------------------|--------------|
| CEEP-411 | Civil Engineering Project-I | 3 (0+9) |
| CEHW-412 | Hydrology & Water Resource Management | 4 (3+1) |
| CEAR-413 | Advanced Reinforced Concrete Design | 4 (3+1) |
| HMTR-414 | Technical Report Writing | 2 (2+0) |
| CEHT-415 | Highway & Traffic Engineering | 4 (3+1) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------------|--------------|
| CEEP-421 | Civil Engineering Project II | 3 (0+9) |
| CEEE-422 | Environmental Engineering -II | 2 (2+0) |
| CESS-423 | Steel Structure | 4 (3+1) |
| CEHI-424 | Hydraulic & Irrigation Engineering | 4 (3+1) |
| CEHD-425 | Hazards & Disaster Management | 2 (2+0) |
| CEGI-426 | Geoinformatics | 3 (2+1) |
| | Total credits | 18 |



Department of Mechanical Engineering

Vision

Fostering excellence in mechanical engineering education for sustainable development and industrial growth at the regional level

Mission

To provide students of mechanical engineering with sound technical knowledge and practical skills of relevance to the contemporary industry, together with the spirit of teamwork, ability to communicate effectively and inculcating professional ethics leading to a successful career with lifelong learning.

Program Educational Objectives (PEOs)

The PEOs given below, form the basis of the Bachelor of Engineering (Mechanical) Degree Program at Isra University. Within a few years of graduation, the students are expected to attain the following:

PEO 1: Strong competence in Mechanical Engineering resulting in successful careers

PEO 2: Ability to pursue innovation and be able to provide industrial solutions for engineering and technical problems

PEO 3: Interpersonal skills & professional ethics to perform and grow effectively in their career

PEO 4: Aptitude to enhance their professional development and technical knowledge through continuing education

Program Learning Outcomes (PLOs)

Program outcomes are the narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills and attitude that the students acquire while progressing through the program.

PLO-01:Engineering Knowledge: An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PLO-02:Problem Analysis: An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PLO-03:Design/Development of Solutions: An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO-04:Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and

interpretation of experimental data, and synthesis of information to derive valid conclusions.

PLO-05:Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

PLO-06:The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

PLO-07:Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

PLO-08:Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PLO-09:Individual and Team Work: An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.

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

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

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



A TYPICAL STUDY PLAN
BACHELOR OF ENGINEERING (MECHANICAL), BE(MECHANICAL)

DURATION: 4 YEARS

Minimum degree requirements: This program comprises a minimum of 137 credit hours of course work that includes a final year project of 06 credits.

YEAR 1
First Semester

| Course code | Course title | Credit hours |
|-------------|----------------------------------|--------------|
| MTAC-111 | Applied Calculus | 3(3+0) |
| MEED-112 | Engineering Drawing and Graphics | 4(2+2) |
| GSAC-113 | Applied Chemistry | 2(2+0) |
| HSFE-114 | Functional English | 2(2+0) |
| HSIS-115 | Islamic Studies / Ethics | 2(2+0) |
| GSAP-116 | Applied Physics | 3(2+1) |
| | Total credits | 16 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| CSIC-121 | Introduction to Computers & Programming | 3(2+1) |
| MEEM-122 | Engineering Statics | 3(2+1) |
| METD-123 | Thermodynamics-1 | 4(3+1) |
| HSCS-124 | Communication Skills | 2(2+0) |
| MEWP-125 | Workshop Practice | 2(0+2) |
| MEEM-126 | Engineering Materials | 2(2+0) |
| | Total credits | 16 |

YEAR 2
First Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------|--------------|
| MEED-211 | Engineering Dynamics | 3(3+0) |
| MTLD-212 | L.A.D.E & A.G | 3(3+0) |
| METD-213 | Thermodynamics-II | 4(3+1) |
| EEET-214 | Electrical Technology | 3(2+1) |
| MESM-215 | Strength of Materials-I | 3(3+0) |
| HSPS-216 | Pakistan Studies | 2(2+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|----------------------------------|--------------|
| MTCV-221 | Complex Variables and Transforms | 3(3+0) |
| MESM-222 | Strength of Materials-II | 4(3+1) |
| HSSC-223 | Sociology | 2(2+0) |
| MEMM-224 | Mechanics of Machines-1 | 2(2+0) |
| MEFM-225 | Fluid Mechanics-1 | 4(3+1) |
| EEBE-226 | Basic Electronics | 3(2+1) |
| | Total credits | 18 |

YEAR 3
First Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| MTNA-311 | Numerical Analysis & Computer Applications | 3(2+1) |
| MEHT-312 | Heat and Mass Transfer | 3(2+1) |
| MEAA-313 | Applied Aerodynamics | 3(2+1) |
| MEFM-314 | Fluid Mechanics-II | 3(2+1) |
| MEMD-315 | Machine Design & CAD-I | 3(3+0) |
| MEMM-316 | Mechanics of Machines-II | 3(2+1) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| MEAE-321 | Automobile Engineering | 3(2+1) |
| MTSP-322 | Statistics & Probability | 2(2+0) |
| MEMD-323 | Machine Design & CAD-II | 3(2+1) |
| MEAC-324 | Heating, ventilation and Air Conditioning | 4(3+1) |
| MEIC-325 | Instrumentation and Control | 3(2+1) |
| MEMV-326 | Mechanical Vibrations | 3(2+1) |
| | Total credits | 18 |

YEAR 4
First Semester

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| MESE-411 | Safety, Health and Environment | 2(2+0) |
| MEMP-412 | Manufacturing Process-I | 3(2+1) |
| MEPP-413 | Thermal Power Plant | 4(3+1) |
| MSEM-414 | Engineering Economics and Management | 2(2+0) |
| MERE-415 | Renewable and Emerging Energy Technologies | 3(2+1) |
| MEEP-416 | Mechanical Engineering Project-I | 3(0+3) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------------|--------------|
| MEMP-421 | Manufacturing Process-II | 4(3+1) |
| MEME-422 | Maintenance Engineering | 2(2+0) |
| MEMT-423 | Mechatronics | 3(2+1) |
| MSPM-424 | Project Management | 2(2+0) |
| HSTR-425 | Technical Report Writing | 2(2+0) |
| MEEP-426 | Mechanical Engineering Project-II | 3(0+3) |
| | Total credits | 16 |

**A TYPICAL STUDY PLAN
ASSOCIATE OF APPLIED SCIENCE (SOFTWARE ENGINEERING)**

DURATION: 2 YEARS

Minimum degree requirements: This program comprises a minimum of 66 credit hours of coursework.

YEAR 1

First Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------------|--------------|
| HMLG 111 | English Composition & Comprehension | 3(3+0) |
| HMPS 112 | Pakistan Studies | 2(2+0) |
| MTCA 111 | Calculus & Analytical Geometry | 3(3+0) |
| CSIC 101 | Introduction to Computers | 3(2+3) |
| CSWD 153 | Web Development | 4(3+3) |
| HMIS 113 | Islamic Studies | 1(1+0) |
| | Total credits | 16 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|------------------------------|--------------|
| CSOP 152 | Object Oriented Programming | 4(3+3) |
| MTDM 114 | Discrete Mathematics | 3(3+0) |
| CSDL 241 | Digital Logic Design | 4(3+3) |
| MSBC 213 | Business Communication | 3(3+0) |
| CSDS 252 | Database Design & Management | 4(3+3) |
| | Total credits | 18 |

YEAR 2
First Semester

| Course code | Course title | Credit hours |
|-------------|--------------------------|--------------|
| CSDS 252 | Data Structures | 4(3+3) |
| HMTR 211 | Technical Report Writing | 3(3+0) |
| CSSE 321 | Software Engineering | 4(3+3) |
| CSVP 253 | Visual Programming | 4(3+3) |
| | Total credits | 15 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-----------------------------------|--------------|
| CSJP 354 | Java Programming | 4(3+3) |
| CSIP 352 | Internet Programming & Management | 4(3+3) |
| | Elective I | 3(3+0) |
| | Elective II | 3(3+0) |
| CSCS 499 | Project | 3(0+9) |
| | Total credits | 17 |

Associate of Applied Science (Software Engineering)
Electives

| Course code | Course title | Credit hours |
|-------------|-------------------------------|--------------|
| CSSA 421 | System Analysis & Design | 3(3+0) |
| CSDP 452 | Distributed Programming | 3(3+0) |
| CSPL 462 | Programming Language Concepts | 3(3+0) |
| CSTA 461 | Theory of Automata | 3(3+0) |
| CSNM 437 | Network Management & Security | 3(3+0) |
| CSHC 425 | Human Computer Interaction | 3(3+0) |



A TYPICAL STUDY PLAN
ASSOCIATE OF APPLIED SCIENCE (ELECTRONICS)

DURATION: 2 YEARS

Minimum degree requirements: This program comprises a minimum of 66 credit hours of coursework.

YEAR 1
First Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------------|--------------|
| HMLG 111 | English Composition & Comprehension | 3(3+0) |
| HMPS 112 | Pakistan Studies | 2(2+0) |
| MTCA 111 | Calculus & Analytical Geometry | 3(3+0) |
| CSIC 101 | Introduction to Computers | 3(2+3) |
| TCAP 102 | Applied Physics | 4(3+3) |
| HMIS 113 | Islamic Studies | 1(1+0) |
| | Total credits | 16 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------|--------------|
| HMTR 211 | Technical Report Writing | 3(3+0) |
| MTCV 112 | Complex Variable & Transforms | 3(3+0) |
| CSDL 241 | Digital Logic Design | 4(3+3) |
| TCAC 103 | Circuit Analysis | 4(3+3) |
| ESBE 102 | Basic Electronics | 4(3+3) |
| | Total credits | 18 |

YEAR 2**First Semester**

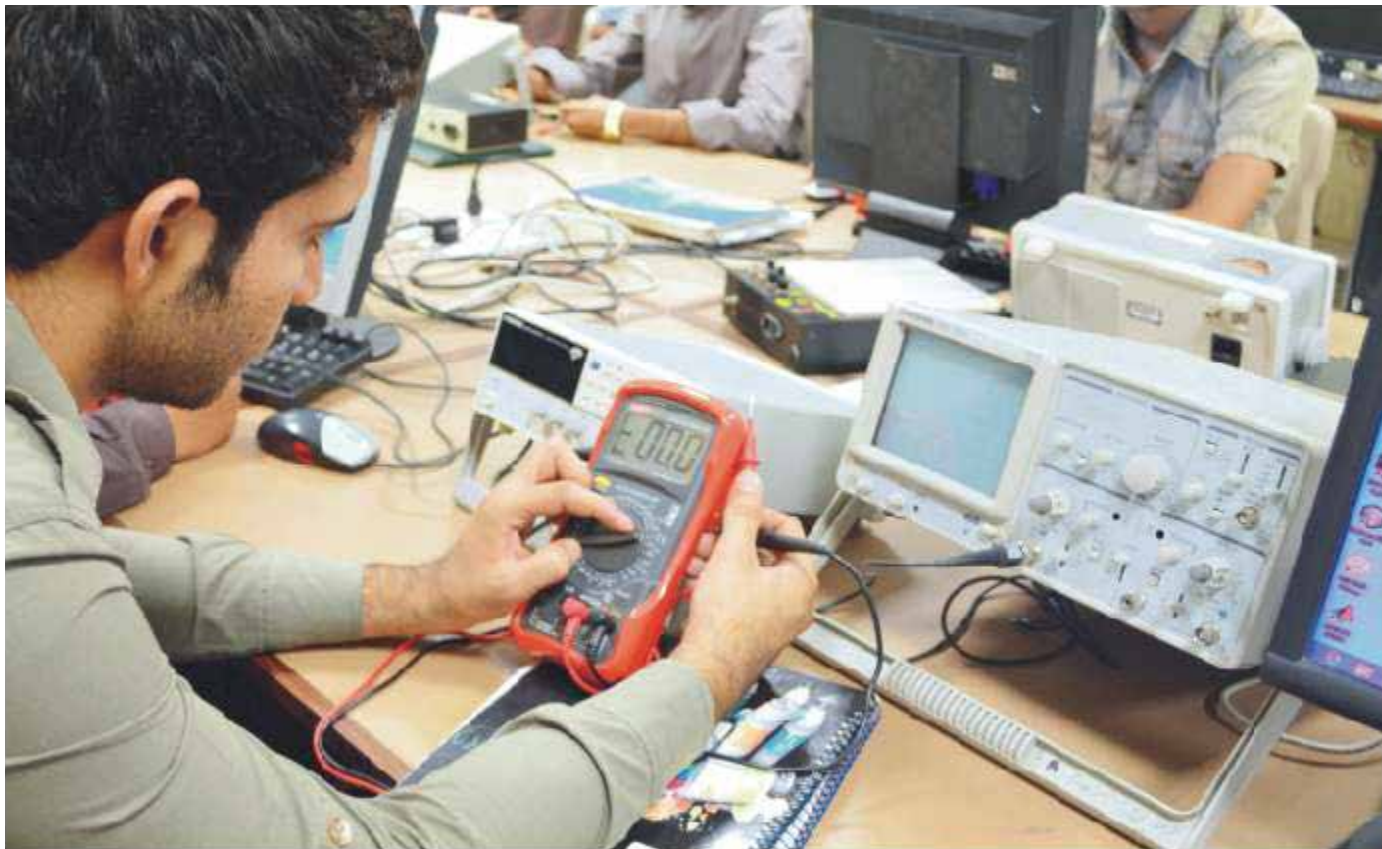
| Course code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| TCET 362 | Power & Industrial Electronics | 3(2+3) |
| ESAD 201 | Analog & Digital communication | 4(3+3) |
| ESCA 210 | Computer-Aided Engineering | 1(0+3) |
| ESEC 202 | Electronic Circuit Design | 4(3+3) |
| | Elective I | 3(3+0) |
| | Total credits | 15 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| ESMI 341 | Microprocessor & Interfacing Techniques | 3(2+3) |
| ESFC 332 | Feedback Control Systems | 4(3+3) |
| ESIM 111 | Instrumentation & Measurement | 4(3+3) |
| | Elective II | 3(3+0) |
| ESES 499 | Project | 3(0+9) |
| | Total credits | 17 |

**Associate of Applied Science (Electronics)
Electives**

| Course code | Course title | Credit hours |
|-------------|------------------------------|--------------|
| ESFL 468 | Fuzzy Logic & Simulation | 3(3+0) |
| TCET 362 | Electromagnetic Field Theory | 3(3+0) |
| ESMA 491 | Mechatronics Applications | 3(3+0) |
| ESOE 380 | Opto Electronics | 4(3+3) |
| ESRA 405 | Robotics & Automation | 3(2+3) |



A TYPICAL STUDY PLAN
ASSOCIATE DEGREE PROGRAM (TELECOMMUNICATION)

DURATION: 2 YEARS

Minimum degree requirements: This program comprises a minimum of 66 credit hours of coursework.

YEAR 1

First Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------------|--------------|
| HMLG 111 | English Composition & Comprehension | 3(3+0) |
| HMPS 112 | Pakistan Studies | 1(1+0) |
| MTCA 111 | Calculus & Analytical Geometry | 3(3+0) |
| CSIC 101 | Introduction to Computers | 3(2+3) |
| TCAP 102 | Applied Physics | 4(3+3) |
| HMIS 113 | Islamic Studies | 2(2+0) |
| | Total credits | 16 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|-------------------------------|--------------|
| HMTR 211 | Technical Report Writing | 3(3+0) |
| MTCV 112 | Complex Variable & Transforms | 3(3+0) |
| CSDC 236 | Data & Computer Communication | 4(3+3) |
| CSDL 241 | Digital Logic Design | 4(3+3) |
| ESBE 102 | Basic Electronics | 4(3+3) |
| | Total credits | 18 |

YEAR 2**First Semester**

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| TCOF 451 | Optical Fiber Communication | 4(3+3) |
| TCDE 201 | Digital Electronics | 3(2+3) |
| TCSS 211 | Signal and Systems Electromagnetic Field Theory | 3(3+0) |
| TCET 362 | Analog & Digital communication | 4(3+3) |
| ESAD 201 | Broadband Digital Networks | 3(3+0) |
| | Total credits | 17 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|---------------------------------|--------------|
| TCMW 441 | Mobile & Wireless Communication | 3(3+0) |
| TCWP 461 | Wave Propagation & Antennas | 4(3+3) |
| | Elective I | 3(3+0) |
| | Elective II | 3(3+0) |
| TCTC 499 | Project | 3(0+9) |
| | Total credits | 16 |

**Associate of Applied Science (Telecommunication)
Electives**

| Course code | Course title | Credit hours |
|-------------|----------------------------------|--------------|
| ESRE 322 | Radio & TV Engineering | 3(3+0) |
| TCSC 442 | Satellite Communication | 3(3+0) |
| CSNM 437 | Network Management & Security | 3(3+0) |
| TCTS 322 | Transmission & Switching Systems | 3(3+0) |
| TCET 362 | Electromagnetic Field Theory | 3(3+0) |
| TCIT 414 | Information & Coding Theory | 3(3+0) |



SUMMARY OF MS, M. Phil AND Ph.D PROGRAMS

| Faculty of Engineering, Science & Technology | |
|--|---|
| MS Program | |
| Minimum qualifications Duration Coursework credits Research credits | 4 year Bachelor Degree Minimum 2 years 24 Credits 12 Credits |
| M. Phil Program | |
| Minimum qualifications Duration Coursework credits Research credits | Master or 4 year Bachelor Degree Minimum 2 years 24 Credits 12 Credits |
| Ph.D Program | |
| Minimum qualifications Duration Coursework credits Research credits | M Phil or 18 year of education Minimum 3 year 18 Credits 66 Credits |

STUDY PLAN**MASTER OF SCIENCE (COMPUTER SCIENCE), MS (CS)****DURATION: 2 YEARS**

Minimum degree requirements: This program comprises of a minimum of 36 credits including 9 credits for the 3 core courses that cover major areas of computer science, 3 credits for a special study related to the area of specialization, 12 credits from the area of specialization and elective courses and 12 credits for the dissertation which forms the major research component of this program.

| Course work category | Credit hours |
|---|--------------|
| Core | 9 |
| Area of Specialization & Electives | 12 |
| Special Study | 3 |
| Dissertation | 12 |
| Total | 36 |

| Course Code | Course title | Credit hours |
|-------------|---------------|--------------|
| CSCS 599 | Dissertation | 12(0+36) |
| CSSS 598 | Special Study | 3(0+9) |

STUDY PLAN**MASTER OF PHILOSOPHY (COMPUTER SCIENCE), M. PHIL (CS)****DURATION: 2 YEARS**

Minimum degree requirements: This program comprises of a minimum of 36 credits including 9 credits for the 3 core courses that cover the major areas of computer science, 3 credits for a special study related to the area of specialization, 12 credits from the area of specialization and elective courses and 12 credits for the dissertation which forms the major research component of this program.

| Course work category | Credit hours |
|------------------------------------|--------------|
| Core | 9 |
| Area of Specialization & Electives | 12 |
| Special Study | 3 |
| Thesis | 12 |
| Total | 36 |

| Course Code | Course title | Credit hours |
|-------------|---------------|--------------|
| CSCS 699 | Thesis | 12 (0+36) |
| CSSS 598 | Special Study | 3 (0+9) |

STUDY PLAN
DOCTOR OF PHILOSOPHY, Ph.D (COMPUTER SCIENCE)

DURATION: 3 YEARS

Minimum degree requirements: The program comprises of a minimum of 66 credits for thesis and 18 credits of coursework. The minimum qualification for entering this program is an M. Phil degree or 18 years of education in a related area.



MS / M. Phil & Ph.D COURSES IN COMPUTER SCIENCE

The courses offered in these programs comprise of core courses together with courses in areas of specialization and some courses from a set of specified computer science electives.

Core Courses

| Course code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| CSAA 563 | Algorithm Analysis & Design | 3(3+0) |
| CSAD 511 | Advanced Database Systems | 3(3+0) |
| CSCA 542 | Advanced Computer Architecture | 3(3+0) |
| CSOS 531 | Advanced Operating Systems | 3(3+0) |
| CSAR 501 | Advanced Research Methods | 3(3+0) |

Area of Specialization**Software Engineering**

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| CSAS 622 | Advanced Topics in Software Engineering | 3(3+0) |
| CSOO 528 | Object Oriented Software Engineering | 3(3+0) |
| CSSD 524 | Software Design Patterns | 3(3+0) |
| CSSV 523 | Software Verification & Validation | 3(3+0) |

Database Systems

| Course code | Course title | Credit hours |
|-------------|------------------------------|--------------|
| CSAD 614 | Advanced Topics in Databases | 3(3+0) |
| CSDD 513 | Distributed Database Systems | 3(3+0) |
| CSDM 512 | Data Mining and Warehousing | 3(3+0) |
| CSOD 515 | Object Oriented Databases | 3(3+0) |

Computer Networks

| Course code | Course title | Credit hours |
|-------------|--------------------------------------|--------------|
| CSAN 635 | Advanced Topics in Computer Networks | 3(3+0) |
| CSDS 538 | Distributed Systems | 3(3+0) |
| CSNP 537 | Network Performance Evaluation | 3(3+0) |
| CSNS 536 | Network Security | 3(3+0) |

Multimedia & Graphics

| Course code | Course title | Credit hours |
|-------------|--------------------------------------|--------------|
| CSCA 574 | Computer Animation | 3(3+0) |
| CSCG 672 | Advanced Topics in Computer Graphics | 3(3+0) |
| CSMC 573 | Multimedia Compression Techniques | 3(3+0) |
| CSMS 571 | Multimedia Systems | 3(3+0) |

CS Electives

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| CSAD 614 | Advanced Topics in Databases | 3(3+0) |
| CSAI 621 | Advanced Topics in Information Systems | 3(3+0) |
| CSAN 635 | Advanced Topics in Computer Networks | 3(3+0) |
| CSAS 622 | Advanced Topics in Software Engineering | 3(3+0) |
| CSCA 574 | Computer Animation | 3(3+0) |
| CSCG 672 | Advanced Topics in Computer Graphics | 3(3+0) |
| CSDD 513 | Distributed Database Systems | 3(3+0) |
| CSDM 512 | Data Mining and Warehousing | 3(3+0) |
| CSDS 538 | Distributed Systems | 4(3+3) |
| CSKB 567 | Knowledge Based Systems | 3(3+0) |
| CSCC 636 | Cloud Computing | 3(3+0) |
| CSMS 571 | Multimedia Systems | 3(3+0) |
| CSNP 537 | Network Performance Evaluation | 3(3+0) |
| CSNS 536 | Network Security | 3(3+0) |
| CSOD 515 | Object Oriented Databases | 3(3+0) |
| CSOO 528 | Object Oriented Software Engineering | 3(3+0) |
| CSSD 524 | Software Design Patterns | 3(3+0) |
| CSSV 523 | Software Verification & Validation | 3(3+0) |
| CSRT 697 | Research Topics in Computer Science | 3(3+0) |

STUDY PLAN
MASTER OF SCIENCE (INFORMATION TECHNOLOGY), MS (IT)

DURATION: 2 YEARS

Minimum degree requirements: The program comprises of a minimum of 36 credits including 9 credits for the 3 core courses that cover the major areas of information technology, 3 credits for a special study related to the area of specialization, 12 credits from the area of specialization and elective courses and 12 credits for the dissertation which forms the major research component of this program.

| Course work category | Credit hours |
|------------------------------------|--------------|
| Core | 9 |
| Area of Specialization & Electives | 12 |
| Special Study | 3 |
| Dissertation | 12 |
| Total | 36 |

| Course Code | Course title | Credit hours |
|-------------|---------------|--------------|
| CSIT 599 | Dissertation | 12 (0+36) |
| CSSS 598 | Special Study | 3 (0+9) |

STUDY PLAN**MASTER OF PHILOSOPHY (INFORMATION TECHNOLOGY), M. Phil (IT)****DURATION: 2 YEARS**

Minimum degree requirements: The program comprises of a minimum of 36 credits including 9 credits for core courses that cover the major areas of information technology, 3 credits for a special study related to the area of specialization, 12 credits from the area of specialization and elective courses and 12 credits for the dissertation which forms the major research component of this program. The minimum qualification for entering this program is a four year bachelor degree or 16 years of education in a related area.

| Course work category | Credit Hours |
|------------------------------------|--------------|
| Core | 9 |
| Area of Specialization & Electives | 12 |
| Special Study | 3 |
| Thesis | 12 |
| Total | 36 |

| Course Code | Course title | Credit Hours |
|-------------|---------------|--------------|
| CSIT 699 | Thesis | 12 (0+36) |
| CSSS 598 | Special Study | 3 (0+9) |

STUDY PLAN
DOCTOR OF PHILOSOPHY, Ph.D(INFORMATION TECHNOLOGY)

DURATION: 3 YEARS

Minimum degree requirements: The program comprises of a minimum of 66 credits for thesis and 18 credits of coursework. The minimum qualification for entering this program is an M. Phil degree or 18 years of education in a related area.



MS / M. Phil & Ph.D COURSES IN INFORMATION TECHNOLOGY

The courses offered in these programs comprise of core courses together with courses in areas of specialization and some courses from a set of specified information technology electives.

Core Courses

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| CSAN 534 | Advanced Computer Networks | 3(3+0) |
| CSAS 521 | Advanced Software Engineering | 3(3+0) |
| CSEI 526 | Enterprise Information Systems & Technology | 3(3+0) |
| CSSI 527 | Strategic IT Planning & Administration | 3(3+0) |
| CSAR 501 | Advanced Research Methods | 3(3+0) |

Area of Specialization**Software Engineering**

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| CSAS 622 | Advanced Topics in Software Engineering | 3(3+0) |
| CSOO 528 | Object Oriented Software Engineering | 3(3+0) |
| CSSD 524 | Software Design Patterns | 3(3+0) |
| CSSV 523 | Software Verification & Validation | 3(3+0) |

Database Systems

| Course code | Course title | Credit hours |
|-------------|------------------------------|--------------|
| CSAD 614 | Advanced Topics in Databases | 3(3+0) |
| CSDD 513 | Distributed Database Systems | 3(3+0) |
| CSDM 512 | Data Mining and Warehousing | 3(3+0) |
| CSOD 515 | Object Oriented Databases | 3(3+0) |

Information Systems

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| CSAI 621 | Advanced Topics in Information Systems | 3(3+0) |
| CSKB 567 | Knowledge Based Systems | 3(3+0) |
| MSIM 553 | International Marketing | 3(3+0) |
| MSMM 512 | Multinational Management | 3(3+0) |

IT Electives

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| CSAD 614 | Advanced Topics in Databases | 3(3+0) |
| CSAI 621 | Advanced Topics in Information Systems | 3(3+0) |
| CSAN 635 | Advanced Topics in Computer Networks | 3(3+0) |
| CSAS 622 | Advanced Topics in Software Engineering | 3(3+0) |
| CSCA 574 | Computer Animation | 3(3+0) |
| CSCG 672 | Advanced Topics in Computer Graphics | 3(3+0) |
| CSDD 513 | Distributed Database Systems | 3(3+0) |
| CSDM 512 | Data Mining and Warehousing | 3(3+0) |
| CSDS 538 | Distributed Systems | 3(3+0) |
| CSMC 573 | Multimedia Comprehension Techniques | 4(3+3) |
| CSMS 571 | Multimedia Systems | 3(3+0) |
| CSNP 537 | Network Performance Evaluation | 3(3+0) |
| CSNS 536 | Network Security | 3(3+0) |
| CSOD 515 | Object Oriented Databases | 3(3+0) |
| CSOO 528 | Object Oriented Software Engineering | 3(3+0) |
| CSSD 524 | Software Design Patterns | 3(3+0) |
| CSSV 523 | Software Verification & Validation | 3(3+0) |
| CSES 567 | Expert Systems in Information Technology | 3(3+0) |
| CSRT 697 | Research Topics in Information Technology | 3(3+0) |

STUDY PLAN
MASTER OF SCIENCE (TELECOMMUNICATION), MS (TC)

DURATION: 2 YEARS

Minimum degree requirements: This program comprises of a minimum of 36 credits including 9 credits for the 3 core courses that cover the major areas of telecommunication, 3 credits for a special study related to the area of specialization, 12 credits from the area of specialization and elective courses and 12 credits for the dissertation which forms the major research component of this program.

| Course work category | Credit hours |
|------------------------------------|--------------|
| Core | 9 |
| Area of Specialization & Electives | 12 |
| Special Study | 3 |
| Dissertation | 12 |
| Total | 36 |

| Course Code | Course title | Credit hours |
|-------------|---------------|--------------|
| CSCS 599 | Dissertation | 12 (0+36) |
| CSSS 598 | Special Study | 3 (0+9) |

STUDY PLAN**MASTER OF PHILOSOPHY (TELECOMMUNICATION), M. PHIL (TC)****DURATION: 3 YEARS**

Minimum degree requirements: The program comprises of a minimum of 36 credits including 9 credits for core courses that cover the major areas of telecommunication, 3 credits for a special study related to the area of specialization, 12 credits from the area of specialization and elective courses and 12 credits for the dissertation which forms the major research component of this program. The minimum qualification for entering this program is a four year bachelor degree or 16 years of education in a related area.

| Course work category | Credit hours |
|------------------------------------|--------------|
| Core | 9 |
| Area of Specialization & Electives | 12 |
| Special Study | 3 |
| Thesis | 12 |
| Total | 36 |

| Course Code | Course title | Credit hours |
|-------------|---------------|--------------|
| CSCS 699 | Thesis | 12 (0+36) |
| CSSS 598 | Special Study | 3 (0+9) |

STUDY PLAN
DOCTOR OF PHILOSOPHY, Ph.D (TELECOMMUNICATION)

DURATION: 3 YEARS

Minimum degree requirements: The program comprises of a minimum of 66 credits for thesis and 18 credits of coursework. The minimum qualification for entering this program is an M. Phil degree or 18 years of education in a related area.



MS / M. Phil & Ph.D COURSES INTELECOMMUNICATION

The courses offered in these programs comprise of core courses together with courses in areas of specialization and some courses from a set of specified telecommunication electives.

Core Courses

| Course title | Credit hours |
|--------------------------------|--------------|
| Stochastic Processes | 3(3+0) |
| Advanced Digital Communication | 3(3+0) |
| Advanced Research Methods | 3(3+0) |
| Telecommunication Networks | 3(3+0) |

Area of Specialization**Optical Fiber Communication**

| Course title | Credit hours |
|---|--------------|
| Optical Fiber Communication | 3(3+0) |
| Optical Communication Networks | 3(3+0) |
| Optical Amplification and Integrated Optics | 3(3+0) |
| Optical Fiber Systems | 3(3+0) |

Radar System Engineering

| Course title | Credit hours |
|---------------------------------------|--------------|
| Radar System Engineering | 3(3+0) |
| Radar Signal Processing | 3(3+0) |
| Propagation of Radar Waves | 3(3+0) |
| Radar Detection and Estimation Theory | 3(3+0) |

Wireless Communication and Networks

| Course title | Credit hours |
|-------------------------------------|--------------|
| Wireless Communication and Networks | 3(3+0) |
| Mobile Applications and Systems | 3(3+0) |
| Next Generation Networks | 3(3+0) |
| Wireless Broadband Technologies | 3(3+0) |

Antenna and Microwave Engineering

| Course title | Credit hours |
|---------------------------------------|--------------|
| Antenna and Microwave Engineering | 3(3+0) |
| Advanced Electromagnetic Field Theory | 3(3+0) |
| Advanced Microwave Engineering | 3(3+0) |
| Advanced Antenna Design | 3(3+0) |

Telecommunication Systems

| Course title | Credit hours |
|--|--------------|
| Telecommunication Systems | 3(3+0) |
| Advanced Information and Coding Theory | 3(3+0) |
| Wireless Communication | 3(3+0) |
| Advanced Topics in Telecommunication | 3(3+0) |

TC Electives

| Course title | Credit hours |
|--------------------------------------|--------------|
| Speech Processing | 3(3+0) |
| Digital Signal Processing | 3(3+0) |
| Advanced Switching Theory | 3(3+0) |
| QoS in Telecommunication | 3(3+0) |
| RF Engineering | 3(3+0) |
| Satellite Communication | 3(3+0) |
| Mobile and Ad-hoc Networks | 3(3+0) |
| Wireless Navigation Systems | 3(3+0) |
| Network Management | 3(3+0) |
| Research Topics in Telecommunication | 3(3+0) |

STUDY PLAN
M.S. Program in Computational Mathematics

DURATION: 2 YEARS

Minimum degree requirements: This program comprises of a minimum of 36 credits including 9 credits for the 3 core courses that cover the major areas of computational mathematics, 3 credits for a special study related to the area of specialization, 12 credits from the area of specialization and elective courses and 12 credits for the dissertation which forms the major research component of this program.

| Course work category | Credit hours |
|------------------------------------|--------------|
| Core | 9 |
| Area of Specialization & Electives | 12 |
| Special Study | 3 |
| Thesis | 12 |
| Total | 36 |

| Course Code | Course title | Credit hours |
|-------------|---------------|--------------|
| CSCS 699 | Thesis | 12 (0+36) |
| CSSS 598 | Special Study | 3 (0+9) |



MS COURSES IN COMPUTATIONAL MATHEMATICS

The courses offered in these programs comprise of core courses together with courses in areas of specialization and some courses from a set of specified computational mathematics electives.

Core Courses

| Course title | Credit hours | Contact hrs per semester |
|--------------------------------------|--------------|--------------------------|
| Algorithm Analysis & Design | 3(3+0) | 48 |
| Advanced Research Methods | 3(3+0) | 48 |
| Mathematical Modeling and Simulation | 3(3+0) | 48 |

Area of Specialization & Electives Courses

| Course title | Credit hours | Contact hrs per semester |
|---|--------------|--------------------------|
| Statistical Methods and Estimation | 3(3+0) | 48 |
| Operation Research and Optimization Technique | 3(3+0) | 48 |
| Computational Fluid Dynamics and Computational Rheology | 3(3+0) | 48 |
| Advanced Differential Equations and Boundary Value Problems | 3(3+0) | 48 |
| Advanced Numerical Analysis | 3(3+0) | 48 |
| Applied Functional Analysis | 3(3+0) | 48 |
| Advanced Heat and Mass Transfer | 3(3+0) | 48 |
| Finite Element Methods | 3(3+0) | 48 |
| Numerical Solutions of Partial Differential Equations | 3(3+0) | 48 |



**Faculty of Commerce,
Economics
& Management
Sciences**

Marketing Insurance
Strategic Management Auditing
Microeconomics Business Taxation
Decision Making Management
Money Banking Project Management
System Dynamics Business Mathematics
Human Resource Management
Development Economics Cost Accounting





Faculty of Commerce, Economics & Management Sciences

The Faculty of Commerce, Economics & Management Sciences aims to inspire its students with an aptitude for business entrepreneurship and leadership to help drive the economic development of the society. Its programs are designed to enrich students with basic knowledge of their respective fields, the current business trends and managerial practices in the industry. The faculty maintains active liaison with business enterprises to offer greater career opportunities for its graduates. Students are groomed to acquire the interpersonal skills and work ethic required to meet the dynamic needs of the job market.

The faculty offers the following undergraduate and postgraduate degree programs, the details of which are presented in the accompanying tables giving an overview of typical study plans.

BACHELOR OF BUSINESS ADMINISTRATION

This is a four-year, full-time degree program of 138 credits. It imparts essential knowledge in various domains of business administration, economics, accounting, finance and marketing, and gives an introduction to computer applications in business and trends in information technology.

The program offers electives in a variety of specialization areas. The BBA program is accredited by the National Business Education Accreditation Council (NBEAC).

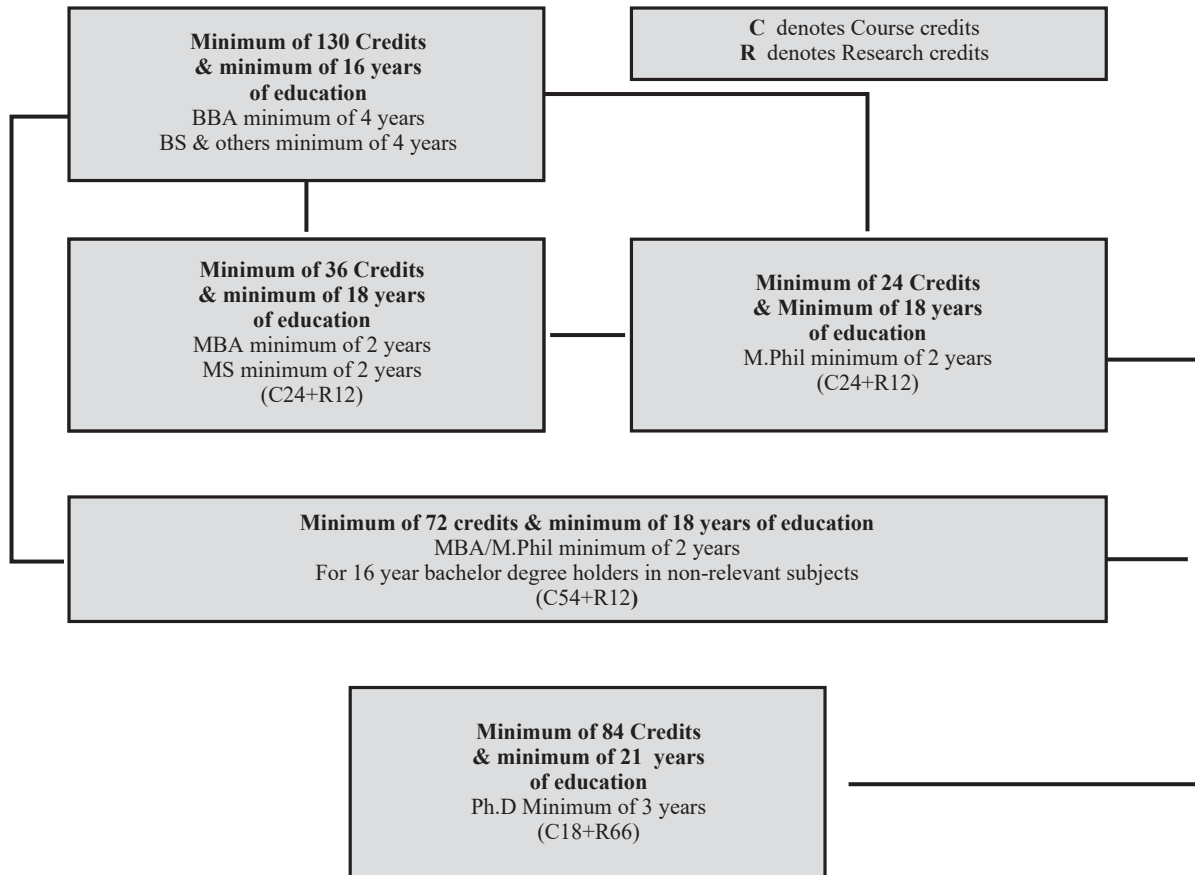
MASTER OF BUSINESS ADMINISTRATION

This is a two-year, full-time, program of 36 credit hours. The core curriculum covers advanced level courses with emphasis on financial management, international business management, managerial economics, and statistical analysis for management, managerial policy, and marketing management. Six areas of

major concentration, namely Marketing, Banking & Finance, Management, Hotel Management, Health Care & Hospital Management and Human Resource Management are offered. Students who wish to enter this program with a two year business related bachelors degree or a four years non-business degree will be required to take additional credits as per HEC regulations. The MBA program is accredited by the National Business Education Accreditation Council (NBEAC).



Duration and Credits of Postgraduate Programs of Study



A TYPICAL STUDY PLAN
BACHELOR OF BUSINESS ADMINISTRATION

DURATION: 4 YEARS

Minimum degree requirements: The program comprises a minimum of 144 credit hours of coursework that includes 126 credits of required courses, a BBA Research project 3 credits, a 6-8 weeks 3 credits internship and 12 credits of electives courses.

YEAR 1
First Semester

| Course Code | Course title | Credit hours |
|-------------|----------------------------------|--------------|
| HSEN 114 | English-I | 3 (3+0) |
| MSHB 112 | Human Psychology & Behavior | 3 (3+0) |
| MSIB 114 | Introduction to Business | 3 (3+0) |
| CSIC 111 | Computer Application in Business | 3 (2+3) |
| MTBM 113 | Business Mathematics | 3 (3+0) |
| HSPS116 | Pakistan Studies | 3(3+0) |
| | Total credits | 18 |

Second Semester

| Course Code | Course title | Credit hours |
|-------------|-----------------------------------|--------------|
| HSEN 124 | Communication Skills (English II) | 3 (3+0) |
| MSFA 235 | Financial Accounting | 3 (3+0) |
| MSMG 125 | Principles of Management | 3 (3+0) |
| MSBS 121 | Business Statistics | 3 (3+0) |
| MSEC 126 | Microeconomics | 3 (3+0) |
| HSIS 122 | Islamic Studies | 3 (3+0) |
| | Total credits | 18 |

YEAR 2
First Semester

| Course Code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| MSCA 352 | Cost and Managerial Accounting | 3 (3+0) |
| MSAW 212 | Academic Writing | 3 (3+0) |
| HSHR 233 | Human Resource Management | 3 (3+0) |
| MSBF 244 | Business Finance | 3 (3+0) |
| MSEC 234 | Macroeconomics | 3 (3+0) |
| MSBN 474 | Money & Banking | 3 (3+0) |
| | Total credits | 18 |

Second Semester

| Course Code | Course title | Credit hours |
|-------------|-------------------------------|--------------|
| MSFM 353 | Financial Management | 3 (3+0) |
| HMBE 243 | Business Ethics | 3 (3+0) |
| MSBC 243 | Business Communication | 3 (3+0) |
| HMPT 123 | Personal and Time Management | 3 (3+0) |
| MSMK 245 | Principles of Marketing | 3 (3+0) |
| MALT 246 | Analytical & Logical Thinking | 3 (3+0) |
| | Total credits | 18 |

YEAR 3
First Semester

| Course Code | Course title | Credit hours |
|-------------|--------------------------|--------------|
| HMPE 241 | Pakistan Economy | 3 (3+0) |
| MSMM 351 | Marketing Management | 3 (3+0) |
| HMSC 231 | Sociology | 3 (3+0) |
| MSBL 354 | Business & Corporate Law | 3 (3+0) |
| MSTQ 356 | Total Quality Management | 3 (3+0) |
| | Elective I | 3(3+0) |
| | Total credits | 18 |

Second Semester

| Course Code | Course title | Credit hours |
|-------------|-----------------------------------|--------------|
| MSMI 362 | Management Information System | 3 (3+0) |
| MSCB 363 | Consumer Behavior | 3 (3+0) |
| MPPT 361 | Principles & Practice of Taxation | 3 (3+0) |
| MSOB364 | Organizational Behavior | 3 (3+0) |
| MSPM 365 | Project Management | 3 (3+0) |
| | Elective II | 3(3+0) |
| | Total credits | 18 |

YEAR 4
First Semester

| Course Code | Course title | Credit hours |
|-------------|---|--------------|
| MSBR 471 | Business Research Methods | 3 (3+0) |
| MSET 473 | Entrepreneurship | 3 (3+0) |
| MSAD 323 | Auditing | 3 (3+0) |
| HMIR 475 | International Relations & Current Affairs | 3 (3+0) |
| MSPM 472 | Production & Operational Management | 3 (3+0) |
| MSBA 482 | Business Research Project (Part One) | |
| | Elective-III | 3 (3+0) |
| MSIP 400 | Internship (Summer) | |
| | Total credits | 18 |

Second Semester

| Course Code | Course title | Credit hours |
|-------------|--------------------------------------|--------------|
| MSIB 481 | International Business Management | 3 (3+0) |
| MSBP 483 | Business Policy | 3 (3+0) |
| MSEC 484 | E-Commerce | 3 (3+0) |
| MSBA 482 | Business Research Project (Part Two) | 3 (3+0) |
| MSIP 400 | Internship (Summer) | 3 (3+0) |
| | Elective-IV | 3 (3+0) |
| | Total credits | 18 |

Note: The student is liable to do an internship after the seventh semester (4th year, 1st semester) but mentions it's in the 8th semester (4th year, 2nd semester). their viva will be conducted in the 8th semester.

BBA Electives
Marketing

| Course Code | Course title | Credit hours |
|-------------|---------------------------------------|--------------|
| MSMR 454 | Marketing Research | 3(3+0) |
| MSIM 452 | International Marketing | 3(3+0) |
| MSIM 453 | Industrial Marketing | 3(3+0) |
| MSAM 455 | Advertisement Management | 3(3+0) |
| MSPS 456 | Personal Selling and Sales Management | 3(3+0) |

Human Resources Management

| Course Code | Course title | Credit hours |
|-------------|---------------------------------|--------------|
| MSTD 483 | Training and Development | 3(3+0) |
| MSMA 484 | Motivation and its Applications | 3(3+0) |
| MSLL 488 | Labor Laws in Pakistan | 3(3+0) |
| MSCM 487 | Compensation Management | 3(3+0) |
| MSRS 486 | Recruitment and Selection | 3(3+0) |

Management

| Course Code | Course title | Credit hours |
|-------------|--|--------------|
| MSKM 416 | Knowledge Management | 3(3+0) |
| MSSM 417 | Small and Medium enterprise management | 3(3+0) |
| MSMS 419 | Managing Services Business | 3(3+0) |
| MSOD 413 | Organization Development | 3(3+0) |
| MSSC 415 | Supply Chain Management | 3(3+0) |

Entrepreneurship

| Course Code | Course title | Credit hours |
|-------------|---|--------------|
| MSEC 461 | Entrepreneurship, Creativity and Innovation | 3(3+0) |
| MSED 462 | Entrepreneurial Decision Making | 3(3+0) |
| MSIP 463 | Intrapreneurship | 3(3+0) |
| MSVF 464 | Venture Financing | 3(3+0) |
| MSEO 465 | Entrepreneurship Opportunity Identification | 3(3+0) |

Finance

| Course Code | Course title | Credit hours |
|-------------|-------------------------------------|--------------|
| MSSA 441 | Security Analysis | 3(3+0) |
| MSIP 442 | Investment and Portfolio Management | 3(3+0) |
| MSAF 443 | Analysis of Financial Statement | 3(3+0) |
| MSCM 445 | Capital Markets | 3(3+0) |
| MSIB 446 | Islamic Banking and Finance | 3(3+0) |

**A TYPICAL STUDY PLAN
BACHELOR OF BUSINESS ADMINISTRATION**

DURATION: 2 YEARS

Minimum Degree Requirements: The student with 14 years of the education will be required to complete 64-69 credits hours of business courses and earn a BBA degree. Program comprises a maximum of 69 credits hours coursework that includes 57 credits of required course, a BBA Research Project 3 credits, a 6-8 weeks 3 credits internship and 6 credits of electives course. Student will take re-admission to do MBA 2 -year regular program. In essence, this is similar to old MBA (16-Years) program and is a subset of BBA 4 -year program.

YEAR 1

First Semester

| Course Code | Course title | Credit hours |
|-------------|----------------------------|--------------|
| MTBM 113 | Business Mathematics | 3 (3+0) |
| MSEC 126 | Micro Economics | 3 (3+0) |
| MSMG 125 | Principles of Management | 3 (3+0) |
| MTBM 113 | Business Statistics | 3 (3+0) |
| MSHR 233 | Human Resources Management | 3 (3+0) |
| MSFA 235 | Financial Accounting | 3(3+0) |
| | Total Credits | 18 |

Second Semester

| Course Code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| MSEC 234 | Macro Economics | 3 (3+0) |
| MSMK 245 | Principles of Marketing | 3 (3+0) |
| MSBF 244 | Business Finance | 3 (3+0) |
| MSBC 243 | Business Communication | 3 (3+0) |
| MSCA352 | Cost and Managerial Accounting | 3 (3+0) |
| MSMM 351 | Marketing Management | 3(3+0) |
| | Total Credits | 18 |

YEAR 2
First Semester

| Course Code | Course title | Credit hours |
|-------------|--------------------------------------|--------------|
| MSCB 363 | Consumer Behavior | 3 (3+0) |
| MSFM 353 | Financial Management | 3 (3+0) |
| MSOB 364 | Organizational Behavior | 3 (3+0) |
| MSMI 362 | Management Information System | 3 (3+0) |
| MSBL 354 | Business and Corporate Law | 3 (3+0) |
| | Elective I | 3(3+0) |
| MSBA 482 | Business Research Project (Part One) | |
| | Total credits | 18 |

Second Semester

| Course Code | Course title | Credit hours |
|-------------|--------------------------------------|--------------|
| MSET 473 | Entrepreneurship | 3 (3+0) |
| MSBR 471 | Business Research Method | 3 (3+0) |
| MSBA 482 | Business Research Project (Part Two) | 3 (3+0) |
| MSIP 400 | Internship | 3 (3+0) |
| | Elective II | 3 (3+0) |
| | Total credits | 15 |

Note: The student is liable to do an internship after the 3rd semester (2nd year, 1st semester) but mentions it's in the 4th semester (2nd year, 2nd semester). their viva will be conducted in the 4th semester.

A TYPICAL STUDY PLAN
ASSOCIATE OF APPLIED SCIENCE (BUSINESS ADMINISTRATION)

DURATION: 2 YEARS

Minimum degree requirements: This program comprises a minimum of 66 credit hours of coursework.

YEAR 1

First Semester

| Course title | Credit hours |
|-----------------------------------|--------------|
| Introduction to Computers | 3(3+0) |
| English-I& II | 3(3+0) |
| Fundamentals of Accounting | 3(3+0) |
| Statistics | 3(3+0) |
| Pakistan Studies/ Islamic Studies | 3(3+0) |
| Leadership Skills | 3(3+0) |
| Total credits | 18 |

Second Semester

| Course title | Credit hours |
|--------------------------|--------------|
| Business Communications | 3(3+0) |
| Introduction to Business | 3(3+0) |
| Principles of Marketing | 3(3+0) |
| Principles of Management | 3(3+0) |
| Business Mathematics | 3(3+0) |
| Total credits | 15 |

YEAR 2**First Semester**

| Course title | Credit hours |
|----------------------------------|--------------|
| Microeconomics | 3(3+0) |
| Technical Report Writing | 3(3+0) |
| Financial Accounting | 3(3+0) |
| Introduction to Business Finance | 3(3+0) |
| Elective-I | 3(3+0) |
| Total credits | 15 |

Second Semester

| Course title | Credit hours |
|---------------------------|--------------|
| Macroeconomics | 3(3+0) |
| Human Resource Management | 3(3+0) |
| Money & Banking | 3(3+0) |
| Organization Development | 3(3+0) |
| Internship | 3(3+0) |
| Elective-II | 3(3+0) |
| Total credits | 18 |

Associate of Applied Science (Business Administration) Electives

Banking

| Course title | Credit hours | Contact hrs per semester |
|--------------------------------------|--------------|--------------------------|
| Banking Law and Practice | 3 (3+0) | 48 |
| International Banking | 3 (3+0) | 48 |
| Consumer Banking | 3 (3+0) | 48 |
| Credit Analysis & Investment Banking | 3 (3+0) | 48 |

Management

| Course title | Credit hours | Contact hrs per semester |
|----------------------------|--------------|--------------------------|
| Organizational Development | 3 (3+0) | 48 |
| Change Management | 3 (3+0) | 48 |
| Total Quality Management | 3 (3+0) | 48 |
| Crises Management | 3 (3+0) | 48 |
| Comparative Management | 3 (3+0) | 48 |
| Knowledge Management | 3 (3+0) | 48 |
| Project Management | 3 (3+0) | 48 |

Human Resources Management

| Course title | Credit hours | Contact hrs per semester |
|--------------------------------|--------------|--------------------------|
| Recruitment and Selection | 3 (3+0) | 48 |
| Training and Development | 3 (3+0) | 48 |
| Personal Management | 3 (3+0) | 48 |
| Managerial Skills | 3 (3+0) | 48 |
| Compensation Management | 3 (3+0) | 48 |
| Leadership and Team Management | 3 (3+0) | 48 |

Finance

| Course title | Credit hours | Contact hrs per semester |
|---------------------------------------|--------------|--------------------------|
| Financial Statement Analysis | 3 (3+0) | 48 |
| Investment and Portfolio Management | 3 (3+0) | 48 |
| Insurance Management | 3 (3+0) | 48 |
| Risk Management | 3 (3+0) | 48 |
| Islamic Banking & Finance | 3 (3+0) | 48 |
| Financial Products in Islamic Banking | 3 (3+0) | 48 |

Marketing

| Course title | Credit hours | Contact hrs per semester |
|-------------------------|--------------|--------------------------|
| Sales Management | 3 (3+0) | 48 |
| International Marketing | 3 (3+0) | 48 |
| Brand Management | 3 (3+0) | 48 |
| Cyber Marketing | 3 (3+0) | 48 |
| Services Marketing | 3 (3+0) | 48 |
| Retail Management | 3 (3+0) | 48 |

SUMMARY OF MBA, M. Phil AND Ph.D PROGRAMS

| Department of Management Sciences | |
|--|--|
| MBA Program | |
| Minimum qualifications Duration | 4 year Business Related Bachelor Degree Minimum 2 years |
| Coursework credits Research credits | 24 Credits 12 Credits |
| OR | |
| Coursework credits Internship credits | 33 Credits 03 Credits |
| M. Phil Program | |
| Minimum qualifications Duration Coursework credits Research credits | Master or 4 years Bachelor Degree Minimum 2 years 24 Credits 12 Credits |
| Ph.D Program | |
| Minimum qualifications Duration Coursework credits Research credits | M Phil or 18 years education Minimum 3 years 18 Credits 66 Credits |

Note:

- Admission requirement for MBA & M.Phil Program GRE (General) by NTS OR entry test by University.
- Admission requirement for Ph.D Program GRE (Subject) by NTS OR entry test by University.

STUDY PLAN
MASTER OF BUSINESS ADMINISTRATION (2 Year MBA Program)

Minimum degree requirement: This program comprises a minimum of 36 Credit hours given 6 course courses together with 2 specialization courses. Students may choose to undertake research in the form of a 12 credits dissertation. Before research proposal, students should clear GRE (General) by university OR by NTS GRE (General) and submit the result. Students also may choose the submission of a 3-credit internship along with an additional 9 credit of elective courses.

| Course work category for research based MBA | | Credit hours |
|---|---|-----------------|
| | Core | 18 |
| | Area of Specialization & Electives | 6 |
| MSMD 599 | Dissertation | 12(0+36) |
| | Total | 36 |

OR

| Course code | Course work category for internship based MBA | Credit hours |
|-------------|---|--------------|
| | Core | 18 |
| | Area of Specialization & Electives | 15 |
| MSIP 600 | Internship | 3 |
| | Total | 36 |

MBA COURSES IN MANAGEMENT SCIENCES

The courses offered in this program comprise of core courses together with courses in areas of specialization.

Core Courses

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|--------------------------------|--------------|--------------------------|
| MSAR 501 | Advanced Research Methods | 3(3+0) | 48 |
| MSMP 502 | Macroeconomic Policy | 3(3+0) | 48 |
| MSSF 503 | Strategic Finance | 3(3+0) | 48 |
| MSME 534 | Managerial Economics | 3(3+0) | 48 |
| MSSM 551 | Strategic Marketing Management | 3(3+0) | 48 |
| MSSM 573 | Strategic Management | 3(3+0) | 48 |

Areas of Specialization**Marketing**

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|----------------------------------|--------------|--------------------------|
| MSCM 551 | Customer Relationship Management | 3(3+0) | 48 |
| MSMS 556 | Marketing Strategy | 3(3+0) | 48 |
| MSPM 558 | New Product Marketing Strategy | 3(3+0) | 48 |
| MSAS 553 | Advertising & Sales Promotion | 3(3+0) | 48 |
| MSBM 552 | Brand Management | 3(3+0) | 48 |
| MSMA 559 | Marketing Analytics | 3(3+0) | 48 |

Finance

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|-------------------------------------|--------------|--------------------------|
| MSIE 547 | Introduction of Econometrics | 3(3+0) | 48 |
| MSBA 542 | Behavior Analysis & Decision Making | 3(3+0) | 48 |
| MSBF 541 | Behavioral Finance | 3(3+0) | 48 |
| MSSA 546 | Security Analysis | 3(3+0) | 48 |
| MSCM 540 | Capital Markets | 3(3+0) | 48 |
| MSIF 543 | International Financial Management | 3(3+0) | 48 |

Management Information Systems (MIS)

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|---|--------------|--------------------------|
| MSSD 561 | Systems Dynamics | 3(3+0) | 48 |
| MSSD 562 | Database Management | 3(3+0) | 48 |
| MSSD 563 | System Analysis and Design | 3(3+0) | 48 |
| MSSD 564 | E-Business | 3(3+0) | 48 |
| MSCN 565 | Computer networking | 3(3+0) | 48 |
| MSAI 566 | Expert System and Artificial Intelligence | 3(3+0) | 48 |

Human Resource Management

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|--|--------------|--------------------------|
| MSDM 583 | Development Management Skills | 3(3+0) | 48 |
| MSTM 581 | Talent Management | 3(3+0) | 48 |
| MSEL 582 | Employee Law & Regulation | 3(3+0) | 48 |
| MSPM 586 | Performance Management & Reward System | 3(3+0) | 48 |
| MSLT 584 | Leadership and Team Management | 3(3+0) | 48 |
| MSPM 587 | Performance Management | 3(3+0) | 48 |

Management

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|------------------------------------|--------------|--------------------------|
| MSBP 515 | Business Process Management | 3(3+0) | 48 |
| MSIM 516 | Innovation Management | 3(3+0) | 48 |
| MSCM 543 | Comparative Management | 3(3+0) | 48 |
| MSCM 514 | Change Management | 3(3+0) | 48 |
| MSSM 519 | Services Management | 3(3+0) | 48 |
| MSPO 518 | Production & Operations Management | 3(3+0) | 48 |

Hotel Management

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|------------------------------------|--------------|--------------------------|
| MSFO 531 | Front Office Management | 3(3+0) | 48 |
| MSHM 532 | Hotel Marketing Management | 3(3+0) | 48 |
| MSFB 533 | Food Beverage Management | 3(3+0) | 48 |
| MSAL 535 | Accommodation & Leisure Management | 3(3+0) | 48 |
| MSFP 536 | Food Production & Management | 3(3+0) | 48 |
| MSHF 537 | Hospitality Financial Management | 3(3+0) | 48 |

Health Care and Hospital Management

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|---|--------------|--------------------------|
| MSPH 571 | Public Health Management | 3(3+0) | 48 |
| MSEH 572 | Economics of Health Care Industry | 3(3+0) | 48 |
| MSPH 573 | Professional Health Care Management | 3(3+0) | 48 |
| MSPH 574 | Population and Health Care Management | 3(3+0) | 48 |
| MSEH 575 | Environmental Health Management | 3(3+0) | 48 |
| MSLF 576 | Legal Framework of Health Care Industry | 3(3+0) | 48 |

Entrepreneurship

| Course code | Course title | Credit hours | Contact hrs per semester |
|-------------|---|--------------|--------------------------|
| MSST 521 | Entrepreneurship for Science and Technology | 3(3+0) | 48 |
| MSCN 522 | Entrepreneurial Consulting | 3(3+0) | 48 |
| MSPD 523 | Product and Service Design | 3(3+0) | 48 |
| MSMG 524 | Business Model Generation | 3(3+0) | 48 |
| MSVC 525 | New Venture Creation | 3(3+0) | 48 |
| MSDE 526 | Entrepreneurial Decision Making | 3(3+0) | 48 |

STUDY PLAN
MASTER OF BUSINESS ADMINISTRATION (2.5 Years MBA Program)

DURATION: 2.5 YEARS

Minimum degree requirements: Student with non-business bachelor degree of four years need to complete MBA foundation courses as deficiency course before starting regular MBA. They need to complete additional 30-36 credit with regular MBA Study Plan. E.g. BE, BS (honors). (Reference of HEC Guideline page number 21). If you exclude 36 credit of 2- year regular MBA, you completed 36 credit which required.

YEAR 1
First Semester

| Course Code | Course title | Credit hours |
|-------------|----------------------------|--------------|
| MTBM 113 | Business Mathematics | 3 (3+0) |
| MSEC 126 | Micro Economics | 3 (3+0) |
| MSMG 125 | Principles of Management | 3 (3+0) |
| MSFM 241 | Financial Management | 3 (3+0) |
| MSHR 233 | Human Resources Management | 3 (3+0) |
| MSFA 235 | Financial Accounting | 3(3+0) |
| | Total credits | 18 |

Second Semester

| Course code | Course title | Credit hours |
|-------------|---------------------------|--------------|
| MSEC 234 | Macro Economics | 3 (3+0) |
| MSMK 245 | Principles of Marketing | 3 (3+0) |
| MSMP 502 | Macro Economic Polly | 3 (3+0) |
| MSSF 503 | Stratgic Finance | 3 (3+0) |
| MSAR 501 | Advanced Research Methods | 3 (3+0) |
| | Elective I | 3(3+0) |
| | Total credits | 18 |

YEAR 2
First Semester

| Course Code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| MSBF 244 | Business Finance | 3 (3+0) |
| MSMM 351 | Marketing Management | 3 (3+0) |
| MSME 534 | Managerial Economics | 3 (3+0) |
| MSSM 573 | Strategic Management | 3 (3+0) |
| MSSM 551 | Strategic Marketing Management | 3 (3+0) |
| | Elective II | 3(3+0) |
| | Total credits | 18 |

Second Semester

| Course Code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| MSCA 352 | Cost and Managerial Accounting | 3 (3+0) |
| MTBM 113 | Business Statistics | 3 (3+0) |
| | Elective III | 3 (3+0) |
| | Elective IV | 3 (3+0) |
| | Elective V | 3 (3+0) |
| | Total credits | 15 |

YEAR 3
First Semester

| Course Code | Course title | Credit hours |
|-------------|-----------------------|--------------|
| MSIP 600 | Internship (3 Months) | 3 (3+0) |
| | | 03 |

Those students passed four or five-year bachelor from non-business bachelor degree need to complete MBA foundation course as deficiency course before starting who have 2- Years regular MBA Program. The Program comprises of 72 credits hours, 36 credits hours for deficiency courses and 36 for 2 – Year regular MBA program.

YEAR 1

First Semester

MBA Foundation – I

| Course code | Course title | Credit hours |
|-------------|--------------------------|--------------|
| MSMG 125 | Principles of Management | 3 (3+0) |
| MSFA 235 | Financial Accounting | 3 (3+0) |
| MTBM 113 | Business Mathematics | 3 (3+0) |
| MSEC 126 | Micro Economics | 3 (3+0) |
| MSMK 245 | Principles of Marketing | 3 (3+0) |
| MSIB 144 | Introduction to business | 3(3+0) |
| | Total credits | 18 |

Second Semester

MBA Foundation – II

| Course code | Course title | Credit hours |
|-------------|--------------------------------|--------------|
| MSCA 352 | Cost and Managerial Accounting | 3 (3+0) |
| MSEC 234 | Macro economics | 3 (3+0) |
| MSBC 243 | Business Communication | 3 (3+0) |
| MSBS 121 | Business Statistics | 3 (3+0) |
| MJOB 364 | Organizational Behavior | 3 (3+0) |
| MSHR 233 | Human Resources Management | 3(3+0) |
| | Total credits | 18 |

STUDY PLAN
MASTER OF PHILOSOPHY (MANAGEMENT SCIENCES)

DURATION: 2 YEARS

Minimum degree requirements: The program comprises of a minimum of 36 credits including 9 credits for core courses that cover the major areas of management sciences, 12 credits from a chosen area of specialization and electives, 3 credits for a special study related to the area of specialization and 12 credits for the thesis which forms the major research component of this program. The minimum qualification for entering this program is a four year bachelor degree or 16 years of education in a related area.

| Course work category | Credit hours |
|------------------------------------|--------------|
| Core | 9 |
| Area of Specialization & Electives | 12 |
| Special Study | 3 |
| Thesis | 12 |
| Total | 36 |

| Course code | Course title | Credit hours |
|-------------|---------------|--------------|
| MSMS 699 | Thesis | 12 (0+36) |
| MSSS 698 | Special Study | 3 (0+9) |

STUDY PLAN
DOCTOR OF PHILOSOPHY, Ph.D (MANAGEMENT SCIENCES)

DURATION: 3 YEARS

Minimum degree requirements: The program comprises of a minimum of 66 credits for thesis and 18 credits of coursework. The minimum qualification for entering this program is an M. Phil degree or 18 years of education in a related area.



M. Phil & Ph.D COURSES IN MANAGEMENT SCIENCES

The courses offered in these programs comprise of core courses together with courses in areas of specialization.

Core Courses

| Course code | Course title | Credit hours |
|-------------|--------------------------|--------------|
| MSFA 641 | Financial Analysis | 3(3+0) |
| MSIM 612 | International Management | 3(3+0) |
| MSME 633 | Advanced Macro Economics | 3(3+0) |
| MSRM 614 | Research Methodology | 3(3+0) |

Areas of Specialization**Marketing**

| Course code | Course title | Credit hours |
|-------------|---|--------------|
| MSCB 504 | Consumer Behavior | 3(3+0) |
| MSID 555 | Industrial Marketing | 3(3+0) |
| MSIE 557 | International Marketing & Export Management | 3(3+0) |
| MSMC 558 | Marketing Communications | 3(3+0) |
| MSMR 559 | Marketing Research | 3(3+0) |
| MSEM 550 | E- Marketing | 3(3+0) |
| MSPS 505 | Personal Selling | 3(3+0) |

Banking & Finance

| Course code | Course title | Credit hours |
|-------------|-------------------------------|--------------|
| MSCB 593 | Commercial Banking | 3(3+0) |
| MSSA 546 | Security Analysis | 3(3+0) |
| MSIF 548 | International Finance | 3(3+0) |
| MSIV 594 | Investment Banking | 3(3+0) |
| MSPE 549 | Project Evaluation | 3(3+0) |
| MSBP 595 | Banking Practices in Pakistan | 3(3+0) |
| MSCM 540 | Capital Markets | 3(3+0) |

Management

| Course code | Course title | Credit hours |
|-------------|------------------------------------|--------------|
| MSHM 564 | Hospital and Healthcare Management | 3(3+0) |
| MSHT 563 | Hospitality and Tourism Management | 3(3+0) |
| MSCM 577 | Comparative Management | 3(3+0) |
| MSKM 578 | Knowledge Management | 3(3+0) |
| MSTM 579 | Technology Management | 3(3+0) |
| MSIM 570 | Industrial Management | 3(3+0) |
| MSRE 565 | Real Estate Management | 3(3+0) |

Human Resource Management

| Course code | Course title | Credit hours |
|-------------|--|--------------|
| MSTD 583 | Training and Development | 3(3+0) |
| MSPL 503 | People Organization and Leadership | 3(3+0) |
| MSCM 586 | Compensation Management | 3(3+0) |
| MSPM 587 | Performance Management | 3(3+0) |
| MSRP 588 | Corporate Reputation & Managing People | 3(3+0) |
| MSIH 589 | International HRM | 3(3+0) |
| MSPC 580 | Managing People in Changing Context | 3(3+0) |





Admissions

MBBS DPT Entry Test
Masters Ph.D Applications
Policy PPDPT Financial Assistance
Selection Criteria Admission Plan
Rehabilitation Sciences Foreign Students
Short List Nursing Scholarships
Interviews Foreign Students





Admissions

The University invites applications for various degree programs, where admissions are granted based on academic competence and an entry test that ensures the high quality of student entrants. The affordable and convenient fee packages offer young students a viable opportunity for career advancement and higher learning. Selected students are also awarded financial assistance based on need and merit.

The following programs are offered at Isra University, Hyderabad:

Faculty of Medicine & Allied Medical Sciences

| Degree Program | | Year(s) |
|--|---|---------|
| Bachelor of Medicine & Bachelor of Surgery | MBBS | 05 |
| Doctor of Physical Therapy | DPT | 05 |
| Bachelor of Science (Nursing) | BS (Nursing) | 04 |
| Diploma in Healthcare Assistant | DHCA | 01 |
| M. Phil | Anatomy, Biochemistry, Physiology, Pharmacology, Histopathology, Hematology, Community Medicine | 02 |
| Doctor of Medicine | Internal Medicine, Paediatrics, Cardiology, Dermatology, Nephrology, Radiology | 04 |
| Master of Surgery | General Surgery, Ophthalmology, Gynae & Obs. ENT, Orthopedics | 04 |
| Diploma Program | | Year(s) |
| Diploma | Cardiology, Gynae & Obs. DMRD, Laryngology, Oology, Ophthalmology & DMJ | 02 |



| FCPS/MCPS Residency Training Program | | Year(s) |
|--------------------------------------|--|---------|
| FCPS | Ophthalmology, Pediatrics, General Surgery, Internal Medicine, Gastroenterology, Nephrology, Gynae & Obs, Community Medicine | 04 |
| MCPS | Anesthesiology, Community Medicine | 02 |



Faculty of Dentistry & Allied Sciences

| Degree Program | | Year(s) |
|--------------------------------------|---|---------|
| Bachelor of Dental Surgery | BDS | 04 |
| Master of Dental Surgery | Oral Maxillofacial Surgery, Operative Dentistry | 04 |
| M.Sc | Periodontology | 02 |
| M. Phil | Community Dentistry | 02 |
| FCPS/MCPS Residency Training Program | | Year(s) |
| FCPS | Operative Dentistry | 04 |
| MCPS | Operative Dentistry | 02 |

Faculty of Engineering, Science & Technology

| Degree Program | | Year(s) |
|--|---|---------|
| Bachelor of Engineering (Electrical) | BE (EE) | 04 |
| Bachelor of Engineering (Civil) | BE (CE) | 04 |
| Bachelor of Engineering (Mechanical) | BE (ME) | 04 |
| Bachelor of Science (Computer Science) | BS (CS) | 04 |
| Bachelor of Science (Information Technology) | BS (IT) | 04 |
| Bachelor of Science (Software Engineering) | BS (SE) | 04 |
| Bachelor of Science (Telecommunication) | BS (TC) | 04 |
| Bachelor of Science (Electronics) | BS (ES) | 04 |
| Associate of Applied Science | Software Engineering, Electronics, | 02 |
| Master of Science | Computer Science, Information Technology, Computational Mathematics | 02 |
| Master of Philosophy | | 02 |
| Doctor of Philosophy | | 03 |

Faculty of Commerce, Economics & Management Sciences

| Degree Program | | Year(s) |
|-------------------------------------|--|---------|
| Bachelor of Business Administration | BBA | 04 |
| Associate of Applied Science | Business Administration | 02 |
| MBA | Healthcare & Hospital Management, Hotel Management, | 02 |
| M. Phil | Management, Marketing, Banking & Finance, or Human Resource Management | 02 |
| Ph.D | | 03 |

Students from anywhere in Pakistan or overseas may apply for admission to the above degree programs.

A step-by-step guideline for making an application is available on our website. This information is particularly useful for overseas and foreign students.

DRESS CODE

The female students are required to dress modestly and to wear long-sleeve shirts apron (white) and use scarves to cover their heads. There is a separate female common room and other facilities, which suit special needs of female students. Male students are also required to maintain a neat & professional attire to promote a pleasant environment for learning.

MINIMUM QUALIFICATIONS FOR ENTRY

The Admissions Committee formulates the admission policy in accordance with the rules laid down by the University. To apply for admission, the student should possess the required minimum qualifications set forth for each program. In view of inconsistency in schedules of examinations conducted by various bodies in Pakistan and overseas. Applications for entry from students waiting for the results will also be entertained. Such applicants, if selected in the admission process, will be granted provisional admissions. These admissions will automatically stand cancelled if such candidates fail to attain the required minimum qualifications.



Minimum Entrance Qualifications for Bachelor Degree Programs

Candidates who have passed the Higher Secondary Certificates (HSC) / Intermediate Examinations from any Board of Intermediate and Secondary Education in Pakistan or an equivalent examination recognized by the University are eligible to seek admission to the relevant Bachelor's Program of this University. The eligibility requirements for the programs are listed below:

| Degree Program | Eligibility |
|---|--|
| MBBS& BDS | HSC (Pre-Medical, 65% minimum marks) OR SAT-II (550 minimum: Biology & Chemistry, any science subject) & TOEFL (500 or equivalent)/IELTS (5.5), if subjects are taught in other than English |
| DPT | HSC (Pre-Medical, 60% minimum marks) |
| BS (Nursing), DHCA | HSC (Pre-Medical, 50% minimum marks) |
| BS (CS), BS (IT), BS (TC), BS (SE), BS (ES) | HSC (Pre-Engineering, Pre-Medical, Computers, Commerce and Economics), minimum 45% marks |
| BBA | HSC (Any subject), minimum 45% marks |
| B.E | HSC (Pre-Engineering), minimum 60% marks OR DAE/B.Tech (First Class) |

The Government of Pakistan evaluates all the overseas Higher Secondary Certificates for their equivalence. More information is available on the university website. However, the concerned students may directly write to the following address to have their certificates evaluated:

Inter Board Committee of Chairmen,
Government of Pakistan,
Plot No 25, Street No 39,G-10/4? Islamabad, Pakistan.
Link to download application form /<http://www.ibec.edu.pk/attestation.asp>

Minimum Entrance Qualifications for Postgraduate Degree Programs

Candidates, who hold Bachelor Degree or its equivalent in an appropriate field of study, from a University / Institution of good standing recognized by this University, are eligible to seek admission to the relevant Postgraduate Degree of this University if they have the required qualifications listed below:

| Postgraduate Degree Programs | Eligibility: Bachelor degree in the relevant group |
|------------------------------|--|
| Master of Science | BE; BS; BSc with Physics or Mathematics (Minimum of 16 years education) |
| MBA | BE; BBA; BS; MBBS; etc. (Minimum of 16 years education) |
| M. Phil | Please refer to relevant sections of the Faculty of Medicine & Allied Medical Sciences, Faculty of Basic Medical Sciences, Faculty of Clinical Sciences, Faculty of Dentistry & Allied Sciences, Faculty of Engineering, Science & Technology or Faculty of Commerce, Economics & Management Sciences as the case may be |
| Ph.D | |
| MD, MS, MDS, M.Sc | |

ISRA UNIVERSITY ADMISSION TEST (IUAT)

Applicants for admission to all the Bachelor and Master Degree programs are required to take the Isra University Admission Test (IUAT). The admission is purely on merit attained in this test. The test consists of two parts with an intermediate phase of short listing for personal interviews. It may, however, be noted that overseas Pakistani and foreign students are exempted from taking the Isra University Admission Test unless it is the requirement of the regularity body for the desired program of admission.

Applicants for M Phil, Ph.D or postgraduate degree programs in clinical sciences, who fulfill the requisite conditions for admissions, will be called for a comprehensive interview or subject Graduate Records Examination or both.

IUAT Part-1

This is a written test. Sample test papers are available for each program of study, and are provided to those candidates who complete the prescribed application form and register themselves for taking the admission test.

The test will be conducted at the Isra University Campuses or other venues, as announced through news media. The time and date of the test will be communicated to the applicants individually by post or e-mail and through announcements in the news media.

Short Listing of Candidates

Short listing will purely depend upon the scores achieved by students in IUAT Part - 1. Only the short-listed students will qualify for IUAT Part - 2 and will be individually called for the interview.

IUAT Part-2

This part of the test is a personal interview of the applicants to assess their communication skills, aptitude, integrity, motivation, maturity and interest in the selected degree program. An applicant will meet interviewers. The interviews will be held at Isra University Campuses or other venues, as announced through news media. The date and time of the interview will be communicated separately to each short listed

applicant.

SELECTION FOR ADMISSION

The results of IUAT (both parts) are compiled and reviewed by Isra University Admissions Committee. The Committee recommends only those students for admission who are considered academically outstanding and have special aptitude for serving the community and the country of their permanent residence. The decision of the Committee will be final 3 days after the announcement of the result which cannot be challenged. During this period, any candidate dissatisfied with their result can file a complaint with the admission committee which shall be addressed. Selected candidates will be informed individual/website. The results of the IUAT will neither be communicated on telephone nor will be revealed to sympathizers and friends. Selection of the candidates for the M Phil and Ph.D programs is based on correspondence in the case of foreign students and interviews of the candidates residing in Pakistan.

PROFICIENCY IN ENGLISH

All programs are conducted in the English language, the official medium of communication of the University. Students are required to demonstrate reasonably good proficiency in this language. However, those who are admitted because of excellent performance in the test but are not up to the required standard in English will be offered an intensive, non-credit course in Special English aimed at improving their proficiency in written and oral communication skills. The students attending this course must take a test at the completion of this course and achieve a satisfactory test score.

WHERE AND HOW TO APPLY?

An admission kit containing the application form, prospectus and the necessary information, can be obtained from:

Hyderabad Campus:

Isra University
Hala Road, Hyderabad-Sindh, Pakistan.
Tel: (+92 22) 2030181-4
Fax (+92 22) 2030180 & 2030185
URL: <http://www.isra.edu.pk>
Email: admissions@isra.edu.pk

Karachi Campus:

Al Tibri Medical College & Hospital
Near Al-Ibrahim Eye Hospital, Old Thana,
Gadap Town, Karachi, Pakistan.
Tel: (+92 21) 34561711-20
Fax: (+92 21) 34561816
URL: <http://www.isra.edu.pk>
Email: iu.altibri@isra.edu.pk

Isra Institute of Rehabilitation Sciences

C8, Block-14, Gulshan-e-Jauhar, Karachi.
Tel: (+92 21) 34664002
Tel: (+92 300) 9248001
Fax: (+92 21) 34664001
URL: <http://www.isra.edu.pk>
Email: iirs.khi@isra.edu.pk

Islamabad Campus:

Al Nafees Medical College & Hospital
Lehtrar Road, Frash Town, Phase - II,
Islamabad, Pakistan.
Tel: (+92 51) 8439901-10
Fax: (+92 51) 8439900
URL: <http://www.isra.edu.pk>
Email: info.isb@isra.edu.pk

School of Engineering & Applied Sciences

Plot No 360, Street No 5, 1-9/3 Islamabad.
Tel: (+92 51) 8358360-61
Fax: (+92 51) 8358362
URL: <http://www.isra.edu.pk>
Email: info.isb@isra.edu.pk

The admission kit may be obtained from various branches of Meezan Bank Ltd. or any campus of Isra University.

The fee for admission kit is Rs. 2,000 (US\$ 35 for overseas applicants). Add Rs. 200 for delivery by courier service in Pakistan and US\$ 35 for overseas destinations.

Fees for admission kit can be paid in cash if the kit is collected in person or through a bank draft / pay order in the name of Isra University. The completed application forms together with the required supporting documents and a non-refundable application processing fee of Rs. 2000 (US\$ 60 for overseas applicants), should reach the Admissions Office on or before the closing date announced by the University. The

applications received without fees will not be processed. Once acknowledged, an application cannot be withdrawn. It is the sole responsibility of the candidates to comply with all the instructions given on the application form and submit it before the due date. Incomplete applications will not be processed. Applications received after the due date will not be entertained.

In order to meet the deadline, the application form may be downloaded from our website and the same may be submitted along with the fee for admission kit and application processing dues. Prior to entry into Pakistan, the foreign students seeking admission in the University should first obtain an official clearance from the Government of Pakistan. For this purpose, they may approach the Pakistan Mission in their country of residence. Further information on admission of foreign nationals to educational institutions in Pakistan is available on our website.

Applicants who have failed IUAT can apply afresh in subsequent year(s). A fresh application is a must for admission in the ensuing academic year. The merit of the applicant taking repeat test(s) will be evaluated on the basis of the best score in the current or previous tests taken in the last two years.

Finalization of Admission

The admission, to all the academic programs under all the categories, will remain incomplete and unconfirmed until the following documents are not submitted and duly verified by the competent authority:

- Duly completed admission form.
- All the dues paid in full through a bank draft or challan duly signed by a bank.
- Exact spelling of the name and other antecedents verified from the academic certificates specified on the admission form.
- Duly signed and notarized affidavit specific to a particular program / faculty.

FEE PACKAGE AND OTHER DUES

The fee packages and schedule of payment of various degree programs are listed faculty-wise according to the nationality and resident status of the concerned students. The fee packages exclude hostel fees, transportation, government taxes and

other dues that may be modified from time to time.

1. The Government of Pakistan has made it compulsory to collect in addition to cumulative aggregate fees, a 5% advance income tax, where the annual aggregate fees exceeds Rs. 200,000/=
2. All dues levied by the government in lieu of taxes or other charges will be payable by the student/parent/guardian.
3. The university reserves the right to increase the fees if required according to the recommendation of the governing bodies.

Forfeiting of fee: Students must note that if, for any reason, they discontinue the studies or if their admission is cancelled for any reason, the deposited fees will be forfeited.

Continuous and Uninterrupted Payment of Fee:

A student has to pay full fee package, uninterruptedly over his / her full tenure of studentship in the program registered. This would be the case, irrespective of the fact that he / she fails in an examination, repeats a semester / year or interrupts his / her study that results in extension of the tenure. However, for a student of FES&T and FCE&MS in case of extension of period beyond the tenure, he / she will be required to pay the normal semester fee, while students of FM&AMS will make annual payment. Students who fail to deposit the fees in due time may be disallowed from attending classes and appearing in examination. They may be even debarred from college (Heavy late fee will be always applied after the last date).

Examination Fee: The students of all the Faculties are required to pay fees for each semester examination. In case of the examinations that are conducted under the regulatory control of professional bodies like the Pakistan Medical and Dental Council, a separate fee is chargeable per examination, irrespective of the number of subjects in which the student may wish to appear in a regular or supplementary examination conducted in a particular academic year. There is separate examination fee schedule for postgraduate examinations in each course and discipline. The fee schedule for examinations can be obtained from the Admissions Office.

Refund and Penalty: A student must note that the fees once deposited, in any account, cannot be refunded for any reason. Requests for refund of fees will be subject to HEC and PMC regulations. Furthermore, a student is liable to pay the cost of damage or loss of University property caused by him/her.

Student Categories: A regular Pakistani student, who acquired the entrance qualification while residing in Pakistan, falls in Regular category (Category A). On the other hand, a Pakistani student, who acquired the entrance qualification while residing in an overseas country, irrespective of the fact that he/she is presently, living in Pakistan, falls in Overseas Pakistani category (Category B). An overseas (foreign) student, irrespective of where he/she acquired the entrance qualification, falls in the Foreign Student category (Category C).



FEE PACKAGES

Faculty of Medicine & Allied Medical Sciences

MBBS & BDS Programs

| Fee Items | Category A (Regular) | Category B (Overseas) |
|--|--------------------------|--------------------------|
| Admission Fee (One time) | As Per PMC Policy | As Per PMC Policy |
| University Fee (Annual) | | |
| Tuition Fee (Annual) | | |
| 1. Tuition fee will be charged on annual basis from new and existing students as per PMC Policy. 2. Refund will be as per PMC Policy. | | |

Nursing Program

| Fee Items | Category A (Regular) No Bond | Category B (4 year Service Bond) |
|--------------------------|------------------------------|----------------------------------|
| Admission Fee (One time) | PKR 25,000 | Free + Monthly Stipend + Hostel |
| University Fee (Annual) | PKR 20,000 | Free + Monthly Stipend + Hostel |
| Tuition Fee (Annual) | PKR 125,000 | Free + Monthly Stipend + Hostel |

Diploma in Health Care Assistant (DHCA) Program

| Fee Items | Category A (No Bond) | Category B (4 month Service Bond/Internship) |
|--------------------------|----------------------|--|
| Admission Fee (One time) | PKR 5,000 | Free + Monthly Stipend |
| Tuition Fee (Annual) | PKR 30,000 | Free + Monthly Stipend |

Doctor of Physical Therapy Program

| Fee Items | Category A (Regular) | Category B (Overseas) | Category C (Foreigner) |
|--------------------------|----------------------|-----------------------|------------------------|
| Admission Fee (One time) | PKR 50,000 | USD 750 | USD 1000 |
| University Fee (Annual) | PKR 20,000 | USD 400 | USD 500 |
| Tuition Fee (Annual) | PKR 250,000 | USD 3,500 | USD 4,500 |
| Security Deposit | PKR 50,000 | USD 1,000 | USD 1,500 |

M.Phil, M.Sc & Diploma Programs in FM&AMS (2 Years Program)

| Fee Items | Category A (Paid + Full time Bond) | Category B (Unpaid) | Category C (Unpaid) |
|--------------------------|------------------------------------|---------------------------------|---------------------|
| Admission Fee (One time) | PKR 100,000 | PKR 100,000 | PKR 100,000 |
| University Fee (Annual) | PKR 50,000 | PKR 50,000 | PKR 50,000 |
| Tuition Fee (Annual) | No Tuition Fee and Service Bond | No Tuition Fee and Service Bond | PKR 400,000 |
| Security Deposit | PKR 50,000 | PKR 50,000 | PKR 50,000 |

M.Phil, M.Sc & Diploma Programs in FD&AS (2 Years Program)

| Fee Items | Category A (Paid + Full time Bond) | Category B (Unpaid) | Category C (Unpaid) |
|--------------------------|------------------------------------|---------------------------------|---------------------|
| Admission Fee (One time) | PKR 100,000 | PKR 100,000 | PKR 100,000 |
| University Fee (Annual) | PKR 50,000 | PKR 50,000 | PKR 50,000 |
| Tuition Fee (Annual) | No Tuition Fee and Service Bond | No Tuition Fee and Service Bond | PKR 400,000 |
| Security Deposit | PKR 50,000 | PKR 50,000 | PKR 50,000 |

MS, MD & Ph.D Programs in FM&AMS (4 Years Program)

| Fee Items | Category A (Paid + Full time Bond) | Category B (Unpaid) | Category C (Unpaid) |
|--------------------------|---------------------------------------|---------------------------------|---------------------|
| Admission Fee (One time) | PKR 100,000 | PKR 100,000 | PKR 100,000 |
| University Fee (Annual) | PKR 50,000 | PKR 50,000 | PKR 50,000 |
| Tuition Fee (Annual) | No Tuition Fee and Service Bond | No Tuition Fee and Service Bond | PKR 450,000 |

MDS in FD&AS (4 Years Program)

| Fee Items | Category A (Paid + Full time Bond) | Category B (Unpaid) | Category C (Unpaid) |
|--------------------------|---------------------------------------|---------------------------------|---------------------|
| Admission Fee (One time) | PKR 100,000 | PKR 100,000 | PKR 100,000 |
| University Fee (Annual) | PKR 50,000 | PKR 50,000 | PKR 50,000 |
| Tuition Fee (Annual) | No Tuition Fee and Service Bond | No Tuition Fee and Service Bond | PKR 450,000 |

BS(CS), BS(IT), BS(SE), BS(TC), BS(ES), BBA & Associate Degree

| Fee Items | Category A (Regular) | Category B (Overseas) | Category C (Foreigner) |
|---------------------------------|----------------------|-----------------------|------------------------|
| Admission Fee (One time) | PKR 10,000 | PKR 30,000 | PKR 50,000 |
| University Fee (Every semester) | PKR 10,000 | PKR 15,000 | PKR 20,000 |
| Tuition Fee (Every semester) | PKR 80,000 | PKR 100,000 | PKR 110,000 |

BE (Civil)

| Fee Items | Category A (Regular) | Category B (Overseas) | Category C (Foreigner) |
|---------------------------------|----------------------|-----------------------|------------------------|
| Admission Fee (One time) | PKR 50,000 | PKR 75,000 | PKR 120,000 |
| University Fee (Every Semester) | PKR 10,000 | PKR 20,000 | PKR 25,000 |
| Tuition Fee (Every Semester) | PKR 200,000 | PKR 300,000 | PKR 400,000 |

BE (Electrical, Mechanical)

| Fee Items | Category A (Regular) | Category B (Overseas) | Category C (Foreigner) |
|---------------------------------|----------------------|-----------------------|------------------------|
| Admission Fee (One time) | PKR 50,000 | PKR 75,000 | PKR 120,000 |
| University Fee (Every semester) | PKR 10,000 | PKR 20,000 | PKR 25,000 |
| Tuition Fee (Every semester) | PKR 150,000 | PKR 200,000 | PKR 300,000 |

MBA, MS, M.Phil & Ph.D Programs in FCE&MS & FES&T

| Fee Items | Category A, B & C |
|---------------------------------|-------------------|
| Admission Fee (One time) | PKR 10,000 |
| University Fee (Every semester) | PKR 10,000 |
| Tuition Fee (Every semester) | PKR 80,000 |

FEE FOR REPEATING / REAPPEARING COURSE(S)

FES&T and FCE&MS: A student repeating course(s) has to pay tuition fee on the basis of Rs. 4,500 per credit hour per course or the semester fee, whichever is less. In case of summer session, the student has to pay Rs. 4,500 per credit hour per course for repeating or reappearing in a course.

PAYMENT OF FEES

The fee installments of packages and dues are payable by a bank draft in the name of Isra University drawn on a bank in Hyderabad.

Late Fee: The students, who fail to pay the installments of fee package within the prescribed period, will be required to pay penalty as per the current university late fee policy. The dues inclusive of the penalty is payable until two weeks before the ensuing examination failing which the concerned students will not be allowed to sit in the examination and their admission may be cancelled.

FINANCIAL ASSISTANCE

Isra Islamic Foundation and other philanthropic organizations / individuals provide a limited number of full and partial free-ships, scholarships

and other forms of financial assistance that are available to the needy and meritorious students in selected programs.

Isra University is listed in the roster of institutions where the poor and meritorious students, seeking admissions, are eligible to apply for the award of scholarships from an endowment fund created by the Government of Sindh. For more information, the interested students should contact the Secretary, Board of Trustees for Endowment Fund, Education Department, Government of Sindh, Karachi.





Teaching Staff

Dean Teaching Staff Department
Lecturer Registrar Chairperson
Medical Officer Instructor
Associate Demonstrator
Assistant Skills Knowledge
Professor Coordination Administrator
Visiting Faculty Highly Qualified





Teaching Staff

A highly qualified and dedicated teaching staff caters for the academic needs of the students, enabling them to acquire the knowledge and skills, required to compete in the growing economy and serve the society at large.

FACULTY OF MEDICINE & ALLIED MEDICAL SCIENCES

Abdul Sattar Memon , Pro-Vice Chancellor (Academics of Medical and Dental Sciences)

MBBS, MCPS, FCPS (PAK), FCPS (BD), FICS, FACS FASI
Professor

FACULTY OF BASIC MEDICAL SCIENCES

Hussain Bux Kolachi, Dean

MBBS (Sindh), FCPS
Professor

Salman Ahmed Farsi Kazi,

Vice Dean, Basic Medical Sciences

MBBS (Isra), DMJ (UHS, Punjab), M.Phil (Isra)
Associate Professor

Department of Anatomy

Zaheer Ahmed Memon, Chairperson

MBBS (Sindh), M.Phil (Isra)
Professor

Capt. Shoukat Ali Memon

M.Phil (Isra)

Associate Professor

Syna Amir

MBBS (Isra), M.Phil (Isra)

Associate Professor

Dr. AftabAbbasi

MBBS, M.Phil

Associate Professor

Piriha Abbasi

MBBS (Isra), M.Phil (Isra)

Assistant Professor

Jahanzeb Khan

M.Phil (Isra)

Senior Lecturer

Sana Kashif

MBBS (LUMHS), M.Phil (Isra)

Senior Lecturer

Muhammad Shahab Hanif

MBBS (Muhammad Medical College), M.Phil (Isra)

Senior Lecturer

Muhammad Saqib Baloch

MBBS (Muhammad Medical College), M.Phil (Isra)

Senior Lecturer

Sehar Khowaja

MBBS (LUMHS), M.Phil (Isra)

Senior Lecturer

Mansoor Mukhtar Qazi

MBBS (Isra)

Lecturer

Rida Qureshi

MBBS (LUHMS)

Lecturer

Department of Physiology

Navaid Kazi, Chairperson

MBBS (Isra), M.Phil (Isra), Ph.D (Isra)

Professor

Din Muhammad Shaikh

M.Sc (Sindh), Ph.D (UK)

Professor

Samia Siddiqi

MBBS (Isra), M.Phil (Isra)

Associate Professor

Haji Khan Khoharo

MBBS (Sindh), FCPS, M.Phil (Isra)

Associate Professor

Abroo Qazi

MBBS (LUMHS), M.Phil (Isra), Ph.D

Associate Professor

Yar Mohammad Nizamani

MBBS (Isra), M.Phil (Isra)

Assistant Professor

Arsalan Uqaili

MBBS (LUMHS), Mphil (Isra)

Assistant Professor

Roomi Memon

MBBS, M.Phil (Isra)

Assistant Professor

Salahuddin

MBBS (LUMHS), MPhil (Isra)

Assistant Professor

Naila Noor

MBBS (LUMHS)

Lecturer

Kumayl Abbas Meghji
MBBS (LUMHS), MPhil (Isra)
Senior Lecturer

Rizwan Ali Talpur
MBBS (LUMHS), MPhil (Isra)
Senior Lecturer

Farzana Rahim Memon
MBBS (Sindh University), MPhil (Isra)
Senior Lecturer

Department of Biochemistry

Maria Kazi, Chairperson
MBBS, MPhil, Ph.D (Isra)
Professor

Mumtaz Ali Qureshi
M.Sc (Sindh) Ph.D (Glasgow, UK)
Professor

Sumayya Kazi
MBBS (Isra) M Phil (Isra)
Assistant Professor

Hina Nazeer
M.Phil (Isra)
Assistant Professor

Sheeraz Ansari
MBBS (Isra), M.Phil (Isra)
Senior Lecturer

Ruby Shahzad
MBBS (DOW), M.Phil (Isra)
Senior Lecturer

Kazbano Ramsha Surahio
MBBS (Isra)
Lecturer

Sadia Khan
MBBS (Isra)
Lecturer

Department of Pathology

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MBBS (Punjab), M. Phil (Isra) Ph.D (Isra)
Professor

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Professor

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Professor

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MBBS (Isra), M.Phil (Isra) Ph.D (Isra)
Professor

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Professor

Amin Faheem
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Professor

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MBBS, M.Phil (Isra)
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Assistant Professor

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MBBS, MPhil (isra)
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MBBS (LUMHS), MPhil (isra)
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Kiran Shaikh
FCPS (LUMHS), MPhil (isra)
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Nabeela Zeeshan
MBBS (Peoples Medical College)
Lecturer

Kiran Zal Ur Rehman Khan
MBBS (LUMHS)
Lecturer

Bibi Maria Shah
MBBS (ISRA)
Lecturer

Department of Pharmacology

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Professor

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MBBS, Dip: Diab: (Diploma in Diabetology)
M.Phil (Pharmacology)
Professor

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MBBS (Isra), M.Phil (Isra)
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MBBS (Isra) M.Phil (Isra)
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Sheeza Majeed
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MBBS (Isra), DMJ
Lecturer

Department of Community Medicine

Hussain Bux Kolachi, Chairperson, Dean (BMS)
MBBS (Sindh), M.Phil, FCPS
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Department of Medical Education

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MBBS (Isra), Dip. in Medical Education (UK),
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FACULTY OF CLINICAL SCIENCES

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Professor

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Professor

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(Nephrology) Professor

Fida Hussain Shaikh
MBBS (Sindh), FCPS
Professor

Feroz Memon
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Muhammad Akbar
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Abid Ali Sahito
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Din Muhammad
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Pro-Vice Chancellor (Academics and Dental Sciences)
Department of Surgery

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Professor

Abdul Aziz Laghari , Chairperson (Surgery)
Professor

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Professor

Tekchand Maheshwari
MBBS (Sindh), FCPS
Professor

Abdul Munam
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Assistant Professor

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Khalil Ahmed Almani
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Muhammad Shahid Khan
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Rajab Ali
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Junaid Anwar
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Sana Maria
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Department of Obstetrics & Gynecology

Aftab A. Munir
MBBS (Sindh), FRCOG (UK), FCPS, FCPS (Bangladesh) DTM&H
Professor Emeritus

Syeda Nishat Zohra, Chairperson (Unit I)
MBBS (Sindh), MCPS, FCPS, Fellowship in Fetal Medicine
Professor

Pushpa Srichand Chairperson (Unit II)
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Professor

Gulfareen
MBBS (Sindh), FCPS, MCPS, MS (Isra)
Professor

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Sarwat Memon
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Assistant Professor

Uzma Parveen Brohi
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Assistant Professor

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MBBS (Isra), MS (Isra)
Assistant Professor

Fouzia Rahim Memon
MBBS (Sindh), MS (LUMHS)
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Farzana Junaid Bhanbro
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Khushboo
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Amna Aslam
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Maliha Pathan
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Hina Samoo
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Shua
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Saira Hassan Soomro
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