HYDERABAD CAMPUS

ISRA UNIVERSITY

PROSPECTUS
2015-16

OUR MISSION

Our mission at Isra University is to provide our students with education of the highest quality, groom their personality, inculcate in them a sense of responsibility, confidence, commitment and dedication towards their profession, society and the country.

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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 by-pass, 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 200-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 two buildings. Block A, houses the University Administration, the Basic Medical Sciences Division of the Faculty of Medicine & Allied Medical Sciences, and Isra School of Nursing. Block B, houses the Faculty of Engineering, Science & Technology and Faculty of Commerce, Economics & Management Sciences, classrooms, laboratories, lecture halls and the library, as well as offices of the teaching staff. Both blocks are well furnished with airconditioners, including classrooms.

Isra University Hospital (IUH)
This 300-bed unit integrates the most modern facilities at general and sub-specialty levels under one roof. It has well-equipped clinics in medicine, surgery, ENT, eye, paediatrics, obstetrics & gynecology, cardiology, and dentistry. These clinics are well supported by diagnostic equipment, clinical laboratory, pharmacy, private, semi-private and general wards and day-care surgery facility.
There are many services that deserve special mention. For instance, the band ligation facility to control gastric bleeding, removal of gall stones through endoscopy, the eye-care services, among others, cover anterior segment, cornea, refractive, vitreo-retinal, squint, orbit and occuplastic surgeries, and pediatric ophthalmology. Some of the services that are very specialized, such as pacemaker insertion, stress echocardiography, open-heart surgery, mitral valve replacement, intrauterine insemination and fetal medicine are also provided in this hospital. Renal dialysis unit with a facility for renal transplant are also available in the Hospital.

The Hospital has four operation theaters 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 proptocols.

Isra University Welfare Hospital
The Isra University Welfare Hospital Wing provides quality health care to the needy peoples on non-profit basis in all fields of medicine and surgery.

Recently separate floor has been added which incorporates hundred beds and an O.T suite having three state of the art operation theaters and well equipped recovery room having four beds.

It is a 300 bedded facility and is linked to Isra University Hospital private wing by bridge to allow free movement of patients, trolleys and medical staff between two wings.

A patient pays only rupees ten in out patient department 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 patient 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 staff of Isra University.

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. The Masjid 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 on-line 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.

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

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 Faculty of Medicine and Allied Medical Sciences is divided into four constituent divisions, namely

- 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 and Ph. D degrees in Pathology, Pharmacology, Physiology, Anatomy, Biochemistry, Hematology and Oral Pathology.

The Division of Clinical Sciences offers MS degree in General Surgery, Gynecology & Obstetrics and Ophthalmology; MD degree in General Medicine and Pediatrics and MDS degree in Oral Pathology and Diploma in Paediatrics, Gynaecology, Cardiology.

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 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 238 credit hours. The first two years (called first professional) 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 given in 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 clinicopathological 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 and Dental Council (PM&DC). 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.

PM&DC 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%] will be on basic medical sciences and during the following years on the clinical sciences and house job. Thus total period of training will be six years before a student qualifies to practice medicine.

Anatomy (Contact Hours 500)

The subject matter is structured to give an understanding of the cell biology, gross anatomy, microscopic anatomy (histology), neuroanatomy and embryology with emphasis on clinical implications. The subject is taught with the help of models, dissected cadavars, prosections, films, CD's, slides, and other audiovisual aids. MDAT 111, 112.

Physiology and Behavioral Sciences (Contact Hours 500)

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 geriatic 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, 122.

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 123.

Biochemistry (Contact Hours 300)

The science of biochemistry is fundamental to the understanding of relationships between structure and function of biomolecules 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 will highlight important clinical applications of biochemical tests. Methods of biochemical analysis by various techniques are used for separation, identification, and measurement of biomolecules relevant to clinical sciences. MDBC 131, 132.

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 251.

Pathology (Contact Hours 500)

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 given 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 241, MDMB 242, MDSP 243.

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 244.

Community Medicine (Contact Hours 250)

This subject is highly stressed in the curriculum to familiarize the students with community health problems and is taught from year one through four. It covers fields of biostatistics, epidemiology, primary healthcare and community related medicine. The subject is taught by way of lectures and tutorials, field visits to various rural communities, and through environmental health projects. MDCM 261.

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.

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.

Internal Medicine (Contact Hours 800)

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 361, 461.

Surgery (Contact Hours 800)
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, indication and contra-indication 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 anesthesia. MDSG 371, 471.

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 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 concerned specialists. MDOL 473.

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 student's 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 the 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 will bear the financial burden.

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 years program of 135 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 on health of individual, 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 will enhance the knowledge and skills required for advanced nursing practice in community setting it will help the learner to develop his/her 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 will raise the awareness of factors that need consideration when dealing with decisions. It will also provide 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 will 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 the 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 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 need 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 will provide 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 manifestation of disease. The usefulness of knowledge, skills and attitudes to the nurses in his/her 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 organism 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).
The 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. Learners will learn how to use software programs which include Word, Excel, Power point and Outlook. Learners will study computer applications in nursing education and practice. (CSCS-151).

Applied Nutrition (01 Credit).
This course will cover basic concepts of nutrition and nutrional requirements for maintaining health. It discusses factors affecting eating habits and their relationship to individual's health. It emphasizes on 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 learner's 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 will help learners to understand human behavior and provide insight into one's personal attitudes and responses in everyday situations and interactions. It will further assist 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 in general, academic and in 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, believes and practices related to health and illness between general and specific group 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 of 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).

Clinical 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 design**ed** provide learner **a**n overview of critical professional and ethical issues confronting the learner and contemporary issues effecting profession practice, nursing care, education, and research. (NUNS-438)

Epidemiology (02 Credits).
This course provides knowledge and skills to the learners for using epidemiological concepts in assessing the contributing factors, diagnosing the problems, planning interventions and evaluating the results in the community. It helps learner to make inferences regarding the impact on population demographic, social and health status in Pakistan. Learners will also be able to correlate Epidemiological research findings to community health nursing practice. (SMEP-373).

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.

Nature of Work

Nursing Assistant can perform routine duties for caring of 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 will provide 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 Lab Course

Basic Skills (Credit hours 06)

The objective of basic skills teaching is to make students to be able 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 will learn following specialized skills in their specialty areas. Knowledge application and hands on practice will be provided by the nurse in charge 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 Endtoracheal Tube (under supervision of trained staff)

Doctor of Physical Therapy

Physical Therapy, also known as physiotherapy is a dynamic profession concerned with evaluation and rehabilitation of patient 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 years under graduate 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 skill 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 (Contact) Hours	Contact Hrs per Semester
Anatomy-I	4 (3+2)	90
Physiology-I	3 (2+2)	72
Kinesiology-I	3 (2+2)	72
English-I	3 (3+0)	54
Islamiat/Pakistan Studies	4 (4+0)	72
Mathematics	3 (3+6)	162
Total Credits	**20**	**522**

Second Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Anatomy-II	4 (3+2)	90
Physiology-II	3 (2+2)	72
Kinesiology-II	4 (3+2)	90
English-II	3 (3+0)	54
Physics	3 (2+2)	72
Bio Statistics	3 (3+0)	54
Total Credits	**20**	**432**

YEAR 2
First Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Anatomy-III	4 (3+2)	90
Physiology-III	3 (2+2)	72
Bio Mech. & Ergonomics-I	3 (2+2)	72
English-III	3 (3+0)	54
Computer	3 (2+2)	72
Chemistry	3 (2+2)	72
Sociology	2 (2+0)	36
Total Credits	**21**	**468**

Second Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Anatomy-IV	4 (3+2)	90
Exercise Physiology	3 (2+2)	72
Bio Mech. & Ergonomics-II	3 (2+2)	72
Biochemistry & Genetics	4 (3+2)	90
Therapeutic Exercise	3 (2+2)	72
Behavioral Science (Psychology & Psychiatry)	3 (3+6)	162
Total Credits	**20**	**558**

YEAR 3
First Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Pathology / Microbiology-I	3 (2+2)	72
Pharmacology & Therapeutics-I	3 (2+2)	72
Physical Agent & Electro-I	3 (2+2)	72
Manual Therapy	3 (2+2)	72
Community Medicine-I	3 (3+0)	54
Health Promotion & Wellness	3 (2+2)	72
Clinical Practice-I	3 (0+6)	108
Total Credits	**21**	**522**

Second Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Pathology / Microbiology-II	3 (2+2)	72
Pharmacology & Therapeutics-II	3 (2+2)	72
Physical Agent & Electro-II	3 (2+2)	72
Teaching Methodology	3 (2+2)	72
Medical Informatics	2 (2+0)	36
Human Development & Growth	2 (2+0)	36
Clinical Practice-II	3 (0+6)	108
Total Credits	**19**	**468**

YEAR 4
First Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Medicine-I	3 (3+0)	54
Surgery-I	3 (3+0)	54
Radiology & Imaging	4 (3+2)	90
Musculoskeletal Physical Therapy	3 (2+2)	72
Research Methodology-I	3 (3+0)	54
Community Based Rehab	2 (2+0)	36
Clinical Practice-III	3 (0+6)	108
Total Credits	**21**	**468**

Second Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Medicine-II	3 (3+0)	54
Surgery-II	3 (3+0)	54
Evidence Based Practice	3 (3+0)	54
Neuromuscular Physical Therapy	3 (2+2)	72
Orthotics & Prosthetics	3 (2+2)	72
Administration & Management	2 (2+0)	36
Clinical Practice-IV	3 (0+6)	108
Total Credits	**20**	**450**

YEAR 5
First Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Primary Care & Emergency Procedures in Physical Therapy	3 (2+2)	72
Cardio Pulmonary Physical Therapy	3 (2+2)	72
Clinical Decision Making and Differential Diagnosis	3 (2+2)	72
Integumentary Physical Therapy	3 (2+2)	72
Scientitic Inquiry	2 (2+0)	36
Professional Practice	2 (2+0)	36
Clinical Practice-V	4 (0+8)	144
Total Credits	**20**	**504**

Second Semester

Course Title	Credit (Contact) Hours	Contact Hrs per Semester
Obstetrics & Gynecological Physical Therapy	2 (2+0)	36
Paediatrics Physical Therapy	2 (2+0)	36
Geriatrics & Gerentological Physical Therapy	2 (2+0)	36
Metabolic Physical Therapy	2 (2+0)	36
Clinical Practice-VI	4 (0+8)	144
Project/Dissertation	6 (0+12)	216
Total Credits	**18**	**504**

SUMMARY OF M. Phil & PhD PROGRAMS

Basic Medical Sciences	
M. Phil Program	
Minimum Qualifications & Entrance Requirements	Five years Bachelor's Degree (MBBS or equivalent) and One year house job in PM&DC recognized degree awarding institute or Masters degree in the relevant field of study from HEC approved university with minimum CGPA of 3.00 or equivalent
Duration Coursework Research	Minimum 2 years, Maximum 4 years 36 Credits 12 Credits
PhD Program	
Minimum Qualifications & Entrance Requirements	M. Phil Degree in relevant field of study from PM&DC/HEC recognized degree awarding institute with minimum CGPA of 3.00 or equivalent
Duration Coursework Research	Minimum 3 years, Maximum 5 years 18 Credits 36 Credits

Scheme of Courses in Basic Medical Sciences	
First Year [Two Semester Examinations + Internal Assessment]	
First Semester [9 Credits minimum]	Second Semester [9 Credits minimum]
Major in Discipline + Minor II	Major in Discipline + Minor I
Second Year [End of Semester Examination & Defence of Dissertation]	
First Semester [9 Credits minimum]	Second Semester [9 Credits minimum]
Minor I + Research (Synopsis)	Research
Conduct of research and preparation of final draft of dissertation	

Evaluation and Examination	
Internal Evaluation (CATs) Continuous Assessment Tests	**Semester Examinations in Theory and Practical in Major / Minor Subjects**
Weightage to Semester Examination 50%	Weightage of Semester Examination is 50%
Certifying Examination in Major	
A student is required to pass semesters examination	
A student is required to pass each component [Theory & Practical] separately and passing marks is 60%	
The details of course contents are available with the concerned department	

Final Certifying Examination
It comprises Thesis defence, oral examination in Major subject with involvement of an External Examination and possible participation by PM&DC Supervisor

DESCRIPTION OF M. Phil AND PhD PROGRAMS IN BASIC MEDICAL SCIENCES

The M.Phil and PhD programs are offered in the fields of Anatomy, Physiology, Biochemistry, Pharmacology, Pathology, Hematology and Community Medicine. 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 and Oral Pathology
  [Courses of 20 credit hours in each discipline, compulsory requirement].
- Minor in any other than major disciplines.
  [Courses of 8 credit hours in a discipline, an interdisciplinary optional requirement].
- Research Methodology, Biostatistics and Pedagogy.
  [Courses of 08 credit hours, compulsory requirement for all disciplines].
- Synopsis 03 credit hours.
- Seminar and Journal Club 2 credit hours.
- Research component of 9 credit hours thesis.

PhD program comprises course work in a discipline of 18 credit hours and a thesis of 36 credit hours.

M.Phil Courses

Anatomy Major (Total Credit Hours 20)

This course is designed to provide an in depth 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 for practical application of knowledge especially in neuroanatomy. The Courses are: MDAT 611, MDAT 612, MDAT 613.

Anatomy Minor

M.Phil Courses (Total Credits Hours 8)

MDAT 614, MDAT 615 (Mandatory for Anatomy Students)
MDAT 615, MDAT 616, MDAT 617.

Ph.D Courses (Total Credit Hours 18)

MDAT 915, MDAT 916, MDAT 917, MDAT 918, MDAT 919, MDAT 920, MDAT 921, MDAT 922, MDAT 923, MDAT 924.

M.Phil Courses

Physiology Major (Total Credit Hours 20)

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. The courses are: MDPL 621, MDPL 622.

Physiology Minor

M.Phil Courses (Total Credit Hours 8)

MDPL 623, MDPL 624.

Ph.D Courses (Total Credits Hours 18)

MDPL 927, MDPL 928.

M.Phil Courses

Biochemistry Major (Total Credit Hours 20)

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. The courses are: MDBC 631, MDBC 632.

Biochemistry Minor (Total Credit Hours 08)

MDBC 633, MDBC 634.

PhD Courses (Total Credit Hours 18)

MDBC 935, MDBC 936.

M.Phil Courses

Pharmacology Major (Total Credit Hours 20)

The science of Pharmacology is concerned with effects of drug on the cell and organs of living beings. The courses are designed to impart advance 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. The courses are: MDPM 641, MDPM 642.

Pharmacology Minor (Total Credit Hours 08)

MDPM 643, MDPM 644.

PhD Courses (Total Credit Hours 18)

MDPM 945, MDPM 946.

M. Phil Courses

Pathology Major (Total Credit Hours 20)

Pathology deals with 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 medial institutions. The courses are: MDPA 651, MDPA 652, MDPA 653, MDPA 654.

Pathology Minor

M.Phil Courses (Total Credit Hours 8)

MDPA 655, MDPA 656.

PhD Courses (Total Credit Hours 18)

MDPA 958, MDPA 959.

M. Phil Courses

Hematology Major (Total Credit Hours 20)

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. The courses are: MDHM 661, MDHM 662, MDHM 663, MDHM 664.

Hematology Minor (Total Credit Hours 08)

MDHM 665, MDHM 666.

PhD Courses (Total Credit Hours 18)

MDHM 967, MDHM 968.

M.Phil. Courses

Community Medicine Major (Total Credit Hours 20)

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 as agreed Alma Ata Declaration to achieve Health for All and now Millennium Development Goals(MDGs)

The M.Phil course will train 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 08)

The courses are:MDCM 669,MDCM, 670 .

Minor II (Compulsory) (Total Credit Hours 08)

MDMP 791

Synopsis (Total Credit Hours 03)

Research Work and Writing Dissertation / Thesis (Total Credit Hours 09)

M.P.H (Master of Public Health) Courses (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 programme with 30 credit hrs. of course and Dissertation 06 credit hrs.

The courses are : MDCM , 671,672,673 and 674.

Scheme of Diploma / M Sc Programs in Clinical Sciences [Total of 42 Credit-Hours]
First Year [Two Semester Examinations; Minimum of 9 Credits Each Semester]
Second Year [Two Semester Examinations; Minimum of 9 Credits Each Semester]
A student of M.Sc is required to write a dissertation of 12 credits

Evaluation and Examination	
Internal Evaluation (50%)	Semester Examinations in Theory and Practical (50%)
A student is required to pass each component [Theory & Practical] separately and minimum passing marks in each component is 50% and Overall passing marks is 60%	
The details of course contents are available with the concerned departments	

Final Certifying Examination
The student is required to sit in Final Certifying Examination at the end of Second Year. The examination comprises theory and practical from the whole program An M.Sc student is also required to to defend his/her dissertation

Scheme of MS/MD/MDS Programs in Clinical Sciences [Total of 78 Credit-Hours]
First Year [Two Semester Examinations; Minimum of 9 Credits Each Semester]
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]
Write dissertation [that earns him 12 credit hours]

Evaluation and Examination	
Internal Evaluation	**Semester Examinations in Theory and Practical**
Contribution to Semester Examination 50%	Contribution to Semester Examination 50%
A student is required to pass each component [Theory & Practical] separately and minimum passing marks in each component is 60%	
The details of course contents are available with the concerned departments	

Final Certifying Examination
The student is required to sit in Final Certifying Examination at the end of Fourth 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 the 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 post graduate students to use this evidence towards good clinical practice at consultant level.
This is a four years program with 104 credit hours of clinical and practical training in the field of Cardiology.

MD in Internal Medicine

The aim of the training program is to produce a General Physician in Internal Medicine 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 training in the field of Internal Medicine and dissertation of 12 credit hours.

MD in Paediatrics

The aim of the training program is to produce a Paediatrician 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 training in the field of Paediatrics and dissertation of 12 credit hours

MS in Ophthalmology

The aim of the training program is to produce an Ophthalmologist 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 in the field of Ophthalmology and dissertation of 12 credit hours.

MS in ENT

The aim of the training program is to produce an ENT specialist 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 in the field of ENT and dissertation of 12 credit hours.

MS in Gynaecology & Obstetrics

The aim of the 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 84 credit hours of clinical and surgical training in the field of Gynaecology & Obstetrics and dissertation of 12 credit hours.

MS in General Surgery

The aim of the training program is to produce a General Surgeon having sufficient knowledge, skill and attitude toprovide care at the consultant level with confidence.
This is a four-year program with 132 credit hours of clinical and surgical training in the field of General Surgery.

Diploma in Ophthalmology (DO)

The aim of the training program is to produce an Ophthalmologist 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 Ophthalmology.

Diploma in Child Health (DCH)

The aim of the training program is to produce a child health specialist 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 training in the field of Paediatrics.

Diploma in Gynaecology & Obstetrics (DGO)

The aim of the 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 the 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.

Faculty of Dentistry & Allied Sciences

Oral Medicine

Oral Biology

Orthodontics

Maxillofacial Surgery

Operative Dentistry

Dental Materials

Dental Surgery

Periodontology

Prosthodontics

Master of Philosophy

Oral Pathology

Master of Science

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.

Isra Dental College (IDC) offers a four year bachelor's program in Dental Surgery which is recognized by PM&DC. 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 152 credit hours of coursework and practical training. The first two years cover the basic medical and basic dental science subjects. The following two years cover clinical medical sciences like general medicine and general surgery, and clinical dental surgery subjects.

The fifth year (foundation year) is compulsory, which covers the clinical skills. It is also equivalent to the one year House Job. A separate certificate will be issued by the University after qualifying the exam 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 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, periodontium, oral mucosa, Salivary glands, Tooth eruption and shedding, Tempro-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 periapical tissues, Spread of Infections, Wound Healing, Diseases of bones and joints, Cysts of jaws and Oral cavity and Immunology. Practically focused on 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 temperomandible joint, roentgenological examination, laboratories aids, analysis, treatment planning and patient management. Oral bacterial, fungal, viral infection, white lesions, pigmented lesions, ulceration vesiculo-ballous 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.

Periodontology (Credit Hours 6)

The following topics will be covered: Introduction to Periodontology, Acute Gingivitis, Chronic Gingivitis, Desquamative Gingivitis, Periodontal Pocket, Periodontitis, Tumour and Tumour like lesion of the periodontium, Periodontal abscess and treatment, Periodontium 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)

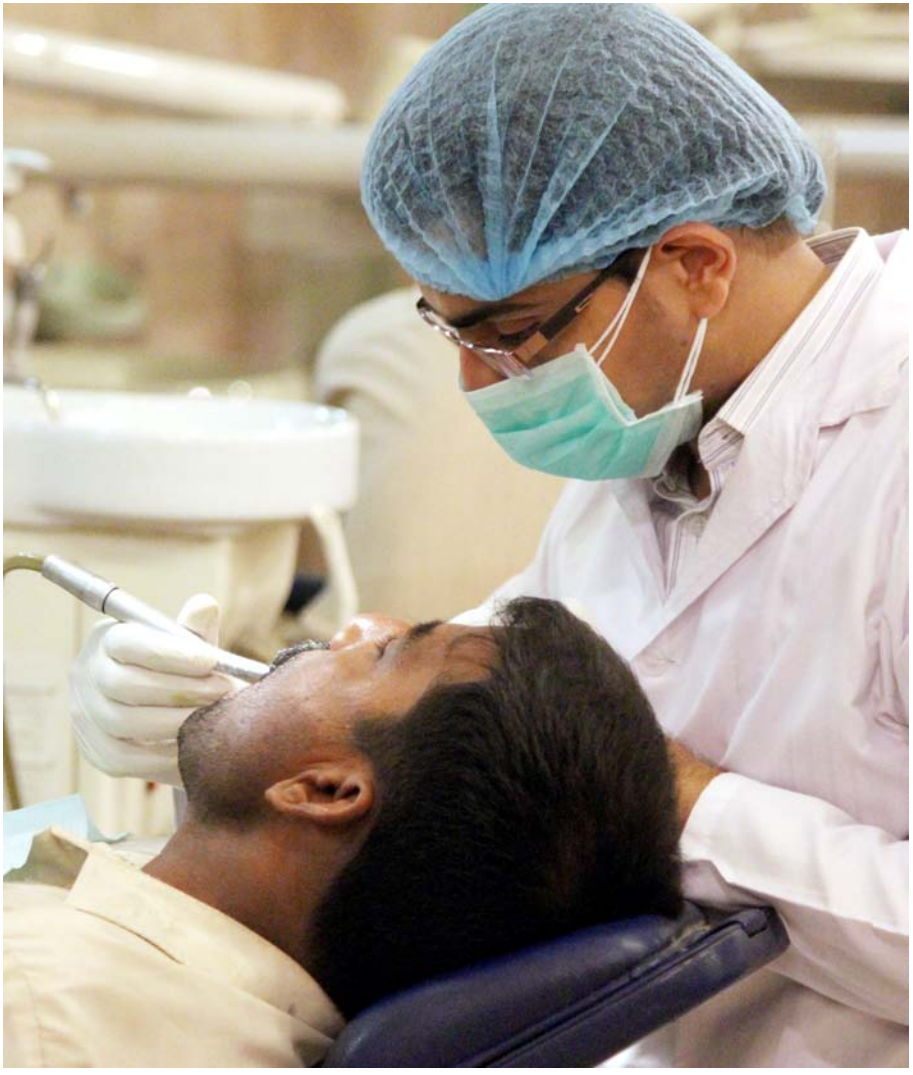
The following topics will be covered: Introduction to the Concept of Dental Caries, examination, diagnosis and treatment planning. Principles of cavity design and preparation, sterilization and cross infection control, isolation. Inlays and onlays, restoration of pulpless teeth, pin retained restorations, Management of medically compromised patients with special reference to HIV and Hepatitis. Providing 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 geriodontology. (BDOD 371 & 475).

Endodontics

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

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, Begin 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, sialithiases, means of investigation, management), Tempro-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, ceph analysis and a comprehensive orthodontic case presentation of a non skeletal malocclusion (BDOR 475).

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.

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.

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 a Dental Surgeon 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 84 credit hours of clinical and surgical training. The program is offered in the areas of Oral Pathology, Oral & Maxillofacial Surgery and Operative Dentistry.

Master of Science (M.Sc.)

The aim of the training program is to produce a Dental Surgeon 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 48 credit hours of clinical and surgical training. The program is offered in the areas of Oral Pathology, Oral & Maxillofacial Surgery, Operative Dentistry and Periodontology.

Master of Philosophy (M.Phil)

The aim of the training program is to produce a Basic Subject Dental Teacher & Researcher 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 Oral Anatomy, Community Dentistry and Science of Dental Material.

Fellowship of the College of Physicians & Surgeons (FCPS)

The aim of the training program is to produce a Dental Surgeon 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 fields of Oral & Maxillofacial Surgery and Operative Dentistry. These programs are recognized by the College of Physicians & Surgeons Pakistan (CPSP).

Faculty of Engineering, Science & Technology

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 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 & COMMUNICATION 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)

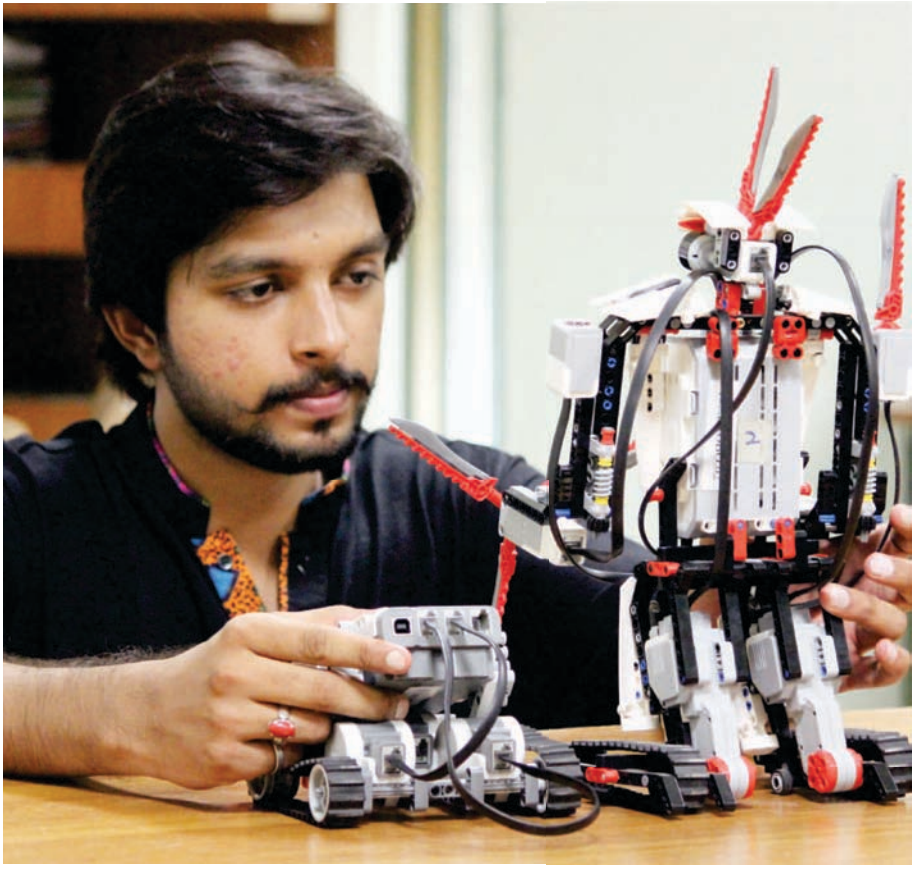
This is a four year, full-time program of 136 credits. It offers courses covering a broad spectrum ranging from basic telecommunication systems to modern mobile wireless communication systems. The program is designed to produce graduates who can meet the growing demand of the emerging telecom industry 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 three 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.



MS / M. Phil & PhD PROGRAMS

The Faculty of Engineering, Science & Technology also offers degree programs in MS / M. Phil and PhD. 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 student's 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 PhD program is a three years, 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 (Contact) Hours
CSIC 111	Introduction to Computing	3 (2+3)
CSPF 112	Programming Fundamentals	4 (3+3)
ESBE 113	Basic Electronics	4 (3+3)
HSEN 114	English I - Composition & Comprehension	3 (3+0)
MTCA 115	Calculus and Analytical Geometry	3 (3+0)
HSPS 116	Pakistan Studies	1 (1+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA 121	Linear Algebra	3 (3+0)
HSIS 122	Islamic Studies	2 (2+0)
CSOP 123	Object Oriented Programming	4 (3+3)
HSEN 124	English II - Communication Skills	3 (3+0)
MTES 125	Elements of Statistics and Probability	3 (3+0)
	Supporting Science Elective I	3 (2+3)
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTDS 211	Discrete Structures	3 (3+0)
CSDL 212	Digital Logic and Design	4 (3+3)
CSDS 213	Data Structures and Algorithms	4 (3+3)
HSEN 214	English III -Technical Report Writing	3 (3+0)
CSSE 215	Software Engineering	4 (3+3)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CSSD 221	Software Development	4 (3+3)
CSHC 222	Human Computer Interaction	3 (3+0)
CSDC 223	Data Communication & Computer Networks	4 (3+3)
MTNA 224	Numerical Analysis	3 (3+0)
	Supporting Science Elective II	3 (3+0)
	Total Credits	**17**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
CSDA 311	Design and Analysis of Algorithms	3 (2+3)
CSOS 312	Operating Systems	4 (3+3)
	CS Elective I	4 (3+3)
	General Education Elective I	3 (3+0)
	Supporting Science Elective III	3 (3+0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CSDD 321	Database Design & Management	4 (3+3)
CSTA 322	Theory of Automata and Formal Languages	3 (3+0)
CSCO 323	Compute Organization & Assembly Language	4 (3+3)
	CS Elective II	4 (3+3)
	Total Credits	**15**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
CSCC 411	Compiler Construction	3 (3+0)
CSAI 412	Artificial Intelligence	4 (3+3)
CSCA 413	Computer Architecture	3 (3+0)
	General Education Elective II	3 (3+0)
	CS Elective III	3 (3+0)
CSCS 499A	BSSE Project I	2 (0+6)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HSPP 421	Professional Practices	2 (2+0)
	General Education Elective III	3 (3+0)
	CS Elective IV	3 (3+0)
	CS Elective V	3 (3+0)
CSCS 499B	BSSE Project II	4 (0+12)
	Total Credits	**15**

Computer Science Electives

Course Code	Course Title	Credit (Contact) Hours
CSIN 341	Internship	3 (0+9)
CSVP 351	Visual Programming	4 (3+3)
CSIP 352	Internet Programming & Web Development	4 (3+3)
CSMC 353	Mobile Computing	4 (3+3)
CSDI 361	Digital Image Processing	4 (3+3)
CSSP 362	Speech Processing	4 (3+3)
CSCG 363	Computer Graphics	4 (3+3)
SEQA 411	Software Quality Assurance	4 (3+3)
SEAD 324	Software Architecture and Design	3 (3+0)
SEPM 323	Software Project Management	3 (3+0)
SEFM 412	Formal Methods in Software Engineering	3 (3+0)
SERE 311	Software Requirements Engineering	3 (3+0)
CSDW 354	Data Warehousing and Data Mining	3 (3+0)
CSMI 355	Management Information Systems	3 (3+0)
CSSC 451	Soft Computing	3 (3+0)
CSML 461	Machine Learning	3 (3+0)
CSNL 462	Natural Language Processing	3 (3+0)
CSCV 463	Computer Vision	3 (3+0)
CSDI 361	Digital Image Processing	3 (3+0)
CSMS 464	Multimedia System Design	3 (3+0)
CSCL 452	Cloud Computing	3 (3+0)
CSDP 453	Distributed Programming	3 (3+0)
CSSP 454	Systems Programming	3 (3+0)
CSCD 465	Cryptography and Data Security	3 (3+0)
ITMI 365	Multimedia Information Networking	3 (3+0)
ITNM 466	Network Management & Security	3 (3+0)
TCMW 484	Mobile and Wireless Communication	3 (3+0)
ITIA 461	Information System Audit	3 (3+0)
ITBA 462	Business Process Automation	3 (3+0)
ESFR 471	Fundamental of Robotics	3 (3+0)
ESES 472	Embedded System	3 (3+0)
CSPL 364	Programming Languages Concepts	3 (3+0)
TCCS 411	Communication Systems	3 (3+0)
TSSS 311	Signals and Systems	3 (3+0)

A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE (INFORMATION & COMMUNICATION TECHNOLOGY), BS (ICT)

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 (Contact) Hours
CSIC 111	Introduction to Computing	3 (2+3)
CSPF 112	Programming Fundamentals	4 (3+3)
ESBE 113	Basic Electronics	4 (3+3)
HSEN 114	English I - Composition & Comprehension	3 (3+0)
MTCA 115	Calculus and Analytical Geometry	3 (3+0)
HSPS 116	Pakistan Studies	1 (1+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA 121	Linear Algebra	3 (3+0)
HSIS 122	Islamic Studies	2 (2+0)
CSOP 123	Object Oriented Programming	4 (3+3)
HSEN 124	English II - Communication Skills	3 (3+0)
MTES 125	Elements of Statistics and Probability	3 (3+0)
	Supporting Science Elective I	3 (2+3)
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCV 211	Complex Variables and Transforms	3 (3+0)
CSDL 212	Digital Logic and Design	4 (3+3)
CSDS 213	Data Structures and Algorithms	4 (3+3)
HSEN 214	English III -Technical Report Writing	3 (3+0)
CSSE 215	Software Engineering	4 (3+3)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CSSD 221	Software Development	4 (3+3)
CSHC 222	Human Computer Interaction	3 (3+0)
CSDC 223	Data Communication & Computer Networks	4 (3+3)
MTNA 224	Numerical Analysis	3 (3+0)
	Supporting Science Elective II	3 (3+0)
	Total Credits	**17**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
TCSS 311	Signals and Systems	4 (3+1)
CSOS 312	Operating Systems	4 (3+1)
	ICT Elective I	4 (3+3)
	General Education Elective I	3 (3+0)
	Supporting Science Elective III	3 (3+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CSDD 321	Database Design & Management	4 (3+3)
CSCA 322	Microprocessor & Interfacing Techniques	4 (3+3)
TCAD 323	Analog & Digital Communication	3 (2+3)
CSSA 324	System Analysis and Design	2 (2+0)
	ICT Elective II	4 (3+3)
	Total Credits	**17**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
TCCS 411	Communication Systems	4 (3+1)
TCIT 412	Information Theory & Coding	3 (3+0)
	General Education Elective II	3 (3+ 0)
	ICT Elective III	3 (3+0)
ITIT 499A	BSICT Project I	2 (0+6)
	Total Credits	**15**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HSPP 421	Professional Practices	2 (2+0)
	General Education Elective III	3 (3+0)
	ICT ELECTIVE IV	3 (3+0)
	ICT ELECTIVE V	3 (3+0)
ITIT 499B	BSICT Project II	4 (0+12)
	Total Credits	**15**

ICT Electives

Course Code	Course Title	Credit (Contact) Hours
CSIN 341	Internship	3 (0+9)
CSDA 311	Design and Analysis of Algorithms	3 (2+3)
CSVP 351	Visual Programming	4 (3+3)
CSIP 352	Internet Programming & Web Development	4 (3+3)
CSMC 353	Mobile Computing	4 (3+3)
CSDI 361	Digital Image Processing	4 (3+3)
CSSP 362	Speech Processing	4 (3+3)
CSCG 363	Computer Graphics	4 (3+3)
CSAI 412	Artificial Intelligence	4 (3+3)
TCDS 381	Digital Signal Processing	4 (3+3)
TCOF 382	Optical Fiber Communication	4 (3+3)
SEQA 411	Software Quality Assurance	4 (3+3)
SEAD 324	Software Architecture and Design	3 (3+0)
SEPM 323	Software Project Management	3 (3+0)
SEFM 412	Formal Methods in Software Engineering	3 (3+0)
SERE 311	Software Requirements Engineering	3 (3+0)
CSTA 322	Theory of Automata and Formal Languages	3 (3+0)
CSCC 411	Compiler Construction	3 (3+0)
CSDW 354	Data Warehousing and Data Mining	3 (3+0)
HMSD 361	System Dynamics	3 (2+3)
MSEC 484	E-Commerce	3 (3+0)
CSMI 355	Management Information Systems	3 (3+0)
CSSC 451	Soft Computing	3 (3+0)
CSML 461	Machine Learning	3 (3+0)
CSNL 462	Natural Language Processing	3 (3+0)
CSCV 463	Computer Vision	3 (3+0)
CSDI 361	Digital Image Processing	3 (3+0)
CSMS 464	Multimedia System Design	3 (3+0)
CSCL 452	Cloud Computing	3 (3+0)
CSDP 453	Distributed Programming	3 (3+0)
CSSP 454	Systems Programming	3 (3+0)
CSCD 465	Cryptography and Data Security	3 (3+0)
ITMI 365	Multimedia Information Networking	3 (3+0)
ITNM 466	Network Management & Security	3 (3+0)
TCMW 484	Mobile and Wireless Communication	3 (3+0)
ITIA 461	Information System Audit	3 (3+0)
ITBA 462	Business Process Automation	3 (3+0)
ESFR 471	Fundamental of Robotics	3 (3+0)
ESES 472	Embedded System	3 (3+0)
CSPL 364	Programming Languages Concepts	3 (3+0)

A TYPICAL 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 (Contact) Hours
CSIC 111	Introduction to Computing	3 (2+3)
CSPF 112	Programming Fundamentals	4 (3+3)
ESBE 113	Basic Electronics	4 (3+3)
HSEN 114	English I - Composition & Comprehension	3 (3+0)
MTCA 115	Calculus and Analytical Geometry	3 (3+0)
HSPS 116	Pakistan Studies	1 (1+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA 121	Linear Algebra	3 (3+0)
HSIS 122	Islamic Studies	2 (2+0)
CSOP 123	Object Oriented Programming	4 (3+3)
HSEN 124	English II - Communication Skills	3 (3+0)
MTES 125	Elements of Statistics and Probability	3 (3+0)
	Supporting Science Elective I	3 (2+3)
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTDS 211	Discrete Structures	3 (3+0)
CSDL 212	Digital Logic and Design	4 (3+3)
CSDS 213	Data Structures and Algorithms	4 (3+3)
HSEN 214	English III -Technical Report Writing	3 (3+0)
CSSE 215	Software Engineering	4 (3+3)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CSSD 221	Software Development	4 (3+3)
CSHC 222	Human Computer Interaction	3 (3+0)
CSDC 223	Data Communication & Computer Networks	4 (3+3)
MTNA 224	Numerical Analysis	3 (3+0)
	Supporting Science Elective II	3 (3+0)
	Total Credits	**17**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
SESR 311	Software Requirements Engineering	3 (3+0)
CSOS 312	Operating Systems	4 (3+3)
	SE Elective I	4 (3+3)
	General Education Elective I	3 (3+0)
	Supporting Science Elective III	3 (3+0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CSDD 321	Database Design & Management	4 (3+3)
CSCO 322	Computer Organization & Assembly Language	4 (3+3)
SEPM 323	Software Project Management	3 (3+0)
SEAD 324	Software Architecture and Design	3 (3+0)
	SE Elective II	4 (3+0)
	Total Credits	**18**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
SEQA 411	Software Quality Assurance	4 (3+3)
SEFM 412	Formal Methods in Software Engineering	3 (3+0)
	General Education Elective II	3 (3+0)
	SE Elective III	3 (3+0)
SESE 499A	BSSE Project I	2 (0+6)
	Total Credits	**15**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HSPP 421	Professional Practices	2 (2+0)
	General Education Elective III	3 (3+0)
	SE Elective IV	3 (3+0)
	SE Elective V	3 (3+0)
SESE 499B	BSSE Project II	4 (0+12)
	Total Credits	**15**

Software Engineering Electives

Course Code	Course Title	Credit (Contact) Hours
CSIN 341	Internship	3 (0+9)
CSDA 311	Design and Analysis of Algorithms	3 (2+3)
CSVP 351	Visual Programming	4 (3+3)
CSIP 352	Internet Programming & Web Development	4 (3+3)
CSMC 353	Mobile Computing	4 (3+3)
CSDI 361	Digital Image Processing	4 (3+3)
CSSP 362	Speech Processing	4 (3+3)
CSCG 363	Computer Graphics	4 (3+3)
CSAI 412	Artificial Intelligence	4 (3+3)
TCDS 381	Digital Signal Processing	4 (3+3)
CSTA 322	Theory of Automata and Formal Languages	3 (3+0)
CSCC 411	Compiler Construction	3 (3+0)
CSDW 354	Data Warehousing and Data Mining	3 (3+0)
CSMI 355	Management Information Systems	3 (3+0)
CSSC 451	Soft Computing	3 (3+0)
CSML 461	Machine Learning	3 (3+0)
CSNL 462	Natural Language Processing	3 (3+0)
CSCV 463	Computer Vision	3 (3+0)
CSDI 361	Digital Image Processing	3 (3+0)
CSMS 464	Multimedia System Design	3 (3+0)
CSCL 452	Cloud Computing	3 (3+0)
CSDP 453	Distributed Programming	3 (3+0)
CSSP 454	Systems Programming	3 (3+0)
CSCD 465	Cryptography and Data Security	3 (3+0)
ITMI 365	Multimedia Information Networking	3 (3+0)
ITNM 466	Network Management & Security	3 (3+0)
TCMW 484	Mobile and Wireless Communication	3 (3+0)
ITIA 461	Information System Audit	3 (3+0)
ITBA 462	Business Process Automation	3 (3+0)
ESFR 471	Fundamental of Robotics	3 (3+0)
ESES 472	Embedded System	3 (3+0)
CSPL 364	Programming Languages Concepts	3 (3+0)
TCCS 411	Communication Systems	3 (3+0)
TCSS 311	Signals and Systems	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 (Contact) Hours
CSIC 111	Introduction to Computing	3 (2+3)
CSPF 112	Programming Fundamentals	4 (3+3)
ESBE 113	Basic Electronics	4 (3+3)
HSEN 114	English I - Composition & Comprehension	3 (3+0)
MTCA 115	Calculus and Analytical Geometry	3 (3+0)
HSPS 116	Pakistan Studies	1 (1+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA 121	Linear Algebra	3 (3+0)
HSIS 122	Islamic Studies	2 (2+0)
ESED 123	Electronic Devices and Circuits	4 (3+3)
HSEN 124	English II - Communication Skills	3 (3+0)
MTES 125	Elements of Statistics and Probability	3 (3+0)
	Supporting Science Elective I	3 (2+3)
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCV 211	Complex Variables and Transforms	3 (3+0)
CSDL 212	Digital Logic and Design	4 (3+3)
ESCT 213	Circuit Theory and Analysis	4 (3+3)
HSEN 214	English III - Technical Report Writing	3 (3+0)
TCIT 215	Introduction to Telecommunication	3 (3+0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ESDE 221	Digital Electronics	4 (3+3)
TCAO 222	Amplifiers and Oscillators	4 (3+3)
CSDC 223	Data Communication & Computer Networks	4 (3+3)
MTNA 224	Numerical Analysis	3 (3+0)
	Supporting Science Elective II	3 (3+0)
	Total Credits	**18**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
TCSS 311	Signals and Systems	4 (3+3)
ESEF 312	Electromagnetic Field Theory	3 (3+0)
	TC Elective I	4 (3+3)
	General Education Elective I	3 (3+0)
	Supporting Science Elective III	3 (3+0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ESCS 321	Control Systems	4 (3+3)
ESMI 322	Microprocessor and Interfacing Techniques	4 (3+3)
TCAD 323	Analog & Digital Communication	3 (2+1)
TCTS 324	Transmission & Switching Systems	3 (3+0)
	TC Elective II	4 (3+3)
	Total Credits	**18**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
TCCS 411	Communication Systems	4 (3+3)
TCIT 412	Information Theory & Coding	3 (3+0)
	General Education Elective II	3 (3+ 0)
	TC Elective III	3 (3+0)
TCTC 499A	BSTC Project I	2 (0+6)
	Total Credits	**15**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HSPP 421	Professional Practices	2 (2+0)
	General Education Elective III	3 (3+0)
	TC ELECTIVE IV	3 (3+0)
	TC ELECTIVE V	3 (3+0)
TCTC 499B	BSTC Project II	4 (0+12)
	Total Credits	**15**

TC Electives

Course Code	Course Title	Credit (Contact) Hours
ESIN 341	Internship	3 (0+9)
CSDA 311	Design and Analysis of Algorithms	3 (2+3)
ESNA 374	Navigation Aids	3 (2+3)
ESFP 375	FPGA Based System Design	4 (3+3)
CSMC 353	Mobile Computing	4 (3+3)
CSDI 361	Digital Image Processing	4 (3+3)
TCDS 381	Digital Signal Processing	4 (3+3)
CSOS 312	Operating Systems	4 (3+3)
CSAI 412	Artificial Intelligence	4 (3+3)
CSOP 123	Object Oriented Programming	4 (3+3)
TCOF 382	Optical Fiber Communication	4 (3+3)
TCRF 485	RF & Microwave Engineering	4 (3+3)
CSSP 362	Speech Processing	4 (3+3)
ESFR 471	Fundamental of Robotics	3 (3+0)
ESES 472	Embedded System	3 (3+0)
CSCA 413	Computer Architecture	3 (3+0)
ESLO 474	Laser & Fiber Optics	3 (3+0)
ESIE 473	Industrial Electronics	3 (3+0)
ESFL 475	Fuzzy Logic & Simulation	3 (3+0)
TCIT 412	Information Theory & Coding	3 (3+0)
TCBD 481	Broadband Digital Networks	3 (3+0)
ESRT 373	Radio and TV Engineering	3 (3+0)
CSMS 464	Multimedia System Design	3 (3+0)
TCRS 482	Radar Systems Engineering	3 (3+0)
TCMW 484	Mobile and Wireless Communication	3 (3+0)
TCSC 483	Satellite Communication	3 (3+0)
TCWA 383	Wave Propagation & Antennas	3 (3+0)
CSMI 355	Management Information Systems	3 (3+0)
CSSC 451	Soft Computing	3 (3+0)
CSML 461	Machine Learning	3 (3+0)
CSSP 454	Systems Programming	3 (3+0)
CSCD 465	Cryptography and Data Security	3 (3+0)
ITMI 365	Multimedia Information Networking	3 (3+0)
ITNM 466	Network Management & Security	3 (3+0)
ITIA 461	Information System Audit	3 (3+0)
ITBA 462	Business Process Automation	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 (Contact) Hours
CSIC 111	Introduction to Computing	3 (2+3)
CSPF 112	Programming Fundamentals	4 (3+3)
ESBE 113	Basic Electronics	4 (3+3)
HSEN 114	English I - Composition & Comprehension	3 (3+0)
MTCA 115	Calculus and Analytical Geometry	3 (3+0)
HSPS 116	Pakistan Studies	1 (1+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA 121	Linear Algebra	3 (3+0)
HSIS 122	Islamic Studies	2 (2+0)
ESED 123	Electronic Devices and Circuits	4 (3+3)
HSEN 124	English II - Communication Skills	3 (3+0)
MTES 125	Elements of Statistics and Probability	3 (3+0)
	Supporting Science Elective I	3 (2+3)
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCV 211	Complex Variables and Transforms	3 (3+0)
ESDL 212	Digital Logic and Design	4 (3+3)
ESCT 213	Circuit Theory and Analysis	4 (3+3)
HSEN 214	English III - Technical Report Writing	3 (3+0)
CSED 215	Computer Aided Engineering Drawing	3 (2+3)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ESDE 221	Digital Electronics	4 (3+3)
ESIM 222	Instrumentation and Measurements	4 (3+3)
CSDC 223	Data Communication & Computer Networks	4 (3+3)
MTNA 224	Numerical Analysis	3 (3+0)
	Supporting Science Elective II	3 (3+0)
	Total Credits	**18**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
TCSS 311	Signals and Systems	4 (3+3)
ESEF 312	Electromagnetic Field Theory	3 (3+0)
	ES Elective I	4 (3+4)
	General Education Elective I	3 (3+0)
	Supporting Science Elective II	3 (3+0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ESCS 321	Control Systems	4 (3+3)
ESMI 322	Microprocessor and Interfacing Techniques	4 (3+3)
TCAD 323	Analog & Digital Communication	3 (2+3)
ESOE 324	Opto Electronics	3 (3+0)
	ES Elective II	4 (3+3)
	Total Credits	**18**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
ESVD 411	VLSI Design	4 (3+3)
TCRT 412	Radio & TV Engineering	3 (3+0)
	General Education Elective II	3 (3+ 0)
	ES Elective III	3 (3+0)
ESES 499A	BSES Project I	2 (0+6)
	Total Credits	**15**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HSPP 421	Professional Practices	2 (2+0)
	General Education Elective III	3 (3+0)
	ES ELECTIVE IV	3 (3+0)
	ES ELECTIVE V	3 (3+0)
ESES 499B	BSES Project II	4 (0+12)
	Total Credits	**15**

ES Electives

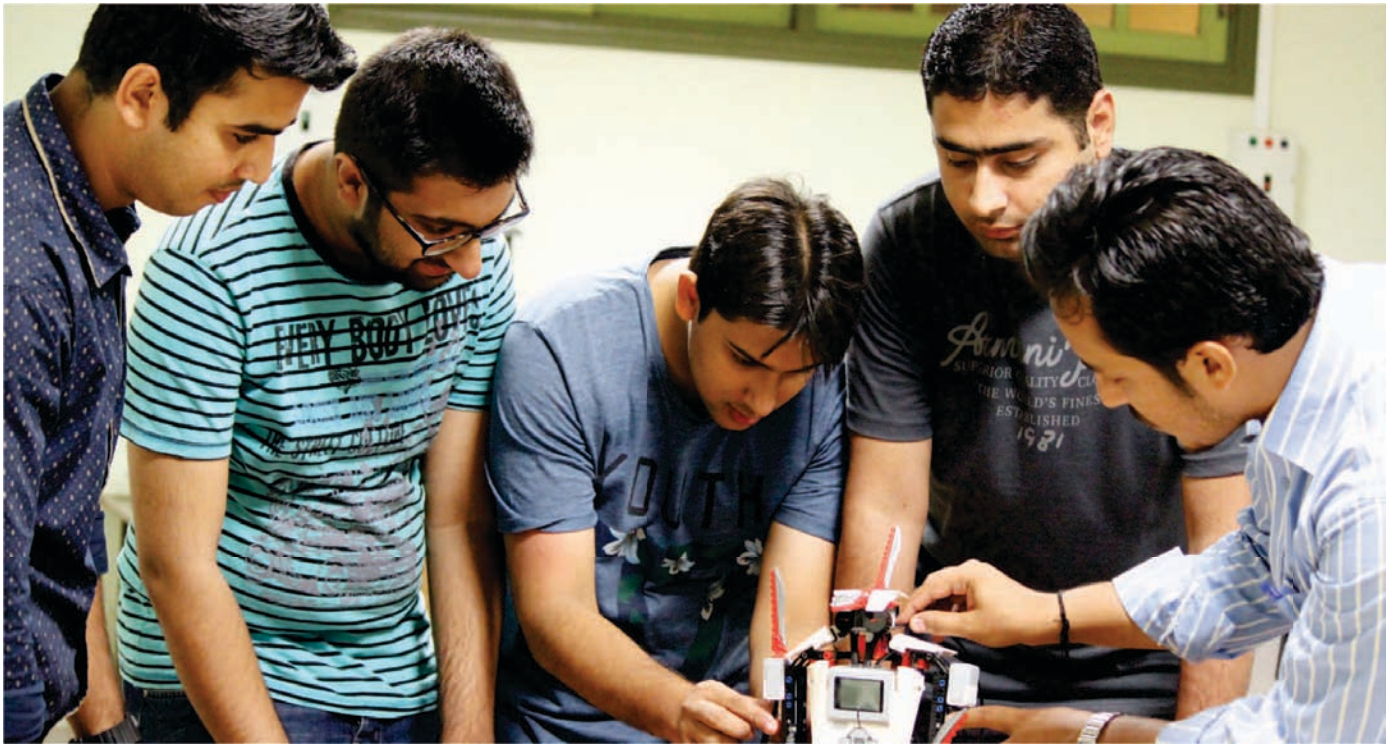
Course Code	Course Title	Credit (Contact) Hours
ESIN 341	Internship	3 (0+9)
CSDA 311	Design and Analysis of Algorithms	3 (2+3)
ESNA 374	Navigation Aids	3 (2+3)
ESFP 375	FPGA Based System Design	4 (3+3)
CSMC 353	Mobile Computing	4 (3+3)
CSDI 361	Digital Image Processing	4 (3+3)
TCDS 381	Digital Signal Processing	4 (3+3)
CSOS 312	Operating Systems	4 (3+3)
CSAI 412	Artificial Intelligence	4 (3+3)
CSOP 123	Object Oriented Programming	4 (3+3)
TCOF 382	Optical Fiber Communication	4 (3+3)
TCRF 485	RF & Microwave Engineering	4 (3+3)
ESPE 372	Power Electronics	4 (3+3)
TCCS 411	Communication Systems	4 (3+3)
CSSP 362	Speech Processing	4 (3+3)
ESAE 371	Analog Electronics	3 (3+0)
ESFR 471	Fundamental of Robotics	3 (3+0)
ESES 472	Embedded System	3 (3+0)
CSCA 413	Computer Architecture	3 (3+0)
ESLO 474	Laser & Fiber Optics	3 (3+0)
ESIE 473	Industrial Electronics	3 (3+0)
ESFL 475	Fuzzy Logic & Simulation	3 (3+0)
TCIT 412	Information Theory & Coding	3 (3+0)
TCBD 481	Broadband Digital Networks	3 (3+0)
ESRT 373	Radio and TV Engineering	3 (3+0)
CSMS 464	Multimedia System Design	3 (3+0)
TCRS 482	Radar Systems Engineering	3 (3+0)
TCMW 484	Mobile and Wireless Communication	3 (3+0)
TCSC 483	Satellite Communication	3 (3+0)
TCWA 383	Wave Propagation & Antennas	3 (3+0)
CSMI 355	Management Information Systems	3 (3+0)
CSSC 451	Soft Computing	3 (3+0)
CSML 461	Machine Learning	3 (3+0)
CSSP 454	Systems Programming	3 (3+0)
CSCD 465	Cryptography and Data Security	3 (3+0)
ITMI 365	Multimedia Information Networking	3 (3+0)
ITNM 466	Network Management & Security	3 (3+0)
ITIA 461	Information System Audit	3 (3+0)
ITBA 462	Business Process Automation	3 (3+0)

Supporting Science Electives for BS (CS, ICT, SE, TC & ES)

Course Code	Course Title	Credit (Contact) Hours
GSAP 131	Applied Physics	3 (2+3)
GSAC 132	Applied Chemistry	3 (2+3)
GSBC 133	Bio-Chemistry	3 (3+0)
GSBG 134	Biology/ genetics	3 (3+0)
MTMC 231	Multivariable Calculus	3 (3+0)
MTDE 232	Differential Equations	3 (3+0)
MTAC 233	Advanced Calculus	3 (3+0)
MTNS 234	Numerical and Symbolic Computing	3 (3+0)
MTSP 235	Stochastic Processes	3 (3+0)
MTCL 331	Computational Linear Algebra	3 (3+0)
MTSE 332	Mathematical tools for Software Engineering	3 (3+0)
MTOR 333	Operations Research	3 (3+0)
MTMS 334	Mathematical Modeling and Simulation	3 (3+0)

General Education Electives for BS (CS, ICT, SE, TC & ES)

Course Code	Course Title	Credit (Contact) 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 ENGINEERING (ELECTRICAL), BE (EE)

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 (Contact) Hours
MSCA 111	Calculus & Analytical Geometry	3 (3+0)
EELC 112	Linear Circuit Analysis	4 (3+3)
CSIC 113	Introduction to Computing	3 (2+3)
HSFE 114	English-I (Functional English)	2 (2+0)
HSIS 115	Islamic Studies	2 (2+0)
GSAP 116	Applied Physics	4 (3+3)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MSLA 121	Linear Algebra	3 (3+0)
EEEN 122	Electrical Network Analysis	4 (3+3)
ELED 123	Electronic Devices & Circuits	4 (3+3)
HSCS 124	English-II (Communication Skills)	2 (2+0)
HSPS 125	Pakistan Studies	2 (2+0)
MEEM 126	Engineering mechanics	3 (3+0)
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MSDE 211	Differential Equations	3 (3+0)
HSTR 212	English-III (Technical Report Writing)	2 (2+0)
ELDL 213	Digital Logic Design	4 (3+3)
CSCA 214	Computer Aided Engineering Drawing	3 (2+3)
CSOP 215	Object Oriented Programming	4 (3+3)
HSSC 216	Sociology	2 (2+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MSCV 221	Complex Variables and Transforms	3 (3+0)
HSEE 222	Engineering Ethics	2 (2+0)
EEFM 223	Fundamentals of Electrical Machines	4 (3+3)
HSEM 224	Engineering Economics & Management	3 (3+0)
	Breadth Core-I	4 (3+3)
	Total Credits	**16**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
MSPR 311	Probability & Random Variables	3 (3+0)
EEIP 312	Introduction to Power Engineering	3 (3+0)
ELSS 313	Signals & Systems	4 (3+3)
CSMI 314	Microprocessor & Interfacing Techniques	4 (3+3)
EEET 315	Electromagnetic Field Theory	3 (3+0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MSNA 321	Numerical Analysis	3 (3+0)
ELLC 322	Linear Control Systems	4 (3+3)
TCCS 323	Communication Systems & Applications	4 (3+3)
	Breadth Core-II	3 (3+0)
	Specialization-I	4 (3+3)
	Total Credits	**18**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
EESP 411A	Senior Design Project-I	2 (0+6)
ELDS 412	Digital Signal Processing	4 (3+3)
	Specialization-II	4 (3+3)
	Specialization-III	3 (3+0)
	Elective-I	3 (3+0)
	Total Credits	**16**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
EESP 411B	Senior Design Project-II	4 (0+12)
	Specialization-IV	4 (3+3)
	Specialization-V	4 (3+3)
	Elective-II	3 (3+0)
	Total Credits	**15**

Electronics Engineering Breadth-Core Courses

Course Title	Credit (Contact) Hours
Instrumentation & Measurement	4 (3+3)
Electronic Circuit Design	3 (3+0)

Electronic Engineering Specialization

Course Title	Credit (Contact) Hours
VLSI Design	4 (3+3)
Digital Electronics	3 (3+0)
Power Electronics	4 (3+3)
Microwave Engineering	4 (3+3)
Robotics & Automation	4 (3+3)

Electronic Engineering Electives

Course Title	Credit (Contact) Hours
Digital Communication	3 (3+0)
Digital System Design	3 (3+0)
Optoelectronics	3 (3+0)
Digital Control Systems	3 (3+0)
Embedded Systems	3 (3+0)

Telecommunication Engineering Breadth-Core Courses

Course Title	Credit (Contact) Hours
Data Communication & Computer Networking	4 (3+3)
Electronic Circuit Design	3 (3+0)

Telecommunication Engineering Specialization

Course Title	Credit (Contact) Hours
Optical Fiber Communication	4 (3+3)
Digital Communication	3 (3+0)
Radar Systems	4 (3+3)
Microwave Engineering	4 (3+3)
Wave Propagation & Antennas	4 (3+3)

Telecommunication Engineering Electives

Course Title	Credit (Contact) Hours
Digital Communication	3 (3+0)
Digital System Design	3 (3+0)
Optoelectronics	3 (3+0)
Digital Control Systems	3 (3+0)
Embedded Systems	3 (3+0)

Electrical Power Engineering Breadth-Core Courses

Course Title	Credit (Contact) Hours
Instrumentation & Measurement	4 (3+3)
Power Generation	3 (3+0)

Electrical Power Engineering Specialization

Course Title	Credit (Contact) Hours
AC Machines	4 (3+3)
Power Distribution & utilization	3 (3+0)
Electrical Power Transmission	4 (3+3)
Power Electronics	4 (3+3)
Power System Protection	4 (3+3)

Electrical Power Engineering Electives

Course Title	Credit (Contact) Hours
Power System Analysis	3 (3+0)
Power System Operation & Control	3 (3+0)
High Voltage Engineering	3 (3+0)
Power System stability & Control	3 (3+0)
Advanced Electrical Machines	3 (3+0)
Power Economics & Management	3 (3+0)

Computer Systems Engineering Breadth-Core Courses

Course Title	Credit (Contact) Hours
Data Communication & Computer Networking	4 (3+3)
Computer Architecture	3 (3+0)

Computer Systems Engineering Specialization

Course Title	Credit (Contact) Hours
Operating Systems	3 (3+0)
Embedded Systems	4 (3+3)
Data Structures & Algorithms	4 (3+3)
Database Design & Management Systems	4 (3+3)
Multimedia System	4 (3+3)

Computer Systems Engineering Electives

Course Title	Credit (Contact) Hours
Software Engineering	3 (3+0)
Artificial Intelligence	3 (3+0)
Computer Graphics	3 (3+0)
Digital Image Processing	3 (3+0)
Compiler Construction	3 (3+0)
Bioinformatics	3 (3+0)

A TYPICAL STUDY PLAN
BACHELOR OF TECHNOLOGY IN ELECTRICAL (PASS)

DURATION 2 YEARS

Minimum Degree Requirements: This program comprises of a minimum of 65 credit hours of coursework and 5 credits of Lab.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA113	Calculus-I	3(3+0)
ETFE124	Foundation of Engineering	3(3+0)
ETIT134	Fundamental of Information Technology	3(3+0)
ETIT135	Fundamental of Information Technology Lab	1(0+3)
MSCS143	Communication Skills-I	3(3+0)
ETEP154	Engineering Physics-I	3(3+0)
HMIS103	Islamic Studies	2
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA184	Calculus-II	3(3+0)
ETEP193	Engineering Physics-II	3(3+0)
ETCA114	Circuit Analysis-I	3(3+0)
ETCA115	Circuit Analysis Lab	1(0+3)
ETES174	Electronics-I	3(3+0)
ETED163	Computer Aided Engineering Drawing	2 (0+6)
HMPS213	Pakistan Studies	2
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA224	Linear Algebra & Differential Equation	3(3+0)
MSBC232	Business Communication	2
ETEM244	Electrical Machines	3(3+0)
ETSP232	Switchgear & Protective Devices	3(3+0)
ETDL294	Digital Logic Design	3(3+0)
ETDL295	Digital Logic Design Lab	1(0+3)
ETPG253	Power Generation & Utilization	3(3+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ETOH272	Occupational Health, Safety & Environment	2
ETIM333	Instrument & Measurements	3(3+0)
ETET273	Electromagnetic Field Theory	3(3+0)
ETPT203	Power Transmission & Distribution	3(3+0)
ETST213	Substation Technology	3(3+0)
ETNA283	Network Analysis	3(3+0)
	Total Credits	**17**

A TYPICAL STUDY PLAN
BACHELOR OF TECHNOLOGY IN ELECTRONICS (PASS)

DURATION 2 YEARS

Minimum Degree Requirements: This program comprises of a minimum of 65 credit hours of coursework and 5 credits of Lab.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA113	Calculus-I	3(3+0)
ETFE124	Foundation of Engineering	3(3+0)
ETIT134	Fundamental of Information Technology	3(3+0)
ETIT135	Fundamental of Information Technology Lab	1(0+3)
MSCS143	Communication Skills-I	3(3+0)
ETEP154	Engineering Physics-I	3(3+0)
HMIS103	Islamic Studies	2(2+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA184	Calculus-II	3(3+0)
ETEP193	Engineering Physics-II	3(3+0)
ETCA114	Circuit Analysis-I	3(3+0)
ETCA115	Circuit Analysis Lab	1(0+3)
ETES174	Electronics-I	3(3+0)
ETED163	Computer Aided Engineering Drawing	2(0+6)
HMPS213	Pakistan Studies	2(2+0)
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA224	Linear Algebra & Differential Equation	3(3+0)
MSBC232	Business Communication	2(2+0)
ETEM244	Electrical Machines	3(3+0)
ETSM263	Semiconductor Materials & Devices	3(3+0)
ETDL294	Digital Logic Design	3(3+0)
ETDL295	Digital Logic Design Lab	1(0+3)
ETPE323	Power Electronics	3(3+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ETIM333	Instrumentation & Measurements	3(3+0)
ETOH 272	Occupational Health, Safety & Environment	2(2+0)
ETET273	Electromagnetic Field Theory	3(3+0)
ETIE204	Industrial Electronics	3(3+0)
ETCS213	Communication Systems	3(3+0)
ETNA283	Network Analysis	3(3+0)
	Total Credits	**17**

A TYPICAL STUDY PLAN
BACHELOR OF TECHNOLOGY IN ELECTRICAL (HONS)

DURATION 4 YEARS

Minimum Degree Requirements: This program comprises of a minimum of 136 credit hours of coursework including a final year project and 12 credits from the list of electives.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA113	Calculus-I	3(3+0)
ETFE124	Foundation of Engineering	3(3+0)
ETIT134	Fundamental of Information Technology	3(3+0)
ETIT135	Fundamental of Information Technology Lab	1(0+3)
MSCS143	Communication Skills-I	3(3+0)
ETEP154	Engineering Physics-I	3(3+0)
HMIS103	Islamic Studies	2(2+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA184	Calculus-II	3(3+0)
ETEP193	Engineering Physics-II	3(3+0)
ETCA114	Circuit Analysis-I	3(3+0)
ETCA115	Circuit Analysis Lab	1(0+3)
ETES174	Electronics-I	3(3+0)
ETED163	Computer Aided Engineering Drawing	2(0+6)
HMPS213	Pakistan Studies	2(2+0)
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA224	Linear Algebra & Differential Equation	3(3+0)
MSBC232	Business Communication	2(2+0)
ETEM244	Electrical Machines	3(3+0)
ETES254	Electronics - II	3(3+0)
ETDL294	Digital Logic Design	3(3+0)
ETDL295	Digital Logic Design Lab	1(0+3)
ETCA252	Circuit Analysis – II	3(3+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ETSS314	Signal & Systems	3(3+0)
ETSS315	Signal & Systems Lab	1(0+3)
ETSM263	Semiconductor Materials & Devices	3(3+0)
ETET273	Electromagnetic Field Theory	3(3+0)
ETNA283	Network Analysis	3(3+0)
ETIE203	Industrial Electronics	3(3+0)
ETEE203	Engineering Economics	3(3+0)
	Total Credits	**19**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
ETPS393	Probability & Stochastic Processes	3(3+0)
ETPE323	Power Electronics	3(3+0)
ETIM333	Instrumentation & Measurements	3(3+0)
ETIM334	Instrumentation & Measurements Lab	1(0+3)
ETIC343	Integrated Circuits	3(3+0)
ETTM353	Technology Management	3(3+0)
ETLO363	Laser & Optics	3(3+0)
	Total Credits	**19**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ETMA374	Microprocessor Architecture & Assembly Language	3(3+0)
ETMA375	Microprocessor Lab	1(0+3)
ETCS213	Communication Systems	3(3+0)
ETCS303	Control Systems	3(3+0)
ETDC313	Data Communication & Computer Networks	3(3+0)
ETVL434	VLSI Design	3(3+0)
	Total Credits	**16**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
ETWP413	Wave Propagation & Antennas	3(3+0)
ETMI424	Microcontroller & Interfacing Techniques	3(3+0)
ETMI425	Microcontroller & Interfacing Techniques Lab	1(0+3)
	Elective – I	3(3+0)
	Elective – II	3(3+0)
ETET499	Project-I	3(3+0)
	Total Credits	**16**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ETDL444	Advanced Digital Logic Design	3(3+0)
ETDL445	Advanced Digital Logic Design Lab	1(0+3)
	Elective-III	3(3+0)
	Elective-IV	3(3+0)
ETET499	Final Year Project	3(3+0)
	Total Credits	**13**

A TYPICAL STUDY PLAN
BACHELOR OF TECHNOLOGY IN ELECTRONICS (HONS)

DURATION 4 YEARS

Minimum Degree Requirements: This program comprises of a minimum of 136 credit hours of coursework including a final year project and 12 credits from the list of electives.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA113	Calculus-I	3(3+0)
ETFE124	Foundation of Engineering	3(3+0)
ETIT134	Fundamental of Information Technology	3(3+0)
ETIT135	Fundamental of Information Technology Lab	1(0+3)
MSCS143	Communication Skills-I	3(3+0)
ETEP154	Engineering Physics-I	3(3+0)
HMIS103	Islamic Studies	2(2+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA184	Calculus-II	3(3+0)
ETEP193	Engineering Physics-II	3(3+0)
ETCA114	Circuit Analysis-I	3(3+0)
ETCA115	Circuit Analysis Lab	1(0+3)
ETES174	Electronics-I	3(3+0)
ETED163	Computer Aided Engineering Drawing	2(0+6)
HMPS213	Pakistan Studies	2(2+0)
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA224	Linear Algebra & Differential Equation	3(3+0)
MSBC232	Business Communication	2(2+0)
ETEM244	Electrical Machines	3(3+0)
ETES254	Electronics - II	3(3+0)
ETDL294	Digital Logic Design	3(3+0)
ETDL295	Digital Logic Design Lab	1(0+3)
ETCA252	Circuit Analysis – II	3(3+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ETSS314	Signal & Systems	3(3+0)
ETSS315	Signal & Systems Lab	1(0+3)
ETPG253	Power Generation & Utilization	3(3+0)
ETET273	Electromagnetic Field Theory	3(3+0)
ETNA283	Network Analysis	3(3+0)
ETIE203	Industrial Electronics	3(3+0)
ETEE203	Engineering Economics	3(3+0)
	Total Credits	**19**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
ETPS393	Probability & Stochastic Processes	3(3+0)
ETPE323	Power Electronics	3(3+0)
ETIM333	Instrumentation & Measurements	3(3+0)
ETIM334	Instrumentation & Measurements Lab	1(0+3)
ETPT203	Power Transmission & Distribution	3(3+0)
ETTM353	Technology Management	3(3+0)
ETSP232	Switchgear & Protective Devices	3(3+0)
	Total Credits	**19**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ETMA374	Microprocessor Architecture & Assembly Language	3(3+0)
ETMA375	Microprocessor Lab	1(0+3)
ETCS213	Communication Systems	3(3+0)
ETCS303	Control Systems	3(3+0)
ETDC313	Data Communication & Computer Networks	3(3+0)
ETST213	Substation Technology	3(3+0)
	Total Credits	**16**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
ETWP413	Wave Propagation & Antennas	3(3+0)
ETMI424	Microcontroller & Interfacing Techniques	3(3+0)
ETMI425	Microcontroller & Interfacing Techniques Lab	1(0+3)
	Elective – I	3(3+0)
	Elective – II	3(3+0)
ETET499	Project – I	3(3+0)
	Total Credits	**16**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ETHV401	High Voltage Technology	3(3+0)
	Elective-III	3(3+0)
	Elective-IV	3(3+0)
ETET499	Project– II	3(3+0)
	Total Credits	**12**

B-Tech Electives
Electrical / Electronics

Course Code	Course Title	Credit (Contact) Hours
ESMA436	Mechatronics Applications	3(3+0)
CSTA452	Theory of Automata	3(3+0)
CSCG309	Computer Graphics	4(3+3)
CSCN331	Computer Networks	4(3+3)
ESPC337	Industrial Process Control	3(3+0)
ETMT384	Microelectronic Technology	3(3+0)
ESFD438	Filter Design	3(3+0)
ESME309	Microwave Engineering	3(3+0)
ESWC467	Wireless Communication	3(3+0)
ESOC468	Fiber Optics Communication	3(3+0)
ESSC469	Satellite Communication	3(3+0)
ESRS491	Radar Systems	3(3+0)
ESAW492	Antennas & Wave Propagation	4(3+3)
ESMC351	Mobile Computing	4(3+3)
ESIP352	Introduction to Image Processing	3(3+0)
ESIM339	Instrumentation and Measurement	3(3+0)
ETHV423	High Voltage DC Transmission	3(3+0)

A TYPICAL STUDY PLAN
BACHELOR OF TECHNOLOGY IN BIOMEDICAL (PASS) **DURATION 2 YEARS**

Minimum Degree Requirements: This program comprises of a minimum of 65 credit hours of coursework and 5 credits of Lab

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA113	Calculus-I	3
BTFE124	Foundation of Engineering	3
BTIT134	Fundamental of Information Technology	3
BTIT135	Fundamental of Information Technology Lab	1
MSCS143	Communication Skills-I	3
BTEP154	Engineering Physics-I	3
HMIS103	Islamic Studies	2
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA184	Calculus-II	3
BTEP193	Engineering Physics-II	3
BTCA114	Circuit Analysis-I	3
BTCA115	Circuit Analysis Lab	1
BTES174	Electronics-I	3
BTED163	Computer Aided Engineering Drawing	2
HMPS213	Pakistan Studies	2
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA224	Linear Algebra & Differential Equations	3
MSBC232	Business Communication	2
BTPH244	Physiology-I	3
BTBC254	Biochemistry	3
BTDL294	Digital Logic Design	3
BTDL295	Digital Logic Design Lab	1
BTBE252	Biomedical Electronics	3
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
BTSS314	Signal & Systems	3
BTSS315	Signal & Systems Lab	1
BTPH263	Physiology-II	3
BTHA273	Human Anatomy	3
BTNA283	Network Analysis	3
BTBP203	Biophysics	3
BTEE203	Engineering Economics	3
	Total Credits	**19**

A TYPICAL STUDY PLAN
BACHELOR OF TECHNOLOGY IN BIOMEDICAL (HONS)

DURATION 4 YEARS

Minimum Degree Requirements: This program comprises of a minimum of 136 credit hours of coursework including a final year project and 12 credits from the list of electives.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA113	Calculus-I	3
BTFE124	Foundation of Engineering	3
BTIT134	Fundamental of Information Technology	3
BTIT135	Fundamental of Information Technology Lab	1
MSCS143	Communication Skills-I	3
BTEP154	Engineering Physics-I	3
HMIS103	Islamic Studies	2
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA184	Calculus-II	3
BTEP193	Engineering Physics-II	3
BTCA114	Circuit Analysis-I	3
BTCA115	Circuit Analysis Lab	1
BTES174	Electronics-I	3
BTED163	Computer Aided Engineering Drawing	2
HMPS213	Pakistan Studies	2
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA224	Linear Algebra & Differential Equations	3
MSBC232	Business Communication	2
BTPH244	Physiology-I	3
BTBC254	Biochemistry	3
BTDL294	Digital Logic Design	3
BTDL295	Digital Logic Design Lab	1
BTBE252	Biomedical Electronics	3
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
BTSS314	Signal & Systems	3
BTSS315	Signal & Systems Lab	1
BTPH263	Physiology-II	3
BTHA273	Human Anatomy	3
BTNA283	Network Analysis	3
BTBP203	Biophysics	3
BTEE203	Engineering Economics	3
	Total Credits	**19**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
BTPS393	Probability & Stochastic Processes	3
BTSP323	Bio-Signal Processing	3
BTBM333	Biomechanics	3
BTSP334	Bio-Signal Processing Lab	1
BTIC343	Integrated Circuits	3
BTTM353	Technology Management	2
BTBI363	Biomedical Instrumentation-I	3
	Total Credits	**19**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
BTMA374	Microprocessor Architecture & Assembly Language	3
BTMA375	Microprocessor Lab	1
BTCS383	Biomedical Control Systems	3
BTMS303	Modeling & Simulation	3
BTBI313	Biomedical Instrumentation-II	3
BTEH434	Economics & Healthcare Management	3
	Total Credits	**16**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
BTBM413	Biomaterials & Design	3
BTNN424	Neuroscience & Networks	3
BTAD425	Professional Practices	2
	Elective – I	3
	Elective – II	3
BTPP499	Project-I	3
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
BTMI444	Medical Imaging	3
BTPP444	Medical Imaging Lab	1
	Elective-III	3
	Elective-IV	3
BTPP499	Project-II	3
	Total Credits	**13**

A TYPICAL STUDY PLAN
BACHELOR OF TECHNOLOGY IN CIVIL (PASS) **DURATION 2 YEARS**

Minimum Degree Requirements: This program comprises of a minimum of 65 credit hours of coursework and 5 credits of Lab. from the list of electives.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA113	Calculus-I	3
CTFE124	Foundation of Engineering	3
CTIT134	Fundamental of Information Technology	3
CTIT135	Fundamental of Information Technology Lab	1
MSCS143	Communication Skills-I	3
CTEP154	Engineering Physics-I	3
HMIS103	Islamic Studies	2
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA184	Calculus-II	3
CTEP193	Engineering Physics-II	3
CTMS 173	Mechanics of Solids	3
CTMS174	Mechanics of Solids Lab	1
CTES123	Engineering Surveying	3
CTES124	Engineering Surveying Lab	1
CTED163	Computer Aided Engineering Drawing	2
HMPS213	Pakistan Studies	2
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA224	Linear Algebra & Differential Equations	3
MSBC232	Business Communication	2
CTFM 213	Fluid Mechanics	3
CTES223	Advanced Engineering Surveying	3
CTES224	Advanced Engineering Surveying Lab	1
CTEG233	Engineering Geology	3
CTEM243	Civil Engineering Materials & Construction	3
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CTES253	Quantity Surveying & Estimation	2
CTES263	Structural Analysis	3
CTES273	Soil Mechanics	3
CTES274	Soil Mechanics Lab	1
MTNA 223	Numerical Analysis	3
CTCT 293	Concrete Technology-I	3
CTCT294	Concrete Technology Lab	1
CTCE262	Cost Estimates & Contract Documents	2
	Total Credits	**18**

A TYPICAL STUDY PLAN
BACHELOR OF TECHNOLOGY IN CIVIL (HONS) **DURATION 4 YEARS**

Minimum Degree Requirements: This program comprises of a minimum of 136 credit hours of coursework including a final year project and 12 credits from the list of electives.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA113	Calculus-I	3
CTFE124	Foundation of Engineering	3
CTIT134	Fundamental of Information Technology	3
CTIT135	Fundamental of Information Technology Lab	1
MSCS143	Communication Skills-I	3
CTEP154	Engineering Physics-I	3
HMIS103	Islamic Studies	2
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA184	Calculus-II	3
CTEP193	Engineering Physics-II	3
CTMS 173	Mechanics of Solids	3
CTMS174	Mechanics of Solids Lab	1
CTES123	Engineering Surveying	3
CTES124	Engineering Surveying Lab	1
CTED163	Computer Aided Engineering Drawing	2
HMPS213	Pakistan Studies	2
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA224	Linear Algebra & Differential Equations	3
MSBC232	Business Communication	2
CTFM 213	Fluid Mechanics	3
CTES223	Advanced Engineering Surveying	3
CTES224	Advanced Engineering Surveying Lab	1
CTEG233	Engineering Geology	3
CTEM243	Civil Engineering Materials & Construction	3
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CTES253	Quantity Surveying & Estimation	2
CTES263	Structural Analysis	3
CTES273	Soil Mechanics	3
CTES274	Soil Mechanics Lab	1
MTNA 223	Numerical Analysis	3
CTCT 293	Concrete Technology-I	3
CTCT294	Concrete Technology Lab	1
CTCE262	Cost Estimates & Contract Documents	2
	Total Credits	**18**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
CTPS393	Probability & Stochastic Processes	3
CTCT313	Concrete Technology-II	3
CTCT314	Concrete Technology Lab	1
CTAF323	Advanced Fluid Mechanics	3
CTTM383	Technology Management	3
CTGI333	Geo Informatics	3
CTGI334	Geo Informatics Lab	1
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CTIH343	Irrigation and Hydraulic Structure	3
CTIH344	Irrigation and Hydraulic Structure Lab	1
CTWS353	Water Supply and Waste Water Management Environmental Engineering- I	3
CTEE363	Transportation Planning & Engineering	3
CTTP373	Hydrology	3
CTHY383	Environmental Engineering- I	3
	Total Credits	**16**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
CTCM413	Construction Management	3
CTAT423	Architecture & Town Planning	3
CTTQ433	Total Quality Management	3
	Elective – I	3
	Elective – II	3
	Project-I	3
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CTFP443	Foundations and Pavements	3
CTFP444	Foundations and Pavements Lab	1
	Elective-III	3
	Elective-IV	3
	Project-II	3
	Total Credits	**13**

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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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

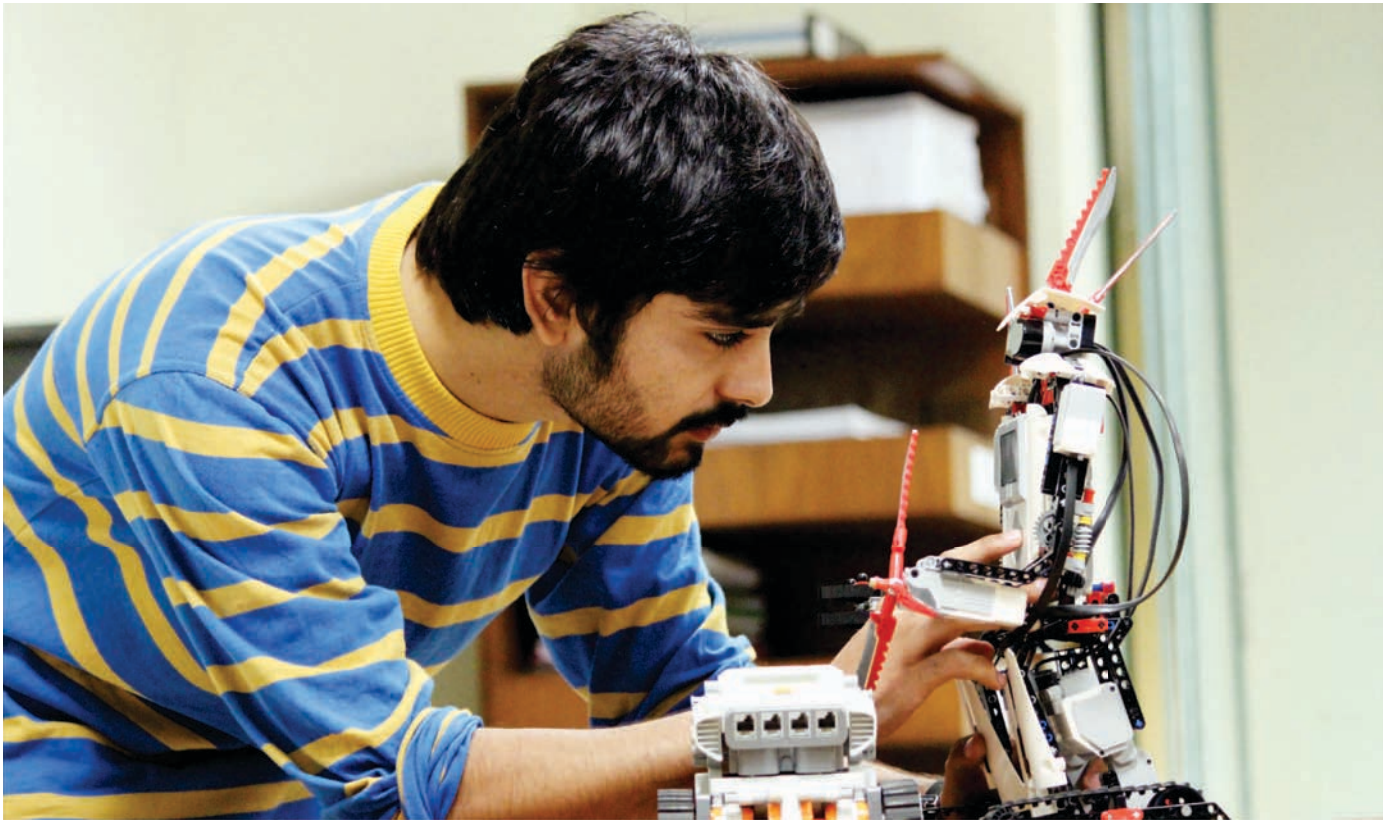
Course Code	Course Title	Credit (Contact) Hours
TCET 362	Power & Industrial Electronics	3(2+3)
ESAD 201	Analog & Digital communication	4(3+3)
ESCA 210	Computer-Aided Engineering	1(0+3)
ESEC 202	Electronic Circuit Design	4(3+3)
	Elective I	3(3+0)
	Total Credits	**15**

Second Semester

Course Code	Course Title	Credit (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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)
TCBD 444	**Total Credits**	**17**

Second Semester

Course Code	Course Title	Credit (Contact) 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 (Contact) 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 PhD PROGRAMS

Faculty of Engineering, Science & Technology	
MS Program	
Minimum Qualifications Duration Coursework Credits Research Credits	4 years Bachelor Degree Minimum 2 years 24 Credits 12 Credits
M. Phil Program	
Minimum Qualifications Duration Coursework Credits Research Credits	Master or 4 years Bachelor Degree Minimum 2 years 24 Credits 12 Credits
PhD Program	
Minimum Qualifications Duration Coursework Credits Research Credits	M Phil or 18 years Education Minimum 3 years 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 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 (Contact) Hours
Core	**9**
Area of Specialization & Electives	**12**
Special Study	**3**
Dissertation	**12**
Total	**36**

Course Code	Course Title	Credit (Contact) 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 (Contact) Hours
Core	**9**
Area of Specialization & Electives	**12**
Special Study	**3**
Thesis	**12**
Total	**36**

Course Code	Course Title	Credit (Contact) Hours
CSCS 699	Thesis	12 (0+36)
CSSS 598	Special Study	3 (0+9)

STUDY PLAN
DOCTOR OF PHILOSOPHY, PhD (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 & PhD 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) Hours
Core	**9**
Area of Specialization & Electives	**12**
Special Study	**3**
Dissertation	**12**
Total	**36**

Course Code	Course Title	Credit (Contact) 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 (Contact) Hours
Core	**9**
Area of Specialization & Electives	**12**
Special Study	**3**
Thesis	**12**
Total	**36**

Course Code	Course Title	Credit (Contact) Hours
CSIT 699	Thesis	12 (0+36)
CSSS 598	Special Study	3 (0+9)

STUDY PLAN
DOCTOR OF PHILOSOPHY, PhD (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 & PhD 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) Hours
Core	**9**
Area of Specialization & Electives	**12**
Special Study	**3**
Dissertation	**12**
Total	**36**

Course Code	Course Title	Credit (Contact) Hours
CSCS 599	Dissertation	12 (0+36)
CSSS 598	Special Study	3 (0+9)

STUDY PLAN
MASTER OF PHILOSOPHY (TELECOMMUNICATION), M. PHIL (TC)

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 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 (Contact) Hours
Core	**9**
Area of Specialization & Electives	**12**
Special Study	**3**
Thesis	**12**
Total	**36**

Course Code	Course Title	Credit (Contact) Hours
CSCS 699	Thesis	12 (0+36)
CSSS 598	Special Study	3 (0+9)

STUDY PLAN
DOCTOR OF PHILOSOPHY, PhD (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 & PhD COURSES IN TELECOMMUNICATION

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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) Hours
Core	**9**
Area of Specialization & Electives	**12**
Special Study	**3**
Thesis	**12**
Total	**36**

Course Code	Course Title	Credit (Contact) 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.

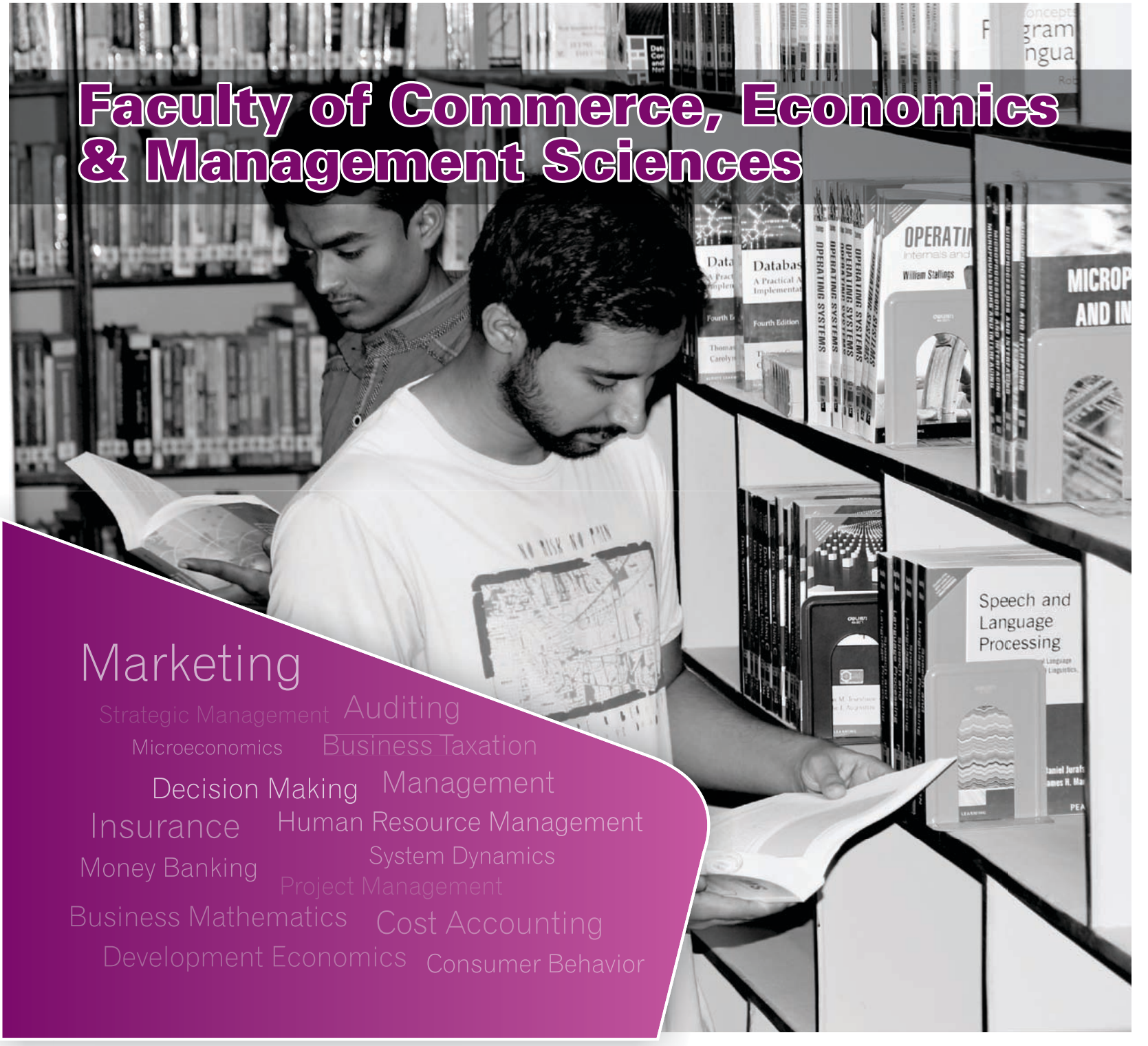
Core Courses

Course Title	Credit (Contact) 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 (Contact) 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
Advance Differential Equations and Boundary Value Problems	3(3+0)	48
Advance Numerical Analysis	3(3+0)	48
Applied Functional Analysis	3(3+0)	48
Advance 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



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.

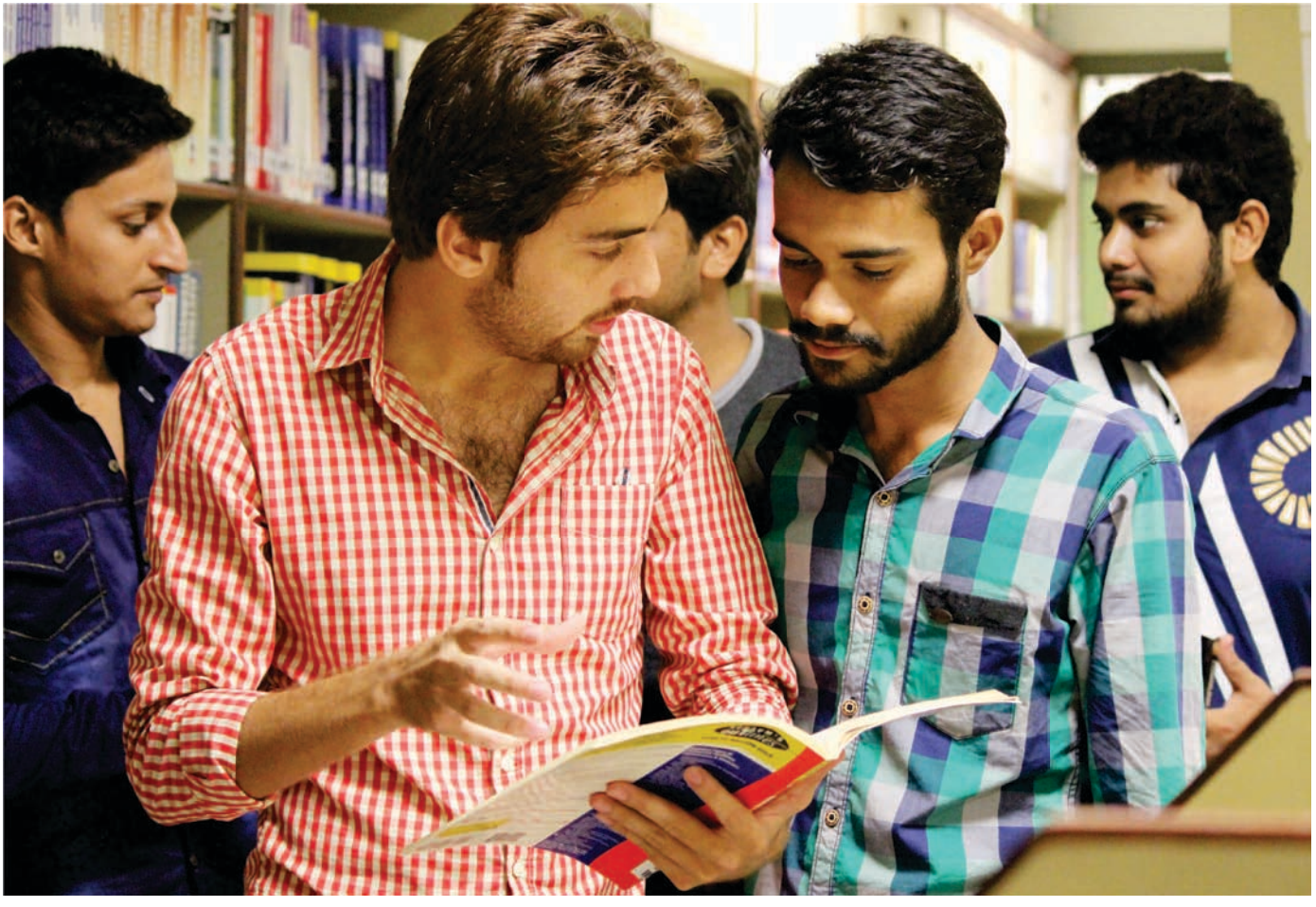
The program offers electives in a variety of specialization areas.

The BBA program is accredited by the National Business Education Accreditation Council (NBEAC).

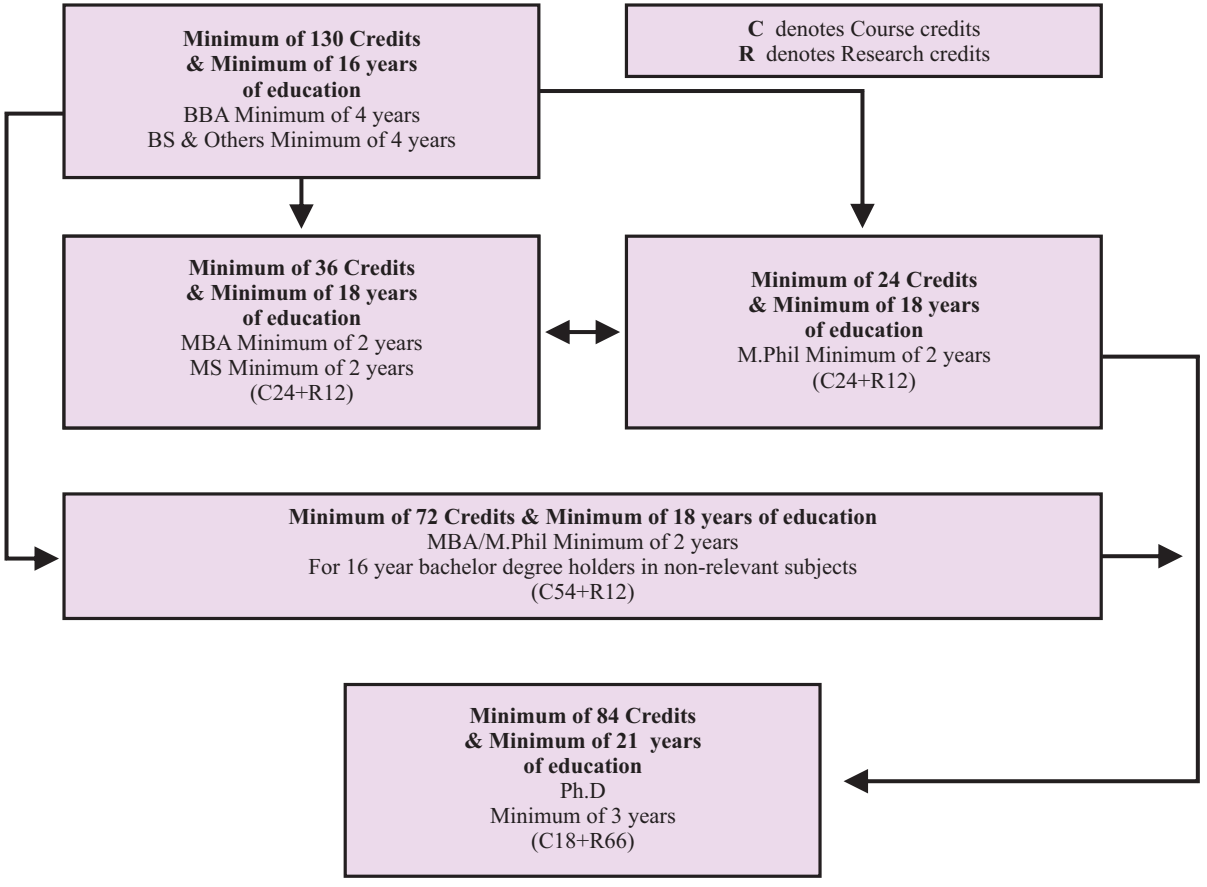
MASTER OF BUSINESS ADMINISTRATION

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: This program comprises a minimum of 138 credit hours of coursework that includes 114 credits of required courses, a final year project of 6 credits, a 6-8 weeks internship and 12 credits of electives courses.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
HSEN 114	English - I (Composition & Comprehension)	3 (3+0)
MSHB112	Human Psychology & Behavior	3 (3+0)
CSIC 111	Introduction to Computing	3 (2+3)
MTBM 113	Business Mathematics	3 (3+0)
HSPS 116	Pakistan Studies	1 (1+0)
MSIB 114	Introduction to Business	3 (3+0)
	Total Credits	**16**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HSEN 124	Communication Skills (English - II)	3 (3+0)
HMPT 123	Personal & Time Management	3 (3+0)
MSMG 125	Principle of Management	3 (3+0)
MSBS 121	Business Statistics	3 (3+0)
MSEC 126	Microeconomics	3 (3+0)
HSIS 122	Islamic Studies	2 (2+0)
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
HMSC 231	Sociology	3 (3+0)
MSOC 232	Business Oral Communication	3 (3+0)
MSHR 233	Human Resource management	3 (3+0)
MSEC 234	Macroeconomics	3 (3+0)
MTCA 115	Calculus & Analytical Geometry	3 (3+0)
MSFA 235	Financial Accounting	3 (3+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MSCA 352	Cost Accounting	3 (3+0)
HMBE 242	Business Ethics	3 (3+0)
MSBC 243	Business Communication	3 (3+0)
MSBF 244	Business Finance	3 (3+0)
MSMK 245	Principle of Marketing	3 (3+0)
HMLO 246	Logic	3 (3+0)
	Total Credits	**18**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
HMPE 241	Pakistan Economy	3 (3+0)
MSMM 351	Marketing Management	3 (3+0)
MSFM 353	Financial Management	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 (Contact) Hours
HMSD 361	System Dynamics	3 (2+3)
MSMI 362	Management Information System	3 (3+0)
MSCB 363	Consumer Behavior	3 (3+0)
MSOB 364	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 (Contact) Hours
MSBR 471	Business Research & Report Writing	3 (3+0)
MSPM 472	Production & Operations Management	3 (3+0)
MSET 473	Entrepreneurship	3 (3+0)
MSMB 474	Money & Banking	3 (3+0)
HMIR 475	International Relations and Current Affairs	3 (3+0)
	Elective III	3 (3+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MSIB 481	International Business Management	3 (3+0)
MSBA 482	Business Project	3 (3+0)
MSBP 483	Business Policy	3 (3+0)
MSEC 484	E- Commerce	3 (3+0)
	Elective IV	3 (3+0)
	Total Credits	**15**

BBA Electives
Marketing

Course Code	Course Title	Credit (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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)

Information Technology

Course Code	Course Title	Credit (Contact) Hours
CSSA 421	System Analysis and Design	3(3+0)
CSCN 435	Computer networking	3(3+0)
CSAI 466	Expert System and Artificial Intelligence	3(3+0)
CSOS 331	Operating System	3(3+0)
CSWD 456	Web Designing	3(3+0)

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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 (Contact) 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 PhD PROGRAMS

Department of Management Sciences	
MBA Program	
Minimum Qualifications Duration	4 years 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
PhD Program	
Minimum Qualifications Duration Coursework Credits Research Credits	M Phil or 18 years Education Minimum 3 years 18 Credits 66 Credits

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

Minimum Degree Requirements: This program comprises a minimum of 36 credit hours given in 6 core courses together with 2 specialization courses from any of the areas of concentration namely Marketing, Hotel Management, Health Care & Hospital Management, Management Information System, Banking & Finance, Management and Human Resource Management. Students may choose to undertake research in the form of a 12 credit dissertation of a 3 credit internship along with an additional 9 credit of elective courses. The combined list of courses in the various areas of specialization forms the pool of elective courses.

Course Work Category	Credit (Contact) Hours
Core	**18**
Area of Specialization & Electives	**6**
Dissertation	**12**
Total	**36**

OR

Course Work Category	Credit (Contact) Hours
Core	**18**
Area of Specialization & Electives	**15**
Internship	**3**
Total	**36**

Course Code	Course Title	Credit (Contact) Hours
MSMD 599	Dissertation	12(0+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 (Contact) Hours	Contact Hrs per Semester
MSFM 547	Financial Management	3(3+0)	48
MSSM 551	Strategic Marketing Management	3(3+0)	48
MSSM 573	Strategic Management	3(3+0)	48
MSAR 501	Advanced Research Methods	3(3+0)	48
MSME 534	Managerial Economics	3(3+0)	48
MSOD 511	Organization Development	3(3+0)	48

Areas of Specialization

Marketing

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
MSMR 559	Marketing Research	3(3+0)	48
MSIE 557	International Marketing	3(3+0)	48
MSID 555	Industrial Marketing	3(3+0)	48
MSBM 552	Brand Management	3(3+0)	48
MSAM 553	Advertisement Management	3(3+0)	48
MSPS 554	Personal Selling and Sales Management	3(3+0)	48

Finance

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
MSSA 546	Security Analysis	3(3+0)	48
MSIP 541	Investment and Portfolio Management	3(3+0)	48
MSFS 542	Financial Statement Analysis	3(3+0)	48
MSCM 540	Capital Markets	3(3+0)	48
MSIF 543	International Financial Management	3(3+0)	48
MSIB 555	Islamic Banking and Finance	3(3+0)	48

Management Information Systems (MIS)

Course Code	Course Title	Credit (Contact) 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 (Contact) Hours	Contact Hrs per Semester
MSTD 583	Training and Development	3(3+0)	48
MSMA 581	Motivation and its Applications	3(3+0)	48
MSLL 582	Labor Laws in Pakistan	3(3+0)	48
MSPM 587	Performance Management	3(3+0)	48
MSCM 586	Compensation Management	3(3+0)	48
MSLT 584	Leadership and Team Management	3(3+0)	48

Management

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
MSCM 513	Comparative Management	3(3+0)	48
MSCM 514	Change Management	3(3+0)	48
MSKM 515	Knowledge Management	3(3+0)	48
MSSM 516	Small and Medium enterprise 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 (Contact) 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 Managment	3(3+0)	48

Health Care and Hospital Management

Course Code	Course Title	Credit (Contact) 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 (Contact) 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 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 (Contact) Hours
Core	**9**
Area of Specialization & Electives	**12**
Special Study	**3**
Thesis	**12**
Total	**36**

Course Code	Course Title	Credit (Contact) Hours
MSMS 699	Thesis	12 (0+36)
MSSS 698	Special Study	3 (0+9)

STUDY PLAN
DOCTOR OF PHILOSOPHY, PhD (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 & PhD 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 (Contact) 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 (Contact) 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 (Contact) 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)

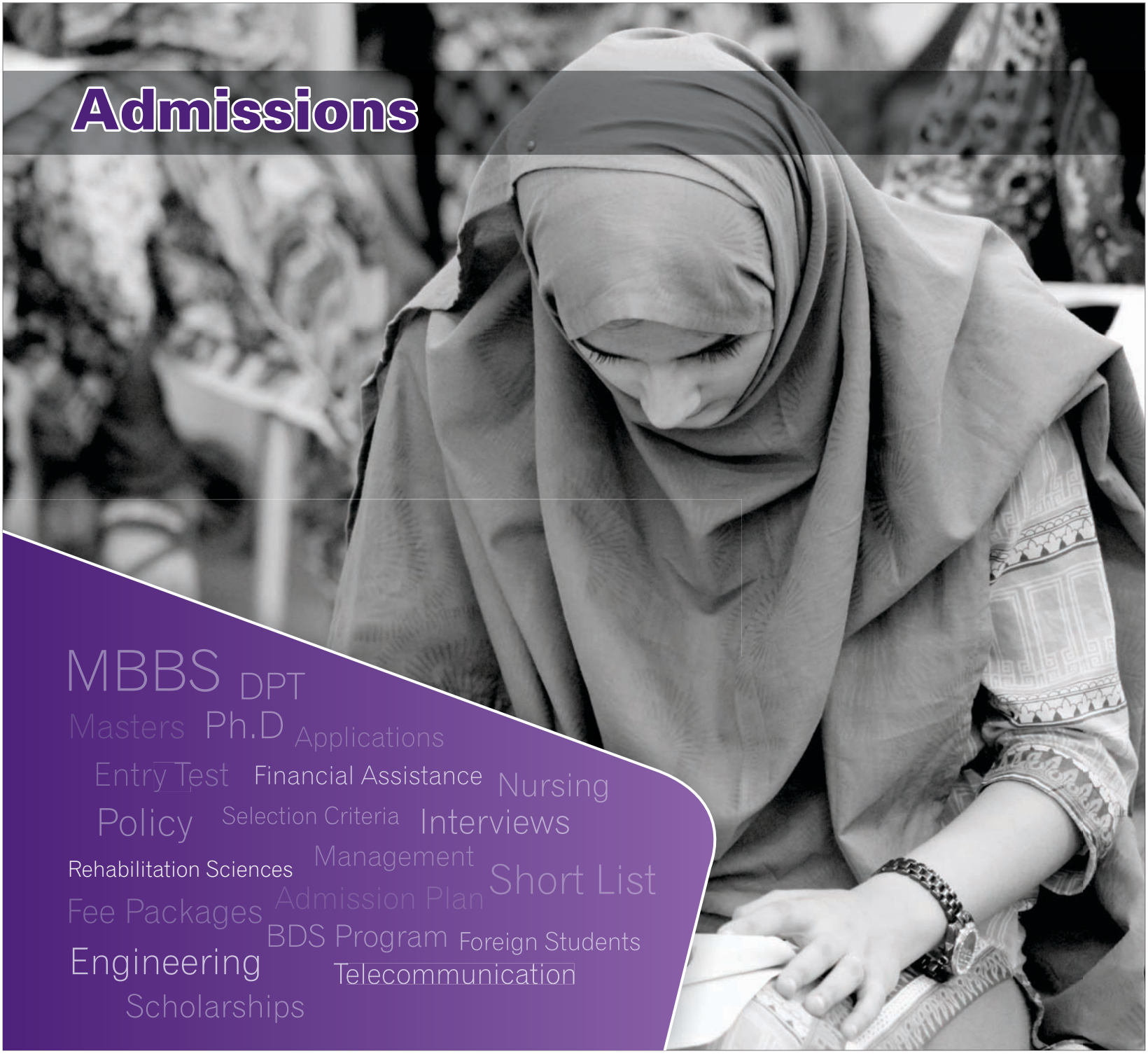
Management

Course Code	Course Title	Credit (Contact) 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 (Contact) 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
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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 Assistance	DHCA	01
MPH	Master of Public Health	02
M. Phil	Anatomy, Biochemistry, Physiology, Pharmacology, Community Medicine, Histopathology, Chemical Pathology, Hematology, Microbiology	02
Ph. D	Anatomy, Biochemistry, Physiology, Pharmacology, Histopathology, Hematology, Microbiology	03
Doctor of Medicine	Internal Medicine, Paediatrics, Cardiology, Neurology, Radiology, Dermatology Nephrology, Gastroentology	04
Master of Surgery	General Surgery, Ophthalmology, Gynae & Obs & Anesthesiology	04

Diploma Program		Year(s)
Diploma	Medical Jurisprudence, Otorhinolaryngology, Ophthalmology, Clinical Pathology, Cardiology, Child Health, Gynae & Obs, Dermatology, Radiology, Laryngology, Otology, T.B & Chest Diseases Anesthesiology	02

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

Faculty of Dentistry & Allied Sciences

Degree Program		Year(s)
Bachelor of Dental Surgery	BDS	04
Master of Dental Surgery	Oral & Maxillofacial Surgery, Oral Pathology, Operative Dentistry	04
M.Sc	Oral & Maxillofacial Surgery, Operative Dentistry, Oral Pathology, Periodontology	02
M. Phil	Oral Anatomy, Community Dentistry, Science of Dental Material	02

FCPS/MCPS Training Program		Year(s)
FCPS	Operative Dentistry, Oral & Maxillofacial Surgery	04
MCPS	Operative Dentistry	02

Faculty of Engineering, Science & Technology

Degree Program		Year(s)
Bachelor of Engineering (Electrical)	BE (EE)	04
Bachelor of Science (Computer Science)	BS (CS)	04
Bachelor of Science (Information & Communication Technology)	BS (ICT)	04
Bachelor of Science (Software Engineering)	BS (SE)	04
Bachelor of Science (Telecommunication)	BS (TC)	04
Bachelor of Science (Electronics)	BS (ES)	04
Bachelor of Technology (Electrical, Electronics, Civil & Biomedical	B.Tech (Pass)	02
Bachelor of Technology (Electrical, Electronics, Civil & Biomedical	B.Tech (Hons)	04
Associate of Applied Science	Software Engineering, Electronics, Telecommunication	02
Master of Science	Computer Science, Computational Mathematics, Information Technology, Telecommunication, Electrical Engineering, Computer Engineering	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
Bachelor of Science (Commerce)	BS (COM)	04
Bachelor of Science (Economics)	BS (EC)	04
Associate of Applied Science	Business Administration	02
Master of Science	Commerce, Economics	02
MBA	Healthcare & Hospital Management, Hotel Management, Management, Marketing, Banking & Finance, or Human Resource Management	02
M. Phil		02
PhD		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 appran (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 have the needed 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, DPT	HSC (Pre-Medical, 60% 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
BS (Nursing), DHCA	HSC (Pre-Medical, 50% minimum marks)
BS (CS), BS (ICT), BS (TC), BS (SE), BS (ES), B.Tech	HSC (Pre-Engineering, Pre-Medical, Computers, Commerce and Economics), minimum 45% marks
BBA, BS (COM), BS (EC)	HSC (Any subject), minimum 45% marks
B.E	HSC (Pre-Engineering), minimum 60% marks

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,
Ministry of Education No. 342, Street 97, G-9/4, Islamabad, Pakistan.
Link to download application form /http://www.ibec.edu.pk/attestatian.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; B Sc 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 Dentistry & Allied Sciences Faculty of Engineering, Science & Technology or Faculty of Commerce, Economics & Management Sciences as the case may be
PhD	
MD, MS, MDS, M.Sc	

ISRA UNIVERSITY ADMISSION TEST

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.

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 two interviewers for a period of 20 minutes each. 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 is final and can not be challenged. Selected candidates will be informed individually. 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
Street 7/A, Block-5, Gulshan-e-Iqbal,
Karachi
Tel: (+92 21) 34664002
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: alnafees@isra.edu.pk

School of Engineering & Applied Sciences
Plot No. 176, Sohni Road, I-10/3, Islamabad.
Tel: (+92 51) 8358360-61
Fax: (+92 51) 8358362
URL: http://www.isra.edu.pk
Email: seas@isra.edu.pk

The admission kit may be obtained from various branches of Soneri Bank, Pakistan or any campus of Isra University.

The fee for admission kit is Rs. 1500 (US$ 30 for overseas applicants). Add Rs. 200 for delivery by courier service in Pakistan and US$ 30 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 can not 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 and other dues that may be modified from time to time.

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 based on the fee package. Students who fail to deposit the fees in due time may be disallowed from attending classes and appearing in examination.

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 seperate 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, can not be refunded for any reason. Requests for refund of fees will be subject to HEC and PM&DC 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)	PKR 50,000	USD 1,000
University Fee (Annual)	1st Year PKR 100,000 2nd & Onwards PKR 50,000	USD 1,000
Tuition Fee (Annual)	PKR 700,000	1st & 2nd Year USD 10,000 3rd to Final Year USD 11,500
Other Charges (Annual) (PERN, Library, Sports, Cultural, Co-curricular, Visit etc)	PKR 100,000	USD 1,000

1. Tuition fee will be charged on annual basis.
2. Tuition fee and refund of tuition fee as per PM&DC Policy.

Nursing Program

Fee Items	Category A (Regular) No Bond	Category B (4 Years Service Bond)
Admission Fee (One Time)	PKR 25,000	Free + Monthly Stipend + Hostel
University Fee (Annual)	PKR 15,000	Free + Monthly Stipend + Hostel
Tuition Fee (Annual)	PKR 125,000	Free + Monthly Stipend + Hostel

Diploma Program in Health Care Assistant (HCA)

Fee Items	Category A (No Bond)	Category B (4 Months Service Bond/Internship)
Admission Fee (One Time)	PKR 1,000	Free + Monthly Stipend
Enrollment Fee (One Time)	PKR 1,000	Free + Monthly Stipend
Tuition Fee (Annual)	PKR 24,000	Free + Monthly Stipend

Note: As per Government directive 5% Advance Tax will be charged over total fee (The tax will be applicable on two lac and above fee)
Any additional taxes imposed by the government will be the liability of the students/parents/gurdian.
(The University reserves the right to increase the fees if required according to the recommendation of the Governing Body).
Payment delayed will be charged penalty as per current university policy.

Doctor of Physical Therapy Program

Fee Items	Category A (Regular)	Category B (Overseas)	Category C (Foreigner)
Admission Fee (One Time)	PKR 35,000	USD 600	USD 600
University Fee (Annual)	PKR 30,000	USD 400	USD 400
Tuition Fee (Annual)	PKR 220,000	USD 3,000	USD 3,000
Security Deposit (Once & Refundable)	PKR 50,000	USD 1,000	USD 1,000

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 50,000	PKR 50,000	PKR 50,000
University Fee (Annual)	PKR 50,000	PKR 50,000	PKR 50,000
Tuition Fee (Annual)	PKR 400,000	PKR 400,000	PKR 400,000
Misc. Fee	PKR 50,000	PKR 50,000	PKR 50,000
	No Tuition Fee & 3 Years Service Bond	No Tuition Fee & 2 Years Service Bond	Full Tuition Fee & 1 Years Service Bond

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 50,000	PKR 50,000	PKR 50,000
University Fee (Annual)	PKR 50,000	PKR 50,000	PKR 50,000
Tuition Fee (Annual)	PKR 400,000	PKR 400,000	PKR 400,000
Once & Non Refundable Fee	PKR 200,000	PKR 200,000	PKR 200,000
	No Tuition Fee & 3 Years Service Bond	No Tuition Fee & 2 Years Service Bond	Full Tuition Fee & 1 Years Service Bond

Note: As per Government directive 5% Advance Tax will be charged over total fee (The tax will be applicable on two lac and above fee)
Any additional taxes imposed by the government will be the liability of the students/parents/gurdian.
(The University reserves the right to increase the fees if required according to the recommendation of the Governing Body).
Payment delayed will be charged penalty as per current university policy.

MS, MD & PhD 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 50,000	PKR 50,000	PKR 50,000
University Fee (Annual)	PKR 50,000	PKR 50,000	PKR 50,000
Tuition Fee (Annual)	PKR 450,000	PKR 450,000	PKR 450,000
Misc. Fee (Once & Non Refundable)	PKR 50,000	PKR 50,000	PKR 50,000
	No Tuition Fee & 4 Years Service Bond	No Tuition Fee & 2 Years Service Bond	Full Tuition Fee & 1 Years Service Bond

MDS & PhD Programs 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 50,000	PKR 50,000	PKR 50,000
University Fee (Annual)	PKR 50,000	PKR 50,000	PKR 50,000
Tuition Fee (Annual)	PKR 450,000	PKR 450,000	PKR 450,000
Once & Non Refundable Fee	PKR 400,000	PKR 400,000	PKR 400,000
	No Tuition Fee & 4 Years Service Bond	No Tuition Fee & 2 Years Service Bond	Full Tuition Fee & 1 Years Service Bond

Undergraduate Programs in FCE&MS & FES&T

Fee Items	BS(CS), BS(ICT), BS(SE), BS(TC), BS(ES), BBA & Associate Degree		
	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 13,000	PKR 15,000
Tuition Fee (Every Semester)	PKR 65,000	PKR 80,000	PKR 90,000

Note: As per Government directive 5% Advance Tax will be charged over total fee (The tax will be applicable on two lac and above fee)
Any additional taxes imposed by the government will be the liability of the students/parents/gurdian.
(The University reserves the right to increase the fees if required according to the recommendation of the Governing Body).
Payment delayed will be charged penalty as per current university policy.

Undergraduate Programs in FES&T

Fee Items	BE (Electrical)		
	Category A (Regular)	Category B (Overseas)	Category C (Foreigner)
Admission Fee (One Time)	PKR 45,000	PKR 65,000	PKR 100,000
University Fee (Every Semester)	PKR 5,000	PKR 5,000	PKR 5,000
Tuition Fee (Every Semester)	PKR 110,000	PKR 145,000	PKR 195,000

Undergraduate Programs in FES&T

Fee Items	B. Tech
	Category A, B & C
Admission Fee (One Time)	PKR 10,000
University Fee (Every Semester)	PKR 5,000
Tuition Fee (Every Semester)	PKR 20,000

MBA, MS, M.Phil & PhD 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 65,000

Note: As per Government directive 5% Advance Tax will be charged over total fee (The tax will be applicable on two lac and above fee)
Any additional taxes imposed by the government will be the liability of the students/parents/gurdian.
(The University reserves the right to increase the fees if required according to the recommendation of the Governing Body).
Payment delayed will be charged penalty as per current university policy.

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. 3,500 per credit hour per course or the semester fee, whichever is less. In case of summer session, the student has to pay Rs. 3,500 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.

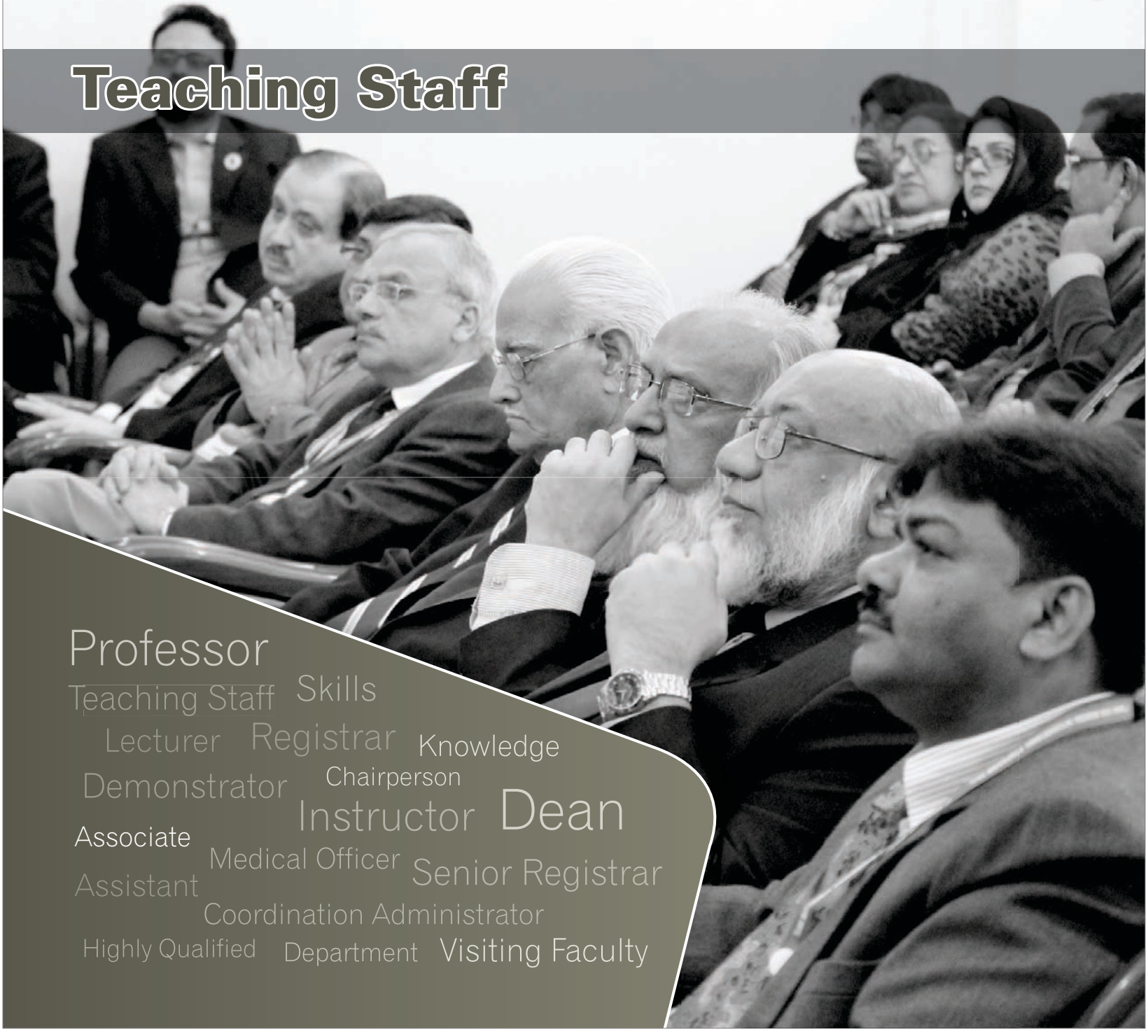
Late Fee: The students, who fail to pay the installments of fee package within the prescribed period, will be required to pay penalty based on the current per day bank rate. The dues inclusive of the penalty is payable until two weeks before the ensuing examination failing which the concerned students will not be allowed to sit in the examinations; 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.

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



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
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MBBS (Sindh), DO, FCPS, FRCS (Ireland), FRCOpth (UK)

Division of Basic Medical Sciences
Abdul Rahim Memon, Associate Dean, FM&AMS
MBBS (Sindh), M.Sc (Glasgow, UK)
Professor

Salman Ahmed Farsi Kazi,
Vice Dean, Basic Medical Sciences
MBBS (Isra), DMJ (Punjab), M.Phil (Isra)
Associate Professor

Department of Anatomy
Afroze S. Kazi, Chairperson,
MBBS (Sindh), M.Phil (JPMC)
Professor

Zaheer Ahmed Memon
MBBS (Sindh), M.Phil (Isra)
Associate Professor

Shahida Qureshi
MBBS (Sindh)
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Syna Amir
MBBS (Isra), M.Phil (Isra)
Assistant Professor

Capt. Shoukat Ali Memon
MBBS (Sindh)
Assistant Professor

Sajjad Ali Almani
MBBS (Isra)
Assistant Professor

Capt. Inayatullah Shaikh
MBBS (Sindh)
Lecturer

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MBBS (Isra)
Lecturer

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MBBS (PMC)
Lecturer

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Lecturer

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MBBS (LUMHS)
Lecturer

Romi Memon
MBBS (LUMHS)
Lecturer

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Lecturer

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Lecturer

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MBBS (LUMHS)
Lecturer

Ruby
MBBS (DUMHS)
Lecturer

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Professor Emeritus

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Professor

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Professor

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Assistant Professor

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MBBS (Isra)
Lecturer

Safiya
MBBS (LUMHS)
Lecturer

Abdul Majid Shaikh
MBBS (Isra)
Lecturer

Zafar Ali Memon
MBBS (Isra)
Lecturer

Department of Pharmacology
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MBBS (Sindh), M.Sc (Glasgow, UK)
Professor

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Palwasha Abbasi
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Assistant Professor

Qamar Zaman Phull
MBBS (Sindh) M.Phil (Isra)
Assistant Professor

Sadia Kazi
MBBS (Isra) M.Phil (Isra)
Assistant Professor

Mashkoor Ahmed Ansari
MBBS (Isra), M.Phil (Isra)
Assistant Professor

Shahnaz Bano
MBBS (Isra)
Lecturer

Samreen Ali Pandhiani
MBBS (LUMHS)
Lecturer

Sheeza Majeed
MBBS (Isra),
Lecturer

Ashfaque Ali
MBBS (LUMHS)
Lecturer

Shujaullah
MBBS (LUMHS)
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Assistant Professor

Nudrat Zeba
MBBS (Sindh)
Assistant Professor

Suhail Ahmed Bajarani
MBBS (LUMHS), MPH (BMU)
Senior Lecturer

Jamil Ahmed Soomro
MBBS (LUMHS), MPH (BMU Karachi)
Lecturer

Imdad
MBBS (LUMHS)
Lecturer

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Professor

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Assistant Professor

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Assistant Professor

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Assistant Professor

Shaista Zeb
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Assistant Professor

Nand Lal Serani
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MBBS (LUMHS)
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Resident Medical Officer

Sadaf Sial
MBBS (Isra)
Resident Medical Officer

Faizullah
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Resident Medical Officer

Imran Arshad
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Resident Medical Officer

Feroz Ali
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FACC (USA), FESC (EU)
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Owais Shams
MBBS (LUMHS)
Resident Medical Officer

Abdul Qadir
MBBS (LUMHS)
Resident Medical Officer

Jawad Rafique
MBBS (Sindh)
Resident Medical Officer

Waqas Akhtar Malik Awan
MBBS (Sindh)
Resident Medical Officer

M. Sumair Yousufani
MBBS (Sindh)
Resident Medical Officer

Shamsher Mardan Mari
MBBS (Sindh)
Resident Medical Officer

Zain Islam Arain
MBBS (Isra)
Resident Medical Officer

Mirza Sikander Baig
MBBS (Sindh)
Resident Medical Officer

Bushra Almani
MBBS (Isra)
Resident Medical Officer

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Professor

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Kaneez Fatima
MBBS (Hamdard), FCPS
Assistant Professor

Tufail Ahmed Qureshi
MBBS, DCH (Sindh)
Registrar

Waqar Ahmed Mangrio
MBBS (Isra)
Resident Medical Officer

Muhammad Ismail
MBBS (LUMHS)
Resident Medical Officer

Shahzad Imam Qureshi
MBBS (Isra)
Resident Medical Officer

Syed Mariam Mehwish
MBBS (LUMHS)
Resident Medical Officer

Muhammad Siddique
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Shahnaz Sahar Sial
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Ghulam Farooq Bozdar
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Fozia Sial
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Kiran Shaikh
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Gul Muhammad Shaikh
MBBS (Sindh), FCPS
Professor

Haji Saleh Allah Bachani
MBBS (Sindh), MS (Ireland), FRCS (Ireland)
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