ISLAMABAD CAMPUS

ISRA UNIVERSITY

PROSPECTUS
2019 - 20

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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HOSPITAL

The Islamabad Campus is strategically located just behind Farash Town, Phase IV, Islamabad. With an area of 150,000 square feet, the campus houses the Al Nafees Medical College and Hospital, Isra School of Rehabilitation Sciences, Isra College of Nursing and School of Engineering & Applied Sciences. The city campus is located at Plot No. 176, Sohni Road, I-10/3, Islamabad.

AL NAFEES MEDICAL COLLEGE & HOSPITAL

Al Nafees Medical College & Hospital is a newly built state of the art medical institute at the scenic zone of the capital city of Islamabad. Renowned subject specialists and faculty members as well as purpose built facilities and buildings give it a clear edge over other medical institutes.

Qualified faculty with modern and state of the art teaching aids and laboratory equipment help impart quality education in a clean and serene environment.

The laboratories and museums are well equipped, where the tutorial room, lecture halls and auditorium meet the educational needs and also have the capacity of hosting seminars and conferences. The operative skill labs are also a distinguishing feature of this institute. The college has a well established library consisting of three separate portions for lending books, reference material and periodicals. The Digital library is also well furnished and offers a large collection of e-books and e-journals to meet the scholarly needs of teachers and students.

An operative animal house within the premises and other available research facilities reflects the academic environment and the vision of the institute in contributing towards learning and research.

The college enjoys the facility of Al Nafees Medical College Hospital, an allied teaching hospital having all the clinical departments including Internal Medicine, General Surgery, Obstetrics and Gynecology, Pediatrics, Ophthalmology, Otolaryngology, Urology, Neurosurgery, Radiology, Clinical Laboratory, and Operation theatres. The hospital unit supervised by highly qualified and experienced professionals integrates the most modern facilities at general and sub-specialty levels under one roof.

All the clinical departments are furnished with modern equipment and are capable of providing high quality medical care.

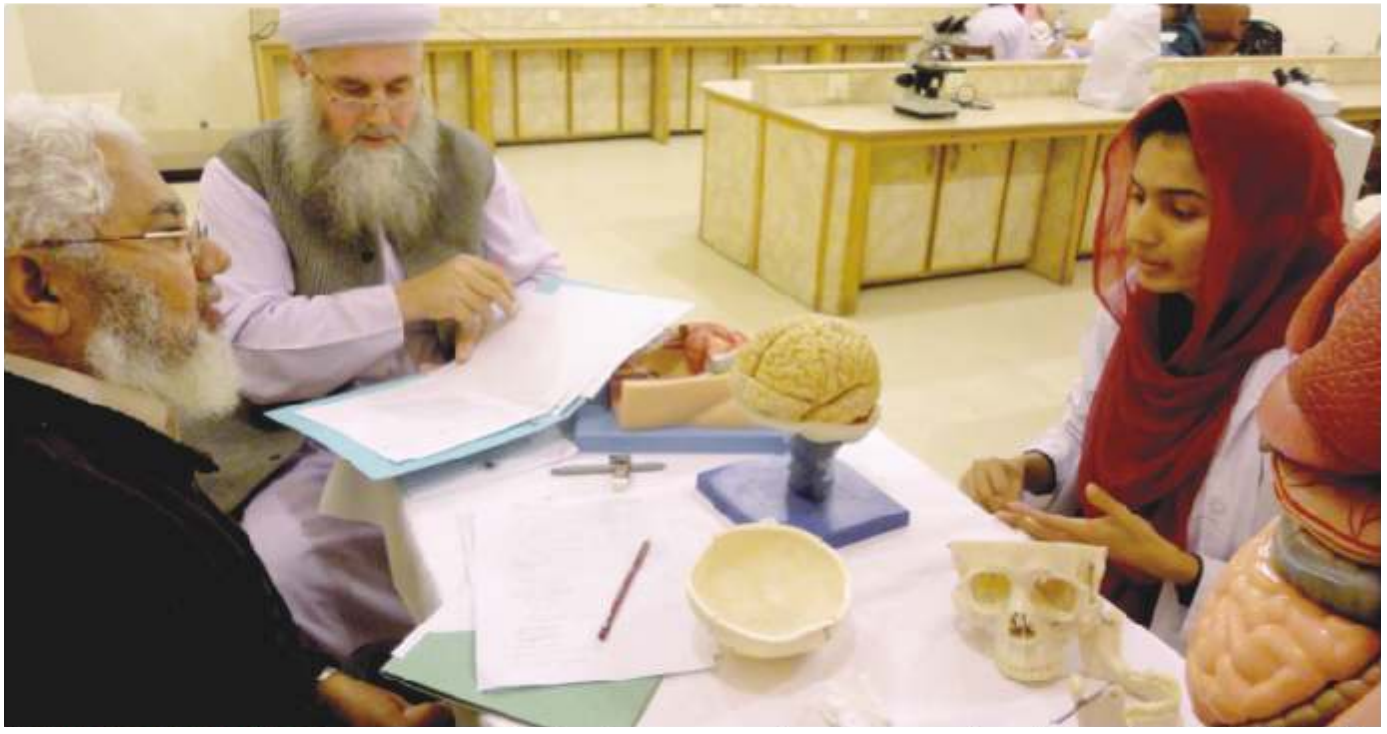
The all programs including PhD programs at Al Nafees Medical College have been approved and recognized by the Pakistan Medical & Dental Council, CPSP and Pakistan Nursing Council.

Al Nafees Medical College

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

Al Nafees Medical College

The vision of Al-Nafeez Medical College is to commit to academic excellence in medical education, to prepare community oriented, competent, dedicated and caring medical doctors who through their comprehensive knowledge, understanding and acquisition of relevant skills can deal with the Pressing health issues of all our populations.



BACHELOR OF MEDICINE & BACHELOR OF SURGERY

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

In the subsequent years of clinical education and training, the students gain a broad systematic knowledge of para-clinical, medical and surgical subjects. The clinical teaching is mainly given in attached Al Nafees Teaching 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. Thus total period of training will be five years before a student qualifies to practice medicine.

Anatomy (Contact Hours 600)

The subject matter is structured to give an understanding of the cell biology, gross anatomy, microscopic anatomy (histology), 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 600)

The discipline of physiology includes the study of living systems from sub-cellular and cellular levels to organ function and whole body behavior. The topics covering the major organ systems of the body include cardiovascular, digestion, respiration, internal homeostasis, voluntary and

involuntary motor control, energy balance and 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 600)
This subject includes general and special pathology, clinical and chemical pathology, microbiology, hematology and immunology. The general pathology presents a scientific study of diseases, the genetic basis of some diseases, the body's normal responses to noxious environmental stimuli and the principles of homeostasis. Abnormal and deleterious effects of the immune responses, neoplasia, infection and metabolic derangement constitute an important part of the course. The course on microbiology consists of bacteriology, mycology, virology, immunology and parasitology. Emphasis in microbiology is given on the knowledge of various infections in humans and the application of this knowledge in the diagnosis and management of infectious diseases. Practical work in the laboratory complements instruction 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.

Professionalism & Communication Skills

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

Clinical Skill Lab

Medicine of present world demands high level of competency in both clinical examination and performing a procedure in patients. The traditional methods of bedside skill learning and teaching are supplemented by instruction in clinical skills lab is basic important method of teaching clinical skills.

Clinical Subjects

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

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.

A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE BS (HONS) PHYSIOLOGY

DURATION 4 YEARS

Minimum Degree Requirements: This program comprises a total of 133 credits.

YEAR 1
First Semester

Course Title	Credit Hours	Contact Hrs per Semester
English-I	3 (3+0)	54
Islamiat	2 (2+0)	36
Mathematics-I/ Biology-I	3 (3+0)	54
Biochemistry-I	3 (2+2)	72
Cell and Molecular Biology-I	3 (2+2)	72
Fundamental Anatomy and Physiology-I	4 (3+2)	90
Total Credits	**18**	**378**

Second Semester

Course Title	Credit Hours	Contact Hrs per Semester
English-II	3 (3+0)	54
Pak Studies	2 (2+0)	36
Mathematics-II/Biology-II	3 (3+0)	54
Biochemistry-II	3 (2+2)	72
Cell and Molecular Biology-II	3 (2+2)	72
Functional Anatomy and Physiology-II	4 (3+2)	90
Total Credits	**18**	**378**

YEAR 2
First Semester

Course Title	Credit Hours	Contact Hrs per Semester
English-III	3 (3+0)	54
Introduction and Application to Computers	3 (0+6)	108
Humanities/Civilization	2 (2+0)	36
Homeostasis	1 (1+0)	18
Physiology of blood and ECF	3 (2+2)	72
Pathophysiology	3 (2+2)	72
Plant Physiology	3 (2+2)	72
Total Credits	**18**	**432**

Second Semester

Course Title	Credit Hours	Contact Hrs per Semester
English-IV (Communication Skills)	3 (3+0)	54
Introduction to Bioinformatics	3 (0+6)	108
Neurophysiology	4 (3+2)	90
Muscle Physiology	4 (3+2)	90
Principles of Immunology	4 (3+2)	90
Total Credits	**18**	**432**

YEAR 3
First Semester

Course Title	Credit Hours	Contact Hrs per Semester
Biostatistics	3 (1+4)	90
Cardiovascular Physiology	4 (3+2)	90
Pulmonary Physiology	3 (3+2)	72
Renal Physiology	3 (3+2)	72
Gastroenteropancreatic Physiology	3 (3+2)	72
Total Credits	**16**	**396**

Second Semester

Course Title	Credit Hours	Contact Hrs per Semester
Endocrinology	4 (3+2)	90
Reproductive and Development Physiology	4 (3+2)	90
Physiology of Sensory Systems	3 (3+2)	72
Comparative Animal Physiology	3 (3+2)	72
Human and Animal Behavior	3 (3+2)	72
Total Credits	**17**	**396**

YEAR 4
First Semester

Course Title	Credit Hours	Contact Hrs per Semester
Pharmacology	4 (3+2)	90
Environmental Physiology	3 (2+2)	72
Physiology of Health, Fitness and Exercise	3 (2+2)	72
Research Methodology	3 (0+6)	108
Project	3 (0+6)	108
Total Credits	**16**	**350**

Second Semester

Course Title	Credit Hours	Contact Hrs per Semester
Pathophysiology (Plant/Human/Animal)	3 (2+2)	72
Physiological Biotechnology	3 (2+2)	72
Toxicology	3 (2+2)	72
Ergonomics	2 (2+0)	36
Internship	3 (0+6)	108
Total Credits	**14**	**360**

Associate B.Sc in Respiratory Therapy

Introduction and Background: Respiratory therapy is a new concept in Pakistan though it has been a time tested practice in developed countries, increasing numbers of Intensive Care Units (ICU's) in the government and private sector and world wide development in intense care technology makes the introduction of goal for specialist Respiratory Therapists timely. Formal accredited training of personnel in this field under there auspices of ISRA UNIVERSITY will go a long way in fulfilling the local needs as well as preparing a trained work force for employment nationally and abroad.

The respiratory care program prepares students for advanced level practice as a Respiratory Therapist. As a member of the interdisciplinary health care team, the Respiratory Therapist cares, evaluate, treat and manages patients of all ages with respiratory illness and other cardiopulmonary disorders in a wide variety of clinical settings. In addition to performing diagnostic and therapeutic respiratory care procedures, Respiratory Therapists promote cardiopulmonary wellness, disease prevention, and disease management; pulmonary rehabilitation; as well as providing patient, family and community education; participate in life support activities and are involved in clinical decision making.

This specialist role requires careful preparation through a planned and recognized educational program. This document described the curriculum for Associate Degree in Respiratory Therapy.

Eligibility: F.Sc (Preferred), FA (Acceptable)

A TYPICAL STUDY PLAN
ASSOCIATE B.Sc IN RESPIRATORY THERAPY **DURATION 2 YEARS**

Minimum Degree Requirements: This program comprises a total of 68 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
RTSA&P-I-111	Anatomy and Physiology	4
RTC-111	Basic Computers Skills	1.5
RTSPA-117	Patient Assessment (theory & VIVA)	5
RTMT-113	Respiratory Therapy Medical Terminology	1.5
RTM-112	Maths	2
RTCS-115	Communication Skill	1
RTHIS-114	Islamic Studies	2
RTSIC-116	Introduction to Respiratory Therapy Infection Control	1
RTENG-113	English	2
	Total Credits	**20**

YEAR 1
Second Semester

Course Code	Course Title	Credit (Contact) Hours
RTSA&P-II-112	Cardiopulmonary and Renal Anatomy and Physiology	3
RTHPS-127	Psychology	1
RTCPS-121	Cardiopulmonary Diseases	2
RTSP-122	Pharmacology (Respiratory, CNS & Cardiopulmonary)	3
RTMG-124	Medical Gasses/aerosaland humidity therapy	2
RTHPS-126	Pakistan Studies	2
RTCP-125	Clinical Practicum OSCE	5
RTAM-123	Airway Management (Theory & OSCE)	2
	Total Credits	**20**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
RTSLE-211	Lung Expansion Therapy Bronchial Hygiene (Theory)	2
RTSLECP-212	Lung Expansion Therapy Bronchial Hygiene (Viva)	3
RTSABG-213	Arterial Blood Gases / Cardiopulmonary Physiology (Theory)	2
RTSABGCP-214	Arterial Blood Gases / Cardiopulmonary Physiology (Viva)	3
RTSM-215	Microbiology	2
RTAFT-216	Advanced Pulmonary Function Test	1
RTPR-217	Pulmonary Rehabilitation	2
	Total Credits	**15**

YEAR 2
Second Semester

Course Code	Course Title	Credit (Contact) Hours
RTSCPD-I-221	Mechanical Ventilator (Theory)	3
RTSP- 222	Mechanical Ventilator (Clinical OSCE)	3
RTSAM -223	Pediatric/Perinatal Pathophysiology and Critical Care (Theory)	2
RTSMG- 224	Pediatric/Perinatal Pathophysiology and Critical Care (Clinical OSCE)	2
RTCP- 225	Application of Cardiopulmonary Diagnostic and Monitoring	3
	Total Credits	**12**

Isra College of Nursing

Background: Nursing education in Pakistan is changing rapidly. To be at par with the rapid changes in the health care technology and to address the health care needs of the country, Pakistan Nursing Council (PNC) under the aegis of Higher Education Commission (HEC), is reforming the current nursing education system. One of the major shifts is to change the existing 3-Year Diploma Nursing Program into a 4-Year Nursing Degree (BScN) and according to the new strategic plan of PNC, by 2020 all schools of nursing in the country will be set to implement the 4 Year BScN curriculum. In order to achieve this plan, an important step which the council has outlined is to prepare teachers and staff nurses who are equipped to teach and support the future nursing students.

In order to keep up with the current development of nursing education in Pakistan, Post RN BScN program at ISRA College of Nursing (ICN) will be an efficient way -with minimum input - to improve the nursing education and service standards not only in al Nafees medical college and Hospital but also at the National level.

Features of Post RN BScN Program:

The Post-RN BScN is a two year program, which provides experienced diploma level nurses an opportunity to acquire in depth nursing knowledge and skills. Upon completion of the Program, nurses are prepared to utilize effective critical thinking and problem solving skills in order to bring about changes in nursing education, management and practice in various settings including any community based setup.

The program is expected to attract nurses from public as well as private sector in general; therefore the Post RN Program at ICN will provide an excellent and in-expensive option for nurses who are planning for higher education.

Post RN BSc. N Program Curriculum:

Post RN BSc. N program is designed in such a way that it enhances the content knowledge of courses taught during Diploma program and builds on applicants' knowledge gained through experience. There are a total of 54 credit hours of the proposed 2-year post-RN program and it builds upon the three-year Diploma in nursing which has a total of 100 credits. Hence the Post RN program carefully eliminates those subjects which are already taught at Diploma levels and focuses mainly on subjects which trains a general nurse to become efficient manager, teacher and researcher; subjects like Advance Concepts in Nursing, Teaching / learning, leadership and Management, Research Process, and Presentation skills are some examples which helps student to achieve the said objective of the program. The Post-RN BScN program is of 4 semesters which is spread across 2 years. In addition an option of summer course will also be introduced mainly for those students who are falling short to maintain the educational standards and expectations of the program.

The curriculum is adopted from Aga Khan University and is approved by Pakistan Nursing Council; ICN has then made revisions as per local needs and context.

Attached please see the outline of the curriculum and detailed calculation of credit hours.

Examinations and Promotions:

In addition to ongoing internal assessments, ICN faculty proposes to have University exams (ISRA University) at the end of each year of the two year program. The professional exams will be considered as summative and will be conducted in integrated manner whereby subjects with same concepts will be merged together. The focus of the exams would be to ascertain promotion hence following papers will be conducted in two years:

The eligibility criteria for Post RN BSN:

Like any other nursing program, the students of Post RN BScN will also be registered with PNC and the University.

- Matric with Science as HEC requirements.(Physics, Chemistry & Biology as compulsory subjects)
- Dip. in Nursing
- Dip. in Midwifery (any Post Basic Specialty for male in lieu of midwifery)
- Experience: 02 years clinical experience letter (Post experience of midwifery/specialty)
- PNC Registration: Valid registration with all entries of professional qualifications
- Gender Ration: Female 50% and Male 50%
- NOC
- Pre-Entrance aptitude test and interview

A TYPICAL STUDY PLAN
POST-RN B.Sc NURSING

DURATION 2 YEARS

Minimum Degree Requirements: This program comprises a total of 28 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
HLT-111	Teaching and Learning: Principles and Practice (Theory & OSCE)	3
NHA-113	Health Assessment (Theory & OSCE)	3
SPP-115	Pathophysiology	2.5
SLS-112	Life Science	2.5
NENG-114	English	3
ISL STD-116	Islamic Studies	2
	Total Credits	**16**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
NP-121	Nursing practice I (Theory and OSCE)	10
	a. Medical Surgical Nursing	5
	b. Critical care Nursing	3
	c. Geriatric and Palliative Nursing	2
NENG-122	English	2
PAK STD-123	Pakistan Studies	2
	Total Credits	**14**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
NP-II-211	Nursing Practice II (Theory & OSCE)	10
	a. Mental Health Nursing	3.5
	b. Peadiatrics Nursing	2.5
	c. Community Health Nursing	4
HCHS-212	Culture Health and Society	2
NENG-213	English	2
	Total Credits	**14**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
NP-III-221	Nursing Practice III Senior Eclective (Theory and VIVA) (Education or Nursing Management)	6
NLM-224	Leadership and Management	2
NNR-BS-223	Research and Biostatics	4
NENG-222	English	2
	Total Credits	**14**

Nursing Practice I

Course Title	Credit (Contact) Hours
Medical & Surgical Nursing	5
Critical Care Nursing	3
Geriatric & Palliative Nursing	2
Total Credits	**10**

Nursing Practice II

Course Title	Credit (Contact) Hours
Psychiatric-Mental Health Nursing	3.5
Peadiatric Nursing	2.5
Community	4
Total Credits	**10**

Nursing Practice III

Course Title	Credit (Contact) Hours
Senior Elective(Education & Management)	6.
Total Credits	**6**

Introduction:
The Certified Nursing Assistant is a 2 year Diploma education program leading to practice as a Certified Nursing Assistant (CNA). The program offers knowledge, skills and professional attitude at lower cost as compare to RN. Upon completion of this program the CNA will be a safe clinical nurse, who can provide care at primary, secondary and tertiary levels in association with RN in hospitals and community settings.

This program is intended to prepare nurses at lesser cost as well as to overcome the shortage of nurses which is an acute problem at national and international levels.

- Cost effective in sense of time and recourses as compared to diploma program
- Provision of training and job opportunities to those females who has lower merit than degree holder nurses in Pakistan.
- To educate nurses with appropriate knowledge, skills and attitudes.
- To produce nurses who can provide basic and rehabilitative health care to the population in rural and urban settings.

Curriculum:
The curriculum for CNA is prepared by PNC, which will be referred as primary guide and where necessary modifications will be made to address the unique needs of the program. The course work will be divided in semester where progression will be determined through internal, continuous tests. At the end each year there shall be board exam conducted the Nursing Examination board. Detailed curricula and assessment plans are available on PNC website.

Duration of Course:
Students enrolled in Private/government institutions for 2years (24 month) CNA
Eligibility:

The Applicant must meet one of the following academic levels:

• FSc	45% minimum
• FA	45% minimum
• Metric with Science	45% minimum
Metric with Arts	50% minimum (for remote area)

Nationality:
Pakistani

Age:
Applicant up to the age of 30 years will be considered, further relaxation up to five years could be obtained from respective university/government. In exceptional cases for further relaxation of age PNC approval can be taken.

Gender:
CNA is only for female.

Marital Status:
Unmarried or married both females are allowed

Physical Fitness:
A medical fitness certificate is required by concerned civil physician/designated physician for all applicants.

Academic Policies:

Student Records
Students must receive marks sheet at the completion of course. However the transcripts can be given on request to the students who have successfully completed the courses on payment of Rs.500/- as fees).

PNC Registration:
PNC act 1973 in accordance with the PNC act 1973 (item 15) registration of all CNA with PNC is compulsory.

Registration:
After qualifying NEB examination, the candidate must register with PNC immediately.

Faculty requirements:
To teach the CNA program, the minimal requirement for the faculty should be a BScN, DTA, DWA with minimum three years of clinical experience.

Nursing teachers must be hired to meet the ratio of one teacher to 10 students in the clinical area whereas in the classroom the nursing courses must be taught by nursing teachers, a guest lecturer may be invited to teach but not more than 25% of the course.

PNC Registration
The candidate will ONLY be eligible to get registration after successful completion of the 2 years CNA program.

LPN CURRICULUM:
YEAR ONE
TOTAL HOURS = 1584 (Theory = 528 Clinical = 1056)

PTS / ORIENTATION EXAMINATION
During the 3rd month (last week) school internal examination will be conducted by internal examiner. If the candidate fails in PTS. She will be given only one chance after 4 weeks of further education, failing that her education will be discontinued. (Terminated)

YEAR TWO
TOTAL HOURS = 1584 (Theory = 528 Clinical = 1056)

Nursing Examination Board (NEB)
All students will be required to take NEB for both the years .

YEAR ONE = 4 PAPERS
YEAR TWO = 4 PAPERS

Year One	**Theory/Practical**
1. English	100 Marks
2. FON (Ethics, History, Microbiology)	100/100 Marks
3. Anatomy and Physiology	100/100 Marks
4.Islamiat	50 Marks

Year Two	
1. English II	100 Marks
2. CHN and Nutrition	100/100 Marks
3. Med/Surg Nursing and Pharma	100/100 Marks
4. Pediatric Nursing	100/50 Marks

Passing Marks for English and Islamiat is 33% and for all other subjects is 50%
No aggregated marks will be given.
Student fails in theory will have to appear in both (i.e. theory and practical)

Chances of Examination:
First Year
A student who fails examination(s) can give two re-sit attempts. First re-sit at 8th weeks after the announcement of results and second re-sit after six month with scholarship.

Second Year
A student who fails examination(s) can give two re-sit attempts. First re-sit at 8th weeks after the announcement of results with scholarship and second re-sit after six month without scholarship.

A TYPICAL STUDY PLAN
Certified Nursing Assistant (CNA)

DURATION 2 YEARS

Minimum Degree Requirements: This program comprises a total of 1584 credits.

YEAR 1

Course Title	Credit (Contact) Hours
TORIENTATION/PTS	372
English	60
FON /Ethics/ History of Nursing:	
THEORY	150
NURSING LAB	179
BED SIDE NSG	777
TOTAL	1106
Microbiology	
THEORY	24
PATH LAB	20
TOTAL	44
Anatomy & Physiology	
THEORY	100
SCIENCE LAB	30
TOTAL	130
Islamiat/ Ethics	20
Computer Theory	30
COMPUTER LAB	50
TOTAL	80
Pre./Post Ass/Stdy	72
TOTAL THEORY	**528**
CLINICAL	**1056**

YEAR 2

Course Title	Credit (Contact) Hours
English	100
Community Health Nursing/ Nutrition	
Theory	150
Clinical	450
Total	600
Medical Surgical Nursing:	
Theory	150
Clinical	450
Total	600
Pharmacology/ Math	
Theory	50
Lab	06
TOTAL	56
Pediatric Nursing	
Theory	50
Clinical	150
Total	200
Stdy/Post Ass.	28
TOTAL THEORY	**528**
CLINICAL	**1056**

Bachelor of Science in (Medical Technology)

Medical Technology is a professional discipline that is central to providing effective patient management and health care. Diagnosis of the diseases at the laboratory level heavily depend on investigation reports that are critical in the proper treatment of patients. The role of medical technologists and technicians in laboratories thus becomes crucial.

This program is designed to produce well trained and qualified medical technologists who can work with diligence and efficiency. The graduates will be equipped with the skills to assist doctors and clinicians in the proper diagnosis of diseases. Practical trainings are conducted in the college labs and hospitals associated with Isra University. The program has been designed to meet the growing demand of trained technicians and technologists in the country and nearby regions including the Middle East, South East Asia and Africa.

The program comprises two years of study under an annual system. The following courses are offered to the students: Microtechniques and Elementary Anatomy, Clinical Pathology and Serology, Haematology and Blood Banking, Microbiology, Clinical Biochemistry, Medical Instrumentation, Elementary Human Physiology, English, Islamic Studies and a variety of elective courses related to the program.

A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE MEDICAL LABORATORY TECHNOLOGY (BSc MLT) **DURATION 2 YEARS**

Minimum Degree Requirements: This program comprises a total of 68 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MLEA111	Anatomy- I Micro Techniques	2
MLCB112	Clinical Biochemistry I	3
MLMB113	Microbiology - I	3
MLHT-114	Hematology & Blood Banking - I	2
MLHP115	Human Physiology	2
MLEG116	English	3
MLCP117	Introduction to Computer	3
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MLEA121	Anatomy - II Micro Techniques	2
MLCB122	Clinical Biochemistry II	3
MLMB123	Microbiology - II	3
MLHB-124	Hematology & Blood Banking - II	2
MLIS125	Islamite	1
MLEG126	English	3
MLPS127	Pak Studies	2
	Total Credits	**16**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MLCP231	Clinical Pathology - I	3
MLSL232	Serology - I	3
MLST233	Statistics	3
MLMI234	Medical Instrumentation	3
MLES235	Elective Subject - I	3
MLEG236	English	3
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MLCP241	Clinical Pathology - II	3
MLSL242	Serology - II	3
MLCM243	Community Medicine/ Public Health	3
MLPC244	Pharmacology	3
MLES245	Elective Subject - II	3
MLIS246	Internship	1
	Total Credits	**16**

Isra Institute of Rehabilitation Sciences

PPDPT Kinesiology Bio Statistics
M.Phil SMMPT Sports Medicine
Manipulative Physical Therapy
Pathology Doctor of Physical Therapy
PhD in Rehabilitation Sciences
Anatomy Community Based Rehabilitation
Diagnostic Electro Neurophysiology
Speech Language Postgraduate Diploma
Pathology Electro Neuro Physiology

Isra Institute of Rehabilitation Sciences

The Isra Institute of Rehabilitation Sciences (IIRS) aims to produce competent rehabilitation practitioners who are capable of conducting unique and independent research. The Institute promotes critical thinking and inquiry to foster an environment of research and academic learning. Its programs have been designed to meet the growing demands of the rehabilitating patients from injuries and disabilities. IIRS graduates are equipped with the skills and aptitude to provide effective care in restoring bodily functions, improving mobility, relieving pain and contributing towards a better life style for the patients.

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.

Eligibility: Minimum requirement – A levels / Intermediate (Pre-Medical) with 50% or Equivalent marks.

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 Code	Course Title	Credit (Contact) Hours
DPAN111	Anatomy -I	4(3+1)
DPPY112	Physiology-I	3(2+1)
DPKY113	Kinesiology-I	3(2+1)
DPEN114	English-I	3(3+0)
DPIS115	Islamiat	2(2+0)
DPPS116	Pakistan Studies	2(2+0)
DPMA117	Mathematics	3(3+0)
	Total Credits	**20**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
DPAN121	Anatomy -II	4(3+1)
DPPY122	Physiology-II	3(2+1)
DPKY123	Kinesiology-II	4(3+1)
DPEN124	English-II	3(3+0)
DPPH125	Physics	3(2+1)
DPBT126	Biostatistics	3(3+0)
	Total Credits	**20**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
DPAN231	Anatomy -III	4(3+1)
DPPY232	Physiology-III	3(2+1)
DPBE233	Biomechanics & Ergonomics-I	3(2+1)
DPEN234	English-III	3(2+1)
DPCS235	Computer	3(2+1)
DPCH236	Chemistry	3(2+1)
DPSY237	Sociology	2(2+0)
	Total Credits	**21**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
DPAN241	Anatomy-IV	4(3+1)
DPEP242	Exercise Physiology	3(2+1)
DPBE243	Biomechanics & Ergonomics-II	3(2+1)
DPBG244	Biochemistry & Genetics	4(2+2)
DPTE245	Therapeutic Exercises	3(2+1)
DPBS246	Behavioral Sciences (Psychiatry & Psychology)	3(3-0)
	Total Credits	**20**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
DPPM351	Pathology & Microbiology I	3(2+1)
DPPT352	Pharmacology & Therapeutic I	3(2+1)
DPPE353	Physical Agents & Electrotherapy I	3(2+1)
DPMT354	Manual Therapy	3(2+1)
DPCM355	Community Medicine I	3(3+0)
DPHW356	Health Promotion & Wellness	3(3+0)
DPCP357	Clinical Practice I	3(0+3)
	Total Credits	**21**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
DPPM361	Pathology & Microbiology II	3(2+1)
DPPT362	Pharmacology & Therapeutics II	3(2+1)
DPPE363	Physical Agents & Electrotherapy II	3(2+1)
DPTM364	Teaching Methodology	3(2+1)
DPMI365	Medical Informatics	2(2+0)
DPHD366	Human Growth & Development	2(2+0)
DPCP367	Clinical Practice II	3(0+3)
	Total Credits	**19**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
DPMD471	Medicine I	3(3+0)
DPSR472	Surgery I	3(3+0)
DPRI473	Radiology & Imaging	4(3+1)
DPMS474	Musculoskeletal Physical Therapy	3(2+1)
DPRM475	Research Methodology I	3(3+0)
DPCB476	Community Based Rehab	2(2+0)
DPCP477	Clinical Practice III	3(0+3)
	Total Credits	**21**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
DPMD481	Medicine II	3(3+0)
DPSR482	Surgery II	3(3+0)
DPNP483	Neurological Physical Therapy	3(2+1)
DPEB484	Evidence Based Practice	3(3+0)
DPOP485	Orthotics & Prosthetics	3(2+1)
DPAM486	Administration & Management	2(2-0)
DPCP487	Clinical Practice IV	3(0+3)
	Total Credits	**20**

YEAR 5
First Semester

Course Code	Course Title	Credit (Contact) Hours
DPCP591	Cardiopulmonary Physical Therapy	3(2+1)
DPEP592	Emergency Procedures & Primary Care in Physical Therapy	3(2+1)
DPDD593	Clinical Decision Making & Differential Diagnosis	3(3-0)
DPSI594	Scientific Inquiry	2(2+0)
DPPP595	Professional Practice	2(2+0)
DPIP596	Integumentry Physical Therapy	3(2+1)
DPCP597	Clinical Practice V	4(0+4)
	Total Credits	**20**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
DPOG511	Obstetrics & Gynaecological Physical Therapy	2(2+0)
DPPD512	Pediatric Physical Therapy	2(2+0)
DPGG513	Gerontology & Geriatric Physical Therapy	2(2+0)
DPMP514	Metabolic Physical Therapy	2(2+0)
DPCP515	Clinical Practice VI	4(0+4)
DPRP516	Project/Dissertation	6(0+6)
		18
	Total Credits	**200**

BS, Speech Language Therapy / Pathology (BS, SLT / SLP)

Introduction:
Speech-Language Pathology professionals (Speech-Language Pathologists (SLPs), or informally speech therapists) specialize in communication disorders. The main components of speech production include: phonation, the process of sound production; resonance, opening and closing of the vocal folds; intonation, the variation of pitch; and voice, including aeromechanical components of respiration. The main components of language include: phonology, the manipulation of sound according to the rules of the language; morphology, the understanding and use of the minimal units of meaning; syntax, the grammar or principles and rules for constructing sentences in language; semantics, the interpretation of meaning from the signs or symbols of communication; and pragmatics, the social aspects of communication.
Eligibility Requirement: Minimum requirement - A levels/ Intermediate (Pre-Medical) with 45% or Equivalent marks.

Scope of Speech Language Therapy:

The field of speech – language therapy has remained neglected here, so far. Our students graduating from the institute shall be the torch bearers of the profession in Pakistan and would be able to provide their valuable services in a multitude of settings, working collaboratively with ENT specialists, neurologists, pediatricians, psychologists, occupational and physical therapists in hospitals, and rehabilitation units. They could also work at schools or have their private practices.

A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE SPEECH LANGUAGE THERAPY/PATHOLOGY (BS, SLT/SLP) **DURATION 4 YEARS**

Minimum Degree Requirements: This program comprises a minimum of 130 credit hours.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
HMLG 111	English I (Functional English)	3(3-0)
ADDA 111	Anatomy	3(3-0)
ADBB 112	Biochemistry	3(3-0)
ADBS 113	Behavioral Sciences	3(3-0)
HMIS 113	Islamic Studies	2(2-0)
SLSP116	Introduction to Speech-Language Pathology	3(3-0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HMCS 114	English II (Communication Skills)	3(3-0)
ADBP 121	Physiology	3(3-0)
ADGP 122	Pathology	3(3-0)
HMPS 112	Pakistan Studies	2(2-0)
ADCE 123	Computer Education	3(2-1)
SLPN126	Phonetics Theory & Practical Phonetics	3(3-1)
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
SLLG231	Linguistics -Theory, Development and Clinical Application	3(2-1)
SLSL2332	Speech, Language and Communication Needs And Intervention I	3(2-1)
ADMS 211	Medical Sociology (Counseling & Behavior)	2(2-0)
ADAB 222	Anatomical basis of (Speech, Hearing & Balance)	3(3-0)
HMFR 211	English- III (Technical Report Writing)	3(3-0)
	Total Credits	**14**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
SLLD241	Persistent Childhood Speech, Language and Communication Disorders	3(2-1)
SLSL242	Speech, Language and Communication Needs and Intervention -II	3(2-1)
SLAD243	Adult Communication Disorders and Theories of Counseling	3(2-1)
ADMS 221	Medical Sociology (Psychology & Teaching)	2(2-0)
SLPR245	Professional Roles and Linguistic Perspectives-1	2(1-1)
SLCN247	Clinical Medical Studies-I (Neurology)	2(1-1)
	Total Credits	**14**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
SLCD351	Clinical Decision Making and Counseling	3(3-0)
SLPD352	Personal Development Planning & Theoretical Application	3(2-1)
SLAC353	Adult Communication Disorders	3(3-0)
SLCP354	Clinical Medical Studies-II (Pediatrics)	2(1-1)
SLPR355	Professional Roles and Linguistic Perspectives-11	2(1-1)
SLCP356	Clinical Practicum	3(0-3)
	Total Credits	**16**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
SLCB361	Community Based Rehabilitation (CBR)	3(3-0)
SLPD362	Personal Development and Professional Practice -I	3(2-1)
SLMH363	Child & Adolescent Mental Health	2(1-1)
SLAA364	Adult Acquired Aphasia	2(2-0)
SLSC 365	Augmentative and Alternative Communication	3(2-1)
SLCA366	Clinical Medical Studies-III (Audiology)	2(1-1)
SLCP367	Clinical Practicum	4(0-4)
	Total Credits	**19**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
SLFA471	Advance Fluency Disorders in Adults	3(3-0)
SLFC472	Advance Fluency Disorders in Children	3(3-0)
ADBS 413	Biostatistics	3(3-0)
ADRM 414	Research Methods	2(2-0)
SLPP475	Personal Development and Professional Practice -II	3(3-0)
SLCP476	Clinical Practicum	4(0-4)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
SLEB481	Evidence Based Practice in Rehabilitation	3(3-0)
SLLS482	Language and School	3(3-0)
SLCP483	Advanced Clinical Practicum	4(0-4)
SLRP484	Research Project/thesis	4(0-4)
	Total Credits	**14**

Post Professional Doctor of Physical Therapy

This is a two year post graduate program of 75 credits including a project/dissertation of 6 credits. Each year of study comprises two semesters. The duration of each semester is 18 weeks. The program is offered to cater to the growing need of qualified professionals in the field of physical therapy.

Candidates having a four years BS degree in Physiotherapy, or a three years B.Sc. in Physiotherapy with a one year additional certificate course from an HEC recognized university are eligible to take admission in the PPDPT program.

A TYPICAL STUDY PLAN
POST PROFESSIONAL DOCTOR OF PHYSICAL THERAPY (PPDPT)

DURATION 2 YEARS

Minimum Degree Requirements: This program comprises a minimum of 75 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
PDPT-K	Exercise Physiology & Neurophysiology	3(2+1)
PDPT-M	Applied Anatomy	3(2+1)
PDPT-L	Pathology & Microbiology	3(2+1)
PDPT-N	Histology & Embryology	3(2+1)
PDPT-I	Ergonomics & Biomechanics	2(2+0)
PDPT-H	Human Growth & Development	2(2+0)
PDPT-G	Genetics	2(2+0)
PPMI611	Medical Informatics	2(2+0)
	Total Credits	**20**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
PDPT-C	Pharmacology & Therapeutics	3(3+0)
PDPT-D	Radiology & Imaging	3(2+1)
PPEB616	Evidence Based Practice	3(2+1)
PDPT-A	Clinical Methods in Musculoskeletal & Neuromuscular Physical Therapy	4(3+1)
PDPT-E	Clinical Methods in Cardio-pulmonary Integumentary & Metabolic Physical Therapy	4(3+1)
PDPT-B	Manual Therapy	3(2+1)
	Total Credits	**20**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
PDPT-P	Primary Care & Emergency Procedures in Physical Therapy	3(2+1)
PDPT-PG	Pediatrics & Gender Health Care in Physical Therapy	4(3+1)
PDPT-GG	Gerontology & Geriatrics Physical Therapy	3(2+1)
PDPT-F	Biostatistics, Research Methodology & Scientific Inquiry	3(3+0)
PDPT-DD	Differential Diagnosis & Clinical Decision Making	3(2+1)
PDPT-Q	Health Education, Learning & Teaching Methodology	2(2+0)
PDPT-R	Molecular Medicine	3(3+0)
	Total Credits	**21**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
PDPT-CBR	Health Promotion & Wellness in Physical Therapy & Community Based Rehabilitation	2(2+0)
PDPT-PP	Professional Practice	2(2+0)
PDPT-IPT	Clinical Practice In Integumentary PT	1(0+1)
PDPT-MS	Clinical Practice in Musculoskeletal PT	1(0+1)
PDPT-NPT	Clinical Practice in Neurology PT	1(0+1)
PDPT-CPT	Clinical Practice in Cardiopulmonary PT	1(0+1)
PDPT-G	Research Project / Dissertation	6(0+6)
		14
	Total Credits	**75**

M. Phil & Post Graduate Diploma in Sports Medicine & Manipulative Physical Therapy (M.Phil, PGD-SM&MPT)

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

A TYPICAL STUDY PLAN
MASTER OF PHILOSOPHY, POSTGRADUATE DIPLOMA IN SPORTS MEDICINE & MANIPULATIVE PHYSICAL THERAPY (M.Phil, PGD-SM&MPT)

DURATION 2 YEARS

Minimum Degree Requirements: This program comprises a total of 36 credits.

First Semester

Course Code	Course Title	Credit (Contact) Hours
SMMT611	Research Methods, Data Analysis & Scientific Inquiry	3 (3-0)
SMMT 612	Advance Principles & Practice of Manipulative Physical Therapy	3 (2-1)
SMMT 613	Musculoskeletal Sciences (Musculoskeletal Injuries, Diagnosis & Management)	3 (2-1)
SMMT 614	Advance Manipulative Physical Therapy Techniques (Upper, Lower Quadrant & Spine)	3 (1-2)
	Total Credits	**12**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
SMMT 621	Sports Medicine (Sports Injuries, Diagnosis & Management)	3 (2-1)
SMMT 622	Sports Psychology	3 (2-1)
SMMT 623	Applied Exercise Physiology & Nutrition	3 (2-1)
SMMT 624	Pain Management(Musculoskeletal & Sports Injuries)	3 (1-2)
	Total Credits	**12**

Third Semester

Course Code	Course Title	Credit (Contact) Hours
SMMT 799	Thesis	12 (0+24)
	Total Credits	**12**

Fourth Semester

Course Code	Course Title	Credit (Contact) Hours
SMMT 799	Thesis (Continued)	12 (0+24)
	Total Credits	**36**

M.Phil & Post Graduate Diploma in Speech Language Pathology (M.Phil, PGD-SLP)

Introduction: The aim of Speech-Language Pathology & Hearing sciences program is to train post graduates in the country who will be qualified and competent to identify, diagnose, assess, evaluate, treat, manage and rehabilitate people with Language, Speech, hearing impairment, Voice, Fluency, Cognitive and other related Communication disorders along with Swallowing and feeding difficulties. This Degree Program Will Cover Communication Disorders due to Neurological Impairments, Hearing Impairment, Language Learning Disabilities, Cerebral Palsy, Developmental Delays, Autism, Cleft Palate, Brain Injuries, Feeding, Swallowing and Hearing Disorders.

Eligibility Criteria:

- 16- Years of education with any of the following subjects Psychology, linguistics, Child development, physics, Zoology, Special education, behavior sciences, management sciences ,Social sciences & Medical sciences, from a HEC recognized degree awarding institute.
- GAT-Graduate Admission Test by NTS at least 50% score or GRE subject Test by isra University.

Duration: M.Phil (2 Years) PGD (1 Year)

A TYPICAL STUDY PLAN
MASTER OF PHILOSOPHY, SPEECH LANGUAGE PATHOLOGY (M.PHIL, PGD-SLP)

DURATION M. PHIL (2 YEARS) PGD (1 YEAR)

Minimum Degree Requirements: This program comprises a total of MS/M.Phil 36 credits & PGD 24 credits.

YEAR 1
First Semester

Course Code	Course Scheme for Speech, Language & Hearing Sciences	Credit (Contact) Hours
SLHS 611	Language Science	2 (1+1)
SLHS 612	Biomedical Sciences 1	2 (1+1)
SLHS 613	Child Development	2 (2+2)
SLHS 614	Speech & Hearing Sciences	2 (1+1)
	Total Credits	**8**

Second Semester

Course Code	Course Scheme for Speech, Language & Hearing Sciences	Credit (Contact) Hours
SLHS621	Biomedical Sciences 11	2 (1+1)
SLHS622	Biostatistics, Research Methodology & Scientific Inquiry	2 (2+0)
SLHS623	Evidence Based Practice	2 (1+1)
SLHS624	Communication and Behavioral Disorders	2 (2+0)
SLHS625	Pharmacology in Rehabilitation	2 (2+0)
	Total Credits	**10**

YEAR 2
First Semester

Course Code	Course Scheme M. Phil Speech Language Pathology	Credit (Contact) Hours
SLSD631	Speech Disorders	3(2+1)
SLDC632	Language Disorders in Children	3(2+1)
SLDC633	Rudiments of Audiology	2(1+1)
SLDC634	Clinical Decision Making & Planning Effective Treatment	3(2+1)
	Total Credits	**11**

Second Semester

Course Code	Course Scheme M. Phil Speech Language Pathology	Credit (Contact) Hours
SLND641	Neurological, Communication & Swallowing Disorders	4(3+1)
SLAC642	Advance Clinical Practum	4(NCH)
Sl799	Thesis	**6**
		14
	Total Credits	**43**

YEAR 1
First Semester

Course Code	Course Speech PGD (Speech Language Pathology)	Credit (Contact) Hours
SLHS611	Language Science	2(1+1)
SLHS 612	Biomedical Sciences 1	2(1+1)
SLHS 614	Speech & Hearing Sciences	2(1+1)
SLDC632	Language Disorders in Children	3(2+1)
SLDC633	Rudiments of Audiology	2(1+1)
	Total Credits	**11**

Second Semester

Course Code	Course Speech PGD (Speech Language Pathology)	Credit (Contact) Hours
SLSD631	Speech Disorders	3(2+1)
SLDC634	Clinical Decision Making & Planning Effective Treatment	3(2+1)
SLND641	Neurological, Communication & Swallowing Disorders	4(3+1)
SLAC642	Advance Clinical Practum	4(3+1)
		14
	Total Credits	**25**

M.Phil & Post Graduate Diploma in Hearing Sciences (M.Phil, PGD-HS)

Eligibility Criteria:

- 16- Years of education with any of the following subjects Psychology, linguistics, Child development, physics, Zoology, Special education, behavior sciences, management sciences ,Social sciences & Medical sciences, from a HEC recognized degree awarding institute.
- GAT-Graduate Admission Test by NTS at least 50% score or GRE subject Test by isra University.

Duration: M.Phil (2 Years) PGD (1 Year)

A TYPICAL STUDY PLAN
MASTER OF PHILOSOPHY & POST GRADUATE DIPLOMA IN HEARING SCIENCES **DURATION M. PHIL (2 YEARS) PGD (1 YEAR)**

Minimum Degree Requirements: This program comprises a total of MS/M.Phil 36 credits & PGD 24 credits.

YEAR 1
First Semester

Course Code	Course Scheme for M. Phil Hearing Sciences	Credit (Contact) Hours
SLHS611	Language Science	2(1+1)
SLHS 612	Biomedical Sciences 1	2(1+1)
SLHS 613	Child Development	2(2+0)
SLHS 614	Speech & Hearing Sciences	2(1+1)
	Total Credits	**8**

Second Semester

Course Code	Course Scheme for M. Phil Hearing Sciences	Credit (Contact) Hours
SLHS621	Biomedical Sciences 11	2(1+1)
SLHS622	Biostatistics, Research Methodology & Scientific Inquiry	2(2+0)
SLHS623	Evidence Based Practice	2(1+1)
SLHS624	Communication And Behavioral Disorders	2(2+0)
SLHS625	Pharmacology In Rehabilitation	2(2+0)
	Total Credits	**10**

YEAR 2
First Semester

Course Code	Course Scheme for M. Phil Hearing Sciences	Credit (Contact) Hours
HSAA631	Introduction To Audiology & Its Medical & Physiologic Aspects	3(2+1)
HSAA632	Principles Of Audio logical Assessment	3(2+1)
HSAA633	Psychoacoustics And Instrumentation	2(2+0)
HSAA634	Aural Habilitation And Rehabilitation	3(2+1)
	Total Credits	**11**

Second Semester

Course Code	Course Scheme for M. Phil Hearing Sciences	Credit (Contact) Hours
HSCD641	Guidance, Counseling, Clinical Decision Making And Related Issues In Audiology	4(3+1)
HSAC642	Advance Clinical Practum	4(NCH)
HS799	Dissertation	6
		14
	Total Credits	**43**

YEAR 1
First Semester

Course Code	Course Speech PGD (Hearing Sciences)	Credit (Contact) Hours
SLHS611	Language Science	2(1+1)
SLHS 612	Biomedical Sciences 1	2(1+1)
SLHS 614	Speech & Hearing Sciences	2(1+1)
HSAA631	Introduction To Audiology & Its Medical & Physiologic Aspects	3(2+1)
HSAA632	Principles Of Audio logical Assessment	3(2+1)
	Total Credits	**12**

Second Semester

Course Code	Course Speech PGD (Hearing Sciences)	Credit (Contact) Hours
HSAA633	Psychoacoustics And Instrumentation	2(2+0)
HSAA634	Aural Habilitation And Rehabilitation	3(2+1)
HSCD641	Guidance, Counseling, Clinical Decision Making And Related Issues In Audiology	4(3+1)
HSAC642	Advance Clinical Practum	4
		13
	Total Credits	**25**

M. Phil & PGD, Health, Physical Education & Sports Sciences (HPESS)

Eligibility: 16 years of education or equivalent from a HEC recognized University.

Duration: Minimum 2 years M.Phil & 1 year PGD.

A TYPICAL STUDY PLAN
M. Phil & PGD, Health Physical Education & Sports Sciences (HPESS) **DURATION 2 YEARS M. Phil & 1 YEAR PGD**

Minimum Degree Requirements: This program comprises a total of M.Phil 36 credits & PGD 24 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
HPESS 611	Research Methods, Statistics & EBP	3(2+1)
HPESS 612	Applied Kinesiology & Sports Biomechanics	3(2+1)
HPESS 613	Measurement & Evaluation Technology in Physical Education	3(2+1)
HPESS 614	Exercise Physiology & Exercise Prescription	3(2+1)
	Total Credits	**12**

Second Semester

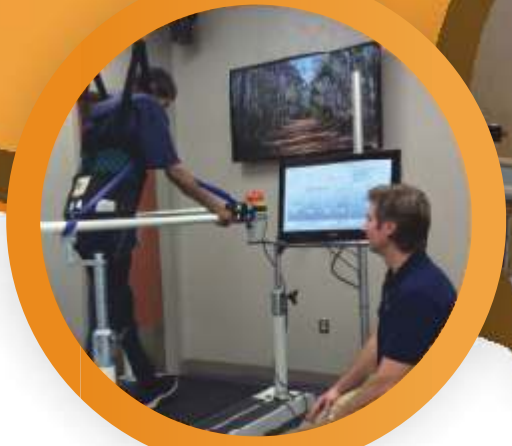
Course Code	Course Title	Credit (Contact) Hours
HPESS 621	Sports Psychology, Human Growth & Development	3(2+1)
HPESS 622	Health Promotion & Wellness	3(2+1)
HPESS 623	Sports Injuries & Prevention & Rehabilitation	3(2+1)
HPESS 624	Pedagogical Methods in Physical Education	3(3+0)
	Total Credits	**12**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HPESS 799	Thesis	12
	Total Credits	12

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HPESS 799	Continue Thesis	12
	Total Credits	**36**



M.Phil & PGD, Cardiopulmonary Physical Therapy (CPT)

Purpose: The degree program in Cardiopulmonary Physical Therapy is designed to prepare students for roles as contributing members of the modern health care team concerned with treatment, management, and care of patients with breathing, and cardiopulmonary disorders.
Objectives: Objectives include employment opportunities as cardiopulmonary therapy practitioners in hospitals, clinics, research facilities, home care agencies, and alternate care sites. The Cardiopulmonary Physical Therapist will be able to administer gas therapy, humidity therapy, aerosol therapy, and hyperinflation therapy; assist with mechanical ventilation, special therapeutic and diagnostic procedures, cardiopulmonary resuscitation, and airway management techniques; and follow therapeutic protocols. The Cardiopulmonary Physical Therapist works under the supervision of a physician.
Eligibility: 4years Bachelor degree in Physiotherapy / Physical Therapy or 3 years B.Sc. in Physiotherapy with one year additional certificate course in Physiotherapy or 5years Doctor of Physical Therapy program or Post Professional DPT or Masters in Physical Therapy or equivalent from a HEC recognized University.
Duration: Minimum 2 years M. Phil & 1 year PGD.

A TYPICAL STUDY PLAN
M.Phil, PGD in Cardiopulmonary Physical Therapy. **DURATION 2 YEARS MS/M.Phil & 1 YEAR PGD**

Minimum Degree Requirements: This program comprises a total of M.Phil 36 credits & PGD 24 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
CPT611	Cardiopulmonary Sciences.	3 (2+1)
CPT612	Cardiopulmonary Health.	2 (2+0)
CPT613	Physical Assessment.	2 (2+0)
CPT614	Cardiopulmonary Rehabilitation I.	3 (2+1)
CPT615	Biostatistics.	2 (2+0)
	Total Credits	**12**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CPT621	Thoracic Diagnostic Radiology and Therapeutic Procedures.	3 (2+1)
CPT622	Evidence Based Practice and Research Methodology.	3 (3+0)
CPT623	Cardiopulmonary Rehabilitation II.	3 (2+1)
CPT624	Emergency Procedures and Critical Care Monitoring.	3 (2+1)
	Total Credits	**12**

YEAR 2

Course Code	Course Title	Credit (Contact) Hours
CPT799	Theses	12
	Total Credits	**36**

M. Phil & PGD, Neurological Physical Therapy (NPT)

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

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

Eligibility: 4 years Bachelor degree in Physiotherapy / Physical Therapy or 3 years B.Sc. in Physiotherapy with one year additional certificate course in Physiotherapy or 5years Doctor of Physical Therapy program or Post Professional DPT or Masters in Physical Therapy or equivalent from a HEC recognized University.
Duration: 2 years M. Phil, 1 year PGD

A TYPICAL STUDY PLAN
M.Phil, PGD in Neurological Physical Therapy. **DURATION 2 YEARS MS/M.Phil, 1 YEAR PGD**

Minimum Degree Requirements: This program comprises a total of M.Phil 36 credits & PGD 24 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
NPT611	Fundamentals of Neurological Rehabilitation	2 (2+0)
NPT612	Applied Neuro-anatomy & Clinical Neuroscience	3 (2+1)
NPT613	Rehabilitation of Neurological Disorders I	3 (2+1)
NPT614	Exercise Sciences	2 (2+0)
NPT615	Biostatistics	2 (2+0)
	Total Credits	**12**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
NPT621	Fundamentals of Neurological diseases	2 (2+0)
NPT622	Neuro-diagnosis, Case Studies of Persons with Neuromuscular Disorders	3 (2+1)
NPT623	Rehabilitation of Neurological Disorders II	3 (2+1)
NPT624	Evidence Based Clinical Practice and Research Methodology	2 (2+0)
NPT625	Advanced Neurological Physical Therapy Techniques	2 (0+2)
	Total Credits	**12**

YEAR 2

Course Code	Course Title	Credit (Contact) Hours
NPT799	Theses	12
	Total Credits	**36**

M.Phil & PGD, Orthopedic Physical Therapy (OPT)

Purpose: The degree program in Orthopedic Physical Therapy is designed to prepare the students for working as contributing members of the modern health care team concerned with treatment, management, and care of patients with Musculoskeletal disorders.
In addition to the general entry requirements for the M. Phil program, student should have the experience to be able to demonstrate an interest in Orthopedics Rehabilitation.
Objectives: This course has been designed to introduce basic orthopedic science, orthopedic practice principles, and treatment techniques required in the day to day management of patients with movement impairments, functional limitations, and disabilities due to musculoskeletal pathologies affecting the extremities. Clinically related orthopedic sciences including anatomy, biomechanics, pathology and radiology will serve as the foundation for technique application and overall patient management. Practice principles will include evidence based practice, clinical decision making skills, clinical hypothesis building, treatment planning and progression. The technique portion includes physical examination and interventions for the extremities including advanced active and passive motion examination, translatoric movement evaluation, and select differential evaluation techniques. Soft tissue, articular and therapeutic exercise interventions for the extremities will be emphasized.
Eligibility: 4 years Bachelor Degree in Physiotherapy/ Physical Therapy or 3 years B.Sc. in Physiotherapy with one year additional certificate course in Physiotherapy or 5years Doctor of Physical Therapy program or Post Professional DPT or Masters in Physical Therapy or equivalent from a HEC recognized University.
Duration: Minimum 2 years M. Phil& 1 year PGD.
Eligibility: 4 years Bachelor Degree in Physiotherapy/ Physical Therapy or 3 years B.Sc. in Physiotherapy with one year additional certificate course in Physiotherapy or 5years Doctor of Physical Therapy program or Post Professional DPT or Masters in Physical Therapy or equivalent from a HEC recognized University.
Duration: Minimum 2 years M. Phil& 1 year PGD.

A TYPICAL STUDY PLAN
M.Phil, PGD in Orthopedic Physical Therapy **DURATION 2 YEARS M.Phil & 1 YEAR PGD**

Minimum Degree Requirements: This program comprises a total of M.Phil 36 credits & PGD 24 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
OPT611	Fundamentals of Orthopedic Rehabilitation	2 (2+0)
OPT612	Applied Movement Sciences	3 (3+0)
OPT613	Principles of Orthopedic Medicine	2 (2+0)
OPT614	Orthopedic Management I	3 (2+1)
OPT615	Biostatistics	2 (2+0)
	Total Credits	12

Second Semester

Course Code	Course Title	Credit (Contact) Hours
OPT621	Orthopedic Clinical Methods	2 (2+0)
OPT622	Manual Therapy	3 (2+1)
OPT623	Orthopedic Management II	3 (2+1)
OPT624	Clinical Pharmacology of Musculoskeletal System.	2 (2+0)
OPT625	Evidence Based Clinical Practice and Research Methodology	2 (2+0)
	Total Credits	12

YEAR 2

Course Code	Course Title	Credit (Contact) Hours
OPT699	Theses	12
	Total Credits	**36**

M.Phil & PGD, Prosthetics & Orthotics (PO)

Introduction: Rehabilitation of persons with locomotors disabilities or neuromuscular disorder is a team work, where centre of attention is the person with disabilities. The team usually comprises of the Physical medicine and Rehabilitation Specialist (Physiatrist) who is usually the leader, Prosthetics and Orthotics, Physiotherapist, Occupational therapist, Social worker and Rehabilitation Nurse. Depending upon the need, other professionals like Orthopedic Surgeons, engineer, psychologist, geriatrist and other related professionals are also included in the team.

General planning of the total rehabilitation of the disabled is usually done by the Physiatrist. The role of Prosthetics and Orthotics is important. It is she/he, who fabricates and fits the prosthesis or orthotic to the persons with disabilities both temporary and permanent often referred as "Patient" and thus helps make the patient independent, confident and useful member of the society.

Aims and Objectives:

1. To provide better prosthetic and Orthotic care in the treatment of physically challenged in the rehabilitation setting.
2. To provide the students with clinical problems solving skills for lifelong learning combined with advanced biomechanical education.
3. To provide expert knowledge in Master in prosthetic Orthotic education.
4. To help the society & institutes and national requirements in the field of prosthetics & Orthotic with a growing technological advancement and human resource development.
5. To promote research and development in the field of P & O & rehabilitation science to enhance quality of life.

Eligibility: 4 years Bachelor degree in Orthotics and Prosthetics or equivalent from a HEC recognized University.

Duration: Minimum 2 years M. Phil & 1 year PGD.

A TYPICAL STUDY PLAN
M.Phil/PGD in Orthotics and Prosthetics **DURATION 2 YEARS M.Phil & 1 YEAR PGD**

Minimum Degree Requirements: This program comprises a total of M.Phil 36 credits & PGD 24 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
PO611	Biomechanics & Kinesiology	2 (2+0)
PO612	Advances in Lower Extremity Orthotics	3 (2+1)
PO613	Advances in Lower Extremity Prosthetics	3 (2+1)
PO614	Biostatistics & Research Methodology	2 (2+0)
PO615	Information Technology & Management Skills.	2 (2+0)
	Total Credits	**12**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
PO621	Advances in Materials for prosthetics & Orthotics. Mobility Aids in Rehabilitation.	3 (3+0)
PO622	Advances in Upper Extremity Orthotics.	3 (2+1)
PO623	Advances in Upper Extremity Prosthetics.	3 (2+1)
PO624	Advances in Spinal Orthotics.	3 (2+1)
		12
	Total Credits	

YEAR 2

Course Code	Course Title	Credit (Contact) Hours
PO799	Theses	12
	Total Credits	**36**

PhD in Rehabilitation Sciences

Introduction: The mission of the Doctoral Program in Rehabilitation Sciences of the Isra Institute of Rehabilitation Sciences (IIRS) is to advance the frontiers of knowledge underlying the practice of the rehabilitation disciplines and professions through research, teaching, and professional development.

The primary goals of the PhD program in Rehabilitation Sciences are to:

1. Provide core content in theories and models of rehabilitation, disability and/or assistive technology that underpin rehabilitation sciences
2. Provide indepth, state of the science, content in basic, clinical, social, medical and/or engineering sciences that support the dissertation research
3. Provide mentorship opportunities for immersion in rehabilitation science research labs, projects, and/or ongoing studies
4. Prepare students to conduct and disseminate original research that will advance rehabilitation science
5. Promote interdisciplinary research in preparation for becoming a research team member
6. Promote knowledge, behaviors and skills consistent with the responsible conduct of research.
7. Provide opportunities to teach content in an area of expertise

Eligibility Criteria:

- M. Phil/MS/Equivalent Degree(18-Years of Education) in Physical Therapy, Speech Language Therapy / Hearing sciences, occupational Therapy, Orthosis/Prothesis, CBR & Disability, Sports Medicine & Pain Management, Rehabilitation medicine, Electroneurophysiology, Nursing and Clinical Psychology .
- Minimum CGPA 3.00 or First Division

A TYPICAL STUDY PLAN
PhD IN REHABILITATION SCIENCES **DURATION 3 YEARS**

Minimum Degree Requirements: This program comprises a total of 36 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
DPRS711	Biostatistics & Research Design	02
DPRS712	Disability and Rehabilitation	02
	Elective - 01	02
	Total Credits	**6**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
DPRS721	Outcome Measurements & Analysis	02
DPRS722	Neuroscience	02
	Elective - 02	02
	Total Credits	**6**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
DPRS731	Scientific Inquiry & Writing	02
DPRS734	Counseling in Rehabilitation	02
	Elective - 03	02
DPRS799	Dissertation	09
	Second Semester	
DPRS799	Dissertation	09

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
DPRS799	Dissertation	09
	Second Semester	
DPRS799	Dissertation	09
	Total Credits	**54**

Electives

Course Title	Credit (Contact) Hours
Issues in Orthopedic Physical Therapy & Manual Therapy	02
Biomechanics in Orthopedic Physical Therapy	02
Health and Wellness Promotion	02
Exercise Physiology	02
Differential diagnosis in rehabilitation	02
Pharmacology in Rehabilitation	02
Motor Control theory and practice	02
Articulation Disorders: Evaluation and Therapy	02
Dysphagia	02
Diagnostic Audiology	02
Sign Language for Health Professionals	02
Neural Bases of Speech & Language Disorders	02
Pain management	02
Physical medicine & Rehabilitation	02
Curriculum Design and Teaching in Allied Health	02
Disability and Rehabilitation, Individual and Contextual Factors	02
Seminar in Health Care Policy and Administration	02
Pathophysiology and Disability	02
Counseling in Rehabilitation	02
Occupational Therapy Practice: Assistive Technology	02
Conditions in Occupational Therapy	02
Occupational Performance Throughout the Lifespan	02
Physiology of Body Systems	02
Disability and Rehabilitation, National and International Perspectives Influencing Public Policy and Research	02
Behavior Principles	02
Psychology: Understanding Human Behavior	02
Abnormal Psychology and Society	02
Cognitive Psychology	02
Fundamentals of Human Neuropsychology	02
Orthotics and Prosthetics	02

School of Engineering & Applied Sciences

Fiber Optics
Bio Statistics
Computer Vision
Project
Optimal Controls
Circuit Analysis
Stochastic Processes
Network Security
Switching Theory
Advanced FPGAs
Network Programming
Digital Signal Processing

School of Engineering & Applied Sciences

The School of Engineering & Applied Sciences 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.

School of Engineering & Applied Sciences

The SEAS offers the following degree programs at the Islamabad Campus, the details of which are presented in the accompanying tables giving an overview of typical study plans.

MS & PhD (Electronic Engineering)

The School of Engineering & Applied Sciences offers degree programs in MS and PhD in Electronic Engineering. MS Electronic Engineering program is a two year, full-time program of 30 credits based on 24 credits of coursework and six credits of research or 30 credits of coursework only.

This program also offers a variety of elective courses in novel technologies and emerging trends in modern engineering, which helps broaden the student's field of expertise.

The PhD in Electronic Engineering program is a three to five years, full-time commitment of 54 credits based on 18 credits of coursework and 36 credits of Research.

M.Sc. (Electronics)

The School of Engineering & Applied Sciences also offers a degree M.Sc in Electronics. It is a two years, full-time program of 60 credits based on 54 credit of coursework and 6 credits of project.

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.

BS (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.

BS (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.

BS (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.

Associate of Applied Sciences (Software Engineering)

The primary objective of the Software Engineering program is to produce well-rounded graduates who have a strong foundation in theoretical concepts in computing. Can apply these concepts to provide computer based solutions for problems. The ability to identify and use appropriate software engineering methodologies and tools to model, simulate, and test their design for large scale software systems. Strong academic preparation to pursue careers in local and international IT industry. Been enabled for continuing education through formal or informal methods.

Associate of Applied Sciences (Telecommunication)

Telecommunication is a discipline related to the use of engineering tools to solve telecommunication problems in business organizations and industries. The undergraduate Telecommunication program has been developed to serve the needs of the modern society by training students who want to be specialized in Telecommunication system analysis and telecommunication software development. Furthermore, the program aims to prepare the students for self and life-long learning, the skills that are necessary for the students to keep up with the current technologies and remain proficient throughout their careers.

Associate of Applied Sciences (Business Administration)

The degree is planned to give a broad knowledge of the useful areas of a company, and their interconnection, while also allowing for specialization in a particular area. BBA programs thus expose students to a alteration of "core subjects" and allow students to specialize in a specific academic area. The degree also develops the student's practical managerial skills, communication skills and business decision-making capability.

Many programs thus incorporate training and practical experience, in the form of case projects, presentations, internships, industrial visits, and interaction with experts from the industry.

M.Sc. Applied Physics

This program is aimed at producing professionals with dynamic range of applications to foster development in physics and its applied branches. It is a two year program and is designed to enable students to master fundamental concepts and be able to learn/apply the developing concepts to enhance their understanding of the subject matter. It is a well balanced program that enables students to meet with requirements of research institutes in Universities and R&D organizations.

Bachelor of Technology

SEAS offer Bachelor of Technology in following disciplines with option of Honors (4 year Program) or Pass (2 Year Program).

BS Engineering Technology (Electrical)

Bachelor of Science in Engineering Technology (BS - Engineering Technology) program is a four year (8 Semesters) professional degree program. The students have passed DAE, FSc. (Pre - engineering) or any other examination equivalent to HSSC level with physics and mathematics are eligible for admission in this program. The courses are according to the

revised syllabus (2017) of Higher Education Commission (HEC) Pakistan.
The graduates of technology are employed by PAEC, NESCOM, KRL, SUPPARCO, PTV, PIA, PTCL, IPPs, and other government organizations in Pakistan. A large number of Technology degree holders get overseas employment every year.

BS Engineering Technology (Electronics)

Bachelor of Science in Engineering Technology (BS-Engineering Tech) program is a four year (8 Semesters) professional degree program. The students have passed DAE, FSc. (Pre-engineering) or any other examination equivalent to HSSC level with physics and mathematics are eligible for admission in this program. The courses are according to the revised syllabus (2017) of Higher Education Commission (HEC) Pakistan.
The graduates of technology are employed by PAEC, NESCOM, KRL, SUPPARCO, PTV, PIA, PTCL, IPPs, and other government organizations in Pakistan. A large number of Technology degree holders get overseas employment every year.

B.Sc Bio-Medical

This program is aimed at producing Bio-Medical Technologists for advancing health care equipment. The program is so designed that students get well rounded basic scientific (Bio-Electro-Mechanical) knowledge. It is a well balanced program that enables students to meet the requirements of various Government/Private sector health care institutes and research centers.

BS Engineering Technology (Civil)

Bachelor of Science in Engineering Technology (BS-Engineering Tech) program is a four years (8 Semesters) professional degree program. The students have passed DAE, FSc. (Pre-engineering) or any other examination equivalent to HSSC level with physics and mathematics are eligible for admission in this program. The courses are according to the revised syllabus (2017) of Higher Education Commission (HEC) Pakistan.
The graduates of technology are employed by PAEC, NESCOM, KRL, SUPPARCO, PTV, PIA, PTCL, IPPs, and other government organizations in Pakistan. A large number of Technology degree holders get overseas employment every year.

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 & 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.

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. 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.

SUMMARY OF BE, BS, B.Sc, M.Sc, MS & PhD PROGRAMS

Department of Electronic and Computer Engineering	
BS & BE Programs	
Minimum Qualifications	F.Sc. (Pre-Engineering/ICS) 60% / DAE
Duration	Minimum 4 years
Coursework Credits	136 Credits
Project Credits	06 Credits
B.Sc (Pass/Hons) Program	
Minimum Qualifications	DAE (Relevant Discipline) / F.Sc. (Pre-Engg)/Equivalent
	Pass **Honors**
Duration	Minimum 2 years Minimum 4 years
Coursework Credits	65 Credits 136 Credits
Project Credits	05 Credits 06 Credits
M.Sc Electronics Program	
Minimum Qualifications	B.Sc. In Mathematics and Physics / B.Sc in Electronics / Electrical
Duration	Minimum 2 years
Coursework Credits	60 Credits
Project Credits	06 Credits
MS Program	
Minimum Qualifications	16 years of education: Bachelor of Engineering (Electronic, Electrical, Industrial Electronics, Telecommunication), MSc. Electronics, M.Sc. Computer Science, M.Sc. Applied Physics.
Duration	Minimum 2 years
	Thesis **Non-Thesis**
Coursework Credits	24 30
Research Credits	12 00
PhD Program	
Minimum Qualifications	MS Engg (relevant field) / M Phil Electronics, Telecommunication / MS Computer Science
Duration	3-5 years
Coursework Credits	18 Credits
Research Credits	40 Credits

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+1)
ESBE-112	Basic Electronics	4 (3+1)
GSAP-113	Applied Physics	4 (3+1)
HSLG-114	English composition and comprehension	2 (2+0)
MSCA-115	Calculus & Analytical Geometry	3 (3+0)
HSIS-116	Islamic Studies	2 (2+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MSLA-121	Linear Algebra	3(3+0)
HSPS-122	Pakistan Studies	2(2+0)
ESEC-123	Electronic Circuits and Devices	4(3+1)
HSBC-124	Business Communications	2(2+0)
MSES-125	Elements of Statistics and Probability	3(3+0)
	Supporting Science Elective I	3(2+1)
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MSCV-211	Complex Variables and Transforms	3 (3+0)
ESDL-212	Digital Logic Design	4 (3+1)
CSSM-213	Semiconductor Theory	4 (3+1)
ESCA-214	Circuit Theory and Analysis	4 (3+1)
HSTR-215	Technical Report Writing	2 (2+0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ESNA-221	Network Analysis	4(3+1)
TCSS-222	Electromagnetic Field Theory	3(3+0)
ESIM-223	Instrumentation & Measurements	4(3+1)
TCSS-311	Signal & Systems	3(3+0)
	Supporting Science Elective-II	3(3+0)
	Total Credits	**17**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
MSNA-224	Numerical Analysis	3(3+0)
ESDE-312	Digital Electronics	4(3+1)
TCDC-313	Analog and Digital Communication	4(3+1)
	GE/University 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	3(3+0)
ESOE-322	Opto-Electronics	3(3+0)
ESMI-323	Microprocessor & Interfacing Techniques	4(3+1)
	ES Elective-I	3(3+0)
	ES Elective-II	4(3+1)
	Total Credits	**18**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
ESLO-411	Laser & Fiber Optics	4(3+1)
TCWP-412	Data Communication & Computer Networks	4(3+1)
HSPP-413	Professional Practices	2(2+0)
	GE/ University Elective-II	3(3+0)
	ES Elective III	3(3+0)
ESES-499A	ES Project I	2(0+2)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
	GE/University Elective-III (Enterpreneurship)	2(2+0)
ESVD-422	VLSI Design	3(3+0)
	ES Elective-IV	3(3+0)
	ES Elective-V	3(3+0)
ESES-499B	ES Project II	4(0+4)
	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)

Supporting Science Electives

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

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 SCIENCE (INFORMATION TECHNOLOGY), BS (IT) **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
CSIT 111	Introduction to Information and Communication Technology	3(2+3)
CSPF 112	Programming Fundamentals	4(3+3)
MTCA 113	Calculus and Analytical Geometry	3(3+0)
HSEN 114	English Composition and Comprehension	3(3+0)
HSPS 115	Pakistan Studies	2(2+0)
	University Elective I	3(3+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTDS 121	Discrete Structures	3(3+0)
ESBE 122	Basic Electronics	3(2+3)
CSOP 123	Object Oriented Programming	4(3+3)
HSEN 124	Communication Skills	3(3+0)
HSIS 125	Islamic Studies / Ethics	2(2+0)
MTES 126	Probability and Statistics	3(3+0)
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
ITTM 211	Technology Management	3(3+0)
CSDL 212	Digital Logic and Design	4(3+3)
CSDS 213	Data Structures and Algorithms	4(3+3)
CSDC 214	Data Communication and Computer Networks	3(3+0)
	University Elective - II	3(3+0)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CSSE 221	Software Engineering	4(3+3)
ITIS 222	Information Systems	3(3+0)
CSOS 223	Operating Systems	3(3+0)
CSDB 224	Database Systems	4(3+3)
ITMD 225	Multimedia Systems and Design	3(2+3)
	Total Credits	**17**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
ITOD 311	Object Oriented Analysis and Design	3(2+3)
ITDA 312	Database Administration	3(2+3)
ITWT 313	Web Systems and Technologies	3(2+3)
	IT Elective - I	3(3+0)
	University Elective - III	3(3+0)
	Total Credits	**15**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
CSHC 321	Human Computer Interaction	3(2+3)
ITIP 322	Internet Architecture and Protocols	3(3+0)
ITDS 323	Data and Network Security	3(3+0)
HSEN 324	Technical Report Writing	3(3+0)
	IT Elective - II	3(3+0)
	IT Elective - III	3(2+3)
	Total Credits	**18**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
ITSA 411	System Integration and Architecture	3(3+0)
ITPM 412	IT Project Management	3(3+0)
	IT Elective - IV	3(3+0)
	IT Elective - V	3(3+0)
ITIT 499-A	BSIT Project - I	3(0+9)
	Total Credits	**15**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
HSPP 421	Professional Practices	3(3+0)
ITSA 422	Systems and Network Administration	3(2+3)
ITCC 423	Cloud Computing	3(3+0)
	IT Elective - VI	3(3+0)
	IT Elective - VII	3(3+0)
ITIT 499-B	BSIT Project - II	3(0+9)
	Total Credits	**18**

BS(IT) Electives

Course Code	Course Title	Credit (Contact) Hours
CSDA 222	Design & Analysis of Algorithms	3(2+3)
CSVP 312	Visual Programming	3(2+3)
CSIP 326	Internet Programming & Web Development	3(2+3)
CSMC 313	Mobile and Pervasive Computing	3(3+0)
CSIN 413	Internship	3 (0+9)
CSCG 423	Computer Graphics	3(2+3)
CSAI 412	Artificial Intelligence	3(2+3)
SEQA 314	Software Quality Assurance	3 (2+3)
CSSA 322	Software Architecture & Design	3(3+0)
CSSP 412	Software Project Management	3(3+0)
SESR 311	Software Requirement & Specification	3(3+0)
CSTA 411	Theory of Automata	3(3+0)
CSCC 422	Compiler Construction	3 (2+3)
CSDS 424	Data Science	3 (2+3)
MSEC 484	E-Commerce	3(3+0)
CSML 316	Machine Learning	3 (2+3)
CSNL 325	Natural Language Processing	3 (2+3)
CSDP 414	Distributed Programming	3 (2+3)
CSCD 415	Cryptography & Data Security	3(3+0)
ITMI 326	Network Management & Security	3 (2+3)
CSPL 425	Programming Language Concepts	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 & 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)

A TYPICAL STUDY PLAN
BACHELOR OF ENGINEERING (ELECTRICAL), BE (EE) **DURATION 4 YEARS**

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

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTCA-111	Calculus & Analytical Geometry	3(3+0)
CEEM-112	Engineering Mechanics	3(3+0)
CSIC-113	Introduction to Computing	2(1+1)
HSFE-114	Functional English	3(3+0)
HSIS-115	Islamic Studies	2(2+0)
NSAP-116	Applied Physics	4(3+1)
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTLA-121	Linear Algebra	3(3+0)
METD-122	Applied Thermodynamics	3(3+0)
EEED-123	Electronic Devices & Circuits	4(3+1)
EECA-124	Computer Aided Engineering Drawing	1(0+1)
HSPS-125	Pakistan Studies	2(2+0)
EELC-126	Linear Circuit Analysis	4(3+1)
EEWP-127	Workshop Practice **Total Credits**	1(0+1)
		18

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
MTDE-211	Differential Equations	3(3+0)
HSCS-212	Communication Skills	2(1+1)
EEDL-213	Digital Logic Design	4(3+1)
EEEN-214	Electrical Network Analysis	4(3+1)
CSPF-215	Programing Fundamentals	3(2+1)
SSSC-216	Sociology	2(2+0)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTCV-221	Complex Variables and Transforms	3(3+0)
MSEE-222	Engineering Ethics	3(3+0)
EESS-223	Signals & Systems	4(3+1)
EEET-224	Electromagnetic Field Theory	3(3+0)
	Breadth Core-I	4(3+1)
	Total Credits	**17**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours
EEPM-311	Probability Methods in Engineering	3(3+0)
EEEM-312	Electrical Machines	4(3+1)
EELC-313	Linear Control Systems	4(3+1)
MSPM-314	Engineering Project Management	3(3+0)
	Breadth Core-II	4(3+1)
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
MTNA-321	Numerical Analysis	3(3+0)
EEMS-322	Microprocessor Systems	4(3+1)
EECS-323	Communication Systems	4(3+1)
CSDA-324	Data Structures & Algorithms	3(2+1)
EEFP-325	Electrical Power Systems	4(3+1)
	Total Credits	**18**

YEAR 4
First Semester

Course Code	Course Title	Credit (Contact) Hours
EEFY-411A	Final Year Project-I	3(0+3)
HSTR-412	Technical Report Writing	2(2+0)
SSOB-413	Organizational Behavior	3(3+0)
	Depth Elective-I	4(3+1)
	Depth Elective-II	3(3+0)
	Total Credits	**15**

Second Semester

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

Electronics Engineering Breadth-Core Courses (Current Stream)

Course Code	Course Title	Credit (Contact) Hours
EEIM-225	Instrumentation & Measurement	4(3+3)
EEEC-315	Electronic Circuit Design	4(3+3)

Electronics Engineering Depth Elective Courses (Current Stream)

Course Code	Course Title	Credit (Contact) Hours
EEVD-422	VLSI Design	4(3+3)
EEDE-416	Digital Electronics	4(3+3)
EEPE-414	Power Electronics	4(3+3)
EERA-423	Robotics & Automation	4(3+3)
EEDS-421	Digital Signal Processing	4(3+3)
EEME-417	Microwave Engineering	4(3+3)
EEDS-418	Digital System Design	4(3+3)
EEDE-425	Optoelectronics	4(3+3)
EEDC-415	Digital Control Systems	3(3+0)
EEES-424	Embedded Systems	4(3+3)

Electrical Power Engineering Breadth-Core Courses (Prospective Stream)

Course Code	Course Title	Credit (Contact) Hours
EEIM-225	Instrumentation & Measurement	4(3+3)
EEPT-315	Electrical Power Transmission	4(3+3)

Electrical Power Engineering Depth Elective Courses (Prospective Stream)

Course Code	Course Title	Credit (Contact) Hours
EEPG-415	Power Generation	3(3+0)
EEAC-419	AC Machines	4(3+3)
EEPD-416	Power Distribution & Utilization	4(3+3)
EEPE-414	Power Electronics	4(3+3)
EEPP-417	Power System Protection	4(3+3)
EEPA-422	Power System Analysis	4(3+3)
EEPC-423	Power System Operation & Control	4(3+3)
EEHV-418	High Voltage Engineering	4(3+3)
EEPS-425	Power System Stability & Control	4(3+3)
EEAE-424	Advanced Electrical Machines	4(3+3)
EEDS-421	Digital Signal Processing	4(3+3)

Telecommunication Engineering Breadth-Core Courses (Prospective Stream)

Course Code	Course Title	Credit (Contact) Hours
CSCN-225	Data Communication & Computer Networking	4 (3+3)
EEEC-315	Electronic Circuit Design	4 (3+3)

Telecommunication Engineering Depth Elective Courses (Prospective Stream)

Course Code	Course Title	Credit (Contact) Hours
EEOF-416	Optical Fiber Communication	4(3+3)
EERS-425	Radar Systems Engineering	4(3+3)
EEME-423	Microwave Engineering	4(3+3)
EEWP-422	Wave Propagation & Antennas	4(3+3)
EEDS-417	Digital System Design	4(3+3)
EEOE-418	Optoelectronics	4(3+3)
EEDC-415	Digital Control Systems	3(3+0)
EEES-424	Embedded Systems	4(3+3)
EEDE-414	Digital Electronics	4(3+3)
EEDS-421	Digital Signal Processing	4(3+3)
EEDC-426	Digital Communication	3(3+0)
EEIC-427	Information Theory & Coding	3(3+0)

Computer Systems Engineering Breadth-Core Courses (Prospective Stream)

Course Code	Course Title	Credit (Contact) Hours
CSCN-225	Data Communication & Computer Networking	4 (3+3)
CSOS-315	Operating Systems	4 (3+3)

Computer Systems Engineering Depth Elective Courses (Prospective Stream)

Course Code	Course Title	Credit (Contact) Hours
CSCA-415	Computer Architecture	3(3+0)
EEES-424	Embedded Systems	4(3+3)
CSDS-422	Data Structures & Algorithms	4(3+3)
CSDD-423	Database Design & Management Systems	4(3+3)
CSMS-425	Multimedia System	4(3+3)
CSSE-426	Software Engineering	4(3+3)
CSAI-414	Artificial Intelligence	4(3+3)
CSCD-419	Computer Graphics	4(3+3)
CSDI-416	Digital Image Processing	4(3+3)
CSCC-417	Compiler Construction	4(3+3)
CSBI-418	Bioinformatics	4(3+3)
EEDS-421	Digital Signal Processing	4(3+3)

A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY (BS – ENGINEERING TECHNOLOGY) **DURATION 4 YEARS**

Minimum Degree Requirements: This program comprises a minimum of 140 credit hours of course work that includes a final year project of 06 credits.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
HMIS103	Islamic Studies	2	2
MTCA113	Calculus I	3	3
ETEP154	Engineering Physics I	2	2
ETEP155	Engineering Physics Lab	1	3
CSCP143	Computer Fundamentals	1	1
CSCP144	Computer Fundamentals Lab	2	6
ETCA114	Circuit Analysis I	3	3
ETCA115	Circuit Analysis I Lab	1	3
MSCS143	Communication Skills	3	3
	Total Credits	**18**	**26**

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
HMPS213	Pakistan Studies	2	2
MTCA183	Calculus II	3	3
CSOP223	Object Oriented Programming	2	2
CSOP224	Object Oriented Programming Lab	1	3
ETDL144	Digital Logic Design	3	3
ETDL145	Digital Logic Design Lab	1	3
ETES174	Electronic Devices & circuits - I(Electronics 1)	3	3
ETES175	Electronic Devices & circuits - I (Electronics 1)Lab	1	3
ETWP161	Workshop Practice I	1	1
	Total Credits	**17**	**23**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETNA213	Network Analysis	3	3
ETNA214	Network Analysis Lab	1	3
CTCD153	Computer Aided Engineering Drawing	2	2
CTCD154	Computer Aided Engineering Drawing Lab	1	3
MTLA233	Linear Algebra & Differential Equations	3	3
ETAO223	Electronic Devices & circuits Theory - II (Electronics II)	2	2
ETAO223	Electronic Devices & circuits Theory - II (Electronics II)-Lab	1	3
ETIM263	Instrumentation & Measurements	3	3
ETIM264	Instrumentation & Measurements Lab	1	3
ETPD271	PCB Design & Fabrication Workshop	1	1
	Total Credits	**18**	**26**

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETSS213	Signal & Systems	3	3
ETSS214	Signal & Systems Lab	1	3
ETMI323	Microcontroller & Interfacing Techniques	2	2
ETMI324	Microcontroller & Interfacing Techniques Lab	1	3
ETEM233	Electromagnetic Field Theory	2	2
MTPV243	Probability and Radom Variables	3	3
ETEM243	Electrical Machines	2	2
ETEM244	Electrical Machines Lab	1	3
ETRE353	Renewable Energy Technology	2	2
ETRE353	Renewable Energy Technology-Lab	1	3
	Total Credits	**18**	**26**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETCS313	Communication Systems	3	3
ETCS314	Communication Systems Lab	1	3
ETST343	Substation Technology	3	3
ETSD353	Switchgear & Protective Devices	2	2
ETSD354	Switchgear & Protective Devices Lab	1	3
ETPG363	Power Generation and Utilization	3	3
ETPG364	Power Generation and Utilization Lab	1	3
ETPE253	Power Electronics	3	3
ETPE254	Power Electronics Lab	1	3
	Total Credits	**18**	**24**

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETCS323	Control Systems	2	2
ETCS324	Control Systems Lab	1	3
ETHV313	High Voltage Technology	2	2
ETHV314	High Voltage Technology Lab	1	3
ETPT333	Power Transmission and Distribution	3	3
MSPM352	Engineering Project Management	2	2
HMTW362	Technical Report Writing	2	2
ETFP366	Project	3	9
	Total Credits	**16**	**26**

Summer Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETFP366	Project (Continue)	3	9
	Total Credits	**3**	**9**

Seventh Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETIT432	16 Weeks Supervised Industrial / Field Training (8x5=40Hrs / Week)	16	40
	Total Credits	**16**	**40**

Eighth Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETIT432	16 Weeks Supervised Industrial / Field Training (8x5=40Hrs / Week)	16	40
	Total Credits	**16**	**40**

A TYPICAL STUDY PLAN

BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY (BS-ENGINEERING TECH) **DURATION 4 YEARS**

Minimum Degree Requirements: This program comprises of a minimum of 140 credit hours of coursework including a final year project and 06 credits from the list of electives.

YEAR 1

First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
HMIS103	Islamic Studies	2	2
MTCA113	Calculus I	3	3
ETEP154	Engineering Physics I	2	2
ETEP155	Engineering Physics Lab	1	3
CSCP143	Computer Fundamentals	1	1
CSCP144	Computer Fundamentals Lab	2	6
ETCA114	Circuit Analysis I	3	3
ETCA115	Circuit Analysis I Lab	1	3
MSCS143	Communication Skills	3	3
	Total Credits	**18**	**26**

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
HMPS213	Pakistan Studies	2	2
MTCA183	Calculus II	3	3
CSOP223	Object Oriented Programming	2	2
CSOP224	Object Oriented Programming Lab	1	3
ETDL144	Digital Logic Design	3	3
ETDL145	Digital Logic Design Lab	1	3
ETES174	Electronic Devices & circuits - I(Electronics 1)	3	3
ETES175	Electronic Devices & circuits - I (Electronics 1)Lab	1	3
ETWP161	Workshop Practice I	1	1
	Total Credits	**17**	**23**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETNA213	Network Analysis	3	3
ETNA214	Network Analysis Lab	1	3
CTCD153	Computer Aided Engineering Drawing	2	2
CTCD154	Computer Aided Engineering Drawing Lab	1	3
MTLA233	Linear Algebra & Differential Equations	3	3
ETAO223	Electronic Devices & circuits Theory - II (Electronics II)	2	2
ETAO223	Electronic Devices & circuits Theory - II (Electronics II)-Lab	1	3
ETIM263	Instrumentation & Measurements	3	3
ETIM264	Instrumentation & Measurements Lab	1	3
ETPD271	PCB Design & Fabrication Workshop	1	1
	Total Credits	**18**	**26**

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETSS213	Signal & Systems	3	3
ETSS214	Signal & Systems Lab	1	3
ETMI323	Microcontroller & Interfacing Techniques	2	2
ETMI324	Microcontroller & Interfacing Techniques Lab	1	3
ETEM233	Electromagnetic Field Theory	2	2
MTPV243	Probability and Radom Variables	3	3
ETEM243	Electrical Machines	2	2
ETEM244	Electrical Machines Lab	1	3
ETRE353	Renewable Energy Technology	2	2
ETRE353	Renewable Energy Technology-Lab	1	3
	Total Credits	**18**	**26**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETCS313	Communication Systems	3	3
ETCS314	Communication Systems Lab	1	3
ETWP333	Wave Propagation & Antenna	3	3
ETWP334	Wave Propagation & Antenna Lab	1	3
ETFD315	FPGA based System Design	3	3
ETFD316	FPGA based System Design Lab	1	3
ETES318	Digital Signal Processing	3	3
ETPE253	Power Electronics	2	2
ETPE254	Power Electronics Lab	1	3
	Total Credits	**18**	**26**

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETCS323	Control Systems	2	2
ETCS324	Control Systems Lab	1	3
ETFO363	Fiber & Optics	2	2
ETFO364	Fiber & Optics Lab	1	3
ETIE354	Industrial Electronics & Applications	2	2
ETIE355	Industrial Electronics & Applications Lab	1	3
MSPM352	Engineering Project Management	2	2
HMTW362	Technical Report Writing	2	2
ETFP366	Project	3	9
	Total Credits	**16**	**28**

Summer Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETFP366	Project (Continue)	3	9
	Total Credits	**3**	**9**

Seventh Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETIT432	16 Weeks Supervised Industrial / Field Training (8x5=40Hrs / Week)	16	40
	Total Credits	**16**	**40**

Eighth Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETIT432	16 Weeks Supervised Industrial / Field Training (8x5=40Hrs / Week)	16	40
	Total Credits	**16**	**40**

A TYPICAL STUDY PLAN
BACHELOR OF SCIENCE 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 SCIENCE IN ENGINEERING TECHNOLOGY (BS-ENGINEERING TECH)

DURATION 4 YEARS

Minimum Degree Requirements: This program comprises of a minimum of 140 credit hours of coursework including a final year project and 06 credits from the list of electives.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
HMIS103	Islamic Studies	2	2
MTCA113	Calculus I	3	3
CTEP154	Engineering Physics I	2	2
ETEP155	Engineering Physics Lab	1	3
CSCP143	Computer Fundamentals & Programming	1	1
CSCP144	Computer Fundamentals & Programming Lab	2	6
CTCE224	Civil Engineering Materials & Construction	2	2
CTCE225	Civil Engineering Materials & Construction Lab	1	3
MSCS143	Communication Skills	3	3
	Total Credits	**17**	**25**

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
HMPS213	Pakistan Studies	2	2
MTCA183	Calculus II	3	3
CTES124	Engineering Surveying	3	3
CTES125	Engineering Surveying Lab	1	3
CTCT243	Concrete Technology	2	2
CTCT244	Concrete Technology Lab	1	3
CTMS174	Mechanics of Solid	2	2
CTMS175	Mechanics of Solid Lab	1	3
CTFE124	Foundation of Engineering	3	3
	Total Credits	**18**	**24**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
CTSA213	Structure Analysis	2	2
CTSA214	Structure Analysis Lab	1	3
CTQS223	Quantity Surveying ,Estimation & Contract Documents	3	3
MTCA233	Linear Algebra & Differential Equations	3	3
CTCD153	Computer Aided Engineering Drawing	2	2
CTCD154	Computer Aided Engineering Drawing Lab	1	3
CTSM226	Soil Mechanics	2	2
CTSM227	Soil Mechanics Lab	1	3
CTFM263	Fluid Mechanics	2	2
CTFM264	Fluid Mechanics Lab	1	3
	Total Credits	**18**	**26**

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
CTIH213	Irrigation and Hydraulic Structures	2	2
CTIH214	Irrigation and Hydraulic Structures Lab	1	3
CTCD223	Computer Aided Building Modeling and Design	1	1
CTCD224	Computer Aided Building Modeling and Design Lab	1	3
CTAT233	Architecture and Town Planning	3	3
MTPV243	Probability and Radom Variables	3	3
CTEM253	Environmental Management	2	2
CTEM254	Environmental Management Lab	1	3
MSOH262	Occupational Health & Safety Management	2	2
HMTQ272	Total Quality Management	2	2
	Total Credits	**18**	**24**

YEAR 3
First Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
CTRC313	Reinforced Concrete Structures	2	2
CTRC314	Reinforced Concrete Structures Lab	1	3
CTCH323	Construction and Hydraulic Machinery	2	2
CTCH324	Construction and Hydraulic Machinery Lab	1	3
CTHY333	Hydrology	3	3
CTWM343	Water Supply & Waste Water Management	3	3
CTGE353	Geology & Earthquake Engineering	3	3
CTTE364	Transportation Engineering	2	2
CTTE364 Lab	Transportation Engineering Lab	1	3
	Total Credits	18	24

Second Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
CTSS323	Steel Structures	2	2
CTSS324	Steel Structures Lab	1	3
CTPP333	Pre-stressed & Precast Concrete	2	2
CTPP334	Pre-stressed & Precast Concrete Lab	1	3
CTCM343	Construction Management	3	3
MSPM353	Engineering Project Management	2	2
HMTW262	Technical Report Writing	2	2
CTFP366	Project	3	9
	Total Credits	16	26

Summer Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
CTFP366	Project (Continue)	3	9
	Total Credits	**3**	**9**

Seventh Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
CTIT432	16 Weeks Supervised Industrial / Field Training (8x5=40Hrs / Week)	16	40
	Total Credits	**16**	**40**

Eighth Semester

Course Code	Course Title	Credit (Contact) Hours	Contact Hrs per Semester
ETIT432	16 Weeks Supervised Industrial / Field Training (8x5=40Hrs / Week)	16	40
	Total Credits	**16**	**40**

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 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 (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)

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

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 of 6 credits 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
Management Courses

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)

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)

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
MSFM 547	Financial Management	3(3+0)
MSSM 551	Strategic Marketing Management	3(3+0)
MSSM 573	Strategic Management	3(3+0)
MSAR 501	Advanced Research Methods	3(3+0)
MSME 534	Managerial Economics	3(3+0)
MSOD 511	Organization Development	3(3+0)

Areas of Specialization

Marketing

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

Finance

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

Management Information Systems (MIS)

Course Code	Course Title	Credit (Contact) Hours
MSSD 561	Systems Dynamics	3(3+0)
MSSD 562	Database Management	3(3+0)
MSSD 563	System Analysis and Design	3(3+0)
MSSD 564	E-Business	3(3+0)
MSCN 565	Computer networking	3(3+0)
MSAI 566	Expert System and Artificial Intelligence	3(3+0)

Human Resource Management

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

Management

Course Code	Course Title	Credit (Contact) Hours
MSCM 513	Comparative Management	3(3+0)
MSCM 514	Change Management	3(3+0)
MSKM 515	Knowledge Management	3(3+0)
MSSM 516	Small and Medium enterprise management	3(3+0)
MSSM 519	Services Management	3(3+0)
MSPO 518	Production & Operations Management	3(3+0)

Hotel Management

Course Code	Course Title	Credit (Contact) Hours
MSFO 531	Front Office Management	3(3+0)
MSHM 532	Hotel Marketing Management	3(3+0)
MSFB 533	Food Beverage Management	3(3+0)
MSAL 535	Accommodation & Leisure Management	3(3+0)
MSFP 536	Food Production & Management	3(3+0)
MSHF 537	Hospitality Financial Managment	3(3+0)

Health Care and Hospital Management

Course Code	Course Title	Credit (Contact) Hours
MSPH 571	Public Health Management	3(3+0)
MSEH 572	Economics of Health Care Industry	3(3+0)
MSPH 573	Professional Health Care Management	3(3+0)
MSPH 574	Population and Health Care Management	3(3+0)
MSEH 575	Environmental Health Management	3(3+0)
MSLF 576	Legal Framework of Health Care Industry	3(3+0)

A TYPICAL STUDY PLAN
M.Sc. APPLIED PHYSICS

DURATION 2 YEARS

Minimum Degree Requirements: M.Sc. Applied Physics program comprises of a minimum of 51 credit hours of coursework, 9 credits of Lab and 6 credits for project/optional courses.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
AP 3101	Methods of Mathematical Physics-I	3
AP 3102	Electromagnetic Theory	3
AP 3102L	Electromagnetic Theory Lab	1
AP 3103	Classical Mechanics	3
AP 3104	Computer Programming	3
AP 3104L	Computer Programming Lab	1
AP 3105	Physical Electronics	3
AP 3105L	Physical Electronics Lab	1
	Total Credits	**18**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
AP 3207	Statistical Mechanics & Thermodynamics	3
AP 3208	Solid State Physics-I	3
AP 3209	Quantum Mechanics-I	3
AP 3210	Digital Electronics	3
AP 3210L	Digital Electronics Lab	1
AP 3211	Methods of Mathematical Physics-II	3
AP 3212	Physics Lab-I	1
	Total Credits	**17**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
AP 4313	Atomic and Molecular Physics	3
AP 4314	Signals and Systems	3
AP 4314L	Signals and Systems Lab	1
AP 4315	Quantum Mechanics-II	3
AP 4316	Solid State Physics-II	3
AP 43XX	Optional Course	3
AP 4317	Physics Lab-II	1
	Total Credits	**17**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
AP 4418	Nuclear Physics	3
AP 44XX	Optional Course	3
AP 4419	Physics Lab-III	2
AP 4420	Project / 2 Optional Courses	6
	Total Credits	**14**

Applied Physics Electives

Course Code	Course Title	Credit (Contact) Hours
AP 4321	Applied Optics	3
AP 4322	Advanced Methods of Mathematical Physics	3
AP 4323	Semiconductor Devices & Circuit Theory	3
AP 4324	Methods & Techniques of Experimental Physics	3
AP 4325	Communication Systems	3
AP 4426	Digital Signal Processing	3
AP 4427	Control Systems	3
AP 4428	Particle Physics	3
AP 4429	Material Science	3
AP 4430	Thermal Physics	3
AP 4431	Microcontroller and Interfacing	3
AP 4432	Laser Physics and Quantum Optics	3
AP 4433	Computational Physics	3
AP 4434	Relativity and Cosmology	3
AP 4435	Group Theory	3
AP 4436	Plasma Physics	3
AP 4437	Atomic and Molecular Spectroscopy	3
AP 4438	Digital Communications	3

STUDY PLAN
M.Sc (ELECTRONICS) **DURATION 2 YEARS**

Minimum Degree Requirements: This program comprises of a minimum of 66 credits including 51 credits for the 14 core courses that cover major areas of Electronics, 9 credits from a chosen area of specialization, and 6 credits for the project.

Category of Area	Credit Hours
Core	**51**
Area of Specialization	**9**
Project	**6**
Total	**66**

STUDY PLAN
M. Sc in Electronics **DURATION 2 YEARS**
The courses offered in this program comprise of four semesters.

YEAR 1
First Semester

Course Code	Course Title	Credit (Contact) Hours
ELAM311	Applied Mathematics I	3(3+0)
ELCA312	Circuit Analysis	4(3+3)
ELDL313	Digital Logic Design	4(3+3)
ELOP416	Object Oriented Programing	4(3+3)
	Total Credits	**15**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
ELLA316	Linear Algebra	3(3+0)
ELEL412	Electronics I	4(3+3)
ELMM323	Microprocessor & Microcontroller	4(3+3)
ELSS324	Signals & Systems	4(3+3)
	Complex Variables & Transform	3(3+0)
	Total Credits	**18**

YEAR 2
First Semester

Course Code	Course Title	Credit (Contact) Hours
ELPR331	Probability & Random Variables	3(3+0)
ELCM411	Communication I	4(3+3)
ELEL422	Electronics II	4(3+3)
ELSP414	Digital Signal Processing	4(3+3)
ELCS413	Control Systems	3(3+0)
	Total Credits	**158**

Second Semester

Course Code	Course Title	Credit (Contact) Hours
	Elective I	3(3+0)
	Elective II	3(3+0)
	Elective III	3(3+0)
ELPJ499	Project	6(0+18)
	Total Credits	**15**

Specialization (Electronics)

Course Code	Course Title	Credit (Contact) Hours
ELDL427	Digital Design using VHDL	3(3+0)
ELET321	Electromagnetic Theory	3(3+0)
ELCM421	Communication II	3(3+0)
ELVD428	VLSI Design	3(3+0)
ELRA426	Robotics & Automation	3(3+0)
ELFO429	Fiber Optics	3(3+0)
ELCN428	Computer Networks	3(3+0)
ELSC423	Satellite Communication	3(3+0)
ELIP434	Introduction to Image Processing	3(3+0)
ELIM435	Instrumentation and Measurement	3(3+0)

Specialization (Telecommunication)

Course Code	Course Title	Credit (Contact) Hours
ELMC433	Mobile Communication	3(3+0)
ELFO429	Fiber Optics	3(3+0)
ELET321	Electromagnetic Theory	3(3+0)
ELCM421	Communication II	3(3+0)
ELWC436	Wireless Communication	3(3+0)
ELNS437	Network Security	3(3+0)
ELSC423	Satellite Communication	3(3+0)
ELOF438	Optical Fiber Communication	3(3+0)
ELRS439	Radar System Engineering	3(3+0)
ELCN428	Computer Networks	3(3+0)

Note: Second year second semester is specialization for Electronics or Telecommunication. The student of Electronics will to select from Electronic Electives whereas. The students of Telecommunication will have to select from Telecommunication Electives.

STUDY PLAN
MASTER OF SCIENCE (ELECTRONIC ENGINEERING), MS (EE)

DURATION 2 YEARS

Minimum Degree Requirements: This program comprises of a minimum of 30 credits including 6 credits for the 2 core courses that cover major areas of Electronic Engineering, 9 credits from a chosen area of specialization, 9 credits from the list of elective courses or from any other group and 6 credits for the dissertation which forms the major research component of this program.

Category of Area	Credit Hours
Core	**6**
Area of Specialization	**9**
Electives	**9**
Dissertation / Extra Courses	**6**
Total	**30**

STUDY PLAN
DOCTOR OF PHILOSOPHY, PhD (ELECTRONIC ENGINEERING) **DURATION 3 YEARS**

Minimum Degree Requirements: This program comprises of a minimum of 36 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 field.

MS & PhD COURSES IN ELECTRONIC ENGINEERING

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

Core Courses

Course Code	Course Title	Credit (Contact) Hours
EESP501	Stochastic Processes	3(3+0)
EEEM502	Advanced Engineering Mathematics	3(3+0)
EECN503	Advanced Computer Networks	3(3+0)
EECG504	Advanced Cryptography	3(3+0)
EESP521	Advanced Digital Signal Processing I	3(3+0)

Area of Specialization

Telecommunication

Course Code	Course Title	Credit (Contact) Hours
EEDC511	Advanced Digital Communication I	3(3+0)
EEDC611	Advanced Digital Communication II	3(3+0)
EECT612	Coding Theory I	3(3+0)
EEWC613	Wireless Communication I	3(3+0)

Signal & Image Processing

Course Code	Course Title	Credit (Contact) Hours
EESP621	Advanced Digital Signal Processing II	3(3+0)
EEIP631	Digital Image Processing	3(3+0)
EEPR632	Pattern Recognition	3(3+0)
EECV633	Computer Vision	3(3+0)

Control Systems

Course Code	Course Title	Credit (Contact) Hours
EECS541	Modern Optimal Controls	3(3+0)
EECS542	Digital Control Systems	3(3+0)
EELS543	Advanced Linear Systems	3(3+0)
EERC641	Robust Controls	3(3+0)
EECS642	Advanced Control Systems	3(3+0)
EEFS643	Fuzzy Systems I	3(3+0)

Control Systems

Course Code	Course Title	Credit (Contact) Hours
EECS541	Modern Optimal Controls	3(3+0)
EECS542	Digital Control Systems	3(3+0)
EELS543	Advanced Linear Systems	3(3+0)
EERC641	Robust Controls	3(3+0)
EECS642	Advanced Control Systems	3(3+0)
EEFS643	Fuzzy Systems I	3(3+0)

Antennas & Microwaves

Course Code	Course Title	Credit (Contact) Hours
EEET551	Advanced Electromagnetic Theory	3(3+0)
EEME683	Advanced Microwave Engineering	3(3+0)
EEAD684	Advanced Antenna Design	3(3+0)
EEME685	Computational Methods in Electromagnetism	3(3+0)
EEFE686	Finite Element Methods	3(3+0)

Communication Networks

Course Code	Course Title	Credit (Contact) Hours
CEWN651	Wireless Networks	3(3+0)
CENP652	Network Programming	3(3+0)
CEWN653	Wireless Adhoc & Sensor Networks	3(3+0)
CEBS654	Broadband Systems	3(3+0)
CEPN655	Integrated Services over Packet Networks	3(3+0)

Information Security

Course Code	Course Title	Credit (Contact) Hours
CESM671	Information Security Management	3(3+0)
CESA672	Security Analysis of Protocols	3(3+0)
CENS673	Network Security	3(3+0)
CEDW674	Digital Watermarking	3(3+0)
CESG675	Steganography	3(3+0)

Embedded Systems

Course Code	Course Title	Credit (Contact) Hours
EEAF591	ASIC and FPGA Design	3(3+0)
EEES592	Embedded Systems	3(3+0)
EEVD691	VLSI Design I	3(3+0)
EESC692	System on Chip	3(3+0)
EESM693	Semiconductor Device Manufacturing Technology	3(3+0)

Power Electronics

Course Code	Course Title	Credit (Contact) Hours
EEPE581	Advanced Power Electronics I	3(3+0)
EEPE582	Advanced Power Electronics II	3(3+0)
EEPC681	Power Controls	3(3+0)
EESS682	Solid State Power Conversion	3(3+0)

Intelligent & Autonomous Systems

Course Code	Course Title	Credit (Contact) Hours
EEFS643	Fuzzy Systems I	3(3+0)
EENN661	Artificial Neural Network I	3(3+0)
EEEC704	Evolutionary Computing	3(3+0)
EEFS743	Fuzzy Systems II	3(3+0)
EENN761	Artificial Neural Network Ii	3(3+0)

EE Electives

Course Code	Course Title	Credit (Contact) Hours
EECT711	Coding Theory II	3(3+0)
EEWC712	Wireless Communication II	3(3+0)
EESC614	Satellite Communication	3(3+0)
EEOC615	Optical Communication	3(3+0)
EEST616	Switching Theory	3(3+0)
EEDE721	Detection and Estimation Theory	3(3+0)
EEOT701	Optimization Techniques	3(3+0)
EEAC664	Adaptive Controls	3(3+0)
EEOC665	Optimal Controls	3(3+0)
EENC741	Nonlinear Controls	3(3+0)
EESI742	System Identification	3(3+0)
EESP722	Array Signal Processing	3(3+0)
EEBM731	Biometrics	3(3+0)
EESP623	Speech Processing	3(3+0)
EEAV624	Audio and Video Standards in Multimedia	3(3+0)
EEAI662	Artificial Intelligence	3(3+0)
EENG751	Next Generation Networks	3(3+0)
EEVD781	VLSI Design II	3(3+0)
EEAF782	Advanced FPGAs	3(3+0)
EEES783	Advanced Embedded Systems	3(3+0)
EEMS784	Microelectronics for System on Chip	3(3+0)
EEMS785	Advanced Microprocessor Systems	3(3+0)
EESP723	Special Topics in Signal Processing	3(3+0)
EECS744	Special Topics in Control Systems	3(3+0)
EEST713	Special Topics in Telecommunication	3(3+0)
EEIS733	Special Topics in Information Security	3(3+0)
EEMA687	Agents & MultiAgent Systems	3(3+0)
EESA688	Service Oriented Architecture	3(3+0)
EEAS689	Autonomous Systems	3(3+0)
EEOR705	Operation Research	3(3+0)

Admissions

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

Admissions

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

The following programs are offered at Isra University, Islamabad Campus:

Al Nafees Medical College

Degree Program		Year(s)
Bachelor of Medicine & Bachelor of Surgery	MBBS	05
BS (Medical Lab Technology)	BS (MLT)	04
B.Sc (Medical Lab Technology)	B.Sc (MLT)	02
M. Phil	Anatomy, Biochemistry, Physiology, Pharmacology, Histopathology, Hematology, Clinical Pathology Microbiology	02
Ph.D	Biochemistry, Physiology, Pharmacology,	03
Doctor of Medicine	Internal Medicine, Paediatrics, Radiology, Chest Disease & Pulmonology	04
Master of Surgery	General Surgery, Ophthalmology, Gynae & Obs & Anesthesiology, Otorhinolaryngology, Urology, Minimal Invasive Surgery	04

Diploma Program		Year(s)
Diploma	DMRD	02

FCPS Residency Training Program		Year(s)
FCPS	Optholomolgy Internal Medicine General Surgery Gynae & Obs Physiology	04

Isra College of Nursing

Degree Program		Year(s)
Bachelor of Science in Nursing	Post RN BScN, Respiratory Therapy	02
Certified Nursing Assistant	CNA	02

Isra School Rehabilitation Sciences

Degree Program		Year(s)
Doctor of Physical Therapy	DPT	05
Bachelor of Science (Speech Language Therapy)	BS (SLT)	04
Post Professional Doctor of Physical Therapy	PPDPT	02
M.Phil in Rehabilitation Sciences	SM&MPT, HPE&SS, SLP&HS, PO, NPT, OPT	02
PGD	SM&MPT, HPE&SS, SLP&HS, PO, NPT, OPT	01
Ph. D	Rehabilitation Sciences	03

School of Engineering & Applied Sciences

Degree Program		Year(s)
Bachelor of Science (Computer Science)	BS (CS)	04
Bachelor of Science (Electronics)	BS (ES)	04
Bachelor of Science (Information & Communication Technology)	BS (ICT)	04
Bachelor of Engineering (Electrical)	BE (EE)	04
BS Engineering Technology	(Electrical, Electronics)	04
Bachelor of Technology (Hons)	Biomedical	04
BS Engineering Technology	(Civil)	04
Associate of Applied Science	(ES, SE, TC, BA)	02
Master of Science (Electronics)	M. Sc (Electronics)	02
Master of Science (Electronics Engineering)	MS (Electronics Engineering)	02
Doctor of Philosophy	PhD (Electronics Engineering)	03

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

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

DRESS CODE

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

MINIMUM QUALIFICATIONS FOR ENTRY

The Admissions Committee formulates the admission policy in accordance with the rules laid down by the University. To apply for admission, the student should 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	HSC (Pre-Medical, 70% minimum marks) OR SAT-II (550 minimum: Biology & Chemistry, any science subject) & TOEFL (500 or equivalent)/IELTS (5.5), if subjects are taught in other than English
DPT	HSC (Pre-Medical, 60% minimum marks)
BS (CS), BS (IT), BS (TC), BS (SE), BS (ES), B.Tech, B.Sc (MLT)	HSC (Pre-Engineering, Pre-Medical, Computers, Commerce and Economics), minimum 45% marks
BBA	HSC (Any subject), minimum 45% marks
B.E	HSC (Pre-Engineering), minimum 60% marks

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
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, School of Engineering & Applied Sciences as the case may be
PhD	
MD, MS, MDS, M.Sc	

ISRA UNIVERSITY ADMISSION TEST (IUAT)

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

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

IUAT Part-1

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

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

Short Listing of Candidates

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

IUAT Part-2

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

SELECTION FOR ADMISSION

The results of IUAT (both parts) are compiled and reviewed by Isra University Admissions Committee. The Committee recommends only those students for admission who are considered academically outstanding and have special aptitude for serving the community and the country of their permanent residence. The decision of the Committee will be final 3 days after the announcement of the result which cannot be challenged. During this period, any candidate dissatisfied with their result can file a complaint with the admission committee which shall be addressed. Selected candidates will be informed individual/website. The results of the IUAT will neither be communicated on telephone nor will be revealed to sympathizers and friends. Selection of the candidates for the M Phil and PhD 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: info.isb@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: info.isb@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 cannot be withdrawn. It is the sole responsibility of the candidates to comply with all the instructions given on the application form and submit it before the due date. Incomplete applications will not be processed. Applications received after the due date will not be entertained.

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

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

Finalization of Admission

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

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

FEE PACKAGE AND OTHER DUES

The fee packages and schedule of payment of various degree programs are listed faculty-wise according to the nationality and resident status of the concerned students. The fee packages exclude hostel fees, transportation, Government taxes and other dues that may be modified from time to time.

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

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

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

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

Refund and Penalty: A student must note that the fees once deposited, in any account, cannot be refunded for any reason. Requests for refund of fees will be subject to HEC and 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

AL NAFEES MEDICAL COLLEGE

MBBS Program

Fee Items	Category A (Regular)	Category B (Overseas)
Admission Fee (One Time)	As Per PM&DC Policy	As Per PM&DC Policy
University Fee (Annual)		
Tuition Fee (Annual)		

1. Tuition Fee will be charged on annual basis from new and existing students as per PM&DC Policy.
2. Refund will be as per PM&DC Policy.

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

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

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 100,000	PKR 100,000	PKR 100,000
University Fee (Annual)	PKR 50,000	PKR 50,000	PKR 50,000
Tuition Fee (Annual)	No Tuition Fee and Service Bond	No Tuition Fee and Service Bond	PKR 450,000

B.Sc. (Medical Lab Technology), B.Sc. (Respiratory Therapy) and BS (Physiology)

Fee Items	Category A
Admission Fee (One Time)	PKR 13,500
University Fee (Semester)	PKR 10,000
Tuition Fee (Semester)	PKR 32,700

ISRA INSTITUTE OF REHABILITATION SCIENCES

Doctor of Physical Therapy Program

Fee Items	Category A
Admission Fee (One Time)	PKR 25,100
University Fee (Semester)	PKR 10,000
Tuition Fee (Semester)	PKR 150,000
Security Deposit	PKR 10,000

Master of Philosophy & Post Professional Doctor of Physical Therapy Program

Fee Items	Category A
Admission Fee (One Time)	PKR 10,000
Tuition Fee (Semester)	PKR 59,500
University Fee (Semester)	PKR 10,000
Security Deposit	PKR 5,000

Ph.D in Rehabilitation Sciences

Fee Items	Category C
Admission Fee (One Time)	PKR 55,100
University Fee (Semester)	PKR 25,000
Tuition Fee (Semester)	PKR 163,000

M.Phil & PGD (Sports Medicine & Manipulative Physical Therapy, Community Based Rehabilitation & Disability Studies

Fee Items	Category C
Admission Fee (One Time)	PKR 10,000
University Fee (Semester)	PKR 10,000
Tuition Fee (Semester)	PKR 63,500
Security Deposit	PKR 5,000

BS (SLT/SLP) Bachelor of Science in Speech Language Therapy/Pathology

Fee Items	Category C
Admission Fee (One Time)	PKR 12,600
University Fee (Semester)	PKR 10,000
Tuition Fee (Semester)	PKR 79,000
Security Deposit	PKR 10,000

Nursing Postgraduate

Fee Items	Category A
Admission Fee (One Time)	PKR 25,100
University Fee (Semester)	PKR 10,000
Tuition Fee (Semester)	PKR 70,000

SCHOOL OF ENGINEERING & APPLIED SCIENCES
MS (CS), MS (EE) and Ph.D (EE)

Fee Items	Category A
Admission Fee (One Time)	PKR 17,000
Tuition Fee (Semester)	PKR 15,700

M.Sc. (Electronics)

Fee Items	Category A
Admission Fee (One Time)	PKR 10,000
Tuition Fee (Semester)	PKR 20,000
University Fee (Semester)	PKR 10,000

BE (Electrical)

Fee Items	Category A
Admission Fee (One Time)	PKR 15,000
Tuition Fee (Semester)	PKR 90,000
University Fee (Semester)	PKR 10,000

BS (CS, Electronics, ICT)

Fee Items	Category A
Admission Fee (One Time)	PKR 10,000
Tuition Fee (Semester)	PKR 33,800
University Fee (Semester)	PKR 10,000

Bachelors of Engineering Technology (Electrical, Electronics & Civil)

Fee Items	Category A
Admission Fee (One Time)	PKR 5,000
University Fee (Semester)	PKR 10,000
Tuition Fee (Semester)	PKR 23,000

B. Tech (Bio Medical)

Fee Items	Category A
Admission Fee (One Time)	PKR 5,000
University Fee (Semester)	PKR 10,000
Tuition Fee (Semester)	PKR 15,000

Associate Degree (Bachelor of Technology)

Fee Items	Category A, B & C
Admission Fee (One Time)	PKR 10,000
University Fee (Semester)	PKR 10,000
Tuition Fee (Semester)	PKR 30,000

M.Phill, MSC & Diploma Programs in FM&AMS (2 YEARS)

Fee Items	Category C
Admission Fee (One Time)	PKR 100,000
University Fee (Annual)	PKR 50,000
Tuition Fee (Annual)	PKR 400,000

MS, MD & PhD Programs in FM&AMS (4-YEARS)

Fee Items	Category C
Admission Fee (One Time)	PKR 100,000
University Fee (Annual)	PKR 50,000
Tuition Fee (Annual)	PKR 450,000

FEE FOR REPEATING / REAPPEARING COURSE(S)

A student repeating course(s) has to pay tuition fee per credit hour per course or the semester fee, whichever is less. In case of summer session, the student has to pay the stipulated fee 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.

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.

SPIE ISRA UNIVERSITY CHAPTER

SPIE is an international society advancing an interdisciplinary approach to the science and application of light. The SPIE affiliated groups are working around the world with Head Quarters in USA.

The society advance emerging technologies through interdisciplinary information exchange, continuing education, publications, patent precedent, and career and professional growth.

SPIE Chapter at School of Engineering &Applied Sciences was formed on November 2014. In December, Its official body was elected to manage operations of SPIE in this campus.

ACADEMIC & INDUSTRIAL LINKAGES

Isra Univeristy has signed MoU with following Universities / Organizations

Ball State University, Indiana, USA
University of Abertay Dundee, Scotland, UK
Mehran University of Engineering & Technology, Jamshoro
University of Sindh, Jamshoro
University of Karachi
Shifa College of Medicine, Islamabad
Project Management Institute, Karachi
Islamabad Diagnostic Center
Sindh Agriculture University, Tando Jam
Liaquat University of Medical & Health Sciences, Jamshoro

TECHNOLOGY INCUBATION CELL (TIC)

Technology Incubation Cell (TIC) program initiated by ISRA University in 2011. The proposed mission of the incubator is to stimulate the establishment and growth of technology-based start-up companies and other compatible businesses. By fulfilling this mission, the incubator would contribute to job creation, and provide for enhanced economic health to the region. Business incubators accelerate the successful development of entrepreneurial companies through an array of business support resources and services. The technology business incubator would provide new and emerging technology and compatible businesses with an environment that would support their start-up phase and increase their likelihood of success. The proposed incubator includes facility space, flexible leases, shared use of common office equipment, direct business assistance and guidance, mentoring, networking to capital, and other technical resources. A network of existing resources in the community would be developed to support incubator client needs.

eTech is the first member company of the TIC. Incubator graduates commercialize technologies, create jobs, and strengthen local economies. eTech is a dynamic engineering company, specialized in R&D and designing of high quality Science & Engineering equipment for professional training and academia. The focal endeavor of the company is innovation and commercialization of ideas and develops cost-effective training systems. eTech have the high quality, good performance designed products for various applications. Their products assure preeminent quality with accuracy, reliability and performance.

eTech only believe in providing finest quality products to our valuable customer, product & services include training equipment for academia and developers, medical devices, product development, manufacturing, consultancy and training and industrial solutions. The eTech is also conducting research and development, supporting and deploying technologies, systems, and returning products for our clients. Their expertise includes signal processing and algorithm development, medical devices, robotics, video processing, persistent surveillance, biometric, signals and electronic intelligence, software engineering, training systems, and wireless communications. The eTech emphases on the producing of advanced systems and products to help country and global prosperity.

eTech sincerely believe that success and prosperity of our country and world can be determine by good services, integrity, values and innovation. Following areas genuinely are in focus at eTech.

ISRA STUDENT WELFARE ASSOCIATION (ISWA)

The association shall be a non-profit, non-political, professional, educational, humanitarian organization. The objective of this association shall be to bring the students and alumni into one compact organization.

Teaching Staff

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

Teaching Staff

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

ISRA UNIVERSITY ISLAMABAD CAMPUS

Administration

Altaf G.Shaikh
Pro-Vice Chancellor

Umar Ali Khan
Pro-Vice Chancellor (Health Sciences)

Rahim B. Channa
Additional Registrar

Mustafa Minhas
Director (Finance & Admin)

Muzaffar ul Hassan
Additional Controller Examination

AL NAFEES MEDICAL COLLEGE

Pro-Vice Chancellor/Principal
Umar Ali Khan
MBBS, M Phil, FCPS, PhD
Professor of Physiology

Ghulam Mustafa Lodhi
MBBS, M Phil, PhD
Professor Physiology
Vice Principal

Division of Basic Medical Sciences

Khadija Iqbal
Associate Dean
MBBS, FCPS, MHPE
Professor

Department of Anatomy
Muhammad Azam Qureshi
MBBS, M Phil
Professor

Khadija Iqbal
MBBS, FCPS, MHPE
Professor

Abdul Ghafar Shah
MBBS, MSc, M.Phil
Assistant Professor

Mushtaq Ahmed
MBBS
Lecturer

Waheed Mejeed
MBBS
Demonstrator

Abdul Qayyum Khan
MBBS
Demonstrator

Muhammad Waqar Shah
MBBS
Demonstrator

Rubina Malik
MBBS
Demonstrator

Department of Physiology

Umar Ali Khan
MBBS, M Phil, FCPS, PhD
Professor

Ghulam Mustafa Lodhi
MBBS, M Phil, PhD
Professor

Munnaza Asad
MBBS, FCPS, MCPS-HPE
Professor

Sobia Humerah
MBBS, M Phil
Assistant Professor

Sadia Zainab
MBBS, M.Phil
Assistant Professor

Ayesha Shafqat
MBBS
Demonstrator

Misbah Batool
MBBS
Senior Lecturer

Shakeel Ahmed
MBBS
Senior Lecturer

Naveed Alam
MBBS
Demonstrator

Department of Biochemistry
Dr Ayesha Farooq
Bsc, MBBS, M. Phil
Head of Biochemistry
Professor

Naveeda Zaigham
MBBS, M. Phil
Assistant Professor

Roomisa Anis
MBBS, M.Phil
Assistant Professor

Beenish Zafar
MBBS
Senior Lecturer

Qurat ul Ain Arshad
MBBS
Demonstrator

Muhammad Bilal Hussain Khan
MBBS
Demonstrator

Department of Pharmacology
Nusrat Jafery
MBBS.M.phil, Phd
Professor

Azmat Ali
MBBS, M. Phil
Assistant Professor

Ayesha Aftab
MBBS, M.Phil
Assistant Professor

Labika Qabir
MBBS
Demonstrator

Ayesha Nayab
MBBS
Demonstrator

Muhammad Nauman
MBBS
Demonstrator

Department of Pathology, Microbiology
Noor Khan Lakahana
MBBS, MCPS, M. Phil
Professor

Syed Ahsan Abbas Kazmi
MBBS, M. Phil
Professor

Humaira Zafar
MBBS, M Phil
Associate Professor

Kiran Tauseef Bukhari
MBBS, M. Phil
Associate Professor

Mudassira Zahid
MBBS, FCPS
Assistant Professor

Aftab Ahmed Khan
MBBS, FCPS
Assistant Professor

Anum Usman
MBBS, M.Phil
Assistant Professor

Farhat Khurshid
MBBS
Senior Lecturer

Najia Junaid Soomro
MBBS
Demonstrator

Awais Niaz
MBBS
Demonstrator

Department of Forensic Medicine
Muhammad Hanif
MBBS, DCH, DMJ
Professor

Muhammad Asif Shahab
MBBS, M.Sc, DMJ
Senior Lecturer

Sadaf
MBBS
Demonstrator

Daniyal Ahmed
MBBS
Demonstrator

Muhammad Ammar
MBBS
Demonstrator

Department of Community Medicine
Komal Zulfiqar
MBBS, MPH, MPHE
Professor

Farah Ahmed
MBBS, MBA, MPH
Associate Professor

Irum Yasir
MBBS, MSPH
Assistant Professor

Muddasar Pervaiz
MBBS, MPH
Assistant Professor

Ayesha Jawaid
MBBS,M.phil
Assistant Professor

Abdul Naeem
MBBS, MCPS, M.Phil
Assistant Professor

Rehan Upal
MBBS, FCPS
Senior Lecturer

Muhammad Hamza
MBBS
Demonstrator

Alia Zafar
MBBS
Demonstrator

DHPE
Ayesha Aleem
BDS, MHPE
Assistant Professor
Clinical Health Sciences

Salman Ahmed Tipu
MBBS, FCPS, FRCS
Professor Surgery
Associate Dean Clinical Health Sciences

Department of Medicine
Shujaat Hussain
MBBS, FCPS, MCPS, MD, FRCP, F.NMS
Professor (Emeritus)

Haider Zaigham Baqai
MBBS,FCPS
Professor

Muhammad Khawar Hussain
MBBS, MRCP
Professor

Liaqat Ali
MBBS, DTCD, MCPS, MRCP, FRCP
Professor

Anjum Ilahi
MBBS, MRCP, DIP Card
Associate Professor

Jahanzeb Maqsood
MBBS, FCPS
Associate Professor

Saif-ur-Rehman
MBBS, FCPS
Assistant Professor

Rizwan Uppal
MBBS, FCPS,MCPS
Assistant Professor

Abida Mateen Ansari
MBBS, FCPS
Assistant Professor

Athar Mehmood
MBBS, FCPS
Assistant Professor

M. Wajid Munir
MBBS, FCPS
Senior Professor

Department of Paediatric
Faisal Raza Malik
MBBS, FCPS
Professor

Zeeshan Ghani
MBBS, FCPS
Associate Professor

Sadaf Ibrahim
MBBS, FCPS
Assistant Professor

Huma Bashir Janjua
MBBS, FCPS
Assistant Professor

Nauman Naseer
MBBS, FCPS
Senior Registrar

Taimur Khalil Sheikh
MBBS
Senior Registrar

Department of Surgery
Ishtiaq Ahmed
MBBS, FCPS
Professor

Asif Zafar
MBBS, MCPS, FRCS
Professor

Maliha Yunus
MBBS, FCPS
Professor

Salman Ahmed Tipu
MBBS, FCPS, FRCS
Professor

Ihtasham Muhammad
MBBS, FCPS
Associate Professor

Department of Gynae/Obs
Asma Tanvir Usmani
MBBS, MRCOG
Professor

Shamsunnisa Sadia
MBBS, FCPS, MCPS-HPE
Professor

Jaweria Faisal
MBBS, FCPS,MCPS
Associate Professor

Ayesha Basharat
MBBS, FCPS
Assistant Professor

Addiba Ahsen
MBBS, FCPS
Assistant Professor

Sadia Kanwal
MBBS, FCPS
Assistant Professor

Zaib-un-nisa
MBBS,FCPS
Senior Registrar

Department of E.N.T
Azeem Aslam
MBBS, FCPS, M.Phil
Professor

Muhammad Jammalullah
MBBS, FCPS
Professor

Junaid Shahzad
MBBS,FCPS
Senior Registrar

Department of Ophthalmology
Imtiaz Ali
MBBS, FRCS
Professor

Ayisha Shakeel
MBBS, MCPS, MRC-Ophth, FRCS
Assistant Professor

Naila Yasmeen
MBBS,FCPS
Senior Registrar

Department of Anaesthesiology
Tassadaq Khurshid
MBBS, FCPS
Associate Professor

Masood Ahmad
MBBS, MCPS
Assistant Professor

Ghulam Sarwar Gondal
MBBS, MCPS
Assistant Professor

Department of Radiology
Aisha Asim
MBBS, FCPS
Associate Professor

Uzma Mumtaz
MBBS,FCPS
Assistant Professor

Asim Shahzad
MBBS, FCPS
Assistant Professor

Ayesha Ehsan
MBBS, FCPS
Assistant Professor

Kamil Shujaat
MBBS, FCPS
Assistant Professor

Hassan Saleem
MBBS, FCPS
Assistant Professor

Saima Ashraf
MBBS, FCPS
Assistant Professor

Maryam Aslam
MBBS, FCPS
Assistant Professor

Department of Psychiatry
Faisal Rashid
MBBS, FCPS
Assistant Professor

Mahpara Mazhar
MBBS, FCPS
Assistant Professor

Department of Dermatology
Tariq Mehmood
MBBS, FCPS
Professor

Medical Laboratory Technology
Syed Ahsan Kazmi
MBBS M.Phil
Professor,In charge

Sarah Rafique
M.Phil
Assistant Professor

Abdul Salam
BSc. MT
Senior Lecturer

Abubakar Naveed
BSc MLT
Lecturer

Nudrat Nadeem
MS(Microbiology &Immunology)
Lecturer

Isra College of Nursing
Khairunnissa S. Attanwala
RN,PRN,BSN,MHPE
Associate Professor
Principal (ICN)

Shahzad Inayat
BScN, MHR
Assistant Professor

Nadia Noreen
RN.RM PRN BS,N
Nursing Instructor

Sobia Ayub
RN.RM PRN BS,N
Nursing Instructor

School of Engineering & Applied Sciences

Tanveer Ahmad Cheema
Chairperson, Department of Electrical Engineering
M.Phil (Qaid e Azam University),
Ph. D (Muhammad Ali Jinnah University), MSc (Phy) (UAF)
Professor

Mustafa Minhas
Director, School of Engineering & Applied Sciences
MBA (USQ-Australia), ME-Biomedical Engineering (UNSW-Australia),
BE (EE) (Air University Islamabad)
Assistant Professor

Sajjad Ahmed Ghauri
PhD (EE) Isra University, MS(EE) IIUI, BE(TE) AIOU
Associate Professor

Naveed Aqdas
PhD (EE)
Consultant

Ijaz Mansoor Qureshi
PhD (EE)
Consultant

Anwar Saeed
MS (AE) AFIT USA, BS(AE) Karachi
Assistant Professor

Muhammad Adnan Aziz
PhD (EE) Isra University, MS (EE) Isra University, BCS (AIOU)
Assistant Professor

Adbdul Daud Khan
MS (TE) NWFP UET, BS (EE) NWFP UET
Assistant Professor

Hannan Adeel
MS (EE) Isra University, BS (CE) UET- Lahore
Assistant Professor

Hussamud Din
MS (EE) UET Taxila, BE (EE) IIUI
Lecturer

Sufwan Sarwar Gondal
Msc (EM) Brunel University London,
BE (EE) Bahria University Islamabad
Lecturer

Sadaf Shafqat
MSc (EM) Brunel University London,
BE (EE) Bahria University Islamabad
Lecturer

Sadaf Babar
MA Punjab University Lahore, Diploma, Al-Huda International
Coordinator

Manzoor A Khattak
Mphil (QAU Islamabad), MA (University of Peshawar)
Assistant Professor

Ahsen Ilyas
MSEE (Isra University),
Bsc EE (MAJU Islamabad)
Lecturer

Asif Ali Javed Bajwa
MSEE (Isra University), Bsc EE (FUUAST Islamabad)
Lecturer

Hamza Ikhlaq
MS(EE) COMSAT Islamabad, BS (Physics) FUUAST Islamabad
Lecturer

Qamar Abbas
MS (Civil Engineering) UET Taxila,Bsc Civil Engineering UET Taxila
Lecturer

Muhammad Tariq
MS (Civil Engineering) (CECOS University Peshawar),
Bsc (Civil Engineering (BUITEMS Quetta)
Lecturer

Adnan Javed
Mphil Physics (FUUAST, Islamabad)
Lecturer

Talha Qayyum
BE(EE) IIU, MS (RI) (NUST Islamabad)
Lecturer

Muhammad Naeem
BS (EE) (IIUI)
Lab Engineer

Rizwan Babar
BE (EE) (IQRA University, Islamabad Campus)
Lab Engineer

Shafaq Hassan
BE(EE) (IIUI)
Lab Engineer

Sara Ali Khan
BE(CSE) (UET Peshawar)
Lab Engineer

Muhammad Luqman
BSc(TE) (Gomal University, KPK)
Lab Engineer

Muhammad Yasir Majeed
BS EE (University of Lahore)
Lab Engineer

Abdullah Hassan
BS EE (Federal Urdu University) MS (EE) Nust Islamabad
Lab Engineer

Imran A Qureshi
MS EE (IST Islamabad), BS EE (IIU Islamabad)
Lab Engineer

Kashif Khattak
BBA (Hons) (MAJU Islamabad)
Program Coordinator (BEE)

Adnan Sarwar
Bs(EE) Comsats IAbbottabad

Ali Raza
MS Civil Engineering UET, Taxila ,BS Civil Engineering ,UET Taxila
Lecturer

Walli Ahmed
MS Civil Engineering UET, Taxila ,BS Civil Engineering ,UET Taxila
Lecturer

Isra Institute of Rehabilitation Sciences

Muhammad Naveed Babur
PhD in Rehabilitation Sciences
Professor/Principal

Shaista Habib-ullah
Phd
Adjunct Professor

Mirza Shamim Baig
FRCS
Adjunct Professor

Sabahat Asim Wasti
MRCPI
Adjuct Professor

Munir Ahmed
PhD Auditory Rehabilitation
Assistant Professor

Anam Aftab
PP-DPT/M. Phil
Assistant Professor

Aqeel Ahmed
PP-DPT/M. Phil
Assistant Professor

Habiba Aslam
PP-DPT/M. Phil
Assistant Professor

Sarah Kafeel
PP-DPT/M. Phil
Assistant Professor

Maria Liaqat
PP-DPT/M. Phil
Assistant Professor

Sundas Zia
PP-DPT/M. Phil
Assistant Professor

Noureen Farooq
PP-DPT/M. Phil
Assistant Professor

Shoukat Hayat
PP-DPT/M. Phil
Assistant Professor

Bushra Sultana
M. Phil NPT
Assistant Professor

Asima Irshad
PP-DPT/M. Phil
Assistant Professor

Sonia Munir
PP-DPT/M. Phil
Assistant Professor

Rabia Mansoor
M. Phil SLP
Senior Lecturer

Saima Aslam
BSPT,PP-DPT
Senior Lecturer

Madiha Shah
M.phil HPSS
Senior Lecturer

Muhammad Ramzan
BSPT
Senior Lecturer

Noor Ul Ain
DPT
Research Associate

Sundas Iftikhar
DPT
Research Associate

Abeera Hussain
DPT
Research Associate

Hasneeza Hassan
DPT
Research Associate

Summaiya Zaman Malik
DPT
Research Associate

Saad Rauf
MS
Assistant Professor

Aneeba Sadiq
M.phil HPESS
Senior Lecturer

Muhammad Sajid Paracha
MS(NMPT)
Senior Lecturer

Ayesha Basheer
MS(NMPT)
Lecturer

Asma Mehmoob Ghuncha
M.phil SLP
Lecturer

Taimoor Hassan
DPT
Research Associate

(PIRS)
Muhammad Daud Khan
FRCS (London), FCPS
Professor

Shad Muhammad
FRCS (Glasgow)
Professor

Farooq Chaudhry
MA Political Science
Assistant Professor

Farrukh Seir
MBBS, MS(HRD),
Assistant Professor

Amtual Aisha
MBBS
Assistant Professor

Muhmmad Waqas Ahmed
MS Computer Science
Assistant Professor

Aliya Qadir Khan
MBBS, MSc Community Ophthalmology
Assistant Professor

Saima Ghufran
BSVS (Pakistan Institute of Community Ophthalmology)
Khyber Medical University
HOD Vision Sciences/Course Coordinator

Kanwal Usman
M.Phil Investigative Opthalmology
Assistant Professor

Malik Waqar Ahmed
MS Biochemistry & Molecular Biology
Senior Lecturer

Taskeen Niaz
MS Biochemistry & Molecular Biology
Senior Lecturer

Islamabad Campus:

AL NAFEES MEDICAL COLLEGE & HOSPITAL

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URL: http://www.isra.edu.pk Email: info.isb@isra.edu.pk

SCHOOL OF ENGINEERING & APPLIED SCIENCES

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