Introduction

Preston University, Pakistan was established as School of Business and Commerce in 1984 to foster academic excellence. Preston University is seriously committed to improving the quality of technology and business education in Pakistan. Preston University is managed by a group of dedicated professionals and academicians who have committed their lives to the cause of higher education in Pakistan. Since its inception in 1984, Preston Network has imparted knowledge and skills to numerous individuals through many teaching programs. The experience at this university has played an important role in the professional and personal development of our students. The university will continue to fulfill its responsibilities to the society by creating and providing facilities for personal and professional growth of individuals who wish to make a career in the field of business, science and technology.

Charter and Recognition

Preston University, Kohat, NWFP has been chartered by the Govt. of NWFP through Ordinance No. LI of 2002, and is recognized by the Higher Education Commission (HEC), Government of Pakistan. Preston University, Karachi has been chartered by the Government of Sindh through Sindh Act V of 2004, and is recognized by the Higher Education Commission (HEC), Government of Pakistan.

Master of Science in Physics

(MSc Physics)

2 Years

(Four Semesters)

The objective of the MSc Program in Physics is to let the students understand the fundamental principles of Physics in depth, develop analytical techniques, become proficient in experimentation to understand principles and concepts in Physics, and develop a good command over the theoretical and experimental dimensions of Physics. The students will also learn Mathematical techniques and principles and their applications in Physics and allied fields. Students will develop critical and rational reasoning so as to be able to work on complex problems and be able to develop careers in teaching, research, industry and government.

Requirements:

A student must achieve 66 semester credits for the award of a masters degree. Out of this total requirement, at least 30 credits must be completed in core subjects related to the degree program of the student, 30 credits for the elective courses, and 6 credits for a Masters Project.

Eligibility:

Holders of any of the following qualifications:

- Bachelors degree, BA or BSc, (14 years of education) with Physics and Mathematics.
- Equivalent Bachelors degree with Physics and Mathematics

In addition to the minimum qualification, candidates are required to qualify Written Test and Interview for admission to the MSc program.
Credit Requirements for MSc Physics Program:

- Core Courses: 30 Credit Hours
- Optional Courses: 30 Credit Hours
- Masters Project: 06 Credit Hours
- Total: 66 Credit Hours

All elective courses are determined by the University at the beginning of each semester and are offered to the entire class. Students may not deviate from the block of optional courses offered by the University in any given semester.

In addition to the requirements for earned credits, a cumulative grade point average (GPA) of minimum 2.2 on a scale of 0.0 – 4.0 must be attained.

**MSc Physics**

**MSc:** 2 years; 66 semester credit hours

**Eligibility:** BA or BSc (14 years education) or Equivalent with Physics and Mathematics

### CORE COURSES

**(30 Semester Credits)**

- Electricity and Magnetism-I
- Electricity and Magnetism-II
- Principles of Electronics
- Waves and Oscillations
- Thermodynamics-I
- Thermodynamics-II
- Optics
- Atomic and Molecular Physics
- Solid State Physics

### ELECTIVE COURSES

**(30 Semester Credits)**

- Classical Mechanics
- Quantum Mechanics
- Electromagnetic Theory
- Mathematical Physics
- Nuclear Physics
- Thermal Physics
- Computational Physics
- Instrumentation and Measurement
- Industrial Electronics-I
- Industrial Electronics-II
- Analog and digital Communications
- Microelectronics
Class Attendance

Regular class attendance is expected of all students. It is mandatory to maintain a minimum 70% attendance in all courses at the university. In case of excessive absences a student will not be allowed to sit for the final examination.

Textbooks

All students registering for courses must obtain the textbooks recommended by the faculty from the Preston bookstore or from the general bookstore whichever is convenient.

Availability of Courses

Preston University does not guarantee that the courses listed in this prospectus will be offered in any given term or year. The University also reserves the right to cancel any course or section for which enrolment is insufficient and to change the Instructor and/or classes without advance notice.

Academic Facilities and Services

Each campus location of Preston in Pakistan, has extensive academic facilities including classrooms, computers laboratories, libraries, workshops, and abundant space for administrative and teaching staff, common areas for students, canteen etc. All classrooms and major facilities are fully air-conditioned. Modern audiovisual aids, including video equipment, slide projectors, overhead projectors and multimedia are available for the faculty to use in the classrooms. The students also use these facilities for making presentations of their research projects and term papers.

Library Resources

Each Preston campus in Pakistan has its own library stocked with latest editions of leading textbooks, reference books, periodicals, journals, videos, audio cassettes, and CDs. The total holdings exceed 70,000 volumes. Books and journals are continuously added to the library collections.

Financial Assistance / Scholarships

Preston provides a variety of financial assistance according to the needs of the students who are unable to meet the full cost of their education. Preston also provides a specific scholarship (25% on admission fee and monthly tuition fee) to serving or retired military personnel belonging to Pakistan's Armed Forces or the Police Department and to the employees of the Federal and Provincial Governments.

All scholarships are provided after an assessment based on the needs and merit of the applicant. No candidate can claim automatic award of scholarship on any basis. Scholarship once awarded to a student may be cancelled if the student is unable to maintain satisfactory academic performance. Scholarship application must be submitted on prescribed forms on or before the deadline for submission of application for admission.