

Courses offered in the Department of Physics

Catalogue Year: 2021-2022

Core Courses					Elective Courses / Specialization(s)				
Core Courses	Cr. H	Remarks/ Prerequisite	Offered in Semester	Remarks/ cross-listed etc.	Elective Courses	Cr.H	Pre Req	Offered in Semester	Remarks/ cross-listed etc.
Mechanics (103)	4	Intermediate or A-Level Physics or PHYS (100)	Fall, Spring & Summer		Intro. Meteorology (255)	3	PHYS (102)/ PHYS (103) / PHYS (151)	Fall	ENVR 255
Waves & Vibrations (104)	4	PHYS (103) or intermediate or A-Level Physics	Spring		Fund. Optics (300)	4	PHYS (104), & PHYS (221)	Fall	
Electricity & Magnetism (221)	4	PHYS (103) or PHYS (104)	Fall	ENVR 221	Electronics I (331)	4	PHYS (221) or PHY (102)	Fall	
Modern Phys (222)	4	PHYS (221) or PHYS (103)	Spring		Electronics II (332)	4	PHYS (331)	Spring	
Electrodynamics (321)	4	PHYS (221), MATH (203)	Fall		Meth. Math. Phys. (341)	3	PHYS (221)/ MATH (203)	Fall	MATH 316
Classical Mechanics (301)	3	PHYS (103) or MATH (302)	Fall		Comp. Phys. (342)	3	PHYS (221)	Fall	
Therm. & Stast. Phys (335)	3	PHYS (221) & PHYS (301)	Spring		Envir.. Phys (351)	3	PHYS (103)/ PHYS (151)	Fall	ENVR 351
Quantum Mechanics I (461)	3	PHYS (301) or MATH (302) & PHYS (341)	Fall	MATH 410	Plasma Phys (352)	3	PHY (221)	Fall	
Quantum Mechanics II (462)	3	PHYS (461)	Spring	MATH 411	Nonlinear Physics (353)	3	PHYS (341)	Spring	
Total Credits	32				Sources of Energy (451)	3	PHYS (222)	Spring	ENVR 451
					Intro. Medical Physics (460)	3	PHYS (222) or PHYS (422)	Fall	
					Laser (472)	3	PHYS (321)/ PHYS (341)	Spring	
Total Credits required for Major: Requirements for Major: A minimum of 48 credit hours including 9 core courses Requirement for Minor: 24 credit hours with minimum CGPA 2.50 NOTE: Students are also recommended to take MATH 101, MATH 102, MATH 201, MATH 202 and MATH 203. Overall Credit requirement=124					S.S. Phys I (481)	3	PHYS (341)	Fall	
					S.S. Phys II (482)	3	PHYS (481)	Spring	
					Material Sci. (483)	3	PHYS (221)	Fall	
					Senior Thesis Project PHYS(499)	6	CGPA 2.5 & 90 Completed Cr. Hr	Summer/ Spring/ Fall	

Mission Statement of Physics Department:



The mission of the Department of Physics of the Forman Christian College (A Chartered University) is to provide quality education and perform cutting edge research in physics at the highest level.

Institutions offering higher education opportunities in Physics:



- Forman Christian College, Lahore
- Government College University Lahore
- University of the Punjab, Lahore
- COMSATS Lahore, Islamabad
- University of Engineering and Technology, Lahore.
- Government College University Faisalabad
- University of Agriculture Faisalabad
- Quaid-e-Azam University Islamabad
- Islamia University Bahawalpur
- University of Gujrat
- International Islamic University Islamabad
- Pakistan Institute of Engineering & Applied Sciences Islamabad

Career Opportunities/Career Path:



- Physics careers in technology (Army, Navy, Air force, Siemens etc.)
- Geophysics careers (National Center of Excellence in Geology)
- Physics careers in Renewable or Non- renewable energy
- Meteorology careers (Pakistan Metrological department)
- Research scientist careers (Pakistan atomic energy commission, NESCOM, KRL etc.)
- Physics careers in space and astronomy (Space & Upper Atmospheric Research Commission: SUPARCO)
- Physics careers in Healthcare (Diagnostic centers in Hospitals)
- Physics careers in engineering (National Engineering Services Pakistan)