

Road Map For Physics Majors

Freshmen Year

Fall 2017 (1 st Semester)			Spring 2018 (2 nd Semester)		
Course Title [Code]	Credit Hr	Remarks/Status	Course Title [Code]	Credit Hr	Remarks/ Status
Intr. Phy. Chem [*CHEM (170)]	4	GEC	Calculus II [*MATH (201)]	3	GEC
Basic Writing Skills [*English (101)]	3	GEC	Programming I [*COMP (102)]	3	GEC
Calculus [*MATH (102)]	3	GEC	*Islamic Studies [ISLM 101]/ CRST 152]	3	GEC
Pak. Studies [*PKST 101]	3	GEC	Adv. Writing Skills [*English (103)]	3	GEC
Mechanics [*PHYS (103)]	4	CC	Waves & Vibrations [*PHY (104)]	4	CC
17			16		

Sophomore Year

Fall 2018 (3 rd Semester)			Spring 2019 (4 th Semester)		
Course Title [Code]	Credit Hr	Remarks/ Status	Course Title [Code]	Credit Hr	Remarks/ Status
Vector Analysis [*MATH (203)]	3	GEC	Modern Physics [*PHYS (222)]	4	Core
*Urdu (101)	3	GEC	Classical Mechanics [*PHYS (301)]	3	CC
Found. Education [*EDUC 110]	3	GEC	Fund. of Speech [*MCOM (100)]	3	GEC
Ordinary Diff. Eq. [*MATH (202)]	3	GEC	Intro. Sociology [*SOCL (100)]	3	GEC
Elect. & Magnetism [*PHYS (221)]	4	CC	Electrodynamics [*PHYS (321)]	4	CC
16			17		

Junior Year

Fall 2019 (5 th Semester)			Spring 2020 (6 th Semester)		
Course	Credit Hr	Remarks/ Status	Course	Credit Hr	Remarks/ Status
			Electronics II [*PHYS (332)]	4	EC
Thermodyn. & Equilibrium [*CHEM(270)]	3	GEC	Comp. Physics [*PHYS (342)]	3	EC
Electronics I [*PHYS (331)]	4	EC	Sources of Energy [*PHYS (451)]	3	EC
Thermody. & Statistical Physics [*PHYS (335)]	3	CC	Quantum Mechanics II* [*PHYS (462)]	3	CC
Meth. Math. Physics [*PHYS (341)]	3	EC	Lasers [*PHYS (472)]	3	EC
Quantum Mechanics I [*PHYS (461)]	3	CC	*History (101)	3	GEC
16			19		

Senior Year					
Fall 2020 (7th Semester)			Spring 2021 (8th Semester)		
Elective Course	Credit Hr	Remarks/ Status	Elective Course	Credit Hr	Remarks/ Status
Fundamental of Optics [***PHYS (300)]	4	EC	Solid state Physics II [***PHYS (482)]	3	EC
Plasma Physics [***PHYS (352)]	3	EC	Nuclear Physics [***PHYS (422)]	3	EC
Envir. Physics [***PHYS (351)]	3	EC	Internship/Senior Thesis Project [***PHYS (499/498)]	6	EC
Solid state Physics I [***PHYS (481)]	3	EC			
Material Science [***PHYS (483)]	3	EC			
	16			12	
Total Credits:	129				
Univ 100 (Aug, 201....)	3	GEC			
Total Credits:	132				

Students are strongly advised to complete general education by the end of sophomore year. In the senior year they should take as many elective courses from physics as possible.

Note: GEC:General Education Course (*Blue); CC: Core Course (**Purple); EC: Elective course (***Black)

Major Road Map of Department of Physics

Core Courses					Elective Courses / Specializations				
Core Courses	Cr. H	Pre Req.	Offered in Semester	Remarks (Equivalence/ Courses for)	Elective Courses	Cr. H	Pre Req.	Offered in Semester	Remarks (Equivalence/ Courses for)
Mechanics (103)	4	Intermediate or A-Level Physics or PHYS (100)	Fall, Spring & Summer		Fund. Optics (300)	4	PHYS (104) or PHYS (221)	Fall	
Waves & Vib. (104)	3	PHYS (103) or intermediate or A-Level Physics	Spring		Electronics I (331)	4	PHYS (221) or PHY (102)	Fall	
E. & M (221)	4	PHYS (103)	Fall		Electronics II (332)	4	PHYS (331)	Spring	
Modern Phys (222)	4	PHYS (221) or PHYS (103)	Spring		Meth. Math. Phys. (341)	3	PHYS (103) or MATH (102)		
Electrodyn. (321)	4	PHYS (221)	Fall		Comp. Phys. (342)	3	PHYS (221)	Fall	
					Envir.. Phys (351)	3	PHYS (102) or PHY (103)	Fall	
CM (301)	4	PHYS (103) or MATH (302)	Fall		Plasma Phys (352)	3	PHY (221)	Fall	
Therm. & Stast. Phys (335)	3	PHYS (222)	Spring		Nuclear Phys. (422)	3	PHYS (222)	Fall	
QM I (461)	3	PHYS (301) or MATH (302)	Fall		Sources of Energy (451)	3	PHYS (222)	Spring	
QM II (462)	3	PHYS (461)	Spring		Laser (472)	3	PHYS (104) or PHYS (321)	Spring	
Total Credits	32				S.S. Phys I (481)	3	PHYS (221)	Fall	
<p>Note:</p> <p>Requirements for Major: A minimum of 48 credit hours including 9 core courses</p> <p>Requirement for Minor: 24 credit hours with minimum CGPA 2.50</p> <p>Equivalences (if any) or transfer credits:</p> <p>Cross listed/ Discipline courses :</p> <p>Courses for Gen. Edu: 16 Courses</p> <p>Courses for non-science students:</p> <p>Any other instruction:</p>					S.S. Phys II (482)	3	PHYS (481)	Spring	
					Material Sci. (483)	3	PHYS (321)	Fall	
					Internship/Senior Thesis Project [***PHYS (499/498)	6	CGPA 2.5 & 90 Completed Cr. hr	Summer/ Spring/ Fall	
					Total Credits	48			