

MASTER OF SCIENCE IN PHYSICS

A. UNDERGRADUATE PREREQUISITE SUBJECTS

Prospective students of the M.S. Physics program should have an undergraduate degree in physics or equivalent, and should have successfully passed the equivalent mathematics (differential equations, vector calculus, linear algebra, complex analysis, and special functions) and major physics subjects (classical mechanics, electrodynamics, quantum mechanics, and statistical mechanics) associated with an undergraduate physics degree.

B. REQUIRED (CORE) COURSES

		UNITS
PS 201	Theoretical Mechanics	3
PS 208	Quantum Mechanics	3
PS 212	Statistical Mechanics	3
PS 271	Electrodynamics	3
TOTAL:		12

C. COMPREHENSIVE EXAMINATIONS

PS COMPRE 200 Comprehensive Examinations

D. GRADUATE SEMINAR AND COLLOQUIUM

PS 307	Graduate Seminar	1
PS 308.1	Graduate Colloquium	1
PS 308.2	Graduate Colloquium	1
TOTAL:		3

E. ELECTIVES

Choose a minimum of **12 units** from the courses listed below, with the consent of the Academic Adviser.

PS 200.XX	Special Topics	3
PS 205	Mathematical Physics	3
PS 210	Quantum Mechanics II	3
PS 211	Fluid Mechanics	3
PS 213	Introduction to Geophysical Fluid Dynamics	3
PS 222	Introduction to Solid State Physics	3
PS 223	Physical Theory of the Solid State	3
PS 224	Electronic Properties of Materials	3
PS 225	Thermodynamics and Phase Transformations	3
PS 226	Materials Characterization	3
PS 230	Geophysical Fluid Dynamics	3
PS 231	Computational Model for the Environment	3
PS 232	Physical Meteorology	3
PS 233	Dynamic Meteorology	3
PS 241	Fundamentals of Air Pollution	3
PS 242	Physics of the Environment and Climate	3
PS 243	Remote Sensing and Environmental Mapping	3
PS 244	Environmental Instrumentation	3
PS 256	Experiments in Photonics, Laboratory	3
PS 258	Optical Waveguides	3
PS 259	Quantum Electronics and Photonic Devices	3
PS 261	Modern Optics	3
PS 265	Lasers, Spectroscopy and Applications	3
PS 266	Advanced Fiber Devices	3
PS 268	Optical Networks	3
PS 272	Quantum Electrodynamics	3
PS 301	Research Seminar I	3
PS 302	Research Seminar II	3
PS 303	Advanced Research Laboratory I	3
PS 304	Advanced Research Laboratory II	3
TOTAL:		12

F. THESIS WRITING AND ORAL DEFENSE

Units for the thesis are credited after the student successfully passes the oral defense and submits the final revised copy of the thesis.

PS 309.1	Thesis Research	0
PS 309.2	Thesis Writing	0
	TOTAL:	6

SUMMARY

Required Subjects	12	Units
Comprehensive Examinations	---	
Graduate Seminar and Colloquium	3	Units
Electives	12	Units
Thesis Writing and Oral Defense	6	Units
	TOTAL: 33	Units