Recommended Ph. D. Curriculum Sequence

Term	Acad. Semester	Course (Credit Hours)	Cum. Credits
Fall	1	Phys 5401 – Math Methods (4)	4
		Phys 5411 – Classical Mechanics (4)	8
		Physics Elective (3)	11
		Phys 5100 – Current Topics in Physics (1)	12
Spring	2	Phys 5421 – Electromagnetism (4)	16
		Phys 6400 – Quantum Mechanics 1 (4)	20
		Physics Elective or Research (3)	23
		Phys 5100 – Current Topics in Physics (1)	24
Summer		Physics Elective or Research (9)	33
Fall	3	Phys 5422 – Electromagnetism 2 (4)	37
		Phys 6401 – Quantum Mechanics 2 (4) or Phys 6383 - Plasma Science (3)	41 (40)
		Physics Elective or Research (3)	44 (43)
Spring	4	Phys 5413 – Statistical Physics (4)	48 (47)
		Physics Elective (3)	51 (50)
		Research (3)	54 (53)

Notes:

1. Students in Space Sciences should take Plasma Science in place of Quantum Mechanics 2, students in all other disciplines should take Quantum 2. The overall physics core course requirement for the Ph. D. is therefore 27 credit hours for space science, 28 for other disciplines.
2. Phys 5100 is a colloquium course that does not count toward the MS degree credit hour requirement.
3. Beyond the second full year of graduate study students will continue to register for electives and research credit hours as specified by the chairman of their graduate committee, and approved by the graduate advisor. A minimum of three elective courses is required for the doctoral degree, of which one must be outside the student's graduate specialty area.
4. Near the beginning of their second fall semester Ph. D. students are required to take a written qualifying examination. Satisfactory performance on the qualifier allows continuation with financial support beyond the second fall term. Students who fail the qualifier will lose TA and GSS support effective at the end of the semester, by which time they should have completed the requirements for the MS degree.

Recommended Electives by Discipline:

Astrophysics/Cosmology

Phys 5402 - Math Methods 2
Phys 5391 – Relativity
Phys 5392 – Relativity 2
Phys 6399 – Special Topics in Relativity

Space Science
Phys 5381 – Space Science
Phys 5382 – Space Science Instrumentation
Phys 5385 – Natural and Anthopogenic Effects on the Atmosphere
Phys 6388 – Ionospheric Electrodynamics
Phys 6385 – Atmospheres and Ionospheres
Phys 5383 – Plasma Technology
Phys 5283 – Plasma Technology Laboratory
Phys 6283 – Plasma Physics Laboratory
Phys 5416 – Applied Numerical Methods
Phys 5305 – Monte Carlo Simulation Method and its Application

High Energy Physics
Phys 6313 – Elementary Particles
Phys 6314 – High Energy Physics
Phys 6316 – High Energy Physics Instrumentation
Phys 6318 – High Energy Accelerators
Phys 5402 – Math Methods 2
Phys 6311 – Relativistic Quantum Field Theory
Phys 5391 – Relativity
Phys 5416 – Applied Numerical Methods
Phys 5305 – Monte Carlo Simulation Method and its Application

Solid State/Condensed Matter Physics
Phys 5371 – Solid State Physics
Phys 6371 – Advanced Solid State Physics
Phys 6374 – Optical Properties of Solids
Phys 5351 – Basic Aspects and Practical Applications of Spectroscopy
Phys 5367 – Photonic Devices
Phys 5402 – Math Methods 2
Phys 5324 – Computer Interfacing and Data Acquisition
Phys 5305 – Monte Carlo Simulation Method and its Application
Phys 5375 – Electronic Devices Based on Organic Solids
Phys 5376 – Introduction to Materials Science
Phys 6372 – Physical Materials Science
Phys 6376 – Electronics and Photonics of Molecular & Organic Solids
Phys 6377 – Physics of Nanostructures