

Physics

Our Mission

The graduate physics program is designed to:

- 1) train scientists for the next century with emphasis on under represented students.
- 2) establish Hampton University as a premier institution for research and education in atmospheric sciences, fusion physics, nuclear/high energy physics, optical physics and physics education.

Our Vision

The Department of Physics will:

- 1) maintain an internationally recognized research program and
- 2) significantly increase the availability and quality of training in atmospheric sciences, fusion physics, nuclear/high energy physics and optical physics.

The Department

The Department of Physics is located in the Olin Building and operates research facilities in the Olin Building, Science and Technology Building, the Graduate Physics Research Center, Armstrong Slater Hall, and Turner Hall. The Department of Physics has a local high speed network that is connected through the University to the Internet, allowing students, staff and faculty full access to the World Wide Web resources and other laboratories and universities.

The Department of Physics has an active research program that concentrates on atmospheric sciences, fusion physics, nuclear/high energy physics and optical physics. During the 1991-1992 academic year, major research grant awards were made in two of these areas. There was a \$5 million award from the National Science Foundation to establish the Nuclear/High Energy Physics (NuHEP) Research Center of Excellence and an \$8.5 million award to establish the Research Center for Optical Physics (RCOP). Both grants covered the five-year period from 1991 through 1996 and were renewed for an additional five years at \$1 million per year. The University is a leader in atmospheric sciences and is renovating the campus observatory for use as an on-campus remote sensing facility.

The faculty have close ties to the NASA Langley Research Center (LaRC) in the city of Hampton and the continuous Electron Beam Accelerator Facility (CEBAF), now known as the Thomas Jefferson National Accelerator Facility (TJNAF), in the neighboring city of Newport News. Both NASA LaRC and TJNAF scientists actively participate in the department as adjunct professors. The Department also conducts weekly physics colloquia that provide students and faculty with a forum to discuss a variety of scientific topics presented by leading scientists in the field.

The graduate programs in physics lead to the Master of Science and Doctor of Philosophy degrees.

Degree Plan of Study: Medical Physics

Required Courses: 58 credits			Cr.
PHY	601	Mathematical Physics I	3
PHY	605	Theoretical Mechanics I	3
PHY	607	Electromagnetic Theory I	3
PHY	611	Thermodynamics and Statistical Mechanics	3
PHY	613	Quantum Theory I	3
PHY	614	Quantum Theory II	3
PHY	617	Research II	4
PHY	624	Physics of Medicine	3
PHY	625	Nuclear Medicine	3
PHY	626	Diagnostic Imaging	3
PHY	627	Radiation Therapy Physics and Dosimetry	3

PHY	628	Health Physics Radiation Protection	3
PHY	629	Radiation Biology	3
PHY	630	Clinical Rotation I	4
PHY	631	Clinical Rotation II	4
PHY	632	Clinical Rotation III	4
PHY	633	Directed Research	4
PHY	681	Thesis	3

Total Credits: 59

Degree Plan of Study: Atmospheric, Nuclear, Optical Physics

Required Courses: 20credits			Cr.
PHY	601	Mathematical Physics I	3
PHY	605	Theoretical Mechanics I	3
PHY	607	Electromagnetic Theory I	3
PHY	611	Thermodynamics and Statistical Mechanics	3
PHY	613	Quantum Theory I	3
PHY	616/617	Research I/II	3
PHY	681	Thesis	3

Elective Courses: 9 credits

Elective			3
Elective			3
Elective			3

Total Credits: 30

Degree Plan of Study: Physics (Ph.D.)

Required Courses: 62 credits			Cr.
PHY	601	Mathematical Physics I	3
PHY	602	Mathematical Physics II	3
PHY	605	Theoretical Mechanics I	3
PHY	607	Electromagnetic Theory I	3
PHY	608	Electromagnetic Theory II	3
PHY	611	Thermodynamics and Statistical Mechanics	3
PHY	613	Quantum Theory I	3
PHY	614	Quantum Theory II	3
PHY	703	Ph.D. Qualifying Examination	1
PHY	791	Dissertation Research	36
PHY	798	Final Comprehensive Examination	1

Elective Courses: 12 credits (700 level courses)

Elective			3
Elective			3
Elective			3
Elective			3

Total Credits: 74

This profile sheet should be used in concurrence with your academic catalog and the guidance of your academic advisor.