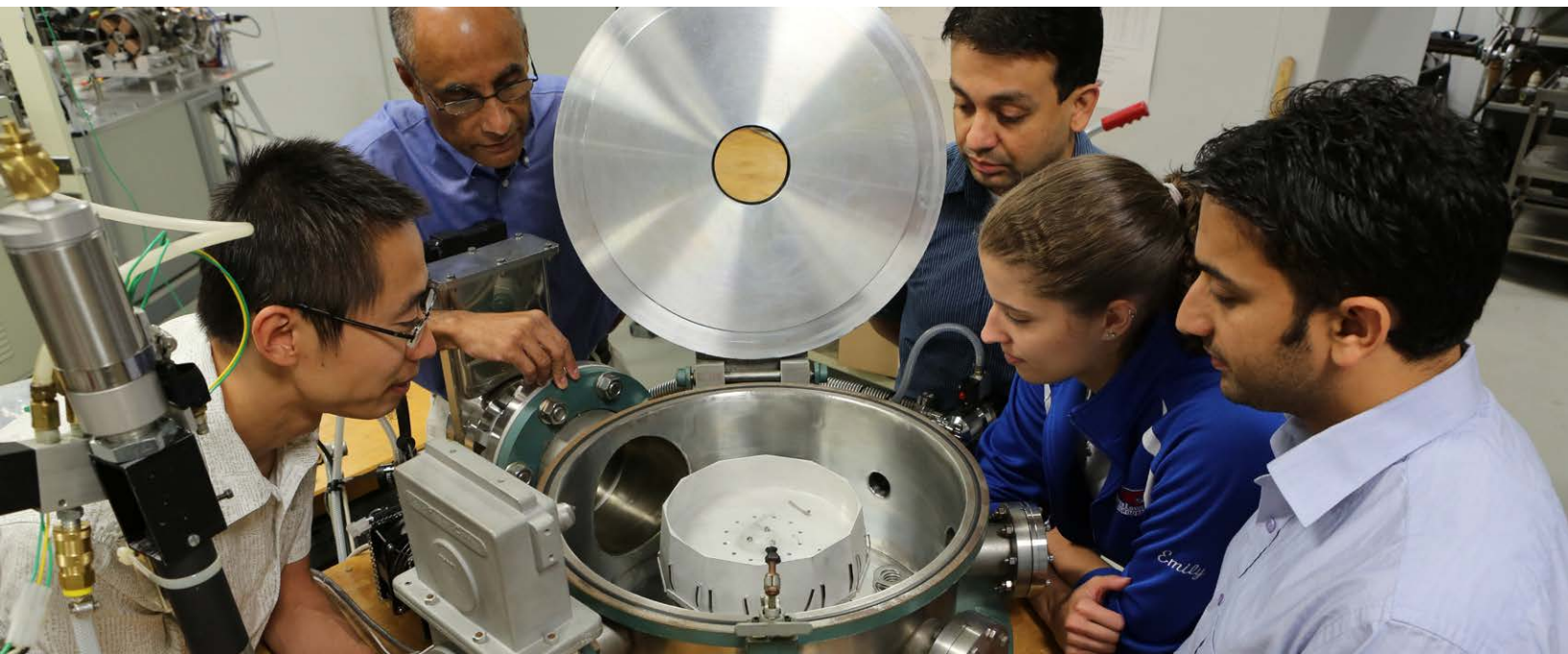


# PH.D. IN PHYSICS

Department of Physics and Applied Physics  
Kennedy College of Sciences



Learning with Purpose



## Ph.D. in Physics

*“My experience at UMass Lowell has helped me pursue my career as a researcher in physics. As an international student, I had lots of questions, but the department was very supportive. The course curriculum is excellent. I enjoyed the colloquium and seminars held by the department as part of the curriculum. They helped me enhance my knowledge and get connected with up-to-date research topics. I strongly recommend UMass Lowell’s graduate program in physics for those who aspire to a career in the field.”*

—Sandeep Inampudi '14

### Why Choose the Ph.D. Program in Physics at UMass Lowell?

Research lies at the heart of our Ph.D. program in physics, with expenditures totaling over \$10 million annually. Our world-class faculty, engaged in a diverse array of experimental, computational and theoretical research, train our students with care and rigor, preparing them for challenging and stimulating careers in academia, industry and government.

### Application Requirements

For admission into the Ph.D. program, the GRE test is required, and the Physics subject test is recommended. Applicants who cannot take tests during the pandemic should contact UML’s Physics Graduate Coordinator.

### Who Should Apply?

We are looking for talented, highly motivated candidates with passion for research, for improving our understanding of the world around us and for advancing the leading edge of science.

### Which Courses Will You Take?

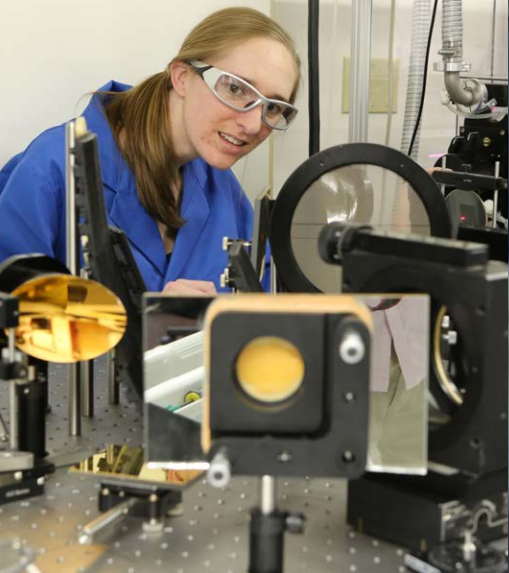
This program includes a mix of required courses in fundamentals of physics and electives. A thesis is also required.

Required courses are:

- Mechanics
- Electromagnetism
- Quantum Mechanics
- Computational Science

### Our research directions include:

- Astronomy and astrophysics
- Cosmology
- Experimental nuclear science
- Materials science
- Optics and spectroscopy
- Quantum information
- Radiochemistry
- Semiconductor technology
- Space physics
- THz science



### For More Information

Contact Prof. Viktor Podolskiy,  
Graduate Coordinator  
Viktor\_Podolskiy@uml.edu

### How to Apply

Graduate Admissions  
Cumnock Hall, Suite 110  
One University Avenue  
Lowell, MA 01854-3931  
Graduate\_Admissions@uml.edu  
978-934-2390

uml.edu/Grad  
uml.edu/Sciences/physics/Programs-of-  
Study/Graduate-Program.aspx



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Elective courses include:

- Astronomy and Astrophysics
- General Relativity
- Nonlinear Optics
- Nuclear Physics
- Physics of Quantum Information
- Plasma Physics
- Solid State Electronic and Optoelectronic Devices
- Space Science Mission Design
- Theoretical Cosmology

### What Financial Aid is Available?

Students admitted to the program are typically supported with teaching assistantships for two years, followed by research assistantships for the remainder of the program. Both TA and RA opportunities offer full tuition waivers and subsidized health care, with total compensation of up to \$27,500 for 12 months.

### Exceptional Research Facilities and Equipment

Our on-campus facilities include:

- An astronomical observatory
- 1-MW research reactor
- 5-MV particle accelerator for nuclear science and applications
- Fabrication facilities for rockets and satellite instrumentation for space science technologies
- Molecular beam epitaxy machines for photonic and electronic materials and devices
- Optical and NMR spectroscopic and imaging equipment for small animal and human tissue characterization
- Femtosecond pulsed lasers for nanoscience
- Advanced materials characterization tools such as atomic force microscopes
- Sophisticated imaging technologies for radar and submillimeter waves
- Theoretical and computational research is supported by several high-performance computing facilities, as well as access to the Massachusetts Green High-Performance Computing Center.

### Job Market

The majority of our graduates find jobs in the high-tech industry, in research laboratories or in academic institutions across the country, including:

- Argonne National Lab
- Boston University
- City University of New York
- Duke University
- DuPont
- Harvard University
- Idaho National Lab
- Imperial College London
- Lockheed Martin Corp.
- Los Alamos National Lab
- MIT Lincoln Laboratory
- Northeastern University
- Pacific Northwest National Lab
- Passport Systems, Inc.
- Physical Sciences Inc.
- Radiation Monitoring Devices, Inc.
- Schlumberger
- University of Colorado
- U.S. Department of Energy
- U.S. Naval Research Lab
- Westinghouse Electric Corp.
- Yale University