PHYSICS (MS)

The Department of Physics offers the Master of Science (M.S.) degree in Physics. The M.S. program is considered as a stand-alone graduate degree or as an integral component of the Physics Ph.D. program.

The M.S. degree is designed for students seeking careers in industry, state or federal government laboratories, science and physics education, or related technical fields. The program may be completed either as a coursework-based degree or with a thesis option, as described below.

Through advanced coursework and, when applicable, research training, the Physics M.S. program provides a strong foundation in modern physics and prepares students for professional work in scientific and technological fields, further graduate study, and teaching in educational institutions.

Location

- Storrs Campus

Modality

- In Person

Requirements
Master of Science in Physics

Students follow an individual plan of study arranged jointly by the student and an advisory committee, based on the student's career goals as well as prior preparation. Candidates for the master's degree without thesis are required to complete 30 credits of courses. Candidates for the master's degree with thesis are required to complete 21 credits of courses and nine credits of thesis research, as stipulated in the Academic Regulations of this catalog.

Per Graduate School rules, the MS in Physics requires a total of 30 credits, and students must maintain a minimum GPA of 3.0 in all courses in the plan of study. There are two tracks: a non-thesis program and a thesis program.

Non-Thesis MS Program

Non-thesis students must complete four courses from the list of core courses, plus six others either from the core courses or advanced courses at discretion of the major advisor.

Thesis MS Program

Thesis students must complete four courses from the list of core courses, plus three others either from the core courses or advanced courses at the discretion of the major advisor. Students must also complete nine credits of MS-level research classes (GRAD 5950 Master's Thesis Research, GRAD 5960 Full-Time Master's Research) and complete a written and orally defended MS thesis.

Core Courses

Course	Title	Credits
PHYS 5101	Methods of Theoretical Physics	3
PHYS 5201	Theoretical Mechanics	3
PHYS 5301	Electrodynamics I	3
PHYS 5302	Electrodynamics II	3
PHYS 5350	Computational Physics	3
PHYS 5401	Quantum Mechanics I	3
PHYS 5402	Quantum Mechanics II	3
PHYS 5403	Quantum Mechanics III	3
PHYS 5500	Statistical Mechanics	3
PHYS 6730	General Relativity	3

Learning Objectives

1. Demonstrate proficiency and breadth of disciplinary knowledge and comprehension of the major topics in physics.
2. Demonstrate proficiency of research methodologies and computational, mathematical or experimental techniques in physics allowing for the execution of a complete research project.
3. Interpret critically scientific literature, analyze data and evaluate findings to support advancement of knowledge in a sub-field of physics (MS with thesis).
4. Communicate scientific ideas effectively in written and oral formats, clearly presenting or summarizing technical arguments, data, and logical reasoning.
5. Demonstrate professional and ethical conduct in academic and research settings, consistent with standards expected for progression to the PHD graduate program.