

Master of Philosophy (MPhil) and Doctor of Philosophy (PhD) Programs in Physics

Curriculum for Master of Philosophy (MPhil) Program in Physics

The Master of Philosophy (MPhil) program is designed to prepare students for teaching, further postgraduate studies, or advanced work in industry. To fulfill the degree requirements, students are expected to undertake coursework, attend and present seminars, and conduct thesis research.

Students are required to complete at least 12 credits of approved physics PG courses. Full-time students are expected to complete the coursework requirements during the first two regular terms. Students with a first degree in an area other than Physics may be required to take additional courses.

Students are required to complete and pass LANG 5010 Postgraduate English for Science Studies, which should be taken in the first year of study. The 1 credit earned from LANG 5010 cannot be counted towards the credit requirements.

In addition, an MPhil student is required to register in PHYS 6000 Physics Seminar for two regular terms.

MPhil students should register in PHYS 6990 MPhil Thesis Research as soon as possible. In the final stage of research, students are required to submit a thesis to the Department and, subsequently, to present and defend it.

Scientific Computation Concentration

In addition to the existing program requirements, students who opt for the Scientific Computation concentration are required to:

- Complete MATH 6915 (1-credit), which cannot be counted toward the credit requirements;
- Complete one computation related course from the list below as a part of the 12 credits of required coursework:

MATH 5311	Advanced Numerical Methods I
MATH 5312	Advanced Numerical Methods II
MATH 5350	Computational Fluid Dynamics for Inviscid Flows
MATH 5360	Weather, Climate and Pollution
CHEM 5210	Computational Chemistry
PHYS 5410	Numerical Modeling in Physics
- Conduct research in the area of scientific computation; and
- Give a one-hour seminar on the related research within their first four regular terms of study.

Curriculum for Doctor of Philosophy (PhD) Program in Physics

The Doctor of Philosophy (PhD) degree is conferred primarily in recognition of breadth of scholarship, depth of research, and power to investigate problems independently and efficiently. In fulfilling the degree requirements, students are expected to undertake coursework, attend and present seminars, and conduct thesis research.

Students are required to complete at least 12 credits of approved physics PG courses. Full-time students are expected to complete the coursework requirements during the first two regular terms. Students with a first degree in an area other than Physics may be required to take additional courses.

Students are required to complete and pass LANG 5010 Postgraduate English for Science Studies, which should be taken in the first year of study. The 1 credit earned from LANG 5010 cannot be counted towards the credit requirements.

In addition, PhD students are required to register in PHYS 6000 Physics Seminar for two regular terms.

All PhD students are required to sit for a qualifying examination set by the Department and pass it within the first two years of studies. After passing the qualifying examination, students with satisfactory academic records are admitted to PhD candidacy. The students can then register in PHYS 7990 Doctoral Thesis Research and formally begin doctoral thesis research. In the final stage of research, students are required to submit a thesis to the Department and, subsequently, to present and defend it.

Scientific Computation Concentration

In addition to the existing program requirements, students who opt for the Scientific Computation concentration are required to:

- Complete MATH 6915 (1-credit), which cannot be counted toward the credit requirements;
- Complete one computation related course from the list below as a part of the 12 credits of required coursework:

MATH 5311	Advanced Numerical Methods I
MATH 5312	Advanced Numerical Methods II
MATH 5350	Computational Fluid Dynamics for Inviscid Flows
MATH 5360	Weather, Climate and Pollution
CHEM 5210	Computational Chemistry
PHYS 5410	Numerical Modeling in Physics
- Conduct research in the area of scientific computation; and
- Give a one-hour seminar on the related research within their first four regular terms of study.