Duluth Campus

Physics M.S.

UMD-Physics & Astronomy

Swenson College of Science and Engineering

Link to a list of faculty for this program.

Contact Information:
Department of Physics, University of Minnesota Duluth, 371 Marshall W. Alworth Hall, 1023 University Drive, Duluth, MN 55812 (218-726-7124; fax: 218-726-6942)
Email: phys@d.umn.edu
Website: http://www.d.umn.edu/physics/grad/

- Program Type: Master's
- Requirements for this program are current for Fall 2015
- Length of program in credits: 30
- This program requires summer semesters for timely completion.
- Degree: Master of Science

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

The master of science program provides a grounding in the fundamentals of physics, combined with significant research involvement. The primary areas of research are computational physics, high-energy neutrino physics, experimental work in condensed-matter physics, and observational and theoretical work in physical limnology.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

An undergraduate degree in physics or the equivalent is required.

Other requirements to be completed before admission:
Three letters of recommendation are required for assistantship support.

International applicants must submit score(s) from one of the following tests:

- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS
  - Total Score: 6.5
- MELAB
  - Final score: 80

Key to test abbreviations(TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

Plan A: Plan A requires 14 major credits, 6 credits outside the major, and 10 thesis credits.The final exam is oral.

Plan B: Plan B requires 24 major credits and 6 credits outside the major.The final exam is oral.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 3.00 is required for students to remain in good standing.

At least 1 semesters must be completed before filing a Degree Program Form.

Core Requirements (11 cr)
PHYS 5090 must be taken twice for a total of 2 credits.
PHYS 5090 - Physics Seminar (1.0 cr)
PHYS 5501 - Advanced Classical Mechanics (3.0 cr)
PHYS 5511 - Electrodynamics (3.0 cr)
PHYS 5521 - Quantum Mechanics I (3.0 cr)

Methods Course (3 cr)
PHYS 5052 - Computational Methods in Physics (3.0 cr)
or PHYS 5053 - Data Analysis Methods in Physics (3.0 cr)
or PHYS 5061 - Experimental Methods (3.0 cr)

Related Field (6 cr)
At least 6 credits in courses eligible for graduate credit in related fields, or a minor in a related field.

Plan A or Plan B
Plan A
Minimum 10 credits.
PHYS 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
or **Plan B**
Courses may include 4000-level courses if appropriate and approved for graduate credit and may be drawn from related fields outside of physics. The overall plan of study and selection of specific elective courses must form a cohesive program and be approved by the DGS and the adviser.
Requires a minimum of 120 hours of total effort, and preparation of a written report for each project.