



Twin Cities Campus

Astrophysics M.S.

Astrophysics, Minnesota Institute for

College of Science and Engineering

Link to a [list of faculty](#) for this program.

Contact Information:

Minnesota Institute for Astrophysics, 116 Church Street S.E., Minneapolis, MN 55455 (612-624-4811; fax: 612-626-2029)

Email: MIfA+gradreg@umn.edu

Website: <http://www.astro.umn.edu>

- Program Type: Master's
- Requirements for this program are current for Fall 2019
- Length of program in credits: 30
- This program does not require 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.

Astrophysics is the study of the universe and its constituent parts. The department conducts research in observational, theoretical, and computational astrophysics, as well as instrument development. The main research areas include minor planetary bodies, solar system properties, dynamics of normal and active galaxies, stellar evolution, interaction of stars with their environments, the interstellar medium, astrophysical magnetohydrodynamics, and galactic and cosmological structure. Observational research includes activities that cover X-ray, ultraviolet, optical, infrared, and radio wavelengths. Extensive research programs in space physics, nucleosynthesis, and the elementary particle-cosmology interface are also carried out in interdisciplinary connections with the graduate program in physics.

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 3.50.

An undergraduate degree in astronomy or physics or the equivalent is required. Contact the Graduate Studies Committee for exceptions.

Other requirements to be completed before admission:

A statement of career goals, scores from the GRE General (Aptitude) Test and Subject (Advanced) Test in physics, and three letters of recommendation are required. Applications are due by January 1 to be considered for fellowships and by January 15 for teaching and research assistantships. Students are admitted fall semester only. Additional application information is available at www.astro.umn.edu/grad/apply/

Applicants must submit their test score(s) from the following:

- GRE

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](#) (GRE, 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 14 to 24 major credits and 6 to 16 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.

The master's degree requires a minimum of 30 credits and is offered under Plan A (thesis) or Plan B (project). Completion of the degree normally takes two years.

Required Coursework

All students are required to take the following course

[PHYS 5011](#) - Classical Physics I (4.0 cr)

Plan A

Plan A requires 14 credits in astrophysics, 6 credits in a minor or in related fields outside AST, and 10 thesis credits

[AST 8777](#) - Thesis Credits: Master's (1.0 - 18.0 cr)

Plan B

Plan B requires 14 credits in astrophysics and 6 credits in a minor or in related fields outside of AST. The remaining 10 credits may be taken in the major field or any supporting field. The Plan B also requires the completion of 1-3 papers written in connection with three courses taken in the program.