

The Astronomy Major

The astronomy major is designed to be flexible, and students with interdisciplinary interest may count up to two advanced courses from other departments towards their major.

Prerequisites: Math 3, 8 and 13, and two courses from the introductory physics sequence: either Phys 3 and 4, or Phys 13 and 14, or Phys 15 and 16.

Major: Astr 15, Astr 25 and Astr 61; One elective from Astr 74, 75, 81 and 87; two additional courses from Physics and Astronomy, numbered 19 or higher; and two additional courses, which may be any Physics and Astronomy course, numbered 19 or higher, or two suitable advanced science courses from other departments (subject to the department approval).

Very briefly, the major courses are:

- *Astronomy 15* is a basic introduction to astrophysics, with an emphasis on stellar astronomy. A background in elementary physics is assumed, and calculus is used.
- *Astronomy 25* is the sequel to Astronomy 15, emphasizing extragalactic astronomy and cosmology.
- *Astronomy 61* covers observational technique, and has a substantial observing lab component.
- *Astronomy 74* is an introduction to astrophysics, which studies how radiation interacts with matter, and how astronomers interpret observations to understand the universe.
- *Astronomy 75* is an exploration of high-energy astrophysics, including black holes, neutron stars and white dwarfs.
- *Astronomy 81* is an independent study course with an observational component, generally involving a trip to MDM Observatory in Arizona or SALT in South Africa. Students should arrange this almost a year ahead of time with one of the Astronomy professors.
- *Astronomy 87* is an independent study course, but not involving an observing project.

Other courses. Students intending to go to graduate school should take other courses as well. More physics courses are recommended, especially for students interested in theory. Graduate courses in either physics or astronomy are open to qualified undergraduates.

Astronomy majors should also consider the elementary courses. These don't carry major credit but can play an important educational role. Astr 1 covers planetary science, a topic that isn't treated elsewhere in the major curriculum. This course doesn't go into great technical detail, but provides important general background.

The Astronomy Minor

Prerequisites: Math 3 and 8 or equivalents; Phys 13 and 14, or 3 and 4, or 15 and 16.

Minor: Four courses are required beyond the prerequisites. One of these must be Astr 15. The other three are Astr 25, 61 and 81, but a physics or astronomy course numbered 20 or above may be substituted for one of these three. Note that Astr 25 has Phys 14 as a prerequisite.

