Student Learning Objectives

- Clearly describe basic astronomical facts and concepts and apply these to solve problems or form reasoned explanations of phenomena. These basic facts and concepts include: the various kinds of objects in the universe and their relative size; motions of the sky and their connection to Earth’s rotation and orbital motion; basics of stellar evolution; Kepler’s Laws; inverse-square laws.

- Apply physics and math to astrophysical problem solving. This includes applications of Newton’s laws of mechanics and gravitation, radiation formulae, differentiation and integration, and simple differential equations.

- Write a clear and well-reasoned scientific paper about work they have done.

- An outstanding major should be able to: Demonstrate excellence in an individual area related to their career plans. Examples of this might be the application of upper-level physics and computations skills to complex astronomical problems, using astronomical instrumentation and software tools to collect and analyze astronomical data, or to develop a planetarium program at a local museum for a public audience.

Assessment tools

- Direct: Samples of student work will be collected from courses that all majors take (Astro 114, 335, Junior Year Writing, and 452). Samples will be examined and scored by the Undergraduate Curriculum Committee.

- Direct and indirect: Assessment instruments to include brief problems and survey questions will be designed and administered in 335, Junior Year Writing, and 452, to ascertain what students have retained from earlier courses in comparison to student learning objectives.

- Indirect: In-house senior survey will be designed to explore students’ perceived highlights and weaknesses of the program.

Highlighted recent activities

- Undergraduate Curriculum Committee plans to meet at least twice annually to review results, will present results to the faculty at the annual retreat or a faculty meeting, possibly resulting in changes to the program.