



ASSESSMENT PLAN

ASTRONOMY

PhD

(Program of Study / Major / Degree Level, etc.)

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Program Goals: The Department of Astronomy PhD program educates graduate students toward achieving an advanced-level understanding of modern astronomical concepts, applying technology in the field, performing original thesis research, and communicating research results to the professional astronomical community.

Relevance of goals to the mission statements and/or strategic plans of the University, College, or Program as applicable:

These goals are aligned with the strategic plans of the Program and College to offer tracks within the program to reflect modern developments in science, to provide opportunities to work on cutting edge research, and to provide our graduates with the skills of modern technology.

Student Learning Outcomes (list the three-to-five most important)	Assessment Measures and Criteria (describe one or more measures for each outcome and criteria for success)	Assessment Schedule (initial year, and subsequent cycle)
1. Demonstrate advanced-level knowledge of astronomy.	Students complete five required courses: Radiative Processes, Stellar Structure and Evolution, Astronomical Instrumentation and Techniques, Galaxies, and Interstellar Medium and Gas Dynamics. Performance in course work is evaluated as excellent, very good, good, adequate or not adequate.	The teaching faculty evaluates each student's performance in course work at the beginning of the student's third year. The teaching faculty

	At least eighty percent of students should receive an evaluation of good or better.	meets annually for this evaluation.
2. Retain a working knowledge of key astronomical concepts.	<p>The Qualifier exam is given after the courses mentioned in (1) are completed. Performance on the Qualifier exam is evaluated as excellent, very good, good, adequate, and not adequate.</p> <p>At least eighty percent of students should receive an evaluation of good or better.</p>	<p>The teaching faculty evaluates each student's performance on the Qualifier exam at the beginning of the student's third year. The teaching faculty meets annually for this evaluation.</p>
3. Design a scientific project, complete the research, and communicate the results in an oral presentation and a scholarly work.	<p>It is required that students design and complete a research project that includes an oral presentation and written document during their second year of graduate school. A faculty committee evaluates the research project as excellent, very good, good, adequate, barely adequate, or not adequate.</p> <p>At least eighty percent of students should receive an evaluation of good or better.</p> <p>In addition, all students admitted to the PhD program must have excellent or very good ratings in two of the three evaluations mentioned above in 1-3.</p>	<p>The teaching faculty evaluates each student's performance on the second year project at the beginning of the student's third year. The teaching faculty meets annually for this evaluation.</p>
4. Develop expertise in an area of modern astronomy.	Students complete course requirements from one of these Streams: Theory, Computation, Observation, or Instrumentation. Advanced astronomy courses are combined with supporting courses from other departments to	A departmental committee analyzes syllabi and course grades from Stream courses and makes

	<p>provide expertise. Syllabi and course grades will be evaluated across the Stream.</p> <p>At least eighty percent of students in the Stream should achieve excellent or good performances in their Stream courses.</p>	<p>recommendations to the Chair once every three years beginning in 2007.</p>
<p>5. Make original contributions to the field of astronomy at the international level.</p>	<p>Students propose, design, complete, and successfully defend before a faculty committee original thesis research.</p> <p>By the end of their program, at least ninety percent of PhD graduates will submit at least one refereed journal article for publication or make at least one presentation at a professional conference.</p>	<p>A departmental committee examines publishing records for recent PhDs and reports to the Chair every three years beginning in 2008.</p>