## ASTRONOMY, DOCTOR OF PHILOSOPHY (PH.D.)

Students choose a research stream depending on their interest within the field. Courses beyond the required eight are sometimes necessary for advanced research. This will be assessed by the student's thesis committee.

Advance to Candidacy: In addition to the coursework below, students must complete and present a research project in the second year of graduate study and pass the Thesis Proposal Defense in their third year. The Thesis Proposal Defense includes a thesis proposal write-up, an oral presentation of the thesis proposal, and a questions/discussion session on topics relevant to the thesis research. Admission to candidacy is based on course work, the second-year research project, and the Thesis Proposal Defense.

**Post-candidacy:** Complete at least 12 credits of ASTR899 Doctoral Dissertation Research and successfully defend a dissertation.

Course	Title	Credits
Core Requirements		
Complete at least	t six of the following courses:	18
ASTR601	Radiative Processes	
ASTR606	Stellar Structure and Evolution	
ASTR610	Astronomical Instrumentation and Techniques	
ASTR615	Computational Astrophysics	
ASTR620	Galaxies	
ASTR622	Cosmology	
ASTR630	Planetary Science	
ASTR670	Interstellar Medium and Gas Dynamics	
ASTR680	High Energy Astrophysics	
ASTR699	Special Problems in Advanced Astronomy	1-6
or ASTR898	Pre-Candidacy Research	
ASTR695	Introduction to Research	1
Dissertation Research Requirements		
ASTR899	Doctoral Dissertation Research	12
Total Credits		32-37