

# ASTRONOMY PHD

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## Degree Requirements

The following requirements are in addition to, or further elaborate upon, those requirements outlined in The Graduate School Policy Guide (<https://catalogs.northwestern.edu/tgs/academic-policies-procedures/>).

### PhD

**Total Units Required: 12**

Course	Title
Required Course	
PHYSICS 411-0	Classical Mechanics
A minimum of six 400-level astronomy courses selected from the following:	
ASTRON 410-0	Astrophysical Radiative Processes and Transport
ASTRON 414-0	Planetary Astrophysics
ASTRON 416-0	Astrophysical Fluid Dynamics
ASTRON 421-0	Observational Astrophysics
ASTRON 425-0	Stellar Astrophysics
ASTRON 429-0	Extragalactic Astrophysics and Cosmology
ASTRON 448-0	Interstellar Matter and Star Formation
ASTRON 449-0	Stellar Dynamics
ASTRON 451-0	High Energy Astrophysics

A minimum of two 400-level physics courses, of which Physics 411-0 counts as one

A minimum of four other 400-level quantitative science or engineering courses (including in physics or astronomy)

### Other PhD Degree Requirements

- Examinations: Students who do not maintain a B (3.0) average in their core first-year courses will be required to sit for an oral qualifying examination.
- PhD Dissertation

### MS Degree Requirements for PhD Students

Students enrolled in the Ph.D. program have the opportunity to obtain a formal master's degree as they work toward completion of the Ph.D. These requirements are as follows:

- Completion of 12 graded courses as described above
- GPA of 3.0 or higher