ASTRONOMY, PH.D.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Mode of Instruction Definitions
- **Accelerated**: Accelerated programs are offered at a fast pace that condenses the time to completion. Students are able to complete a program with minimal disruptions to careers and other commitments.
- **Evening/Weekend**: Courses meet on the UW-Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.
- **Face-to-Face**: Courses typically meet during weekdays on the UW-Madison Campus.
- **Hybrid**: These programs combine face-to-face and online learning formats. Contact the program for more specific information.
- **Online**: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

Requirements Detail
- **Minimum Credit Requirement**: 51 credits
- **Minimum Residence Credit Requirement**: 32 credits
- **Minimum Graduate Coursework Requirement**: Half of degree coursework (26 credits out of 51 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (https://registrar.wisc.edu/course-guide/).

Overall GPA: 3.00 GPA required.

Other Grade Requirements: A GPA of at least 3.0 is required in the core (required) courses and a student may have no more than 3 credits of a C or below. A grade of S must be received in ASTRON 990 Research and Thesis before the preliminary examination can be taken.

Assessments and Examinations
- Students take one oral preliminary examination and one written preliminary examination after completing their second academic year. Students who pass are eligible to continue toward their Ph.D. If students do not wish to retake a failed exam, they may complete the requirements for a terminal master’s.
- Doctoral candidates must submit a written dissertation proposal and make an oral presentation to the faculty by the end of their third academic year.
- A written dissertation must be submitted and successfully defended before a faculty committee.

Language Requirements
- No language requirements.

Doctoral Minor/Breadth Requirements
- All doctoral students are required to complete a minor. They may either meet the minor requirements set by an external department (typically physics), or they may choose a distributed minor. In the latter case, 9 credits must be taken from two or more relevant departments outside of astronomy. The coursework will normally be at the 400 level and above although special exceptions may be made in the case where 300-level courses are needed to satisfy prerequisites. At least two courses must be completed in graduate-level coursework, and one must be completed in physics. Courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide. Courses for the distributed minor or for minors outside of physics should be approved by the student’s mentoring committee (or the graduate advisor if the mentoring committee has not yet been formed.)

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTRON 500</td>
<td>Techniques of Modern Observational Astrophysics</td>
<td>3</td>
</tr>
<tr>
<td>ASTRON 700</td>
<td>Basic Astrophysics I</td>
<td>2</td>
</tr>
<tr>
<td>ASTRON 702</td>
<td>Basic Astrophysics II</td>
<td>2</td>
</tr>
<tr>
<td>ASTRON 715</td>
<td>Stellar Interiors and Evolution</td>
<td>2</td>
</tr>
<tr>
<td>ASTRON 720</td>
<td>The Interstellar Medium I: Basic Processes</td>
<td></td>
</tr>
<tr>
<td>ASTRON 730</td>
<td>Galaxies</td>
<td>2</td>
</tr>
<tr>
<td>ASTRON 735</td>
<td>Observational Cosmology</td>
<td>2</td>
</tr>
<tr>
<td>ASTRON/PHYSICS 910</td>
<td>Seminar in Astrophysics ¹</td>
<td>1-4</td>
</tr>
<tr>
<td>ASTRON 990</td>
<td>Research and Thesis ²</td>
<td>1-12</td>
</tr>
</tbody>
</table>

Breadth Requirement
- See PhD policy above on Doctoral Minor/Breadth Requirement for details.

Total Credits: 51

¹ Barring course conflicts, students are expected to take this course every semester during their first two years for 1 credit each semester. Once students reach dissertator status, they no longer register for this course.
Beyond the other required courses listed, students typically take
ASTRON 990 Research and Thesis credits to reach the total
minimum credit requirement.