

# Graduate Curriculum Summary

## (Spring 2025)

The academic guidelines described in this document for students entering the program starting in Fall 2024. Students entering the program before Fall 2024 are covered under the old guidelines.

### I. Academic Good Standing:

Students must meet the deadlines and requirements described in this document to remain in “good standing” in the graduate program in the Department of Astronomy. Students who are not in good standing will lose priority for financial support and may be dismissed from the program, depending on the particular situation.

### II. Course Offerings:

- 1) Students must take a total of 30 credits, including all of the Core courses offered, during their first two years of the program. A minimum of 24 credits must be graded.
- 2) Students must enroll for 3 graded credits of Independent Study (AST 6905) in conjunction with their Masters research during the semester when they complete their Masters projects.
- 3) No more than 6 of the 30 required credits can be from S/U courses, and Core courses may not be taken S/U.
- 4) Exceptions to these course requirements can be made at the time of admission for students who enter the program with a strong background in similar graduate-level courses.
- 6) Students granted exemptions from the courses offered must still satisfy the degree course and credit requirements established by the Graduate School in CLAS.
- 7) Core courses must include graded exams.
- 8) Electives outside the Department of Astronomy are acceptable, subject to approval by the Graduate Coordinator, but at least two electives must be in the department.
- 9) Frontiers, Journal Club, plus Colloquium may not be taken as a 3 credit Elective, but, when offered as a course, may count once each towards the 30-credit requirement.

10) The core curriculum consists of the following courses:

- a. AST 6245: Stellar Atmospheres & Radiative Processes
- b. AST 6215: Stars and the Galaxy
- c. AST 6309: Galaxies and Cosmology
- d. AST 6336: Astrophysics of the Interstellar Medium
- e. AST 6725C: Fundamentals of Observational Astronomy [no exam]

11) The graduate coordinator has the power to modify or grant exceptions to specific degree criteria in special cases when warranted, so long as the student satisfies the degree requirements specified by the college.

### III. Masters Research Project:

- 1) Students are encouraged to start research as early as possible. A full-time effort is required during the summer after the first academic year.
- 2) The Research Project must be taken as a graded course (Independent Study, AST6905) for 3 credits during the third semester when the project is due. It may also be taken for credit in the preceding semesters and summer, but there is a 12-hour cap on AST 6905 imposed by the graduate school, and only two semesters of AST6905 may count towards the 30-credit requirement.
- 3) The Research Project will be monitored and graded by a Faculty Research Committee consisting of three faculty members, one of whom is the student's project supervisor. The [rubric](#) provides details.
- 4) Students are required to provide a written paper at the end of the project describing the results. The paper will be at least at a level equivalent to a Conference Proceeding or Journal Letter in scope and length, including a complete bibliography. The [rubric](#) provides more detail.
- 5) Students are required to make a short (~30 minutes) oral presentation of their projects in front of the Committee and the Department. This will be judged according to the [rubric](#).
- 6) Each oral presentation will be followed by a Q&A session with the Research Committee (only), with questions pertaining to the research topic. The Committee will then meet privately to assign a grade to the overall Research Project.

- 7) The written papers are due 2 weeks before the oral presentations. The presentations must be completed no later than the last day of classes prior to the reading period during the fall semester.
- 8) Students are responsible for adhering to the timeline and requirements listed below:

1st semester	Register for the masters degree (while most PhD students opt for a masters, it is not required and students are not registered by default)
1 <sup>st</sup> Academic Year (before end of 2 <sup>nd</sup> semester):	Select faculty advisor & research project. Form committee and give committee a 1-2 page written abstract+outline of the project goals and work plan. Report outcomes to Graduate Coordinator.
Summer after 1 <sup>st</sup> Academic Year	Meet with Committee: provide an updated abstract/outline (with figures & tables) + an informal oral summary.
3 <sup>rd</sup> Semester:	Final written report + oral presentation to department followed by Q&A with research committee.

The Graduate School in CLAS requires that all students must pass both a written and oral qualifying exam for advancement to candidacy for a PhD degree.

#### IV. The Masters qualification

In order to qualify for the Masters degree, one must pass the Masters Examination as detailed in this document:

[https://docs.google.com/document/d/1pyRHWbm\\_wUDg4LWpmeydMeV10FhIDa-w0wiYJs8NCY4/edit?tab=t.0#heading=h.2t5zyvps1ojo](https://docs.google.com/document/d/1pyRHWbm_wUDg4LWpmeydMeV10FhIDa-w0wiYJs8NCY4/edit?tab=t.0#heading=h.2t5zyvps1ojo)

Students who enter with a Masters must apply to the Graduate Coordinator for exemption from these requirements. In most cases, students entering with a Masters degree will still be required to meet all of the requirements in that document but do not need to apply for the additional degree.

#### V. Doctoral Research and Committee Formation

- 1) Students are expected to begin dissertation research as quickly as possible and must form a dissertation committee no later than the start of their 5<sup>th</sup> semester.

## VI. Oral Candidacy Exam

- 1) This exam consists of i) a ~45 minute formal talk presented to the committee and department followed by a question and answer session with the Thesis Committee, and ii) a written summary with bibliography submitted to the Committee at least 1 week prior to the talk.
- 2) Students must demonstrate through these requirements that they have i) a clear plan for a feasible thesis project, and ii) a sufficient understanding of the field, the literature and the specific analysis techniques to carry out the work. Preliminary research results are an important part of this exam. Students who have changed projects or advisors after their Masters Research Project are expected to have fewer results.
- 3) Immediately following the oral exam, the committee will meet privately to review the student's qualifications and discuss and evaluate the proposed program of study. The committee will then make a recommendation for the student's advancement to candidacy based on i) approval of the dissertation topic, ii) the student's academic record and overall fitness for candidacy, and iii) satisfactory performance on both the written and oral qualifying exams.
- 4) The oral exams must be taken before the end of the 5<sup>th</sup> semester. This schedule is intended to accelerate the research effort and provide more/earlier opportunities for Thesis Committee involvement.
- 5) Requests for a later exam date may be submitted to the Graduate Coordinator and granted by the faculty under exceptional circumstances.

## VII. Time to Degree

- 1) Students beyond their 4<sup>th</sup> year of full-time dissertation research (nominally beyond their 6<sup>th</sup> year overall for students completing the 2-year Masters program) will lose priority for funding and will be considered in poor standing in the department.
- 2) Exceptions to this downgrade in status can be requested by the student and approved by the Graduate Coordinator and the student's Thesis Committee.

## VIII. Annual Research Talks & Committee Updates

- 1) Every student beyond their second year must give a formal 10-15 talk on their research to the department early in the fall semester of each year. These talks occur presently at our annual 1-day Astronomy Symposium.
- 2) Students who are unable to participate in the 1-day event should contact the Graduate Coordinator ahead of time to schedule another date for their presentation.
- 3) In advance of these yearly talks, students will provide to their research committees a brief written outline of i) their major research activities during the past year, and ii) their plans and expected milestones for research in the coming year.
- 4) Following the talks, the research committees will provide feedback to the students on the quality of their talks. They will also communicate to the student, the research advisor and the Graduate Coordinator any other concerns they might have about the quality, scope or progress of the student's research overall.

#### IX. Dissertation Committee Meetings:

- 1) Students are required to meet with their PhD dissertation committees annually to provide status reports on their progress. Meetings are expected to include a brief introduction to the research (which may be skipped if the committee requests), a description and update of the timeline, and a discussion of progress toward milestones in the timeline.
- 2) In order to advance to the PhD defense, the student must meet their committee one year prior to their anticipated defense date with a specific plan for the final year's timeline. The goal of this meeting is to update the committee on the status and expected scope of the dissertation with enough lead time to accommodate the committee's recommendations.

#### X. Dissertation Defense Dates:

- 1) Oral dissertation defenses must be scheduled at least two weeks prior to the final submission deadline in that term. This minimum time interval is needed to incorporate revisions to the written thesis indicated by the committee.

#### XI. Exceptions to Specific Requirements

- 1) In special cases the graduate coordinator, with the approval of the department chair, may permit modifications or exceptions to specific requirements. In all cases the college requirements must remain satisfied.

## Core Courses

	CORE COURSES
AST 6245	Stellar Atmospheres & Radiative Processes
AST 6215	Stars and the Galaxy
AST 6309	Galaxies & Cosmology
AST 6336	Astrophysics of the Interstellar Medium
AST 6725C	Fundamentals of Observational Astronomy

		POSSIBLE ELECTIVE COURSES
1		Galaxy Formation and Evolution
2		High Energy Astrophysics
3		Star Formation
4		Active Galaxies
5		Stellar Populations
6		Neutron Stars & Black Holes
7		Exoplanets
8		Computational Astrophysics
9		Cosmology

Other Courses within the department. Not all of these courses are offered each year:

**AST 6905: Individual Work (1-6; max: 12)** Supervised study or research in areas not covered by other courses.

**AST 6925: Departmental Colloquium (1)** S/U

**AST 6935: Frontiers in Astronomy (1)** S/U

**AST 6936: Journal Club (1) S/U**

**AST 6971: Research for Master's Thesis (1-15) S/U.** Only permitted for a masters with thesis.

**AST 7939: Special Topics (2-4; max: 12)** Assigned reading, programs, seminar, or lecture series in a new field of advanced astronomy.

**AST 7979: Advanced Research (1-12)** Research for doctoral students before admission to candidacy. Designed for students with a master's degree in the field of study or for students who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy. S/U.

**AST 7980: Research for Doctoral Dissertation (1-15)** Research for doctoral students admitted to candidacy. S/U.

Detailed degree requirements from UF are specified on the graduate catalog page  
<https://gradcatalog.ufl.edu/graduate/degrees/>.