Department of Astronomy
Harvard University

Study Plan for First Year Graduate Students

Due Friday of the first week of classes

Your Name: Year: **2024**

Your Academic Advisor:

Registration and Course Selection

my.harvard.edu is where you will register for courses and Research/TF units each semester by adding courses to your Crimson Cart. When you first log in you will note that you have an Advising Hold on your cart. Your advisor will release this hold once you have met to discuss this Study Plan **by Friday of the first week of class**. While making your choices it may be helpful to discuss your options with other graduate students or your mentor.

Astrophysics Assessment

First year students are required to participate in an astrophysics inventory assessment during the Fall semester. This inventory will cover the basic concepts/core of astronomy and astrophysics that students coming from strictly physics or other disciplines might not know (magnitude and coordinate systems, flux definitions, elementary galactic structure, cosmological principles, etc.) More information is available here: http://astronomy.fas.harvard.edu/placement-examination

Your Study Plan is not strictly binding, but if you decide to change course selection in the Spring semester, you should discuss this with your advisor before registration.

Requirements for your PhD (current as of August, 2024)

1. Coursework

The course requirements for your PhD program are described below and online here: http://astronomy.fas.harvard.edu/astrocourses

Candidates for a PhD in Astronomy and Astrophysics should complete one core course in astronomy, at least five Astronomy electives, and at least one approved graduate course in another department. Participation in Astronomy 315 is highly recommended but not required.

All students should complete and obtain a satisfactory grade (B- or higher) in:

- Astronomy 200: Radiative Astrophysics

In addition, students are expected to obtain a satisfactory grade (B- or higher) in at least five of the following graduate level electives offered by Astronomy and other departments:

- Astronomy 201: Astrophysical Fluids & Plasmas
- Astronomy 202a: Extragalactic Astronomy & Cosmology I
- Astronomy 202b: Extragalactic Astronomy & Cosmology II

(or Physics 212 Cosmology)

- Astronomy 203: Interstellar Medium & Star Formation
- Astronomy 204: Stellar Astrophysics
- Astronomy 205: Machine Learning in Astrophysics
- Astronomy 209: Exoplanet Systems
- Astronomy 214: Observational Astronomy
- Physics 210: General Relativity
- Data Analysis (Physics 201 or Applied Math 207 but not both)
- Earth & Planetary Science (EPS 220 or EPS 237 but not both)

Each student is expected to complete for credit one 200-level course outside the department. Known as the Practical Elective, this course should pertain to a student's research field of interest or assist the student in furthering research skills in such areas as data analysis, engineering, geology, chemistry or biology. Any one of the non-Astronomy courses listed as electives in category 2 above can be used as the Practical Elective but taking one course cannot be used to meet two requirements. *Your advisor must approve your choice of the Practical Elective. (see below).*

2. Teaching

All students, independent of their financial support, must teach two semesters as part of their educational requirements. First year students may **not** register as TF's, unless they receive permission from their advisor. Students with an NSF scholarship are typically not allowed to teach during their first year, per NSF rules, although exceptions can be made in particular circumstances. See the Graduate Program section on teaching on the department website for more comprehensive advisories:
https://astronomy.fas.harvard.edu/astro-teaching

3. Research Exam

Students typically identify a research advisor and research project during their first year and begin work on the project by the start of their second semester, if not sooner. Officially, a student must decide on their research advisor by the end of the spring semester and should forward the name of the advisor to the Department Office. The selected research advisor then becomes the student's academic advisor as well. More information about research projects is available here:
http://astronomy.fas.harvard.edu/research-project.

4. Outreach Project(s)

This requirement of our PhD program is usually satisfied later in your career here at Harvard. However, we list it here so that you can start thinking about what you might wish to do. Learn more here: http://astronomy.fas.harvard.edu/public-outreach-project.

Course and Teaching Plan

Please check or list below the courses you intend to take during your first two years (i.e., four semesters). Check Astro 300 (research time) and indicate the number of units as needed to add up to 16 units. You should write in courses from other departments and include the number of units for each. When you teach, you will select the appropriate number of units for Astro 301 (4 is default). (**Physics 212: Cosmology can be taken in lieu of Astron 202B.**)

2024 Fall	**2025 Spring**	**2025 Fall**	**2026 Spring**
☐ Astro 200 (4)	☐ Astro 201 (4)	☐ Astro 202a (4)	☐ Astro 201 (4)
☐ Astro 204 (4)	☐ Astro 203 (4)	☐	☐ Astro 202b (4)
☐ Math 207	☐ Physics 212 (4)	☐ Physics 210 (4)	☐
		☐ Astro 315 (4)	☐ Astro 301 (4)
Astro 300 Units: 4 8 12	Astro 300 Units: 4 8 12	Astro 300 Units: 4 8 12	Astro 300 Units: 4 8 12
Total Units: **Total Units Should Equal 16**	Total Units: **Total Units Should Equal 16**	Total Units: **Total Units Should Equal 16**	Total Units: **Total Units Should Equal 16**

Practical Elective

Please indicate which course above might be your practical elective:
We understand that this may change over time as your research focus changes.

In a few sentences, explain how you anticipate this course will assist your research:

Advisor approval is indicated here by initials:

Signatures

Date: Signature of Student

I have discussed this study plan with the student, and I approve it.

Date: Signature of Adviser

Type last name of Advisor:

For Fall 2024 semester, this form should be completed and submitted by September 6 to mpalmer@cfa.harvard.edu Electronic signatures are preferred.