Doctor of Philosophy - Astronomy

Plan Description

The purpose of the Astronomy M. S. and Ph. D. degrees are to prepare students for a career in Astronomy or Astrophysics Research or in education at the university level. The program achieves this with a custom program for each student set up by their advisor and their advising committee. In the case of the Ph. D. the research must be original research conducted independently by the student.

For more information about your program, including your graduate program handbook and learning outcomes please visit the Degree Directory.

Plan Admission Requirements

Application deadlines

Applications available on the UNLV Graduate College website.

1. Applicants must have ~~an~~ **a regionally accredited** undergraduate degree or a Masters degree in Physics, Astronomy or related area.
2. Applicants must have a minimum GPA of 2. 75 for all undergraduate work or a minimum 3. 00 GPA for the last two years of undergraduate work.
3. Applicants seeking direct admission to the doctoral program without a previously earned Master of Science degree ~~must~~ **will preferably** have a score in the 65th percentile or above on the Advanced Physics portion of the GRE before admission and have a minimum GPA of 3. 00 for all undergraduate work or an overall 3. 25 GPA for the last two years of undergraduate work.
4. Applicants with a Master's degree must have an overall 3. 00 GPA in their Master's program and at least 15 credits of graduate-level course work in physics or astronomy with a grade of B or better. A student entering with a Master's degree will be required to complete at least 30 additional credits, including dissertation credits, beyond the Masters.

All domestic and international applicants must review and follow the Graduate College Admission and Registration Requirements.

Students are accepted into a degree program as described in the Graduate Catalog. The faculty and corresponding sub-disciplines and sub-plans within the described programs are subject to change at any time.

Plan Requirements

See Subplan Requirements below.

Subplan 1: Post-Bachelor's

Subplan 2: Post-Master's

Subplan 1 Requirements: Post-Bachelor's

Total Credits Required: 60

Course Requirements

Required Courses – Credits: 9

AST 713 Astrophysics I	3
AST 714 Astrophysics II	3
PHYS 700 Mathematical Physics I	3

Theory Course – Credits: 3

Complete one of the following courses:

PHYS 711 Electromagnetic Theory I	3
PHYS 721 Quantum Theory I	3
PHYS 702 Classical Mechanics I	3

Astronomy Courses – Credits: 9

Complete three of the following courses:

AST 710 Observational Astronomy Techniques	3
AST 721 Astrophysics of Gaseous Nebulae and Active Galactic Nuclei	3
AST 723 Astrophysical Fluids	**3**
AST 725 High Energy Astrophysics	3
AST 727 Cosmology	3
AST 729 Galaxies	**3**
AST 731 Stellar Atmospheres: Theory, Observation, and Analysis	3
AST 747 Interstellar Medium	3
PHYS 771 Advanced Topics in Experimental and Theoretical Physics	3

Graduate Seminar Course – Credits: 6

Complete 6 credits of the following course, including three acceptable presentations.

PHYS 796 Graduate Seminar	1

Elective Courses – Credits: 15

Complete 15 credits of 600- or 700-level AST or PHYS courses, or other advisor-approved courses.

Dissertation – Credits: 18

PHYS 799 Doctoral Dissertation	3 – 6

Degree Requirements

1. The student must complete a minimum of 60 credits.
2. A minimum grade of B- is required in each course. An overall GPA of 3.00 or better is required in all course work which is part of the degree program.
3. Satisfactory performance on an astronomy qualifying examination on graduate astronomy knowledge. This requirement must be fulfilled by the second year in the program. Students who fail to pass the exam within the specified timeline will be placed on academic probation and will be allowed one retake of the exam. Failure to pass the retake or meet the requirements of academic probation will result in separation.
4. A dissertation of high quality consisting of significant original research.
5. Satisfactory performance on a final examination which will consist of an oral defense of the dissertation.

Graduation Requirements

See Plan Graduation Requirements below.

Subplan 2 Requirements: Post-Master's

Total Credits Required: 30

Course Requirements

Required Courses – Credits: 0-9

Complete 0-9 credits from the following list of courses:

AST 713 Astrophysics I	3
AST 714 Astrophysics II	3
PHYS 700 Mathematical Physics I	3

Theory Course – Credits: 0-3

Complete 0-3 credits from the following list of courses:

PHYS 702 Classical Mechanics I	3
PHYS 711 Electromagnetic Theory I	3
PHYS 721 Quantum Theory I	3

Astronomy Courses – Credits: 0-9

Complete 0-9 credits from the following list of courses:

AST 710 Observational Astronomy Techniques	3
AST 721 Astrophysics of Gaseous Nebulae and Active Galactic Nuclei	3
AST 725 High Energy Astrophysics	3
AST 727 Cosmology	3
AST 731 Stellar Atmospheres: Theory, Observation, and Analysis	3
AST 747 Interstellar Medium	3
PHYS 771 Advanced Topics in Experimental and Theoretical Physics	3
AST 723 Astrophysical Fluids	**3**
AST 729 Galaxies	**3**

Seminar Course – Credits: 0-6

Complete 0-6 credits of the following, including three acceptable presentations.

PHYS 796 Graduate Seminar	1

Dissertation – Credits: 18

PHYS 799 Doctoral Dissertation	3 – 6

Degree Requirements

1. Students must take an advisor approved combination of the coursework listed above, completing a minimum of 30 credits. Additional credits may be required to address student deficiencies or build specialized expertise.
2. The total number of Required, Theory, Astronomy, and Seminar courses will be determined in consultation with the student's advisor.
3. A minimum grade of B- is required in each course. An overall GPA of 3.00 or better is required in all course work which is part of the degree program.
4. Satisfactory performance on an astronomy qualifying examination on graduate astronomy knowledge. This requirement must be fulfilled by the second year in the program. Students who fail to pass the exam within the specified timeline will be placed on academic probation and will be allowed one retake of the exam. Failure to

pass the retake or meet the requirements of academic probation will result in separation.
5. A dissertation of high quality consisting of significant original research.
6. Satisfactory performance on a final examination which will consist of an oral defense of the dissertation.

Graduation Requirements

See Plan Graduation Requirements below.

Plan Graduation Requirements

1. The student must submit all required forms to the Graduate College as well as apply for graduation up to two semesters prior to completing their degree requirements.
2. The student must pass a qualifying exam and submit and successfully defend their dissertation by the posted deadline. The defense must be advertised and is open to the public.
3. After the dissertation defense, the student must electronically submit a properly formatted pdf copy of their dissertation to the Graduate College for format check. Once the dissertation format has been approved by the Graduate College, the student will submit the approved electronic version to ProQuest. Deadlines for dissertation defenses, format check submissions, and the final ProQuest submission can be found here.