School of Earth and Space Exploration
Arizona State University

Requirements for the Astrophysics Minor

A total of 20 credit hours are required for the minor, although there are additional requirements in math and physics needed for pre-requisites. (See bottom of 2nd page for more information.)

Students complete 12 credit hours of required coursework and select one of three options worth at least 8 credit hours to complete the minor. All courses must be completed with a grade of "C" (2.00 on a 4.00 scale) or higher.

Required Courses - 12 credit hours

AST 321 Introduction to Planetary and Stellar Astrophysics (3)
AST 322 Introduction to Galactic and Extragalactic Astrophysics (3)
AST 421 Astrophysics I (3)
AST 422 Astrophysics II (3)

Electives Options - 8 credit hours (choose one)

Option 1:
SES 121 Earth, Solar System and Universe (3)
SES 123 Earth, Solar System and Universe Laboratory
SES 126 Exploration of the Universe (3)
SES 128 Exploration of the Universe Lab (1)

Option 2:
AST 111 Introduction to Solar Systems Astronomy (4)
AST 112 Introduction to Stars, Galaxies, and Cosmology (4)

Option 3:
AST OR MAT OR PHY OR SES Upper Division Electives (8)

Additional notes:

- SES 121/123 and 126/128 are generally reserved for SESE majors, so it's recommended that non-SESE majors pursue either Option 1 or Option 3. Option 1 provides the AST 112 prerequisite for AST 321 and AST 322.
- Additional prerequisite courses may be needed to complete the requirements of this minor. Please see the bottom of Page 2 for the list of additional pre-requisites needed.
- Students cannot double count courses in a minor toward the core classes in their major, so certain combinations of majors and minors are not permitted.
- Students must take at least 12 of the 20 units required for the minor at ASU. Transfer coursework must be evaluated by a SESE advisor before it can be applied toward the minor requirements. Students must receive a "C" or better in all required courses for the minor.

Incompatible Majors: BS in earth and space exploration (astrophysics); other BS in earth and space exploration concentrations are only compatible with the astrophysics minor as long as option 2 or 3 of the minor are pursued.

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Astrophysics Minor Prerequisites

Course	Title	Offering	Pre-requisities
AST321	Introduction to Planetary and Stellar Astrophysics	F	AST 112, or both SES 126 and 128; MAT 266 or MAT 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better
AST322	Introduction to Galactic and Extragalactic Astrophysics	S	AST 112, or both SES 126 and 128; MAT 266 or MAT 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better
AST421	Astrophysics I	S	AST 321 or AST 322 with C or better; PHY 252 with C or better
AST422	Astrophysics II	F	AST 321 or AST 322 with C or better; PHY 252 with C or better
SES121	Earth, Solar System and Universe	F	
SES123	Earth, Solar System and Universe Lab	F	Pre- or corequisite: SES 121 with C or better if completed
SES126	Exploration of the Universe	S	Prerequisite: SES 121 with C or better; Pre- or corequisites: MAT 170, 171, 210, 251, 265, or 270 with C or better if completed
SES128	Exploration of the Universe Lab	S	Prerequisite: SES 123 with C or better; Pre- or corequisite: SES 126 with C or better if completed
AST111	Intro to Solar Systems Astronomy and Lab	F/SS*	
AST112	Intro Stars, Galaxies & Cosmology and Lab	S/SS*	

F=Fall, S=Spring, SS=Summer Session

*May not be offered every summer

Additional math and physics prerequisites needed for the completion of this minor:

MAT 265 (3) or MAT 270 (4) Calculus I
MAT 266 (3) or MAT 271 (4) Calculus II
MAT 267 (3) or MAT 272 (4) Calculus III
PHY 121/122 (3/1) or PHY 150 (4) University Physics I
PHY 131/132 (3/1) or PHY 151 (4) University Physics II
PHY 252 (4) University Physics III

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Updated 2/25/2025 by Kelli Wallace