

# ASTRONOMY (ASTR) MINOR

Code	Title	Credits
<b>Required Minor Courses</b>		
PHYS 1055	Introduction to Astronomy	3
PHYS 1056	Introduction to Astronomy	3
PHYS 1155	Astronomy Laboratory	1
PHYS 1156	Astronomy Laboratory	1
PHYS 3154	Observational Astrophysics	2
PHYS 3655	Introduction to Astrophysics	3
PHYS 3656	Introduction to Astrophysics	3
Subtotal		16
<b>Elective Courses</b>		
Select one of the following:		3
PHYS 3355	Intermediate Mechanics	
PHYS 3405	Intermediate Electricity and Magnetism	
PHYS 4574	Nanotechnology	
PHYS 4614	Optics	
PHYS 4654	Modern Cosmology	
PHYS 4664	Astroparticle Physics	
PHYS 4674	Introduction to General Relativity	
PHYS 4714	Introduction to Biophysics	
PHYS 4755	Introduction to Computational Physics	
PHYS 4774	Intro to Physics of Galaxies	
BIOL 2134	Cell Function and Differentiation	
BIOL 2704	Evolutionary Biology	
GEOS 4154	Earthquake Seismology	
GEOS 4714	Volcanoes and Volcanic Processes	
AOE 3154	Astromechanics	
ECE 4114	Antennas	
ECE 4124	Radio Wave Propagation	
ECE 4144	Optical Systems	
ESM 3024	Introduction to Fluid Mechanics	
Subtotal		3
<b>Total Credits</b>		<b>19</b>

## Graduation Requirements

### Acceptable Substitutions:

- PHYS 3355 Intermediate Mechanics: AOE 3154 Astromechanics, **or** ESM 3124 Dynamics II- Analytical and 3-D Motion.
- PHYS 3405 Intermediate Electricity and Magnetism: ECE 3105 Electromagnetic Fields.

### Minimum Hours and GPA Required for Graduation

A minimum overall and in-minor GPA of 2.0 is required for graduation. All minor courses attempted are used in the calculation of the in-minor GPA.

### Prerequisites and Corequisites

Courses in this minor have prerequisites or corequisites. Please check with your advisor or consult the Undergraduate Course Catalog.