

**College of Science
Department of Physics
Minor: ASTRONOMY
For students graduating in calendar year 2019**

The Minor in Astronomy requires the completion of 19 credit hours.

I. Required courses (16 credit hours)

PHYS 1055 Introduction to Astronomy	3 <input type="checkbox"/>
PHYS 1056 Introduction to Astronomy	3 <input type="checkbox"/>
PHYS 1155 Astronomy Laboratory	1 <input type="checkbox"/>
PHYS 1156 Astronomy Laboratory	1 <input type="checkbox"/>
PHYS 3154 Observational Astrophysics	2 <input type="checkbox"/>
PHYS 3655 Introduction to Astrophysics I	3 <input type="checkbox"/>
PHYS 3656 Introduction to Astrophysics II	3 <input type="checkbox"/>

3 credit hours from the list below:

PHYS 3355 Intermediate Mechanics	3 <input type="checkbox"/>
PHYS 3405 Intermediate Electricity and Magnetism	3 <input type="checkbox"/>
PHYS 4504 Introduction to Nuclear and Particle Physics	3 <input type="checkbox"/>
PHYS 4574 Nanotechnology	3 <input type="checkbox"/>
PHYS 4614 Optics	3 <input type="checkbox"/>
PHYS 4654 Modern Cosmology	3 <input type="checkbox"/>
PHYS 4674 Introduction to General Relativity	3 <input type="checkbox"/>
PHYS 4714 Introduction to Biophysics	3 <input type="checkbox"/>
PHYS 4755 Intro to Computational Physics	3 <input type="checkbox"/>
PHYS 4774 Intro to Physics of Galaxies	3 <input type="checkbox"/>
BIOL 2104 Cell and Molecular Biology	3 <input type="checkbox"/>
BIOL 2704 Evolutionary Biology	3 <input type="checkbox"/>
GEOS 3114 Introduction to Meteorology	3 <input type="checkbox"/>
GEOS 4154 Earthquake Seismology	3 <input type="checkbox"/>
GEOS 4714 Volcanoes and Volcanic Processes	3 <input type="checkbox"/>
AOE 4134 Astromechanics	3 <input type="checkbox"/>
ECE 4114 Antennas	3 <input type="checkbox"/>
ECE 4124 Radio Wave Propagation	3 <input type="checkbox"/>
ECE 4144 Introduction to Optical Information Processing	3 <input type="checkbox"/>
ECE 4604 Applied Spectral Analysis and Filtering	3 <input type="checkbox"/>
ESM 3016 Fluid Mechanics II	3 <input type="checkbox"/>
ESM 3024 Introduction to Fluid Mechanics	3 <input type="checkbox"/>
ESM 4524 Introduction to Wave Motion	3 <input type="checkbox"/>

Total 19 credit hours.

II. Prerequisites and/or Corequisites

For the courses listed above, prerequisites and/or corequisites may apply: see your advisor.

III. Minimum GPA

For the courses attempted by the student for this minor, the student's GPA must be 2.0 or higher.

IV. Accepted Substitutions

PHYS 3355: AOE 4134 (Astromechanics), or ESM 3124 (Dynamics II Analytical and 3-D Motion).
PHYS 3405: ECE 3105 (Electromagnetic Fields).