School of Earth and Space Exploration
Arizona State University

Catalog Year: 2025-2026

The BS degree in Earth and Space Exploration with a concentration in Astrobiology & Biogeosciences requires the following core courses (33 credits):

SES 121 Earth, Solar System & Universe (3) and
SES 123 Earth, Solar System & Universe Lab (1)
Select one set:
SES 122 History of Earth & Solar System (3) and
SES 124 History of Earth & Solar System Lab (1)
OR
SES 126 Exploration of the Universe (3) and
SES 128 Exploration of the Universe Lab (1)

BIO 340 General Genetics (4)
BIO 345 Organic Evolution (3)
GLG 321 Mineralogy (3)
GLG 481 Geochemistry (3)
SES 311 Essentials of Astrobiology (3)
SES 350 Eng Sys & Exper Problem Solving (3)
SES 410 Senior Exploration Project I (3)
SES 411 Senior Exploration Project II (3)

AND at least THREE additional upper-division major electives from related AST/GLG/SES topics (9 credits). Select from the following list of suggested courses or substitute with advisor approval:

AST 321 Stellar and Planetary Astrophysics (3)
BIO 320 Fundamentals of Ecology (3)
GLG 325 Oceanography (3)
GLG 404 Fundamentals of Planetary Geology (3)
GLG 435 Sedimentology and Stratigraphy (3)
GLG 460 Astrobiology (3)
GLG 461 Geomicrobiology (3)
GLG 485 Meteorites and Cosmochemistry (3)
GLG 489 Field Geochemistry (3)
GLG 490 Remote Sensing (3)
SES 421 Foundations of Planetary Science (3)

Additional required courses in related math and science fields (33 credits):

BIO 181 General Biology I (4)
BIO 182 General Biology II (4)
CHM 113 General Chemistry I (4)
CHM 116 General Chemistry II (4)
MAT 265 Calculus for Engineers I (3) or MAT 270 Calc with Analytic Geometry I (4)
MAT 266 Calculus for Engineers II (3) or MAT 271 Calc with Analytic Geometry II (4)
MAT 267 Calculus for Engineers III (3) or STP 231 Statistics for Life Science (3)
PHY 121 University Physics I: Mechanics (3)
PHY 122 University Physics Laboratory I (1)
PHY 131 University Physics II: Electricity and Magnetism (3) or PHY 112 General Physics (3)*
PHY 132 University Physics Laboratory II (1) or PHY 114 General Physics Laboratory (1)*

*Students must take the corresponding lab with the appropriate lecture (both PHY 131 & PHY 132 OR both PHY 112 & PHY 114) for a total of 4 credits to fulfill this requirement on DARS.

IMPORTANT NOTES:

- Students must receive a grade of "C" or better in all of the above courses in order for them to count toward the major. Upper-division courses consist of those at the 300 and 400 level with numbers between 300-499.
- This document reflects updated degree changes for Fall 2024 and beyond. If you are in an earlier catalog year, your requirements may be different. Make sure to check your major map and DARS report to see the requirements for your catalog year, and consult with your major advisor if you have any questions. Each student's major map reflects the official catalog year requirements for their degree program.
- Substitutions for any of the requirements above must be pre-approved by a SESE advisor and/or SESE Undergraduate Committee. The student must notify the advisor if substitutions or other requirements are not showing correctly on DARS.