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 Exploration Systems Design requires the following core courses (34 credits):

SES 100 Introduction to Exploration (3)
SES 121 Earth, Solar Sys & Universe (3) and
SES 123 Earth, Solar Sys & Universe Lab (1)
Select one set:
SES 122 History of Earth & Solar Sys (3) and
SES 124 History of Earth & Solar Sys Lab (1)
OR
SES 126 Exploration of the Universe and
SES 128 Exploration of the Universe Lab
EEE 202 Circuits I (4)
MAE 201 Mech. Particles/Rigid Bodies I: Statics (3)
SES 330 Practical Electronics & Instrumentation (4)
SES 350 Eng Syst & Experimental Prob Solving (3)
SES 405 Exploration Systems Engineering (3)
SES 410 Senior Exploration Project I (3)
SES 411 Senior Exploration Project II (3)

In addition, one Upper-division Elective course must be taken (3 credits). Select from the following or substitute with advisor approval:

AST 321 Stellar and Planetary Astrophysics (3)
AST 322 Intro Galactic & Extragalactic Astro (3)
GLG 321 Mineralogy (3)
GLG 404 Fundamentals Planetary Geology (3)
GLG 424 Petrology (3)
GLG 471 Hydrology (3)
SES 307 Space Works I: Design, Build, Test (3)
SES 311 Essentials of Astrobiology (3)
SES 407 Space Works II: Model, Fabricate, Test (3)
SES 421 Foundations of Planetary Science (3)

Required courses in related math and science fields (24 credits):

CHM 114 General Chemistry for Engineers or CHM 116 General Chemistry II (4)*
MAT 265 Calculus for Engineers I (3) or MAT 270 Calculus with Analytic Geometry I (4)
MAT 266 Calculus for Engineers II (3) or MAT 271 Calculus with Analytic Geometry II (4)
MAT 267 Calculus for Engineers III (3) or MAT 272 Calculus with Analytic Geometry III (4)
MAT 275 Modern Differential Equations (3)
PHY 121 University Physics I: Mechanics (3)
PHY 122 University Physics Laboratory I (1)
PHY 131 University Physics II: Electricity and Magnetism (3)
PHY 132 University Physics Laboratory II (1)

*Students may substitute CHM 116 for CHM 114 (must take both CHM 113 and CHM 116)

IMPORTANT NOTES:

- **Students must receive C's or better in all of the above courses in order for them to count toward the major.**
- **The major map for the student's catalog year represents the official catalog for the degree.**
- **Substitutions for any of the requirements above must be approved by a SESE advisor and the student must notify the advisor if substitutions or other requirements are not showing up on the DARS correctly.**

The College of Liberal Arts and Sciences
PO Box 876004 Tempe, AZ 85287-6004
p: 480-965-5081 **f:** 480-965-8102 **web:** sese.asu.edu

Updated 7/23/2025 by KWallace