

The BS degree in Earth and Space Exploration requires the following core courses (21 units):

SES 100 Intro to Exploration (3)	SES 350 Engr Sys & Exper Prob Solving (3)*
SES 121 Earth, Solar Sys, & Univ I (3)	GLG 400 SESE Colloquium (1)
SES 122 Earth, Solar Sys, & Univ II (3)	SES 410 Senior Exploration Project I (3)
SES 123 Earth, Solar Sys, & Univ Lab I (1)	SES 411 Senior Exploration Project II (3)
SES 124 Earth, Solar Sys, & Univ Lab II (1)	

In addition, four of the following branch courses must be taken (12 units):

AST 321 Intro Planetary and Stellar Astr (3)	GLG 471 Hydrology (3)
AST 322 Intro Galactic and Extragalactic Astr (3)	GLG 481 Geochemistry (3)
GLG 310 Structural Geology (3)	GLG 490 Remote Sensing (3)
GLG 321 Mineralogy (3)	SES 311 Essentials of Astrobiology (3)
GLG 418 Geophysics (3)	SES 330 Electronics Instrumentation (4)
GLG 424 Petrology (3)	SES 405 Exploration Sys Engineering (3)

AND 2 Upper Division SES/AST/GLG/ Electives (6)**

Required courses in other related fields include the following (24 units):

CHM 114 General Chemistry for Engineers (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)

*In previous catalog years, SES210 and SES310 were required in place of SES350 and students only needed to take 3 branch courses. However, SES210 and SES310 are no longer available. Students who have not already taken SES210 and SES310 are now required to take SES350 and an additional branch course (for a total of 4 branch courses). Students who took SES210 but not SES310, cannot take SES350 but can substitute SES310 with the addition of another branch course (for a total of 4 branch courses). Students who took SES310 but not SES210 can do SES350 in place of SES210 and would only need 3 branch courses. Students who already took both SES210 and SES310 cannot take SES350 and only need 3 branch courses, per the original SES degree requirements. All students will still need the 2 Upper Division SES/AST/GLG electives.

**Any 3-credit SES, AST or GLG courses that are 300 or 400 level can count toward the SES/AST/GLG electives

***Students may substitute both CHM113 and CHM116 for CHM114

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 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**