










2023 - 2024 Major Map

Earth and Space Exploration (Geological and Planetary Sciences), BS

School/College: [The College of Liberal Arts and Sciences](#)
LASESGSBS

This program's name has changed effective Fall 2024. The previous name was Earth and Space Exploration (Geological Sciences).

Term 1 0 - 14 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 Mathematics (MA)	3	C	<ul style="list-style-type: none"> Students who place into MAT 265 should take the course in term 1 to complete the MA requirement. LIA 101 is mandatory for all incoming first-year students. SESE will accept Calculus with Analytic Geometry I, II and III (MAT 270/271/272) in place of MAT 265/266/267. SESE majors are strongly encouraged to meet with their faculty mentor at least once during their first and second year. Students can find their faculty mentor on the SESE advising website. Select your career interest area and play me3@ASU. Activate your Handshake account and build out your profile.
ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition	3	C	
LIA 101: Student Success in The College of Liberal Arts and Sciences	1		
SES 121: Earth, Solar System and Universe (SQ) AND SES 123: Earth, Solar System and Universe Laboratory (SQ)	4	C	
Social-Behavioral Sciences (SB) AND Cultural Diversity in the U.S. (C)	3		
Term hours subtotal:	14		
Term 2 14 - 28 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 113: General Chemistry I (SQ)	4	C	<ul style="list-style-type: none"> SESE will accept Calculus with Analytic Geometry I, II and III (MAT 270/271/272) in place of MAT 265/266/267. SESE majors are strongly encouraged to meet with their faculty mentor at least once during their first and second year. Students can find their faculty mentor on the SESE advising website. Join a student club or professional organization. Create a first draft resume.
 MAT 265: Calculus for Engineers I (MA)	3	C	
ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition	3	C	
SES 122: History of the Earth and Solar System AND SES 124: History of the Earth and Solar System Laboratory	4	C	
 Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Milestone: Complete SESE faculty mentoring.			
Term hours subtotal:	14		
Term 3 28 - 44 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 116: General Chemistry II (SQ)	4	C	<ul style="list-style-type: none"> SESE will accept Calculus with Analytic Geometry I, II and III (MAT 270/271/272) in place of MAT 265/266/267. SESE majors are strongly encouraged to meet with their faculty mentor at least once
 MAT 266: Calculus for Engineers II (MA)	3	C	
SES 230: Coding for Exploration (CS)	3	C	

Humanities, Arts and Design (HU) AND Historical Awareness (H)	3
Elective	3
❗ Complete First-Year Composition requirement.	
Complete Mathematics (MA) requirement.	
Term hours subtotal:	16

Term 4 44 - 60 Credit Hours Critical course signified by ❗	Hours	Minimum Grade	Notes
❗ MAT 267: Calculus for Engineers III (MA)	3	C	<ul style="list-style-type: none"> • SESE will accept Calculus with Analytic Geometry I, II and III (MAT 270/271/272) in place of MAT 265/266/267. • SESE majors are strongly encouraged to meet with their faculty mentor at least once during their first and second year. Students can find their faculty mentor on the SESE advising website. • Students should note that upcoming capstone classes, GLG 451 (offered in spring) and GLG 452 (offered in summer), are field trip-based courses. • Explore an internship.
❗ PHY 121: University Physics I: Mechanics (SQ) AND PHY 122: University Physics Laboratory I (SQ)	4	C	
Science and Society Elective	3	C	
Social-Behavioral Sciences (SB) AND Global Awareness (G)	3		
Elective	3		
Milestone: Complete SESE faculty mentoring.			
Term hours subtotal:	16		

Term 5 60 - 76 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ GLG 310: Structural Geology	3	C	<ul style="list-style-type: none"> • Students need two GLG branch courses (six credits) and three upper-division GLG or SES electives (nine credits). Electives may be chosen from the branch course list or students may take any other upper-division GLG or SES courses offered by the School of Earth and Space Exploration. • Students should meet with a faculty advisor to discuss research opportunities. • Students should note that upcoming capstone classes, GLG 451 (offered in spring) and GLG 452 (offered in summer), are field trip-based courses.
★ GLG 321: Mineralogy	3	C	
PHY 131: University Physics II: Electricity and Magnetism (SQ) AND PHY 132: University Physics Laboratory II (SQ)	4	C	
GLG OR SES Upper Division Elective	3	C	
Upper Division Science and Society Elective	3	C	
Term hours subtotal:	16		

Term 6 76 - 89 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ GLG 451: Field Geology I (L)	3	C	<ul style="list-style-type: none"> • GLG 451 requires some weekend field trips as well as a field trip over spring break. • Explore a research or internship opportunity. In order to earn credits for research or an internship, students should work with their SESE advisor for approval. Students who hope to go to graduate school should consider getting involved in research. Students should talk to faculty mentors about how to find research opportunities. • Students interested in graduate school should be researching programs and preparing application materials. Continue to meet with faculty advisor for input along the way. • Use Handshake to research employment opportunities.
SES 401: Earth and Space Exploration Colloquium	1	C	
GLG OR SES Upper Division Elective	3	C	
Humanities, Arts and Design (HU)	3		
Upper Division Elective OR SES 484: Internship OR SES 499: Individualized Instruction	3		
★ Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).			
Term hours subtotal:	13		

during their first and second year. Students can find their faculty mentor on the [SESE advising website](#).

- Develop your [skills](#).

Summer 6 89 - 92 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ GLG 452: Field Geology II (L)	3	C	<ul style="list-style-type: none"> For GLG 452, students will take an ~3 week field trip to other parts of Arizona and/or nearby states.
Term hours subtotal:	3		

Term 7 92 - 107 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Upper Division GLG Branch Course	3	C	<ul style="list-style-type: none"> Students interested in graduate school should be researching programs and preparing application materials. Continue to meet with faculty advisor for input along the way. Apply for career opportunities.
GLG OR SES Upper Division Elective	3	C	
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)	3		
Complete 2 courses:	6		
Elective			
Term hours subtotal:	15		

Term 8 107 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Upper Division GLG Branch Course	3	C	
Complete 3 courses:	8		
Upper Division Elective			
Elective	2		
Term hours subtotal:	13		

- All students pursuing a BS or BSP degree in The College of Liberal Arts and Sciences must complete two courses from the Science and Society list found at <https://thecollege.asu.edu/student-resources/science-society>. At least one of the two courses must be upper division and students must earn a C or better in the courses. Both Science and Society courses (i.e., all six credits) may count towards any major, minor, related fields, and ASU General Studies requirements.

Hide Course List(s)/Track Group(s)

Upper Division GLG Branch Courses
GLG 362: Geomorphology
GLG 418: Geophysics
GLG 424: Petrology
GLG 430: Paleontology
GLG 435: Sedimentology and Stratigraphy
GLG 471: Hydrology
GLG 481: Geochemistry

Notes:

- First-Year Composition: All students are placed in ENG 101 unless submission of SAT, ACT, Accuplacer, IELTS, or TOEFL score, or college-level transfer credit or test credit equivalent to ASU's first-year composition course(s), determine otherwise. Students on Polytechnic, Downtown Phoenix and West Campuses are encouraged to complete the Directed Self-Placement survey to choose the first-year composition option they believe best suits their needs. Visit: <https://cisa.asu.edu/DSP>
- Mathematics Placement Assessment score determines placement in first mathematics course.

Please keep in mind that the applicability of a specific transfer course toward an ASU degree program depends on the requirements of the department, division, college or school in which you are enrolled at ASU. Transfer agreements that guarantee the completion of university level requirements do not necessarily meet college and major requirements. Please consult with an advisor for more information.

Total Hours: 120

Upper Division Hours: 45 minimum

Major GPA: 2.00 minimum

Cumulative GPA: 2.00 minimum

Total hrs at ASU: 30 minimum

Hrs Resident Credit for

Academic Recognition: 56 minimum

Total Community College Hrs: 64 maximum

Total College Residency Hrs: 12 minimum

General University Requirements Legend

General Studies Core Requirements:

- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)

First-Year Composition

General Studies designations listed next to courses on the major map were valid for the 2023 - 2024 academic year. Please refer to the course catalog for current General Studies designations at time of class registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.