










2024 - 2025 Major Map

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



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




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 (MATH)	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. ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students. SESE will accept Calculus with Analytic Geometry I and II (MAT 270/271) in place of MAT 265/266. 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 Communities 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 (SCIT OR SQ) AND SES 123: Earth, Solar System and Universe Laboratory (SCIT OR SQ)	4	C	
Social and Behavioral Sciences (SOBE)	3		
Term hours subtotal:	14		
Term 2 14 - 28 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 114: General Chemistry for Engineers (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> SESE will accept Calculus with Analytic Geometry I and II (MAT 270/271) in place of MAT 265/266. SESE will accept CHM 116 in place of CHM 114. 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 (MATH OR 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 - 43 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 MAT 266: Calculus for Engineers II (MATH OR MA)	3	C	<ul style="list-style-type: none"> SESE will accept Calculus with Analytic Geometry I and II (MAT 270/271) in place of MAT 265/266.
SES 230: Coding for Exploration (QTRS OR CS)	3	C	
Science and Society Elective	3	C	

Humanities, Arts and Design (HUAD)	3
Sustainability (SUST)	3
 Complete First-Year Composition requirement.	
Complete Mathematics (MATH) requirement.	
Term hours subtotal:	15

- 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](#).
- Develop your **skills**.

Term 4 43 - 59 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 PHY 121: University Physics I: Mechanics (SCIT OR SQ) AND PHY 122: University Physics Laboratory I (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> • SESE will accept Calculus with Analytic Geometry I and II (MAT 270/271) in place of MAT 265/266. • 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.
GLG 305: Dynamic Earth	3	C	
Humanities, Arts and Design (HUAD)	3		
Complete 2 courses:			
Elective	6		
Milestone: Complete SESE faculty mentoring.			
Term hours subtotal:	16		

Term 5 59 - 74 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 GLG 310: Structural Geology	3	C	<ul style="list-style-type: none"> • Students need four GLG branch courses (one from Tier 1 and three from Tier 2) 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	
GLG OR SES Upper Division Elective	3	C	
Upper Division Science and Society Elective	3	C	
Global Communities, Societies and Individuals (GCSI)	3		
Term hours subtotal:	15		

Term 6 74 - 87 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 weekend field trips and a field trip over spring break. • Students need four GLG branch courses (one from Tier 1 and three from Tier 2) and three upper-division GLG or SES electives (nine credits). Electives may be from the branch course list or students may take any other upper-division GLG or SES courses offered by SESE. • Explore a research or internship https://bitly.ws/335Nf >internship opportunity. In order to earn credits for research or an internship, students should work with their SESE advisor for approval. Students hoping to go to graduate school should consider getting involved in research and talk to faculty mentors about how to find research opportunities.
 Upper Division GLG Branch Courses, Tier 1	3	C	
SES 401: Earth and Space Exploration Colloquium	1	C	
GLG OR SES Upper Division Elective	3	C	
Upper Division GLG Branch Courses, Tier 2	3	C	
Term hours subtotal:	13		

- Students interested in graduate school should research programs and prepare application materials. Continue to meet with faculty advisor for input along the way.
- Use Handshake to research **employment** [target="_blank">https://bitly.ws/335Nf](https://bitly.ws/335Nf)>employment opportunities.

Summer 6 87 - 90 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ GLG 452: Field Geology II (L)	3	C	
Term hours subtotal:	3		• For GLG 452, students will take an ~3 week field trip to other parts of Arizona and/or nearby states.

Term 7 90 - 105 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Upper Division GLG Branch Courses, Tier 2	3	C	
GLG OR SES Upper Division Elective	3	C	
American Institutions (AMIT)	3		
Upper Division Elective	3		
Elective	3		
Term hours subtotal:	15		<ul style="list-style-type: none"> • Students need four GLG branch courses (one from Tier 1 and three from Tier 2) 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 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 full-time career opportunities.

Term 8 105 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Upper Division GLG Branch Courses, Tier 2	3	C	
Upper Division Elective OR SES 484: Internship OR SES 499: Individualized Instruction	2		
Governance and Civic Engagement (CIVI)	3		
Complete 3 courses:	7		
Elective			
Term hours subtotal:	15		<ul style="list-style-type: none"> • Students need four GLG branch courses (one from Tier 1 and three from Tier 2) 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.

- 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, Tier 1	Upper Division GLG Branch Courses, Tier 2
GLG 424: Petrology	GLG 362: Geomorphology
GLG 435: Sedimentology and Stratigraphy	GLG 404: Fundamentals of Planetary Geology
	GLG 418: Geophysics

GLG 424: Petrology

GLG 430: Paleontology

GLG 435: Sedimentology and Stratigraphy

GLG 470: Hydrogeology

GLG 481: Geochemistry

SES 421: Foundations of Planetary Science

- **Total Hours:** 120
- **Upper Division Hours:** 45 minimum
- **University Undergraduate Graduation Requirements**

Notes:

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.

General Studies designations listed next to courses on the major map were valid for the 2024 - 2025 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.