











## 2015 - 2016 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 <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 Mathematics (MA)	3	C	<ul style="list-style-type: none"> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>• SES191 or College specific equivalent First Year Seminar required of all freshman students</li> <li>• Both Calculus for Engineers I, II and III (MAT265/266/267) and Calculus with Analytic Geometry I, II and III (MAT270/271/272) are acceptable sequences for satisfying the calculus requirements in all Earth and Space Exploration majors</li> </ul>
SES 100: Introduction to Exploration (CS)	3	C	
SES 121: Earth, Solar System, and Universe I (SQ) AND SES 123: Earth, Solar System, and Universe Laboratory I	4	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 191: Exploring SESE	1		
Term hours subtotal:	14		
Term 2 14 - 28 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 CHM 113: General Chemistry I (SQ)	4	C	<ul style="list-style-type: none"> <li>• Both Calculus for Engineers I, II and III (MAT265/266/267) and Calculus with Analytic Geometry I, II and III (MAT270/271/272) are acceptable sequences for satisfying the calculus requirements in all Earth and Space Exploration majors</li> </ul>
 MAT 265: Calculus for Engineers I (MA)	3	C	
SES 122: Earth, Solar System, and Universe II AND SES 124: Earth, Solar System, and Universe Laboratory II	4	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	
 Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	14		
Term 3 28 - 44 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 CHM 116: General Chemistry II (SQ)	4	C	<ul style="list-style-type: none"> <li>• Both Calculus for Engineers I, II and III (MAT265/266/267) and Calculus with Analytic Geometry I, II and III (MAT270/271/272) are acceptable sequences for satisfying the calculus requirements in all Earth and Space Exploration majors</li> </ul>
 MAT 266: Calculus for Engineers II (MA)	3	C	
GLG 310: Structural Geology	3	C	
Humanities, Arts and Design (HU)	3		
Global Awareness (G)	3		
Complete Mathematics (MA) requirement.			
 Complete First-Year Composition requirement.			


Term hours subtotal: 16

Term 4 44 - 60 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 PHY 121: University Physics I: Mechanics (SQ) AND PHY 122: University Physics Laboratory I (SQ)	4	C	<ul style="list-style-type: none"> <li>Both Calculus for Engineers I, II and III (MAT265/266/267) and Calculus with Analytic Geometry I, II and III (MAT270/271/272) are acceptable sequences for satisfying the calculus requirements in all Earth and Space Exploration majors</li> <li>Students should start meeting with faculty advisor to discuss research opportunities</li> <li>For more information on the Science and Society requirement and to access the list of approved courses, please visit <a href="#">this website</a>.</li> </ul>
 MAT 267: Calculus for Engineers III (MA)	3	C	
GLG 321: Mineralogy	3	C	
Social-Behavioral Sciences (SB)	3		
CLAS Science and Society Elective	3	C	
Term hours subtotal:	16		

Term 5 60 - 75 Credit Hours <b>Necessary course signified by</b> 	Hours	Minimum Grade	Notes
 Upper Division GLG or SES Elective	3	C	<ul style="list-style-type: none"> <li>Students need two GLG branch courses (6 credits) and three upper division GLG or SES electives (9 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, excluding GLG300 or GLG400.</li> <li>Students should meet with faculty advisor to discuss research opportunities</li> <li>For more information on the Science and Society requirement and to access the list of approved courses, please visit <a href="#">this website</a>.</li> </ul>
PHY 131: University Physics II: Electricity and Magnetism (SQ) AND PHY 132: University Physics Laboratory II (SQ)	4	C	
Historical Awareness (H)	3		
Upper Division CLAS Science and Society Elective	3	C	
Elective	2		
Term hours subtotal:	15		

Term 6 75 - 90 Credit Hours <b>Necessary course signified by</b> 	Hours	Minimum Grade	Notes
 GLG 451: Field Geology I (L)	3	C	<ul style="list-style-type: none"> <li>Students need two GLG branch courses (6 credits) and three upper division GLG or SES electives (9 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, excluding GLG300 or GLG400.</li> <li>Students interested in graduate school should be researching programs and preparing application materials. Continue to meet with faculty advisor for input along the way.</li> </ul>
 Upper Division GLG Branch Courses	3	C	
Humanities, Arts and Design (HU)	3		
Social-Behavioral Sciences (SB)	3		
Cultural Diversity in the U.S. (C)	3		
Term hours subtotal:	15		



Summer 6 90 - 93 Credit Hours <b>Necessary course signified by</b> 	Hours	Minimum Grade	Notes
 GLG 452: Field Geology II (L)	3	C	
Term hours subtotal:	3		

Term 7 93 - 108 Credit Hours <b>Necessary course signified by</b> 	Hours	Minimum Grade	Notes
 Upper Division GLG Branch Courses	3	C	<ul style="list-style-type: none"> <li>Students need two GLG branch courses (6 credits) and three upper division GLG or SES electives (9 credits). Electives may be</li> </ul>
 Upper Division GLG or SES Elective	3	C	

Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)	3
Elective	3
Upper Division Elective	3
Term hours subtotal:	15

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, excluding GLG300 or GLG400.

- Students interested in graduate school should be researching programs and preparing application materials. Continue to meet with faculty advisor for input along the way.

Term 8 108 - 120 Credit Hours  Necessary course signified by	Hours	Minimum Grade	Notes
GLG 400: Earth and Space Exploration Colloquium	1	C	
 Upper Division GLG or SES Elective	3	C	
Complete 3 courses:	8		
Upper Division Elective			
Term hours subtotal:	12		

- Students need two GLG branch courses (6 credits) and three upper division GLG or SES electives (9 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, excluding GLG300 or GLG400.

- All students pursuing a B.S. or B.S.P. degree in the College of Liberal Arts and Sciences must complete two courses from the Science and Society list found at <https://clas.asu.edu/advising-and-academic-services/science-and-society>. At least one of the two courses must be upper division. Students must earn a C or better in the courses, and no more than one of the two can also be used to simultaneously fill a requirement of the major, minor or related area. Science and Society courses cannot also be used to fill the general studies HU, SB, SQ or SG 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
GLG 481: Geochemistry
GLG 490: Hydrology

#### Notes:

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

### **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 2015 - 2016 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.