








2022 - 2023 Major Map

Earth and Environmental Sciences, BA

School/College: The College of Liberal Arts and Sciences
LAESBA

This program's name has changed effective Fall 2024. The previous name was Earth and Environmental Studies.

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 170 should take the course in term 1 to complete the MA requirement. LIA 101 is mandatory for all first-year students. SESE requires first and second-year students to seek faculty mentoring at least once during the academic year. Each student will be assigned a SESE faculty mentor. Students can find their faculty mentor on the SESE advising website. Select your career interest area and play me3@ASU.
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 Global Awareness (G)	3		
Term hours subtotal:	14		
Term 2 14 - 28 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 MAT 170: Precalculus (MA)	3	C	<ul style="list-style-type: none"> ASU Language Placement: Only true beginners are eligible for 101-level courses. All other students are required to take a placement exam, regardless of prior credit earned. SESE requires first and second-year students to seek faculty mentoring at least once during the academic year. Each student will be assigned a SESE faculty mentor. Students can find their faculty mentor on the SESE advising website. Join a student club or professional organization.
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	
GLG 108: Water Planet (SQ)	4	C	
Second Language: Requirement satisfied through the following: * Completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV.	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
 CHM 101: Introductory Chemistry (SQ) OR CHM 113: General Chemistry I (SQ) OR CHM 114: General Chemistry for Engineers (SQ)	4	C	<ul style="list-style-type: none"> SESE requires first and second-year students to seek faculty mentoring at least once during the academic year. Each student will be assigned a SESE faculty mentor. Students can find their faculty mentor on the SESE advising website.
GLG 110: Dangerous World (SQ & G) AND GLG 111: Dangerous World Laboratory (SQ)	4	C	
SES 220: Biology of a Changing Earth	3	C	
Second Language: Requirement satisfied through the following: * Completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV.	4	C	

❗ Complete First-Year Composition requirement.

Complete Mathematics (MA) requirement.

Term hours subtotal: 15

Term 4 43 - 59 Credit Hours Critical course signified by ❗	Hours	Minimum Grade	Notes
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❗ SES 225: Global Biogeochemical Cycles

3 C

Second Language: Requirement satisfied through the following:

* Completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV.

4 C

Computer/Statistics/Quantitative Applications (CS)

3

Literacy and Critical Inquiry (L)

3

Social-Behavioral Sciences (SB) AND Historical Awareness (H)

3

Milestone: Complete SESE faculty mentoring.

Term hours subtotal: 16

- SESE requires first and second-year students to seek faculty mentoring at least once during the academic year. Each student will be assigned a SESE faculty mentor. Students can find their faculty mentor on the [SESE advising website](#).
- Explore an [internship](#).

Term 5 59 - 75 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ GLG 325: Oceanography

3 C

Second Language: Requirement satisfied through the following:

* Completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV.

4 C

Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C)

3

Upper Division Elective

3

Elective

3

Term hours subtotal: 16

- Students are strongly encouraged to meet with SESE faculty advisors to discuss career options.

Term 6 75 - 90 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ GLG 305: Dynamic Earth

3 C

Complete 2 courses:

Upper Division Earth and Environmental Studies (EES) Major Electives

6 C

Humanities, Arts and Design (HU)

3

Upper Division Elective

3

★ Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).

Term hours subtotal: 15

- Research [career opportunities](#).
- The list of approved major electives along with their prerequisites may be viewed on the [SESE website](#).
- Students should meet with an advisor to do a graduation check.

Term 7 90 - 105 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ GLG 327: Earth's Critical Zone

3 C

4** (400-level) Earth and Environmental Studies (EES) Electives

3 C

Upper Division Earth and Environmental Studies (EES) Major Electives

3 C

Upper Division Literacy and Critical Inquiry (L)

3

Upper Division Elective OR SES 484: Internship OR SES 499: Individualized Instruction

3

Term hours subtotal: 15

- If not already completed, students should meet with an advisor to do a graduation check.
- 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.
- Apply for [career opportunities](#).
- The list of approved major electives along with their prerequisites may be viewed on the [SESE website](#).

Term 8 105 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ GLG 464: Solving Environmental Problems	3	C
4** (400-level) Earth and Environmental Studies (EES) Electives	3	C
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)	3	
Upper Division Elective	3	
Elective	3	
Term hours subtotal:	15	

- The list of approved major electives along with their prerequisites may be viewed on the [SESE website](#).

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

4** (400-level) Earth and Environmental Studies (EES) Electives	Upper Division Earth and Environmental Studies (EES) Electives
ABS 430: Watershed Management	ABS 430: Watershed Management
ABS 479: Ecosystem Management and Planning (L)	ABS 479: Ecosystem Management and Planning (L)
ABS 485: GIS in Natural Resources	ABS 485: GIS in Natural Resources
ABS 486: Introduction to Remote Sensing	ABS 486: Introduction to Remote Sensing
BIO 412: Conservation in Practice	ASB 326: Human Impacts on Ancient Environments (SB & H)
CEE 400: Earth Systems Engineering and Management ((L or HU) & H)	ASB 375: Humans and the Environment: What's the Connection? ((L or SB) & G)
ERM 426: Environmental Issues	BIO 324: Environmental Ethics (HU)
ERM 428: International Environmental Management (G)	BIO 412: Conservation in Practice
FIS 444: Environment and Justice (L & C)	CEE 400: Earth Systems Engineering and Management ((L or HU) & H)
GLG 424: Petrology	ENG 371: Rhetoric of the Environmental Movement
GLG 430: Paleontology	ERM 426: Environmental Issues
GLG 435: Sedimentology and Stratigraphy	ERM 428: International Environmental Management (G)
GLG 441: Ore Deposits	FIS 334: Science, Technology and Inequality (C)
GLG 470: Hydrogeology	FIS 444: Environment and Justice (L & C)
GLG 476: Earth's Past Climates: The Key to our Sustainable Future	GCU 364: Energy in the Global Arena (SB & G)
GLG 481: Geochemistry	GIS 341: Cartography and Georepresentation (CS)
GPH 414: Climate Change (G)	GLG 301: Earth Science in Arizona and the Southwest
JUS 444: Environment and Justice (L & C)	GLG 304: Minerals, Energy, and Society
JUS 456: Human Rights and Sustainability ((L or SB) & G)	GLG 310: Structural Geology
PUP 442: Environmental Planning	GLG 321: Mineralogy
SCN 401: Sustainability Science, Technology, and Society	GLG 424: Petrology
SOC 455: Human Rights and Sustainability ((L or SB) & G)	GLG 430: Paleontology
SOS 412: Conservation in Practice	

SOS 414: Urban and Environmental Health (SB)	GLG 435: Sedimentology and Stratigraphy
SOS 429: Human Impacts on Ecosystem Functioning	GLG 441: Ore Deposits
SOS 434: People and Nature: Ecosystem Services	GLG 470: Hydrogeology
SOS 456: Human Rights and Sustainability ((L or SB) & G)	GLG 476: Earth's Past Climates: The Key to our Sustainable Future
SOS 476: Earth's Past Climates: The Key to our Sustainable Future	GLG 481: Geochemistry
STP 420: Introductory Applied Statistics (CS)	GPH 314: Global Change (HU & G)
	GPH 381: Geography of Natural Resources (G)
	GPH 414: Climate Change (G)
	HST 345: Environmental History (L)
	JUS 332: Politics of Energy Policy and Justice
	JUS 334: Science, Technology and Inequality (C)
	JUS 444: Environment and Justice (L & C)
	JUS 456: Human Rights and Sustainability ((L or SB) & G)
	PHI 310: Environmental Ethics (HU)
	POS 300: Contemporary Global Controversies (SB & G)
	PUP 301: Introduction to Urban Planning (L)
	PUP 442: Environmental Planning
	SCN 300: Foundations of Environmental Education
	SCN 302: Environmental Education (L & G)
	SCN 307: Learning from Nature: Biomimicry and STEM
	SCN 308: Urban Environmental Education
	SCN 401: Sustainability Science, Technology, and Society
	SOC 331: Environmental Sociology (SB & G)
	SOC 455: Human Rights and Sustainability ((L or SB) & G)
	SOS 300: Advanced Concepts and Integrated Approaches in Sustainability
	SOS 310: Equity, Justice and Sustainability
	SOS 314: Basic Energy Science
	SOS 315: Energy Policy
	SOS 320: Society and Sustainability (L or SB)
	SOS 321: Policy and Governance in Sustainable Systems

SOS 323: Sustainable Urban Dynamics
SOS 324: Sustainable Energy Technology and Systems
SOS 325: The Economics of Sustainability
SOS 326: Sustainable Ecosystems
SOS 327: Sustainable Food and Farms
SOS 372: Earth Science in Arizona and the Southwest
SOS 373: Minerals, Energy, and Society
SOS 375: Humans and the Environment: What's the Connection? ((L or SB) & G)
SOS 412: Conservation in Practice
SOS 414: Urban and Environmental Health (SB)
SOS 429: Human Impacts on Ecosystem Functioning
SOS 434: People and Nature: Ecosystem Services
SOS 456: Human Rights and Sustainability ((L or SB) & G)
SOS 476: Earth's Past Climates: The Key to our Sustainable Future
STP 420: Introductory Applied Statistics (CS)

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 2022 - 2023 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.