

BA in Earth and Environmental Studies: List of Approved Upper Division Electives

Requirements:

- Students must take at least 5 upper-division courses with topics related to the environment (15 credit hours minimum).
- At least 2 of the EES elective courses (6 hours) must be 400-level; all 5 courses must be upper division (300-400 level).
- If a student finds a course that they would like to take that is not on this list, they should consult with a SESE advisor for approval to apply the course as an EES major elective **prior to** registering for the course.
- We will generally accept any upper-division course with a GLG prefix as an EES major elective if you have the pre-requisites to take it.

Special Notes:

- Changes to courses and pre-requisites are always occurring. Check course catalog for pre-requisite updates.
- Not all listed courses are offered at Tempe Campus. Some may be exclusively at other ASU campuses.
- Not all courses are offered regularly in the given semesters. May be offered in alternating years only.

List of Pre-approved Courses

Class number and title	Credit Hours	When Offered	Pre-requisites	GS
ABS 302 Ethical & Policy Issues in Biology	2	F/S/SS/i		
ABS 350 Applied Statistics	3	F/S	ASC 315, MAT 117, 142 or other course meeting General Studies MA requirement with C or better (<i>Polytechnic campus</i>)	CS
ABS 370 Ecology	3	F/S	BIO 182 (<i>Polytechnic campus</i>)	
ABS 430 Watershed Management	3	S**	Minimum 45 hours (<i>Polytechnic campus</i>)	
ABS 440 Ecological Restoration Techniques	3	F	Pre/Co-req: ABS 370; Credit is allowed for only ETM 440 or ASB 598 (Ecological Restoration Techniques) (<i>Polytechnic campus</i>)	
ABS 479 Ecosystem Management and Planning	3	S**	Senior standing (<i>Polytechnic campus</i>)	L
ABS 485 GIS in Natural Resources	3	F	ABS 350, STP 420, EGR 280 or PSY 230 (<i>Polytechnic campus</i>)	
ABS 486 Introduction to Remote Sensing*	4	S**	Minimum 45 hours	
ASB 326 Human Impacts on Ancient Environments	3	S		SB + H
BIO 311 Biology and Society	3	F	BIO 181 (or BIO 188) and BIO 182 (or BIO 188 or both PLB 200 and PLB 201) with C or better OR BIO 281 and 282 with C or better; Credit is allowed for only BIO 311 or HPS 340	
BIO 324 Environmental Ethics	3	F		HU

Class number and title	Credit Hours	When Offered	Pre-requisites	GS
CEE 400 Earth Systems Engineering and Management	3	F/S/SS	BSE Civil Engineering major; CEE 300 with C or better <u>OR</u> Non-CEE Juniors or Seniors; Credit allowed for only CEE or CNE 400	(L or HU) + H
ENG 371 Rhetoric of the Environmental Movement	3	S**/i	ENG 102, 105 or 108 with C or better	
ERM 302 Waste and Wastewater Treatment	3	S	CHM 101; MAT 170 or 210 (<i>Polytechnic campus</i>)	
ERM 402 Unit Treatment Technologies	3	F	ERM 302 (<i>Polytechnic campus</i>)	
ERM 406 Environmental Chemistry*	3	S/i	CHM 101 (or 113) and MAT 170 or higher	
ERM 426 Environmental Issues	3	SS/i		
ERM 428 International Environmental Management	3	S/SS/i	Minimum 45 hours	G
FIS 334 Science, Technology and Inequality	3	F	Minimum 45 hours; Credit is allowed for only FIS 334 or JUS 334	C
GCU 364 Energy in the Global Arena	3	S		SB + G
GIS 341 Introduction to Cartography and Georepresentation*	3	F/S	Minimum 45 hours	CS
GIS 470 Statistics for Geographers	3	F/S	MAT 117 or higher with a C or better	CS
GLG 301 Earth Science in AZ & the SW	3	F	ENG 101, 105 or 107 with C or better; GLG 101, GLG 102, GLG 110, GPH 111 or SES 121; MAT 117 or higher. Credit is allowed for only GLG 301, GLG 394 (Earth Sci in AZ & SW) or SOS 372	
GLG 304 Minerals, Energy & Society	3	S	ENG 101 (or 105 or 107) with C or better; GLG 101 (or 102 or 110) or GPH 111 or SES 121 or Junior standing; Credit is allowed for only GLG 304, 394 (Minerals, Energy & Society) or SOS 373	
GLG 310 Structural Geology*	3	F	GLG 101 or SES 121 with C or better; MAT 170, 171, 210, 251, 265, or 270 with C or better	
GLG 321 Mineralogy*	3	S	CHM 113 or 114; MAT 170 (or higher); both with C or better	
GLG 424 Petrology*	3	F	GLG 321 with C or better	
GLG 430 Paleontology*	3	F	GLG 102/104 or SES 122/124 with a C or better	
GLG 435 Sedimentology*	3	S	GLG 102 (or SES122) and GLG 321 with C or greater	
GLG 441 Ore Deposits	3	**	GLG 101 (or SES 121); GLG 310 (or 321); both with C or better	
GLG 470 Hydrogeology	3	**	MAT 170; completion of one 300-level science course (instructor consent required)	
GLG 481 Geochemistry	3	S	GLG 321 with a C or better	
GPH 314 Global Change	3	F/S/SS/i	Minimum 45 credit hours	HU + G
GPH 381 Geography of Natural Resources	3	F/S/SS/i		G

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GPH 405 Energy and Environment	3	S	Minimum 75 credit hours	
GPH 414 Climate Change	3	S	GPH 111 or GPH 213 or GPH 314 with C or better	G
HST 345 Environmental History	3	F	ENG 102, 105, 108 or 112 with C or better	L
JUS 334 Science, Technology and Inequality	3	F	Minimum 45 hours; Credit is allowed for only FIS 334 or JUS 334	C
JUS 444 Environmental Justice	3	S	ENG 102, 105 or 108 with C or better; minimum 36 hours; minimum 2.00 GPA (not offered SP16)	L + C
PHI 310 Environmental Ethics	3	F/SS/i		HU
POS 300 Contemporary Global Controversies	3	F/S/SS/i		SB + G
PUP 301 Introduction to Urban Planning	3	F/S/SS/i		L
PUP 442 Environmental Planning	3	F/SS	PUP 301 with C or better	
SOC 331 Environmental Sociology	3	**	Minimum 45 hours	SB + G
SOS 300 Adv. Concepts & integrated Approaches in Sustainability	3	F/S	Sustainability minor with SOS100, 110, 111 or PUP 190 w/ C or better and 6 hours from two identified themes	
SOS 310 Equity, Justice and Sustainability	3	S	PUP190 (or SOS 111) and SOS 110 with C or better	
SOS 314 Basic Energy Science	3	F/S	Min 45 credit hours; Credit allowed for only SOS314 OR SOS 394 (Basic Energy Science)	
SOS 320 Society and Sustainability	3	F/S	Two of following courses: SOS 100, 110, 111 (or PUP 190), SOS 300 with C or better	L or SB
SOS 321 Policy and Governance in Sustainable Systems	3	F/S	Two of following courses: SOS 100, 110, 111 (or PUP 190), SOS 300 with C or better	
SOS 323 Sustainable Urban Dynamics	3	F/S	Two of following courses: SOS 100, 110, 111 (or PUP 190), SOS 300 with C or better	
SOS 324 Sustainable Energy, Materials, and Technology	3	F/S	Two of following courses: SOS 100, 110, 111 (or PUP 190), SOS 300 with C or better	
SOS 325 The Economics of Sustainability	3	F/S	Two of following courses: SOS 100, 110, 111 (or PUP 190), SOS 300 with C or better	
SOS 326 Sustainable Ecosystems	3	F/S	Two of following courses: SOS 100, 110, 111 (or PUP 190), SOS 300 with C or better	
SOS 327 Sustainable Food and Farms	3	F/S	Two of following courses: SOS 100, 110, 111 (or PUP 190), SOS 300 with C or better	
SOS 370 Production, People and Environments	3	S	ENG102/105/108; ASB100 (or 102), SOC101, SOS110 or SSH100; all w/ C or better, Credit allowed only for ASB, SOC, SOS or SSH370	L or SB

Class number and title	Credit Hours	When Offered	Pre-requisites	GS
SOS 372 Earth Science in Arizona and the Southwest	3	F	ENG 101, 105 or 107 with C or better; GLG 101, GLG 102, GLG 110, GPH 111 or SES 121; MAT 117 or higher. Credit is allowed for only GLG 301, GLG 394 (Earth Sci in AZ & SW) or SOS 372	
SOS 373 Minerals, Energy, and Society	3	S	ENG 101 (or 105 or 107) with C or better; GLG 101 (or 102 or 110) or GPH 111 or SES 121 or Junior standing; Credit is allowed for only GLG 304, 394 (Minerals, Energy & Society) or SOS 373	
SOS 375 Humans and the Environment: What's the Connection?	3	S	ASB100, ASB102, SSH100, SOS100 or SOS110; Min 45 credit hours; Credit allowed for only ASB375, ASB394 (People: Env Connec. in Anthro., ASB494 (Eco, & Env Anthro.) or SOS375	
SOS 414 Urban and Environmental Health	3	SS-study abroad	ASB100, 102, 222, 223, AML100, ASM104 or SSH100 w/C or better; Min 45 hrs; Credit allowed for only ASM, SOS or SSH414	SB
SOS 421 Landscape Ecology	3		BIO 320 w/C or better; Credit allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521	
SOS 424 Dynamic Modeling in Social and Ecological Systems	3	F	MAT210, MAT251, MAT265 or MAT270 w/C or better; Credit allowed for only ASM, BIO or SOS 424	
SOS 429 Human Impacts on Ecosystem Functioning	3	S	BIO 320 (or SOS 326); Credit allowed for only BIO429, BIO528, SOS429, SOS528, or SOS494/598 (Human Impacts on Ecosys. Funct.) or BIO494/598 ((Human Impacts on Ecosys. Funct.)	
SOS 433 Sustainable Water Use	3	F	May be repeated once for credit	
SOS 434 People and Nature Ecosystem Services	3	F	MAT 117 or SOS 101; junior standing; Credit allowed for only BIO334, SOS434 or BIO 494 (Ecosys Servcs: People & Nature)	
SOS 441 Mathematical Concepts and Tools in Sustainability	3		AML253 or SOS210 or SOS294 (Intro to Math Tools & Modeling); Credit allowed for only AML441 or 494 (Math Concepts & Tools in SOS) or SOS441 or 494 (Math Concepts & Tools in SOS)	
STP 420 Introductory Applied Statistics	3	F/S/SS	MAT210 (or MAT 251, 265 or 270) with C or better	CS

LEGEND

F = Fall
S = Spring
SS = Summer Session
i = may be offered as an iCourse
* Course has a lab component
** Course not offered in a regular pattern