

Environmental Science Baccalaureate Degree Program (Bachelor of Science) 3/10/2009
Emphasis: Environmental Biology

Required background (23 cr hrs)

CHEM 101 General chemistry I (5)
CHEM 102 General chemistry II (5)
CHEM 201 Organic chemistry (3)
PHYS 211 College physics I (5)
PHYS 212 College physics II (5)

Prerequisite(s)

MATH 101 or concurrent enrollment
CHEM 101, MATH 101
CHEM 101, CHEM 102
MATH 215
PHYS 211

Required Biology & Environmental Core (26)

BIOL 121 Molecular & cellular biology (5) CHEM 101, or concurrent enrollment
BIOL 122 Organismal biology (5) CHEM 101, or concurrent enrollment
BIOL 310 Vertebrate zoology (4) BIOL 121, BIOL 122
BIOL 330 Principles of ecology (5) BIOL 121, BIOL 122
BIOL 385 Biostatistics (3) BIOL 121, BIOL 122
BIOL 460 Introduction to genetics (3) BIOL 121, BIOL 122, CHEM 102, CHEM 201
ENVS 415 Environmental science seminar (1)

Electives in major In addition to above courses, student must choose from the following course lists to fulfill requirements of the major as listed at bottom of page. **Note** that all courses below are electives.

Focus: Ecology

BIOL 220 Botany (5) BIOL 101 or equivalent
BIOL 325 History & diversity of organisms (5) BIOL 121, BIOL 122
BIOL 400 *Ethnobiology (5) BIOL 101 or equivalent
BIOL 420 Reptile ecology & behavior (1) Permission of instructor
BIOL 440 Comparative vertebrate anatomy (5) BIOL 121, 122
BIOL 465 Research in Animal Behavior (2) BIOL 121, 122; Calculus
BIOL 480 *Plants of Kansas (5) BIOL 121, 122
ENVS 450 Aquatic biology (5) BIOL 121, 122; BIOL 330

Focus: Health & Cell Biology

BIOL 251 Human Anatomy I (4) BIOL 101 or equivalent (with C or better)
BIOL 252 Human Anatomy II (4) BIOL 251 with C or better
BIOL 260 Microbiology (5) BIOL 101 or equivalent; CHEM 101
ENVS 411 Environmental Toxicology (5) BIOL 121, 122; CHEM 201, 330
CHEM 330 Biochemistry (3) CHEM 101, CHEM 102, CHEM 201

Focus: Natural Resources

ENVS 102 Environmental issues (3) ENGL 101
NATRS 201 Introduction to soils (4) CHEM 101, ENVS 102
NATRS 215 Weather studies (3) CHEM 101, ENVS 102
ENVS 320 Sustainable watersheds (4) CHEM 101, ENVS 102, NATRS 201
ENVS 340 Air quality (3) CHEM 101, MATH 107

ENVS 480 Undergraduate research (1-3)

Three credit hours accepted in major from the courses below (additional cr hrs will count as credits outside major):

GEOG 310 Introd. to Geographic Information Systems (3) MATH 101, MATH 107 or concurrent enrollment
GEOG 320 Applications of ArcGIS (2) GEOG 310, or concurrent enrollment
GEOG 330 Advanced GIS & Global Positioning Systems (3) GEOG 310

Total credit hours needed to earn Bachelor of Science (BS) = 120 cr hrs

Total must include:

35-45 cr hrs General Education requirements of university
40 cr hrs at 300- or 400-levels (6 outside major)
40-50 cr hrs in major (courses listed as electives, *above*)

*Citizenship requirements are met with:
BIOL 400 Ethnobiology (5 cr hrs)
BIOL 480 Plants of Kansas (5 cr hrs)

Recommended sequence: Natural Sciences & General Education courses

Year 1

Fall Semester	Spring Semester
Vision Quest (1) MATH 101 College algebra (3) ENGL 101 (3) CHEM 101 Chemistry I (5) HPER ___ (1-2) <p style="text-align: right;">Total credits: 13-14</p>	MATH 103, Trigonometry (3) CHEM 102 Chemistry II (5) BIOL 122 Organismal Biology (5) or BIOL 121 Cellular & Molecular Biology (5) ENGL 102 (3) <p style="text-align: right;">Total credits: 16</p>
	Alternative electives: ENVS 102 Environmental Issues (3)

Year 2

Fall Semester	Spring Semester
MATH 215 Calculus (3) BIOL 121 Cellular & Molecular Biology (5) or BIOL 122 Organismal Biology (5) PHYS 211 Physics I (5) Humanities, Social Science or AIS* (3) <p style="text-align: right;">Total credits: 16</p>	PHYS 212 Physics II (5) Humanities, Social Science or AIS (6)
Suggested to fulfill citizenship requirement: *AIS 101 Contemporary Issues of American Indian (3) *AIS 110 History of Native American Indian Tribes (3) *Others listed in Catalog Suggested electives: BIOL 220 Botany (5) BIOL 251 Human anatomy I (4)	Suggested electives: NATRS 201 Soils (4) NATRS 215 Weather studies (3) MATH 107 Mathematical applications (3) BIOL 252 Human anatomy II (4) BIOL 260 Microbiology (5) <p style="text-align: right;">Total credits should be: 15</p>

Year 3

Fall Semester	Spring Semester
CHEM 201 Organic chemistry (3) BIOL 330 Ecology (5) BIOL 385 Biostatistics (3)	BIOL 310 Vertebrate Zoology (4) Humanities, Social Science or AIS* (6)
Suggested electives: BIOL 300 Plants of Kansas (5) ENVS 320 Sustainable watersheds (4) BIOL 325 History & Diversity of Organisms (5) GEOG 310 Geographic information systems (3) <p style="text-align: right;">Total credits should be: 14-16</p>	Suggested to fulfill citizenship requirement: *AIS 320 Environmental Protection in Indian Country (3) Suggested electives: CHEM 330 Biochemistry (3) ENVS 340 Air quality (3) COMS 360 Environmental Communication <p style="text-align: right;">Total credits should be: 16</p>

Year 4

Fall Semester	Spring Semester
ENVS 415 seminar (1) Humanities, Social Science or AIS (3-6)	BIOL 460 Genetics (3) ENVS 420 Seminar (1) Humanities, Social Science or AIS (3-6)
Suggested electives: BIOL 411 Environmental toxicology (5) BIOL 440 Comparative vertebrate anatomy (5) <p style="text-align: right;">Total credits should be: 14-16</p>	Suggested electives: BIOL 400 Ethnobiology* (5) BIOL 450 Aquatic biology (5) <p style="text-align: right;">Total credits should be: 14-15</p>

Upper level (300-400) courses must total at least 40 credit hours.

Not all courses can be offered each semester; refer to Course Schedule determined prior to each semester.

*Meets citizenship requirement