Environmental Science, B.S.

Program Description

Environmental Science is a broad and interdisciplinary field primarily concerned with the interrelationships between the lithosphere, the hydrosphere, the atmosphere, and the biosphere. It integrates diverse scientific disciplines such as biology, chemistry, physics, geology, hydrology, atmospheric science, oceanography, and toxicology. Environmental science also touches on many other disciplines such as engineering, psychology, economics, communications, business, and public policy. Environmental science is very inclusive, because we all interact with the environment every single day and it is so critical to our survival.

Kennesaw State University's Bachelor of Science degree in Environmental Science provides students a truly interdisciplinary program drawing on faculty expertise and existing courses in the natural sciences, engineering technology, policy, and law. Students completing this program are prepared to enter into industry, consulting, state agencies, or advanced professional programs in the environmental sciences. Graduates will be educated in assessment and control of pollutants, remediation and restoration of toxic sites, sustainable development, management and conservation of natural resources, and conducting environmental research.

 This program is a part of the College of Science and Mathematics.

Admission, Enrollment, and Graduation Policies

Admission Requirements

This program does not have specific admission requirements and only admission to Kennesaw State University is required. For more information, please visit the Admissions section of the Catalog.

Graduation Requirements

Each student is expected to meet the requirements outlined in Academic Policies 5.0 PROGRAM REQUIREMENTS & GRADUATION.

Program Course Requirements

Core IMPACTS Curriculum (42 Credit Hours)

General Education Core IMPACTS Curriculum

Core IMPACTS Curriculum Requirements Specific to This Major

Science Majors: Must take MATH 1113 or higher in Mathematics & Quantitative Skills and MATH 1179 or higher in Applied Math.

Science and Engineering Majors: Must take two four-hour laboratory sciences in Natural Sciences. Students must choose from CHEM 1211 / 1211L , CHEM 1212 / 1212L , PHYS 1111 / 1111L *, PHYS 1112 / 1112L , PHYS 2211 / 2211L*, PHYS 2212 / 2212L , BIOL 1107 / 1107L , or BIOL 1108 / 1108L.

*Students cannot take both PHYS 1111/L and PHYS 2211/L nor PHYS 1112/L and PHYS 2212/L.

Core Field of Study (18 Credit Hours)

Students must earn a "C" or better in these courses.

- BIOL 1107: Principles of Biology I
- BIOL 1107L: Principles of Biology I Laboratory
- BIOL 1108: Principles of Biology II
- BIOL 1108L: Principles of Biology II Laboratory
- PHYS 1111: Introductory Physics I
- PHYS 1111L: Introductory Physics Laboratory I
  or
- PHYS 2211: Principles of Physics I
- PHYS 2211L: Principles of Physics Laboratory I
- GEOL 1121K: Introductory Geosciences I
  Two (2) credit hours carried over from Technology, Mathematics and Sciences.

Major Requirements (39-47 Credit Hours)

Students must earn a grade of "C" or better in these courses.

Environmental Science Core Courses (20 Credit Hours)

- ENVS 2202K: Introduction to Environmental Science
- BIOL 3370: Ecology
- BIOL 3370L: Ecology Laboratory
- BIOL 3310K: Invertebrate Zoology
  or
- BIOL 3315K: Vertebrate Zoology
  or
- BIOL 4422K: Plant Ecology
- ENVS 4300: Environmental Ethics

- ENVS 3100K: Soil & Water Science
- ENVS 4399: Environmental Science Seminar

Statistics Required Course (3 Credit Hours)

- STAT 3125: Biostatistics

Chemistry Required Courses (7 Credit Hours)

- CHEM 3361: Modern Organic Chemistry I
- CHEM 3361L: Modern Organic Chemistry Lab I
- CHEM 3700: Environmental Chemistry

Political Science Required Course (3 Credit Hours)

- POLS 3356: U.S. Environmental Policy & Politics
  or
- POLS 4456: International Environmental Policy
  or
- ENVS 3450: Conservation Biology

GIS Required Course (3 Credit Hours)

- GEOG 3315: Introduction to Geographic Information Systems

College of Science and Mathematics Required Course (3 Credit Hours)

- SCM 2000: Culture and Success in Science and Mathematics

Science Required Courses (0-8 Credit Hours)

If CHEM 1211 / 1211L and/or 1212 / 1212L were taken in Natural Sciences, then students will gain those hours as environmental science elective credit in the section below.

- CHEM 1211: Principles of Chemistry I
- CHEM 1211L: Principles of Chemistry Laboratory I
- CHEM 1212: Principles of Chemistry II
- CHEM 1212L: Principles of Chemistry Laboratory II

Major Electives (7-15 Credit Hours)

Students must earn a grade of "C" or better in these courses.

Environmental Science Electives (7-15 Credit Hours)

A maximum of 8 credit hours from BIOL 3110L, BIOL 4400, ENVS 3110L, or ENVS 4400 and a maximum of 4 credit hours of ENVS 3398 may be used to satisfy environmental science electives. Choose from the following list of courses:

- BIOL 3110L: Directed Methods
- BIOL 3310K: Invertebrate Zoology
- BIOL 3315K: Vertebrate Zoology
- BIOL 3340: Microbiology
- BIOL 3250K: Ecosystem Ecology
- BIOL 3371K: Freshwater Ecology
- BIOL 3650: Marine Biology
- BIOL 3320K: Plant Morphology
- BIOL 3380: Evolutionary Biology
- BIOL 4115: Parasitology
- BIOL 4400: Directed Study
- BIOL 4422K: Plant Ecology
- BIOL 4242K: Ecological Genetics
- CHEM 2800: Quantitative Analytical Chemistry
- CHEM 2800L: Quantitative Analytical Chemistry Laboratory
- ENVS 3110L: Directed Methods
- ENVS 3350: Oceanography
- ENVS 3398: Internship *A maximum of 4 credit hours can be applied to the degree
- ENVS 3450: Conservation Biology
- ENVS 4000K: Wetlands and Mitigation
- ENVS 4400: Directed Study
- GEOG 3305: Introduction to Cartographic Processes **
- GEOG 3710: Local & Global Sustainability
- GEOG 3800: Climatology
- GEOG 3850: Global Climate Change
- GEOG 4405: Advanced Geographic Information Systems **
- GEOG 4410: Introduction to Remote Sensing **
- GEOG 4500: Advanced Topics in Geospatial Science **
- GEOG 4700: Geomorphology
- GIS 4415: Practicum in Geographic Information Systems **

- DATA 3010: Computer Applications of Statistics
- STAT 3130: Statistical Methods II
- STAT 4120: Applied Experimental Design
- SURV 3320: Photogrammetry and Drone Analysis **
- SURV 3451: Terrain Analysis **
  **Students interested in completing the GIS Certificate will need to complete four additional courses. See certificate below for details. Geographic Information Sciences Certificate

University Electives (6 Credit Hours)
In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining a minimum 2.00 cumulative GPA.

Free Electives (6 Credit Hours)
Select 6 credit hours of 1000-4000 level coursework from the University Catalog.

Program Total (120 Credit Hours)