

**School of Arts & Sciences Program Learning Outcomes**  
**From: AY11 Assessment Plan**  
**Department: Natural Sciences**  
**Program Group: Environmental Science**

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**Degree: B.S. Environmental Science**

1. A core knowledge of earth systems.
  - a) Success in required courses linked to each of earth systems (knowledge).
    - i. Atmosphere
    - ii. Biosphere
    - iii. Hydrosphere
    - iv. Lithosphere
2. Use of technology to collect and evaluate scientific data.
  - a) The graduate will develop formative technological and quantitative skills (data loggers, GPS software and receivers, and other analytical skills of measurement technique) introduced in required courses and honed during ENVS 498 Independent Research or ENVS 491 Internship Experiences. Completion of this goal is evidence of the acquisition of knowledge and skills in the discipline.
  - b) The graduate will demonstrate cumulative technological and quantitative skills (use of mathematics in the applications of data spreadsheets, database management, statistical analysis, and GIS software, data analysis) introduced in required courses and honed during ENVS 498 Independent Research or ENVS 491 Internship Experiences. Completion of this goal is evidence of the acquisition of knowledge and skills in the discipline.
3. Application of scientific knowledge towards solving environmental problems with anthropogenic origins.
  - a) The graduate will demonstrate writing, information literacy, and communication skills through required core courses with semester-scale class projects including websites, research papers, and presentations (ENVS 101, GEOL 271, GEOL 301, GEOL 302, ENVS 338, ENVS 420, and capstone courses senior seminar ENVS 491, 492, or 498).
  - b) The graduate will develop research and workplace skills in ENVS 491 Seminar, 498 Independent Research, or ENVS 491 Internship. These skills are necessary for the workforce ranging from Environmental Impact Statement (EIS) document preparation to research paper production and publication, to oral presentations for local, regional, and national audiences. Completion of this goal is evidence of the acquisition of knowledge, skills, and professionalism in the ENVS disciplines.
4. An achievement of knowledge, skills, and a level of professionalism necessary to obtain living wage levels of employment or entry into graduate school.
  - a) The graduate will demonstrate development and mastery of analytical and critical thinking skills that enable conceptualizing, synthesizing, evaluation of information from the environment, and the application and dissemination of this information for the resolution of societal conflicts with natural systems. Such skills, are evaluated in developmental courses (ENVS 101, PHYS (103-104 or 211-212), GEOL 271, CHEM 105-106, BIOL 105, upper division courses (GEOL 301, GEOL 302, ENVS 338 ENVS 420, CHEM 341 or 350), and capstone courses (ENVS 491, 492 or 498) and are desirable for success and productivity in the workplace. Completion of these goals is evidence of the acquisition of knowledge, skills, and professionalism in the discipline.
  - b) The graduate will demonstrate development and mastery of the communication and writing skills that enable conceptualizing, synthesizing and evaluation of information from the environment necessary for the application and dissemination of this information for the resolution of societal conflicts with natural systems. Such fully matured skills, evaluated in capstone courses ENVS 491, 492, or 498, and should enhance our graduates, abilities to earn a living wage. Completion of this goal is evidence of the acquisition of knowledge, skills, and professionalism in the discipline.