

## What is Environmental Analysis & Planning (EVAP)

The EVAP program at Frostburg State University (FSU) is an inter-disciplinary program under the auspices of the Departments of Geography and Biology. Students in the EVAP program receive the knowledge and tools necessary to bridge the gap between natural resource development and environmental protection. The program is unique among environmental science programs, in that the courses include the science background necessary to analyze environmental problems and the technical skills necessary to design solutions that mitigate environmental problems. The EVAP program does not just discuss environmental problems, but provides the hands on experience with tools necessary to collect environmental data, analysis the problem and design solutions.

### Highlights

Students will develop skills such as storm water management, laboratory techniques, wetland delineation, site analysis, surveying, mapping sciences, impact assessment, landscape grading, and computer application which can open the door to a variety of professional positions and graduate schools. The breadth of the program provides students with a unique flexibility enabling them to work productively in number of capacities within the environmental field.

### Internships and student employment

Many students engage in internships and/or summer employment in the environmental fields. FSU has a close working relationship with the United State Geological Service, the Maryland Bureau of Mines, Natural resources Conservation Service, and numerous

engineering consulting firms and environmental planning organizations.

### EVAP Requirements

#### **Courses in Biology:***(21-23 hours)*

BIOL 149 General Biology I  
BIOL 150 General Biology II  
BIOL 314 Plant Taxonomy  
BIOL 340 General Ecology  
*Take 2 of 4 courses:(Biology and/or Geography)*  
BIOL 303 Plant Physiology  
BIOL 304 Microbiology  
BIOL 421 Sample Design and Analysis of Plant Communities  
BIOL 430 Limnology  
GEOG 445, Biogeography.

#### **2. Courses in Geography:***(46-47 hours)*

GEOG 103 Physical Geography or Honors  
GEOG 207 Physical Geology  
GEOG 275 Introduction to Spatial Analysis  
GEOG 310 Fundamentals in the Mapping Sciences  
GEOG 340 Soil: Genesis, Nature and Characterization  
GEOG 413 Remote Sensing -Aerial Photo Interpretation  
GEOG 430 Surface Water Hydrology  
GEOG 470 Soil & Water Engineering  
GEOG 472 Environmental Planning  
GEOG 473 Environmental Law

#### *Take four of six courses:*

GEOG 208 Historical Geology  
GEOG 317 Geographic Information Systems  
GEOG 432 Groundwater Hydrology  
GEOG 433 Surveying and Field Techniques  
GEOG 441 Soil Analysis  
GEOG 471 Engineering for Land Development

#### **3. Required Courses in Other Departments:***17-18 hr*

CHEM 101 General Chemistry I  
CHEM 102 General Chemistry II  
ENGL 338 Technical Writing  
MATH 209 Elements of Applied Probability and Statistics  
MATH 220 Calculus for Applications  
*or* MATH 236 Calculus I

### Department Facilities

The EVAP program is based in Gunter Hall which includes three PC-based computer labs equipped with specialized equipment and computer programs used in mapping, science and engineering design courses. Software include AutoCad (computer

aided design) used in engineering and surveying courses, ArcInfo (GIS software) used in GIS and planning courses, ENVI remote sensing software, and others. The Department of Geography has extensive field equipment and laboratories used for surveying (7 Total Stations with data collectors), soils investigation and hydrology. The Biology and Chemistry departments are housed in the Compton Science center which includes a herbarium, extensive vertebrate and invertebrate collections, and a modern limnology laboratory which are used by EVAP students

### Local Environment

FSU is located in the heart of Western Maryland's mountain and historic coal region. The environment provides students with an excellent opportunity to study firsthand the need, importance and opportunity for environmental planning and reclamation. The natural environment provides a laboratory composed of forest, wetlands, streams and lakes in a natural and disturbed state. Thus, first hand investigation of environmental problems leading to viable solutions is possible. Students can also enjoy the natural environment by trout fishing in area streams, hiking and mountain biking in the local forest, and skiing.

### Career Opportunities

A degree in EVAP gives a student several different career options. Many recent graduates have gained employment with federal organization such as EPA, US Geological Survey, NOAA, NRCS, and the National Park Service. A major employer of EVAP graduates are environmental and engineering design firms other graduates have been employed by a variety of state and local planning, natural resource management agencies, and surveying/engineering

companies. Graduates from the EVAP major are readily accepted into graduate program across the country. EVAP graduates have been in demand with most graduates having multiple job offers before graduation. The Department consistently receives more requests for EVAP majors than can be filled by current graduates.

Positions of recent graduates include:

Environmental Planner/Scientist,  
McCormick, Taylor & Associates  
Planner, Greenhorne & O'Mara  
Engineer, Allegany Ballistics  
Laboratory  
Hydrologist, USGS

Graduate schools recent alumni attended:

University of Kentucky  
University of Tennessee  
Montana State University  
University of Virginia  
Syracuse University

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Geography/Biology  
Environmental Analysis and Planning