OFFICE OF LETTERS & SCIENCES
STEM MAJORS GUIDE

AGRICULTURE & NATURAL RESOURCES

Academic disciplines within agriculture and natural resources apply principles of natural science, animal science, food science, management, design, and engineering to improve the world in which we live and work. Students who pursue degrees in agriculture and natural resources at the University of Maryland, College Park have access to nearby resources and the nation’s top research facilities to enhance their educational experience.

- Agricultural Education
- Agricultural and Resource Economics
- Agricultural Science & Technology
- Animal Sciences
- Dietetics
- Environmental Science & Policy
- Environmental Science & Technology
- Food Science
- Landscape Architecture
- Nutritional Science
- Plant Sciences

ENVIRONMENTAL SCIENCE

The Environmental Science & Technology (ENST) programs provide students with an “engineering” or hands-on and applied problem-solving approach to environmental science. The programs have a great focus on technology and the mechanics of science and ecosystems, with much less focus on policy-making or social systems.

Has 4 concentrations:
- Ecological Technology Design
- Environmental Health
- Natural Resources Management
- Soil and Watershed Science

Environmental Science & Policy (ENSP) is comparable to a liberal arts and sciences major because students complete a broad lower-level core that provides “context” for a concentration in upper-level coursework. ENSP students are introduced to technical coursework, but the main focus is on gaining an appreciation for the ways science and policy interact in relation to environmental problem-solving, especially as it regards to long-term environmental sustainability.

Has 11 concentrations:
- Biodiversity & Conversation Biology (LEP)
- Environment & Agriculture
- Environment Economics
- Environmental Geosciences & Restoration
- Environmental Politics & Policy
- Global Environmental Change
- Land Use
- Marine & Coastal Management
- Society & Environmental Issues
- Soil, Water & Land Resources
- Wildlife Ecology & Management

Sourced from:
Shatkin, L., & Works, I. (2011). Quick stem careers guide: Four steps to a great job in science, technology, engineering, or math. Indianapolis, IN: JIST Works.
MATHEMATICS
Mathematics is the use of theory, computational techniques, algorithms, and the latest computer technology to solve economic, scientific, engineering, and business problems. The work of mathematicians falls into two broad classes: theoretical (pure) mathematics and applied mathematics that refers to disciplines that applies math concepts.

- Economics
- Engineering (all disciplines)
- Mathematics
- Physics

NATURAL SCIENCES
Natural science is a branch of science that deals with the physical world such as:

- Atmospheric & Oceanic Science
- Astronomy
- Biochemistry (LEP)
- Biological Sciences (LEP)
- Chemistry (LEP)
- Environmental Science & Policy (Biodiversity & Conservation concentration - LEP)
- Geology
- Physics

PRE-HEALTH
(Medicine, Dentistry, Nursing, Physician Assistant, Physical Therapy, Pharmacy)
Pre-Health is an academic track that consist of prerequisite courses required for admission to pre-health related programs. Since admission to pre-health programs are not contingent upon completion of a specific degree, students can select a major based on their academic interest. However, there are several majors at the University of Maryland, College Park that provide students with the opportunity to fulfill some prerequisite coursework required for pre-health programs while working towards completing an undergraduate degree such as:

- Biochemistry (LEP)
- Biological Sciences (LEP)
- Bioengineering* (LEP)
- Chemistry (LEP)
- Community Health*
- Environmental Science & Technology (Environmental Health concentration)

- Kinesiology*
- Psychology* (Bachelor of Science- LEP)
- Public Health Sciences
* Required to complete additional courses beyond degree requirements.

SOCIAL SCIENCE
STEM methods can be applied to select social science disciplines. Social scientist “utilize scientific methods, cutting-edge technology, engineering advancements” and quantitative methods within certain social science disciplines such as:

- Economics
- Geography
- Geographic Information Science
- Hearing & Speech
- Psychology (Bachelor of Science)

TECHNOLOGY, DIGITAL & PROGRAMMING
Technology, digital and programming related disciplines often utilize computational methods to solve real world problems and/or to create visual concepts using computer software to communicate ideas.

- Computer Engineering (LEP)
- Computer Science
- Geographic Information Science
- Information Science
- Information Systems (LEP)
- Studio Art (Digital Media concentration)
- Studio Art (Graphic Design concentration)

MAJOR EXPLORATION RESOURCES
- Career Counseling Services
- Degree Audit
- FOCUS 2
- Four Year Plans
- Limited Enrollment Programs
- LTSC Major Guides
- My Next Move
- O*Net
- STEM Career Outlook
- UMD Majors
- US Department of Labor Occupational Outlook Handbook

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