

# Science, Technology, Engineering & Mathematics (STEM) @ SU

Salisbury  
UNIVERSITY

## PROGRAMS

### STEM MAJORS

- Biology
- Chemistry
- Computer Science
- Earth Science
- Geography
- Mathematics
- Physics
  - Engineering Transfer

### GRADUATE PROGRAMS

- Applied Biology (M.S.)
- GIS Management (M.S.)
- Mathematics Education (M.S.)
- Teaching (M.A.T.)

### STEM@SU

Salisbury University offers extraordinary opportunities for students interested in science, technology, engineering and mathematics (STEM). The University provides engaging and rigorous STEM majors to students seeking careers in aerospace, biotechnology, bioinformatics, biomedicine, computational science, cybersecurity, environmental science, green technologies, geosciences, mechanical engineering, science and mathematics teaching, technology entrepreneurship, and many other fields. Given that graduates of STEM disciplines are critically needed to keep the United States labor force innovative and competitive, our goal is to produce highly skilled and knowledgeable STEM majors and outstanding educators for science and math teaching.



Salisbury University STEM, Biology and Nursing Living Learning Communities

### Why STEM?

- Maryland is in a region (DC/MD/VA/WV) with the second largest concentration of STEM workers in the country and has the fourth highest concentration of STEM workers in all states.
- Workforce projections by the U.S. Department of Labor show that 8 of the 10 fastest growing occupations require significant science or mathematics training to successfully compete for a job.
- According to a recent study, graduates with engineering and science majors tend to earn significantly more than graduates with other college majors. Additionally, seven of the top 10 majors with the lowest unemployment rates are STEM-related.

*Job growth in science and tech-related fields is expected to be nearly double that in non-STEM occupations.*

### STEM Programs

#### ■ Biological Sciences:

The curriculum focuses on the development of knowledge and skills that are important for biologists in the 21st century and includes a strong background within the discipline, competency in related sciences and an in-depth knowledge of modern biological concepts and techniques. Graduates often pursue graduate school or professional programs in health-related fields or directly enter employment as teachers, environmental analysts, researchers, health-care workers and many other fields.

- **Chemistry:** Several tracks lead to a B.S. in chemistry, including two that are certified by the American Chemical Society (ACS). These tracks foster development and expression of rational thought and help prepare students for admission to Ph.D. programs in chemistry, related professional fields (such as medicine and pharmacy), and positions in the chemical and related industries.

### CONTACT INFORMATION

For more information, contact:  
**STEM@salisbury.edu**

#### ■ Computer Science:

Prepares students to become outstanding computer science professionals with an emphasis on software development. Cooperative learning and team experiences are incorporated throughout the program to prepare students for environments they will encounter after graduation.

**Continued on reverse**



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2013 SU graduate (B.S., Chemistry) and  
recipient of a 2013 Gates Cambridge Scholarship

[www.salisbury.edu/henson/stem](http://www.salisbury.edu/henson/stem)

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■ **Earth Science:** Earth science includes the study of the solid earth (the lithosphere), the atmosphere, the hydrosphere and the biosphere. Earth scientists use tools from multiple disciplines to understand how earth systems work. Many earth scientists are involved in finding solutions for waste disposal, providing clean energy, promoting sustainability and coping with hazards such as earthquakes, flooding and erosion. Others study the human influence upon the earth and provide the information needed to establish policies for resource management, environmental protection, and public health safety and welfare. Importantly, earth science students may have careers in secondary science education.

■ **Engineering:** The transfer engineering program is a cooperative program in which the student attends SU for three years and a cooperating engineering school for two years. Upon successful completion of degree requirements, the student is awarded a baccalaureate degree from SU as well as an appropriate engineering degree. Physics students may apply to any Accreditation Board of Engineering and Technology-accredited school; and chemistry students may apply to the chemical engineering

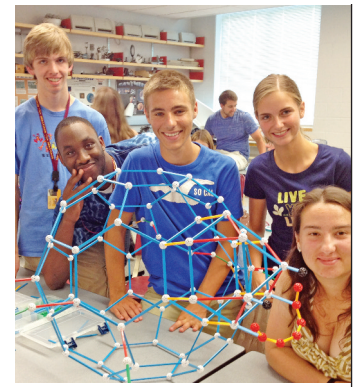
program of University of Maryland College Park.

■ **Geography:** The geography major emphasizes geographic concepts, techniques, skills and their application to the solution of environmental, land use and public planning problems, with tracks in atmospheric science, environmental/land-use planning, geographic information science, human geography, physical geography and general geography. An overwhelming majority of the program's graduates obtain jobs directly related to their degree; many have also gone on to graduate school in geography.

■ **Mathematics:** Majors begin their study with a core of courses in pure mathematics, applied mathematics, computer science and statistics. There are a variety of options including a B.S. in mathematics; a B.S. in mathematics with a concentration in statistics, computer science or actuarial science; and a B.S. in mathematics with secondary education certification. Graduates have a wide variety of fields in industry, government and education; employers of recent graduates include Lockheed Martin, the National Security Agency, the Weather Channel and the Census Bureau.

## STEM ACTIVITIES

- Center for Applied Mathematics and Science (CAMS)
- Internships
- Science Camp
- STEM Living-Learning Communities (LLCs)
- Supplemental Instruction (SI)
- Teaching Experiences
- Undergraduate Research
- Math and Science Competitions
- Coding Contests



## STEM Scholarships

STEM scholarships are available on a competitive basis for first-year students entering SU each fall semester. Eligibility is determined by high school GPA, SAT/ACT scores and other metrics, and invitations are typically sent to students in January. STEM majors include: biology, biology/environmental science dual degree, chemistry, computer science, earth science, geography, information systems (Perdue School), mathematics, physics and physics/engineering transfer. STEM scholarships are renewable provided that students remain in a STEM major, meet minimum GPA requirements and are making adequate progress on their programs of study. These scholarships can be awarded in addition to other merit scholarships.

## Bridges for SUCCESS

In 2010, SU was awarded a \$996,303 STEM Talent Expansion Program (STEP) grant from the National Science Foundation. Through the grant, the Bridges for SUCCESS (SU's Connections to Careers for Every STEM Student) program was created.

The goal of the program is to increase the total number of graduates in selected STEM disciplines (chemistry, physics, mathematics, computer science and earth science). After just five years, Salisbury University has nearly doubled the number of graduates in these majors.

■ **Physics:** Students can pursue a multi-track program of study that provides flexibility to pursue a challenging curriculum. A major in physics prepares students for careers in a variety of high-technology fields, teaching and graduate studies in physics, engineering, medicine, and other fields. Students can complete the physics major in one of five ways: engineering physics track, general physics track, microelectronics track, secondary education track or transfer engineering program.

## Research Opportunities

Undergraduate research opportunities connect what is learned in the classroom to the discovery process and allow the student to experience first-hand the practical applications of current methods and technologies. With close faculty mentoring during the research experience, students gain the skills necessary to organize and communicate experimental results and become successful practitioners of scientific research. SU offers semester activities as well as funded summer research programs for undergraduates.

## STEM Jobs Approved Campus

In 2015 and 2016, SU received an Approved STEM Jobs Colleges designation in recognition of the programs and support SU provides STEM majors.

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