

Cecil College, Bioproduction and Advanced Manufacturing

Army Alliance, November 30, 2023



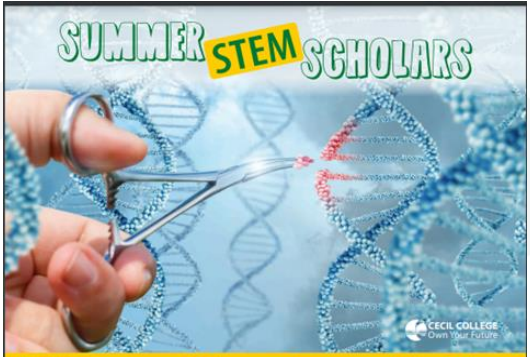
Regional demand

- 'Hotspot' for biotechnicians – Nationally, 1355 jobs in region; 2,578 jobs in this region. (17 counties surrounding Cecil county)
- Maryland Department of Labor anticipates a 6% growth in biological technicians, 2020-2030
- Average or above average need for other related occupations such as engineering, engineering technologists, chemical technicians
- More than 500 biotech companies in Maryland
- Maryland Biotech report (2015-2020) that while Maryland has a lot more bioscience Ph.D.s per capita than other states, we still need a "technically proficient local workforce."



Recruitment/Education

- High School Open Houses
- Cecil College Open House: Fall / Spring
- Cecil College STEM Nights
- Maryland College STEM Conference
AACC '22 Howard CC '23
- Summer Basics of Bioproduction Workshop: High school students that completed at least 1 Science course with lab; Introduced general lab safety and protocols; Gene editing through CRISPR; Bacterial Transformation (Agar Art); Principals of upstream processing
- Summer Workshop July 2023: Middle School students with an interest in Science; raising Laboratory Career Awareness



SUMMER STEM SCHOLARS

NEW! Basics of Bioproduction Workshop

Join us each morning for half-day lab sessions to:

- gain real-world experience as a scientist
- work with state-of-the-art equipment
- meet our STEM instructors and learn about Cecil College

This workshop is open to ages 14 to 18 or recent high school graduates.

June 27 to 30, 2022 (Monday - Thursday) 9am - noon
Arts and Science (Bldg C), Room 431

Prerequisite: One science course completed (preferred, not required). Lab safety gear equipment will be provided.

For more information, contact Benjamin Rabe, Ed.D., Bioproduction Program Coordinator: brabe@cecil.edu

Workshop Schedule

- Day 1:** Introduction to Bioproduction, laboratory practices, equipment and techniques
- Day 2:** Gene editing using CRISPR technology - preparation Modification and growth of bacterial cultures
- Day 3:** Gene editing using CRISPR technology - experiment Agar Art with bacterial cultures
- Day 4:** Putting it all together - results, photos, posters & presentations, future applications

Register Today! Visit cecil.edu/gene. Cost: \$50

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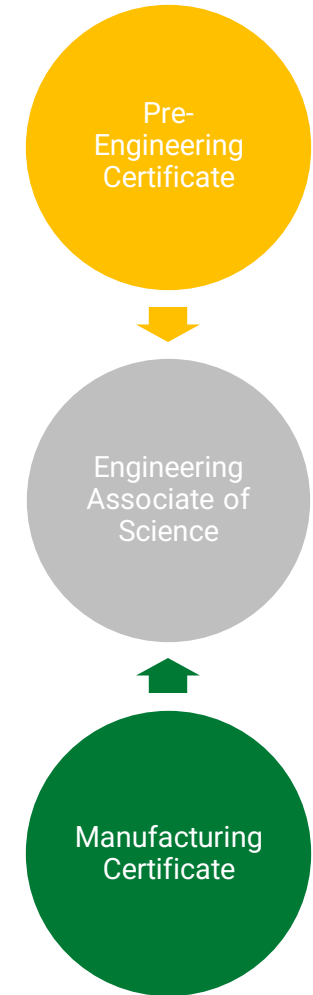
Bioproduction



Data Science



Engineering



Collaborations: meeting the need

- Member: National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL)
- Member: BioMade
- Member: DelawareBio
- Jefferson Institute for Bioproduction
- Industry partner



Collaborations: meeting the need

- Articulation with Thomas Jefferson University for Bachelor's in Biotechnology
- Articulation with University of Delaware for Medical Laboratory Science
- Articulation with several institutions for Engineering
 - Frostburg University is on Cecil campus, providing access to a Bachelor of Science in Materials Engineering



Questions?

