

TECHNOLOGY STUDIES: BIOMOLECULAR SCIENCES, AS

Program code: BIMO-AS-COT

Location: Quinebaug Valley, Tunxis

Program Description

As part of the Connecticut College of Technology (COT), the Technology Studies A.S. degree provides the knowledge and skills within specific high-demand technology fields. The program consists of lecture and lab course work in engineering, technology, industrial technology, mathematics, sciences, and foundational requirements that provide a solid comprehensive background for continuation in a four-year technology degree program or entry into the workforce. Upon completion of a Technology Studies A.S. degree, students can transfer to Central CT State University or the University of Hartford to complete designated B.S. degrees.

Learning Outcomes

1. Apply mathematical, scientific and technological principles and concepts to identify and formulate solutions to technical problems.
2. Apply critical thinking and problem-solving skills to solve technical problems.
3. Demonstrate the ability to function on teams.
4. Recognize the need to engage in life-long learning.

In addition to meeting the Technology Studies outcomes, graduates should be able to:

1. Demonstrate basic laboratory skills and working knowledge of safety procedures.
2. Understand and be able to apply the scientific method of inquiry.
3. Demonstrate a basic understanding of experimental design and analysis.
4. Explain basic cellular and organism principles.
5. Demonstrate an understanding of basic chemical concepts.
6. Perform biotechnology techniques including: gel electrophoresis, restriction digests, bacterial transformation, Polymerase Chain Reaction, DNA fingerprinting, and annotation of genes
7. Use a light microscope to view and interpret slides.
8. Properly prepare slides for microbiological examination.
9. Perform simple and differential staining techniques including Gram stains.
10. Demonstrate aseptic techniques for the handling of microorganisms and instruments, including: sterilization and maintenance of sterile transfer instruments, performance of aseptic transfer, and obtaining samples.

The objective of the Technology Studies: Biomolecular Sciences pathway is to prepare students for transfer to a baccalaureate degree in Biomolecular Sciences at a Central Connecticut State University as well as for entry-level laboratory technician positions. Students who earn an associate's degree will be able to:

- Transfer into a bachelor's degree program in biomolecular science.
- Transfer into pre-professional programs such as pre-vet or pre-med.
- Pursue careers as laboratory technicians in academic or industrial settings.

Degree Requirements

Code	Title	Credits
Technology Studies General Education Core		
ENG 1010	Composition	3
MATH 1610	Precalculus	4
ART Elective (course vetted for ARHX)		3
CHEM 1110 or CHEM 1210	Concepts of Chemistry General Chemistry I	4
Elective HISX - Historical Knowledge Course or Elective SBSX course in ECON		3
ENG 1080 or COMM 1301	Composition II: Technical Writing Public Speaking	3
CCS 1001	College and Career Success	3
Technology Studies Program Core		
PHYS 1201 or PHYS 2201	General Physics I Calculus-Based Physics I	4
Elective BHEL - Behavioral Science Elective Credits: choose an ANTH, PSY or SOC course		3
MATH 1200 or MATH 1201	Statistics I Statistics I with Computer Applications	3-4
Biomolecular Sciences Courses		
BIO 1210	General Biology I	4
BIO 1220	General Biology II	4
BIO 2111	Anatomy and Physiology I	4
BIO 2350	Microbiology	4
BIO 2600 or BIO 2630	Principles of Genetics Molecular Genetics	3-4
CHEM 1220	General Chemistry II	4
PHYS 1202 or PHYS 2202	General Physics II Calculus-Based Physics II	4
Choose a Specialization Elective from BIO, CAD, CHEM, CSC, CST, DTS, EETA, EGR, GEOG, MATH, MECH, MFG, OCEN, PHYS, TECH		3
Total Credits		63-65