Translational Life Science Technology Career Paths

APPLIED BIOTECHNOLOGY

A NOTE FROM OUR PROGRAM DIRECTOR:
Elizabeth Friar, Ph.D.

We prepare students to not only work in biotechnology, but to become innovators and thinkers.

The Translational Life Science Technology (TLST) program is unique and only located at the UMBC–Shady Grove campus. The program has been designed with the input of industry leaders to prepare students to be competitive in the dynamic biotechnology field. As a TLST major, you'll receive training in three core areas of interest—cell and molecular biology, data science, and engineering. Coursework includes Biochemistry and Molecular Biology, Bioinformatics, Statistics, Biochemical Engineering, and Advanced Biomanufacturing. You'll also have the opportunity to expand your understanding with unique course offerings, such as Epidemiology, Cancer Biotechnology, and Biotechnology Instrumentation. You can even earn additional experience in Python programming and Machine Learning through an optional Bioinformatics track.

Upon graduation, our TLST students go on to a wide variety of careers in the vibrant and rapidly-growing biotechnology field, including jobs in the private sector, government agencies, and academia. Recent graduates have been hired by AstraZeneca, Kite Pharma, American Gene Technologies, and the National Institutes of Health, among others.

BIOTECHNOLOGY INDUSTRY PATHS

RESEARCH & DEVELOPMENT
Genetic Engineer, Validation Scientist, Formulation Scientist, Assay Developer, Process Development Scientist *(Cell Culture, Upstream, Downstream Processes),* Computer Modeler/Programmer, Bioinformatics Specialist

QUALITY SYSTEMS
Quality Assurance, Control Scientist/Engineer, Quality Control Chemist, Quality Documentation Specialist, Quality Assurance Auditor, Process Validation Engineer

CLINICAL STUDIES
Clinical Research Associate, Clinical Coordinator, Clinical Data Specialist, Clinical Data Programmer

MANUFACTURING & DISTRIBUTION
Process Development Technician, Automation Engineer, Environmental Health & Safety Specialist, Product Production Planner & Scheduler, Manufacturing Research Associate

SALES & TECHNICAL SUPPORT
Sales Representative, Marketing Analyst, Marketing Manager, Product Manager

OTHER/CROSS-CUTTING ROLES
Systems Analyst / Data Analyst, Biostatistician, Data Manager, Patent Agent, Lobbyist, Technology Transfer

UNIVERSITY PATH
Graduate school for M.S., MPS, or Ph.D., Translational Science Research Assistant, Technology Transfer Specialist, Incubator Coordinator

HEALTHCARE INDUSTRY PATH
Medical, Dental, Veterinary or Pharmacy school, Medical Research Technician, Medical Lab Technician, Cytotechnologist, Biomedical Equipment Technician, Medical Technologist, Clinical Lab Specialist

GOVERNMENT PATH
Research, Policy or Program Analyst, Research, Policy or Program Manager, Basic or Applied Science Research Assistant within a particular health, agriculture or environment area (Intramural Laboratory), Translational Science Research Assistant (Intramural Laboratory), FDA Reviewer, Inspector or Auditor, Congressional Staffer on biotechnology-related issues

UMBC at The Universities at Shady Grove
B.S. in Translational Life Science Technology (TLST)
umbc.edu/tlst | TLST@umbc.edu | 301-738-6081

Translational Life Science Technology Opportunities

$ **50K-99K**
STARTING SALARY WITH A BACHELOR'S DEGREE

% **22.8**
PROJECTED INDUSTRY GROWTH OVER 10 YEARS
Source: Labor Insight (Burning Glass Technologies)

#4
Montgomery County, MD is the anchor of the 4th largest biotech hub in the U.S.
Source: Washington Business Journal

AstraZeneca
Emergent Biosolutions
Novavax
Vigene Biosciences
U.S. Food and Drug Administration
National Institutes of Health

80% of the U.S. pharmaceutical industry and **2,700+** life science companies are within a two-hour drive from Maryland.
Source: Maryland Department of Commerce

These are just some of the organizations that are **less than 15 minutes** from The Universities at Shady Grove by car.

ALUMNI HIGHLIGHT: Rediet Shewakena '21

After graduating with an associate degree in biology from Montgomery College, Rediet Shewakena '21, translational life science technology, heard about the TLST program from a friend while exploring other STEM career options. While at UMBC, Rediet completed two industry internships, first as an accessioner at GeneDx, and then as a research intern at Integrated Pharma Services. At IPS, Rediet performed research on possible anti-biofilm properties for bacteriophage viruses. She was able to present the results of that research at the Women in STEM conference held at The Universities at Shady Grove. Now, Rediet is employed as a Cell Therapy Specialist at Kite Pharma.

To learn more about TLST at UMBC-Shady Grove, visit umbc.edu/tlst to request information.

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