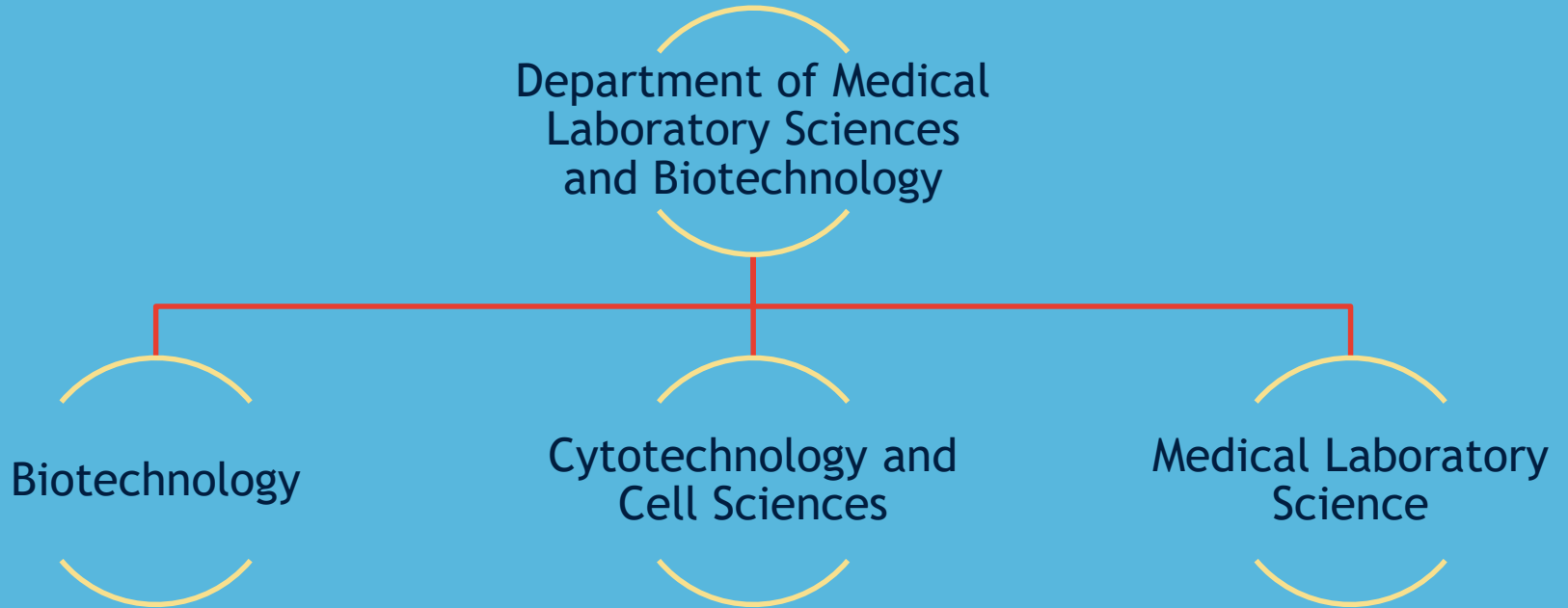




# Department of Medical Laboratory Sciences and Biotechnology

Jefferson College of Health Professions

# One Department Three Programs



# Why MLSB at Jefferson?

State-of-the-art  
laboratories

Robust multispecialty  
curriculum

Four unique  
practicum/internship  
experiences built  
into curricula

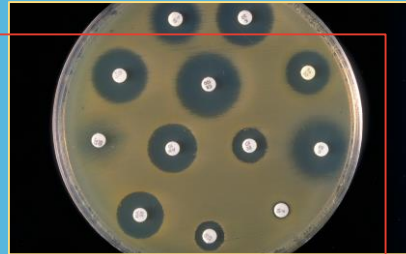
More than 40 clinical  
and research  
affiliations

Student Exchange  
Program with  
Kitasato University

# Biotechnology

Biotechnologists develop products and solve problems that address critical needs

Biotechnologists are adaptable to many fields, utilizing their training in cutting edge technologies



Medicine



Bioprocessing

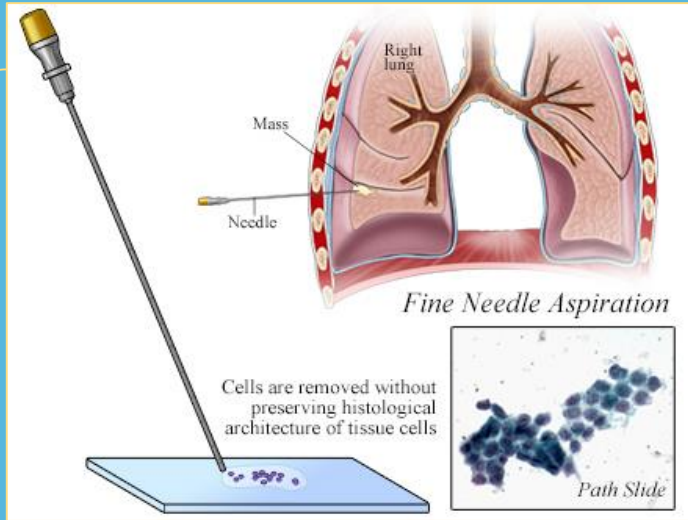


Forensics



Agriculture

# Cytotechnology and Cell Sciences



Cytotechnologists collaborate with pathologists to evaluate cellular specimens from all organs for the presence and diagnosis of disease

The Cytotechnology and Cell Sciences program at Jefferson has a comprehensive curriculum to educate and train students to

Diagnose cancers, other diseases, and infections

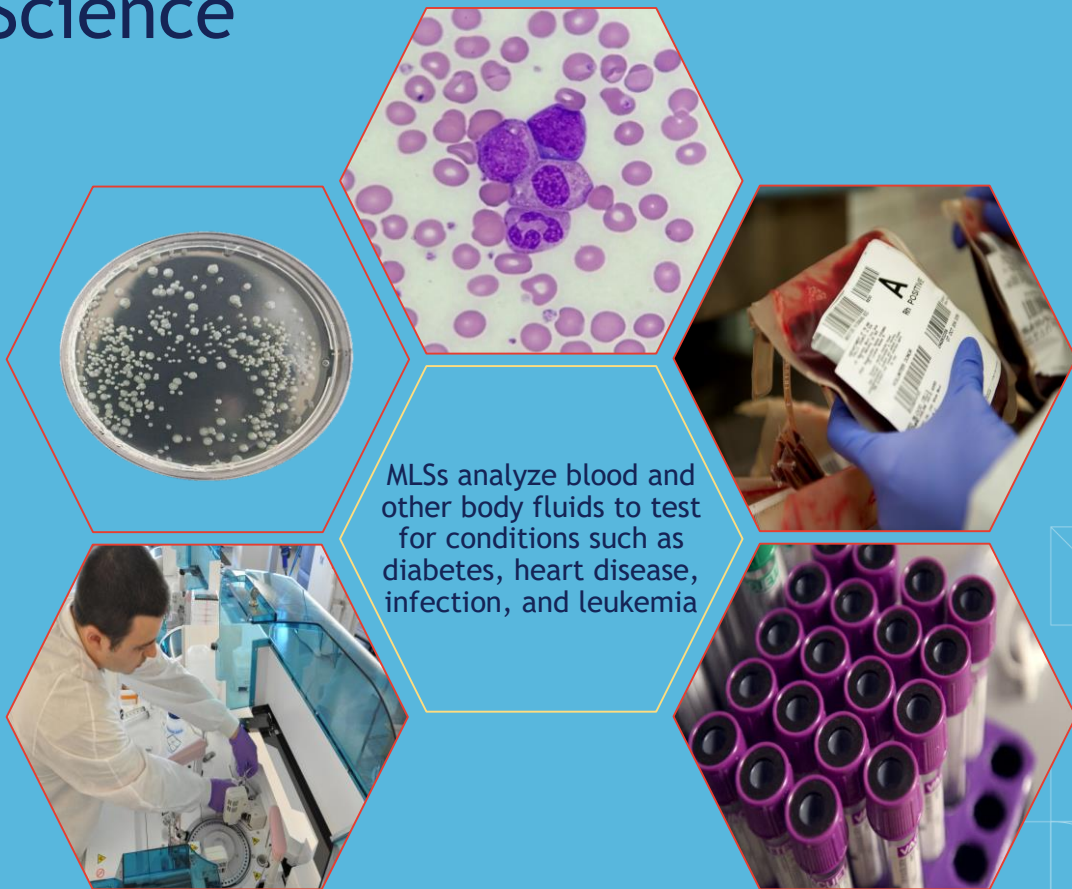
Screen patients for pre-cancerous conditions or signs of recurrent disease

Guide target-specific therapy

Participate in rapid on-site evaluation of a specimen during surgical interventions

# Medical Laboratory Science

Medical laboratory scientists (MLSs) work behind the scenes to provide clinicians with the laboratory results needed to diagnose, treat, and manage their patients



MLSs analyze blood and other body fluids to test for conditions such as diabetes, heart disease, infection, and leukemia

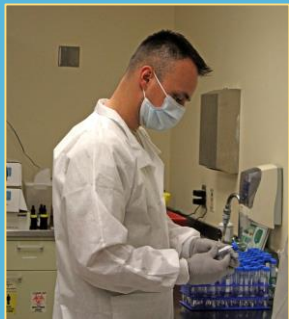
# Medical Laboratory Science

## The MLS's Role in the COVID-19 Pandemic Response: We Save Lives



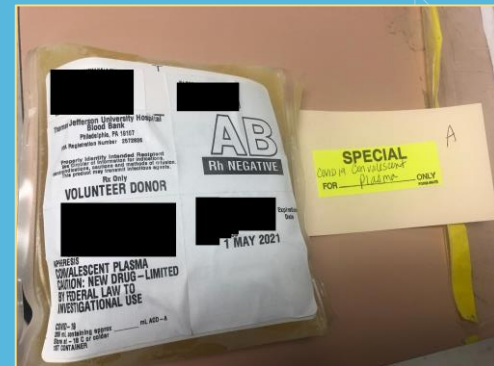
Specimen Collection and Transport

Specimen Processing



Specimen Testing

COVID-19 Treatment



## DEGREE AND TRACK OPTIONS

### Undergraduate

- BS, One-Year Option
- BS, Two-Year Option

### Undergraduate and Graduate

- 3+2 Health Sciences BS/MLSB MS
- Combined BS/MS

### Graduate

- MS, One-Year Option
- MS, Two-Year Option
- Advanced MS\*, One-Year Option
- Advanced MS\*, Two-Year Option
- Graduate Certificates (Part- and Full-Time Options)

### Concentration Spotlight

#### *Concentration in Biopharmaceutical Process Development*

In collaboration with the [Jefferson Institute for Bioprocessing](#), this concentration is available to biotechnology students in the BS or MS one-year tracks



## SAMPLE STUDENT WORK



Lori, an MLS student, is performing a blood type on a patient specimen.

For patients to safely receive blood, their blood type must be identified by a laboratory professional.

Patients suffering from anemia, such as sickle cell anemia, commonly receive blood transfusions.



JOB TITLE

# Biotechnologist

## OUTLOOK

With an ever-changing and evolving marketplace, adaptability and flexibility are paramount to success. Biotechnologists have the unique ability to adapt and innovate in any research environment and product-driven industry. Graduates of our program have been very successful in entering the workplace in various types of industry.

## EMPLOYERS OF JEFFERSON GRADUATES

- Pharmaceutical Companies
- Biotechnology Companies
- Therapeutic Manufacturing
- Biomedical Industry-based Laboratories
- Academia

JOB TITLE

# Cytotechnologist

GRADUATION RATE

100%

PLACEMENT RATE

100%

EMPLOYERS OF JEFFERSON GRADUATES

- Hospital Laboratories, Community and University Medical Centers
- Commercial Laboratories
- Academia
- Professional Societies
- In Vitro Diagnostics Companies

JOB TITLE

# Medical Laboratory Scientist

GRADUATION RATE

100%

PLACEMENT RATE

100%

EMPLOYERS OF JEFFERSON GRADUATES

- Hospital Laboratories, Community and University Medical Centers
- Commercial Laboratories
- Academia
- Professional Societies
- In Vitro Diagnostics Companies



## ASCP Board of Certification (BOC)

- Gold standard certification body for laboratory professionals, including **cytotechnologists** and **medical laboratory scientists**



## American Society of Cytopathology (ASC)

- In association with the professional accreditation agency CAAHEP, the ASC's Cytology Program Review Committee oversees and guides professional education, training, and advancement



## American Society for Clinical Laboratory Science (ASCLS)

- Grassroots organization and voice for **medical laboratory scientists** dedicated to making a positive impact in healthcare through professional, promotional, and educational activities

# Ellen Robinson

STUDENT PROFILE

READINGTON, NJ  
CLASS OF 2020

The 3+2 track option is what first attracted me to Thomas Jefferson University. It allowed me to jump right in with hands-on courses tailored to my field and finish my master's degree a year early.

***“One of the advantages of being part of a small program is the ability to respond quickly to community needs. During the COVID-19 pandemic, the Biotechnology program was able to mobilize a small volunteer production line to utilize our skills to manufacture viral transport media (VTM) transport devices, which are important for COVID-19 testing. Our production line provided the Jefferson health system with important test kits needed to continue testing during the pandemic, despite the major shortage of national supply lines.”***

To learn more about Ellen's involvement in this project, click [here](#).



# Contact Program Faculty

## Biotechnology

- Dr. Scott Gyax, Vice Chair and Assistant Professor, MLSB; Program Director, Biotechnology
- [Scott.Gygax@jefferson.edu](mailto:Scott.Gygax@jefferson.edu)
- (215) 503-8184

## Cytotechnology and Cell Sciences

- Dr. Tatiana Zorina, Associate Professor, MLSB; Program Director, Cytotechnology and Cell Sciences
- [Tatiana.Zorina@jefferson.edu](mailto:Tatiana.Zorina@jefferson.edu)
- (215) 503-8182

## Medical Laboratory Science

- Ms. Valerie Jalicke, Instructor and Program Director, Medical Laboratory Science
- [Valerie.Jalicke@jefferson.edu](mailto:Valerie.Jalicke@jefferson.edu)
- (215) 503-2792

# Application Requirements

- Application
  - Link to apply: [my.Jefferson.edu/apply](https://my.Jefferson.edu/apply)
- Official college transcripts from EVERY college or university attended
  - Foreign transcripts must be evaluated by World Education Services (WES) or another approved evaluating organization
- Letters of recommendation (optional)
- Essay/personal statement
- English language proficiency/TOEFL (if applicable)



# Important Dates

- Application deadlines for Fall 2021 students
  - **May 15:** International Students
  - **July 15:** U.S. Citizens, Permanent Residents, and International Students with Current F-1 Visas

Apply early, as we review applications on a rolling basis

# Prerequisite Requirements

COURSE REQUIREMENTS	Semester Credits	Notes
ANATOMY AND PHYSIOLOGY I with lab	4	REQUIRED FOR MLS AND CT PROGRAMS ONLY
ANATOMY AND PHYSIOLOGY II with lab	4	REQUIRED FOR MLS AND CT PROGRAMS ONLY
PHYSICAL LIFE SCIENCES: A&P I, A&P II, BIOCHEMISTRY, MICROBIOLOGY, MOLECULAR BIOLOGY, CELL BIOLOGY, GENETICS, ENVIRONMENTAL SCIENCE, PHYSICS, or UPPER LEVEL CHEMISTRY, labs must be included	8	REQUIRED FOR BT PROGRAM ONLY
ORGANIC CHEMISTRY with lab	4	REQUIRED FOR BT PROGRAM ONLY
OTHER SCIENCES: ORGANIC CHEMISTRY, MOLECULAR BIOLOGY, IMMUNOLOGY, BIOCHEMISTRY, CYTOGENETICS, MICROBIOLOGY, PHYSICS (MLS only), or ANALYTICAL CHEMISTRY; labs must be included	4	REQUIRED FOR CT and MLS PROGRAMS ONLY

COURSE REQUIREMENTS	Semester Credits	Notes
CHEMISTRY I with lab	4	REQUIRED FOR ALL PROGRAMS
CHEMISTRY II with lab	4	REQUIRED FOR ALL PROGRAMS
BIOLOGY I with lab	4	REQUIRED FOR ALL PROGRAMS
BIOLOGY II with lab	4	REQUIRED FOR ALL PROGRAMS
STATISTICS	3	REQUIRED FOR ALL PROGRAMS
ENGLISH/WRITING	6	REQUIRED FOR ALL PROGRAMS
GENERAL/FREE ELECTIVES		
1-year BS	33	
2-year BS	18	
BS/MS	45	
All MS options	N/A	

# Keys to a Successful Application

- Knowledge of the profession
- GPA 3.0 or higher
- Strong science grades
- Excellent letters of recommendation
- Superior interpersonal skills

Selected candidates will be invited for an interview.

# Visit [Jefferson.edu/virtualvisits](https://jefferson.edu/virtualvisits)

- Watch virtual tour videos
- Schedule a virtual appointment with an admissions counselor

## Contact us

- [Enroll@jefferson.edu](mailto:Enroll@jefferson.edu)
- (215) 951-2800

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