

Health Sciences: Pre-Medical Laboratory Sciences & Biotechnology

Jefferson College of Health Professions

Presentation Overview

- Program Description
- Plan of Study
- Specializations
- Careers
- Unique Program Elements
- Outcomes
- Professional Associations
- Student Profile
- Faculty Profile



Dr. Wendy Krupnick

DEPARTMENT OF HEALTH SCIENCES, DIRECTOR



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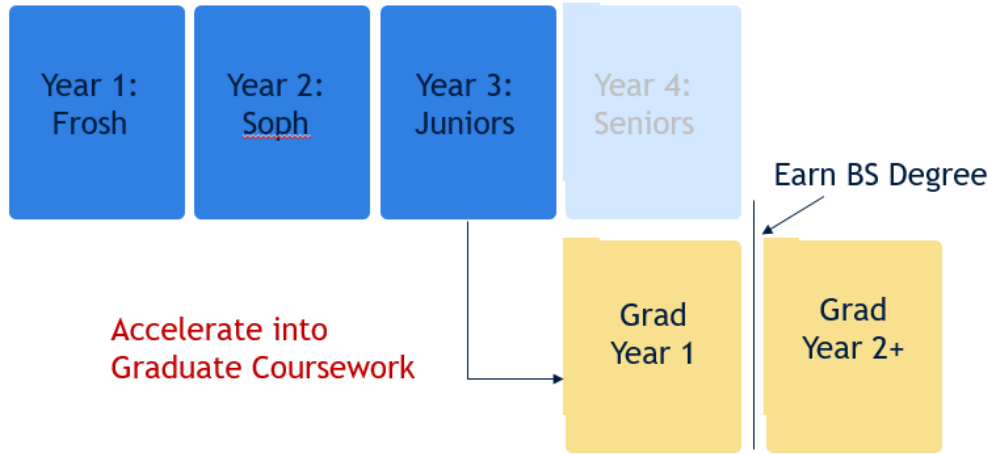


Jefferson

CREATE WHAT'S NEXT

Accelerated BS/MS Medical Laboratory Sciences & Biotechnology (3+2)

Traditional Undergraduate Program



Typical Graduate Program



Move to Professional Phase 1 year early

Health Sciences: Pre-Medical Laboratory Sciences & Biotechnology

Years 1-3 (year 4 begin Professional Coursework)	Credits
6 Health Science (HSCI) Courses (Intro to Health Professions, Intro to Healthcare, Medical Terminology, Applied Statistics, Elective)	12
9 Science Courses (Biology I & II, Anatomy & Physiology I & II, Chemistry I & II, Microbiology, Organic Chemistry I, Biol/Chem Elec)	35-36
2 Psychology Courses (Intro to Psychology, Elective)	6
Hallmarks (College Studies) (1 st Year Seminar, Writing I & II, Diversity, American Studies, Citizenship, Math, Ethics, Global Studies, Integrative Seminar, Capstone)	34
Free Elective	3
Total	90-91



Medical Laboratory Sciences & Biotechnology (3+2 Pathway to M.S.)

Guaranteed Seat (must meet progression criteria)

Cytotechnologists & Medical Laboratory Scientists

(a.k.a. *INVESTIGATORS*)

Work in hospitals, diagnostic labs, and/or
physician offices

Analyze patient samples for cellular
abnormalities (e.g., bacterial and viral
infections, cancer)

Present results to enable physicians to make
informed treatment decisions

Biotechnologists

(a.k.a. *RESEARCHERS*)

Contribute to new product
development

Work in diverse settings
such as **pharmaceutical
companies**, universities,
research and
development, **forensics**,
and **bioengineering**

Biotechnologist | Cytotechnologist | Medical Laboratory Scientist

OUTLOOK

MEDIAN SALARIES

Median Annual Wage



*Nurses, Physicians, Dental Hygienists (Mau, 2017)

BioTech \$76,690

CytoTech \$72,377

MedLabSci \$61,112

Grand Opening
Summer 2019

Jefferson Institute for Bioprocessing



Specialized education and training institute for bioprocessing engineers, scientists and technicians

- Industry professionals
- Undergraduate and graduate programs
 - 12 cr concentration in Biopharmaceutical Process Development available to biotechnology students

Develop and manufacture biologics (used in bio-pharmaceutical manufacturing of biologics - personalized therapies)

Workforce development for bioprocessing industry

New Course: Applied Statistics in Health Sciences

Students learn about statistics through the study of health and disease progression in populations. This approach supports their understanding through real-world timely application.

Focused Coursework

Introduction to the Health Professions

Introduction to Healthcare

Medical Terminology

Health Science Electives: Children's Health, Women's Health, Issues in Community Health, Clinical Experience in Emergency Medicine, Nutrition, Emergency Medical Technician, Exercise Physiology, Kinesiology, Fitness & Health



GRADUATION RATE (CT & MLS programs)


PLACEMENT RATE (CT & MLS programs)

100% 100%

FAST FACTS

- 89% pass rate for external certification exam (MLS program, 2019 data)
- 100% pass rate on the national cytotechnology board exam (3-year average)

EMPLOYERS OF JEFFERSON GRADUATES

- Hospitals, clinics and laboratories in the academic, corporate, government, forensic, veterinary, environmental, research, and public health sectors
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- **American Society of Cytopathology (ASC)**
 - ASC is a distinguished national professional society of physicians, **cytotechnologists** and scientists who are dedicated to the cytologic method of diagnostic pathology
- **American Society for Clinical Laboratory Science (ASCLS)**
 - ASCLS is a grassroots organization for **medical laboratory scientists** dedicated to making a positive impact in healthcare through leadership that assures excellence in the practice of laboratory medicine
- **ASCP Board of Certification (BOC)**
 - The BOC is the gold standard in global certification for medical laboratory professionals, including cytotechnologists and medical laboratory scientists



Morgan Shriver

Bangor, PA

CLASS OF 2023, Rambassador

"I ultimately chose Jefferson because of the endless opportunities that the MLSB program will provide for me. Being connected with 14 hospitals, as well as the brand- new Jefferson Institute for Bioprocessing, now is a better time than ever to be interested in the field of Biotechnology.

The 3+2 curriculum was appealing to me because, not only do I complete my master's degree a year early, but I also have the opportunity to transfer to Jefferson's Center City campus following my third year of schooling. Since Jefferson is a relatively small school, and Health Sciences: Pre-MLSB is a small, specific major, I receive personalized help with scheduling, applications for internships and jobs, and interviews.

I feel like Jefferson is the school that I was meant to find. As soon as I stepped on campus for the first time, I felt at home."





RESEARCH INTERESTS

- Development of point-of-use diagnostic assays and reagents for the medical and biotechnology industries with a focus on infectious diseases

Dr. Scott Gygax

DEPARTMENT OF MEDICAL LABORATORY SCIENCES &
BIOTECHNOLOGY, VICE CHAIR
BIOTECHNOLOGY PROGRAM, DIRECTOR

PhD THE UNIVERSITY OF CONNECTICUT HEALTH CENTER
POSTDOCTORAL ASSOCIATE, YALE UNIVERSITY SCHOOL OF MEDICINE
BA GETTYSBURG COLLEGE

Dr. Gygax has 15 years of executive and research & development experience in the fields of biotechnology, molecular biology, and microbiology for the medical diagnostic industry. He managed a product development division focused on clinical research, biomarker assay development, and medical testing device production.

Dr. Gygax has 37 publications and 8 patents. He has been teaching in the Jefferson Biotechnology program for 13 years and is dedicated to preparing students for a successful career in the biotechnology field.



Jefferson

Thomas Jefferson University