

MS in Biopharmaceutical Process Engineering

Jefferson Institute for Bioprocessing

On Demand Information Session





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267-405-9505

Program Duration - 9 and 12 month options

Required Number of Credits - 36

Course Delivery - Onsite and Hybrid Options available

- **Hybrid / Online options are available for the 2020-21 term, with online courses starting May 18th!**
- The program is *ideal for employment focused graduates with Bachelor Degrees in Life Sciences and Engineering.*
- *Laboratory intensive program providing hands-on preparation in JIB's single-use pilot-scale facility* fully equipped with the most advanced technologies and processes used by industry to manufacture biopharmaceuticals.

- ***Choose from 2 concentrations:***
 - MS in Biopharmaceutical Process Engineering
 - MS in Biopharmaceutical Process Engineering with a concentration in Analytical Techniques and Regulatory Principles
- The program's ***immersive group-based*** coursework will provide you with a solid foundation in upstream / downstream operations, bioanalytical, quality-by-design, regulatory and process-based application of the skills required to enter the biopharmaceutical workforce.
- ***Study Abroad*** - Complete your Capstone Project at the ***National Institute for Bioprocessing Research and Training (NIBRT)*** in conjunction with the ***Jefferson All Island Ireland Center***

- Emphasis on *hands-on learning* in JIB's *single-use pilot-scale biopharmaceutical training facility*, rather than traditional classroom learning.
- *Enter the workforce with more preparation, earlier.*
Earn your MS degree in 12 months or less!
- *Professional engagement* through networking opportunities with industry leaders, site visits and conference attendance.

JOB TITLE


Bioprocess Scientist or Bioprocess Engineer

OUTLOOK

- The integration of chemical and biological sciences to the field of engineering combined with rapid advances in innovation, has created new areas in the pharmaceutical field to work in.
- From 2016 to 2026, the field is expected to grow 8% as compared to overall job growth of 5%.

SALARIES*

MAX	\$169,770
MEDIAN	\$104,910
START	\$64,890

- **International Society for BioProcess Technology (ISBioTech)**
 - Dedicated to the scientists and engineers who have day-to-day responsibility for creating and managing scalable and reproducible processes, as well as the assays needed to ensure indisputable quality.
 - **American Institute of Chemical Engineers (AIChE)**
 - Dedicated to helping you succeed, through sharing knowledge and creating networks that help build your career path. Members enjoy benefits that include technical information, conferences and training, professional connections and career resources.
 - **Society for Biological Engineering (SBE)**
 - Global organization of leading engineers and scientists dedicated to advancing the integration of biology with engineering
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Anupama Madaram Peddamala

San Diego, CA
CLASS OF 2020

Anupama chose a the MS in Biopharmaceutical Process Engineering Program offered by TJU at the Jefferson Institute for Bioprocessing so that she could prepare for industry through hands-on experience with single-use bioprocessing technologies in both Upstream and Downstream areas.

“The program will prepare you, both in knowledge and working experience, to transition into the work field as smoothly as possible.”

“Having Professors with extensive knowledge and experience in the biopharmaceutical industry will aid in my ability to navigate the field successfully.”

“I was given the freedom to work on projects and gain experience in areas that I am interested in.”



Dr. Parviz Shamlou

Executive Director, Jefferson Institute for Bioprocessing

PhD in Chemical Engineering with 40 years of industry and academic experience within the biopharma industry.

During his time in industry he worked on over a dozen biopharmaceuticals and biologics targeting diseases from diabetes to cancer and inflammatory diseases, including Alzheimer's. As an academic in Europe and the US, Dr. Shamlou has supervised over 30 PhDs and postdoctoral researchers, and published over 250 articles in peer-reviewed scientific journals, book chapters, scientific reports, invited conference presentations, seminars and lectures

COURSES

- ENGR-609 - BIOPROCESS ENGINEERING FOR SCIENTISTS
- ENGR-601 - INTRODUCTION TO UPSTREAM UNIT OPERATIONS
- ENGR-602 - INTRODUCTION TO DOWNSTREAM UNIT OPERATIONS
- ENGR-604 - BIOPHARACEUTICAL PROCESS OPERATIONS

Dr. Parviz Shamlou

Executive Director, Jefferson Institute for Bioprocessing

Thomas Jefferson University's commitment to patients, and workforce development in biopharma attracted me to join Jefferson in 2019. I feel very privileged to work with many talented and dedicated scientists and engineers at Jefferson, and lead Jefferson Institute for Bioprocessing (JIB) to achieve its mission in bioprocessing.

"We need talented bioprocess scientists and engineers with the right skills to join the fight against life-limiting and life-threatening diseases."

Viral diseases like COVID-19, influenza, HIV, hepatitis and many more are the reason why JIB was created, and why we do what we do. The COVID-19 pandemic demands radically new manufacturing platforms that are more productive and responsive to rapid changes and fluctuations in patient populations worldwide.

JIB specializes in teaching, training and process development work based on bioreactor cell culture systems. These vertically scalable systems provide the foundation for next generation manufacturing platforms that can rapidly and effectively respond to outbreaks and pandemics.

OUTCOMES

GRADUATION RATE

100%

JOB PLACEMENT RATE

50%*

*Listed rate is for pre-graduation job placement for the inaugural graduating class (May 2020)



LICENSE EXAM PASS RATE

N/A

(no certification is required)

EMPLOYERS OF JEFFERSON GRADUATES

- Astro Zeneca
- Incyte
- Genentech
- Molecular Templates

Admissions Requirement Checklist

- A Bachelor of Science or equivalent in Engineering or Life Sciences, or a related discipline from a recognized institution
- Minimum Cumulative Grade Point Average (cGPA) of 3.0
- For international students that have not earned their primary degree at a U.S. institution, one of the following marks of English proficiency:
 - Minimum TOEFL score of 79,
 - Minimum IELTS score of 6.5
- Two (2) letters of recommendation
- Knowledge of the profession displayed through a short writing sample

Admissions Tips

- Supporting materials can be submitted by email or or postal mail to:

Jefferson
Office of Admissions
East Falls Campus
4201 Henry Avenue
Philadelphia, PA 19144-5497

or

GradAdm@PhilaU.edu

- In response to COVID-19, the University will accept Spring 2020 transfer credits assigned a Passing or “P” grade.
- Please contact the Admissions Office or Program Director if you are having trouble acquiring letters of reference due COVID-19

MS Program Scholarships

- A limited number of both ***Need-Based*** and ***Merit-Based*** scholarships are currently available.
- ***Merit-Based scholarships*** will be awarded once the application deadline passes to ensure that all applicants are considered.
- ***Need-Based scholarships*** will be awarded on a rolling basis.

Office of Admissions

Cara Bishop, Graduate Admissions Counselor

Cara.Bishop@jefferson.edu

Financial Aid

jefferson.edu/tuition-and-financial-aid.html

Email Address: CC or East Falls



Jefferson

Thomas Jefferson University