RUTGERS SCHOOL OF ENGINEERING
Advancing Leaders to Solve Today’s Complex Engineering Challenges

Chemical & Biochemical Engineering Doctoral Program
Rutgers School of Engineering's research-driven doctoral program in Chemical and Biochemical Engineering is focused on original contributions to the fundamentals and applications of chemical and biochemical engineering. Program graduates are well-positioned to pursue careers in academia, industry, research organizations, and engineering firms.

Applied Learning

Doctoral students are expected to be capable of top-quality independent work and research. All candidates are required to spend two semesters as teaching fellows, as well as complete and defend a final dissertation research project. Doctoral candidates additionally benefit from the close research ties and connections with industry leaders that result from Rutgers’ location at the heart of New Jersey’s industrial corridor.

CBE Curriculum Highlights

The doctoral degree is essential for those planning careers in research and/or academia. Dedicated to the development and education of future leaders in the dynamic, evolving field of chemical and biochemical engineering, our distinguished faculty provide students with the up-to-the-minute information and cutting-edge skills for career success. We offer:

- Core chemical engineering courses in:
  - Advanced Chemical Engineering Thermodynamics
  - Advanced Transport Phenomena I: Momentum Transfer
  - Advanced Transport Phenomena II: Heat and Mass Transfer
  - Kinetics, Catalysis, and Reactor Design Analytical Methods in Chemical and Biochemical Engineering
- Electives in a wide range of topics from multiple areas in chemical and biochemical engineering
- Developmental courses in:
  - Teaching in the Engineering Curriculum
  - Graduate Seminar
  - Practical training, including industrial internships
- An option in pharmaceutical engineering that trains future leaders in next-generation pharmaceutical product design and manufacturing

Doctoral Degree Requirements

- 72 credits, including 30 course credits and 24 research credits
- Oral preliminary exam
- Dissertation proposal and defense
- Teaching experience gained through two semesters as teaching fellows

Academics and Research

- Cross-disciplinary researchers from major universities come together at centers such as the Center for Structured Organic Particulate Systems (C-SOPS), which is improving how pharmaceuticals and other products are manufactured, and the Catalyst Manufacturing Center.
- Cutting-edge equipment includes Raman spectrometer with confocal microscope, gas-phase kinetic reactors, high-performance imaging systems, and thermogravimetric analyzer, along with advanced computational resources and software systems.
- Research from our CBE programs results in publication in leading journals; patented technologies; and extensive funding from state, national, and international sources, as well as from industry partners.

Why Rutgers Chemical and Biochemical Engineering?

- Our innovative courses and programs are designed to train academic and industry leaders.
- Our collaborative, interdisciplinary academic community is committed to transformative education and research that is ethically responsible and sustainable.
- Our active student community is engaged in cutting-edge research.
- Our accomplished faculty includes internationally recognized experts in their fields, who span departments and schools within Rutgers.

For application deadlines and more information, visit cbe.rutgers.edu/phd