CHEMICAL ENGINEERING (ENCH)

Graduate Degree Program
College: Engineering

Abstract
The Chemical and Biomolecular Engineering Department offers educational opportunities leading to a Doctor of Philosophy degree or Masters of Science degree in Chemical Engineering. Both degrees require a written thesis and an oral examination on the thesis. Our faculty research interests cover a wide array of subject matter and is well-equipped for graduate research in; aerosol science and engineering, bioethical engineering, computational modeling, fluid mechanics and mixing, fuel cell technology, metabolic engineering and systems biology, nanotechnology, polymer processing and characterization, polymer reaction engineering, process control, thermodynamics and transport phenomena, and systems research. The Department maintains a distributed computing network consisting of research laboratories and a PC laboratory. Major research facilities including electron microscopy, X-ray diffraction, X-ray photoelectron spectroscopy, and NMR are coordinated through a variety of laboratories.

Financial Assistance
Graduate research assistantships typically support qualified Ph.D. students. Graduate fellowships are available on a competitive basis to both entering and continuing Ph.D. students. Typically only those Ph.D. students who enter the program in the Fall semester are eligible for fellowships. We are unable to provide financial support to students in our masters degree program.

Contact
Graduate Coordinator
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College Park, MD 20742
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Email: enchgrad@deans.umd.edu

Website: http://www.ench.umd.edu

Courses: ENCH (https://academiccatalog.umd.edu/graduate/courses/ENCH)

Admissions
The programs leading to the Master of Science and Doctor of Philosophy degrees are open to qualified students holding the Bachelor of Science degree. Admission may be granted to students with degrees in other engineering and science areas from accredited programs, and it may be necessary in some cases to require courses to establish an undergraduate Chemical Engineering background. The general regulations of the Graduate School apply in reviewing applications.

GENERAL REQUIREMENTS
• Statement of Purpose
• Transcript(s)

PROGRAM-SPECIFIC REQUIREMENTS
• Letters of Recommendation (3)
• Graduate Record Examination (GRE) (optional for Ph.D., not required for M.S.)
• CV/Resume
• Supplementary Application (optional)
• Supplementary Application Two (optional for M.S., not required for Ph.D.)
• Writing Sample(s) (optional)
• Description of Research/Work Experience (optional)

APPLICATION DEADLINES
Type of Applicant                     Fall Deadline       Spring Deadline
Domestic Applicants
US Citizens and Permanent Residents  January 4, 2022        October 1, 2021
International Applicants
F (student) or J (exchange visitor)  visas; A,E,G,H,I and L visas and immigrants  January 4, 2022        September 30, 2021

RESOURCES AND LINKS:
Other Deadlines: ench.umd.edu (http://www.ench.umd.edu)
Program Website: chbe.umd.edu (http://www.chbe.umd.edu/)

Requirements
• Chemical Engineering, Doctor of Philosophy (Ph.D.) (https://academiccatalog.umd.edu/graduate/programs/chemical-engineering-ENCH/chemical-engineering-phd/)
• Chemical Engineering, Master of Science (M.S.) (https://academiccatalog.umd.edu/graduate/programs/chemical-engineering-ENCH/chemical-engineering-ms/)

Facilities and Special Resources
A number of special facilities are available for graduate study and research and are coordinated through the Polymer Reaction Engineering Laboratory, the Chemical Process Systems Laboratory, the Laboratory for Mixing Studies, the Thermophysical Properties Laboratory, the Laboratory for Biochemical Engineering and the Biochemical Reactor Scale Up Facility. These laboratories contain advanced process control computers, polymer processing equipment and polymerization reactors, polymer characterization instrumentation, fermentors, a laser Doppler anemometry facility, and an aerosol characterization facility.