ROSE-HULMAN
INSTITUTE OF TECHNOLOGY

Master's Degrees
Chemical Engineering

GRADUATE STUDIES

CHEMICAL ENGINEERING OPENS DOORS TO NUMEROUS INDUSTRIES

Rose-Hulman's chemical engineering master's degree programs offer a unique opportunity to broaden and enhance your undergraduate training with concentrated study in a specialized area.

We offer two graduate-degree options—the traditional thesis-based master of science (MS) degree and the course-based master of chemical engineering (MChE) degree. Students pursuing the MS degree take course and laboratory work that culminates in the oral defense of a written thesis. The MChE program requires additional classwork or project study in lieu of a traditional thesis.

Whether you are a full-time graduate student or working in industry, our master's programs can fit your needs. The programs offer flexibility which allow students to pursue independent research projects on topics such as surfactants, optimization of heat exchanger networks, adsorption, and phase equilibria of polar fluids.

Areas of specialization within our department include energy and sustainability, separations, biochemical engineering and biosystems, process and transport modeling, process control and optimization, petroleum engineering, thermodynamics and molecular simulations, polymers, interfacial phenomena and nanotechnology, and particulate materials.

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Course-based MChE Program

Program Requirements (48 credit hours):

- 12 credit hours of core course work
- 12 credit hours of course work in an approved concentration area
- 24 credit hours of elective course work

Core Coursework:

- Transport Phenomena
- Advanced Reactor Design
- Advanced Thermodynamics

MChE degree requirements include 12 credit hours of coursework in a committee-approved concentration area.

Thesis-based MS Program

Program Requirements (48 credit hours):

- 12 credit hours of core course work
- 8 credit hours of minor course work in an approved concentration area
- 16 credit hours of elective course work
- 12 credit hours of thesis work

Core Coursework:

- Transport Phenomena
- Advanced Reactor Design
- Advanced Thermodynamics

Requirements include 12 credit hours of thesis research culminating in the writing and oral defense of a thesis.

At a Glance

Rose-Hulman's graduate programs have a strong focus on applied research involving excellent faculty, facilities, and flexibility in a student's plan of study to meet individual goals. The graduate studies programs at Rose-Hulman offer a supportive atmosphere focused on the growth and development of each student.

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Faculty Areas of Specialization

Daniel D. Anastasio, PhD, University of Connecticut
Engineering pedagogy, osmotic processes

Heather C. S. Chenette, PhD, Clemson University
Polymer-functionalized membranes

M. Hossein Hariri, PhD, Manchester, United Kingdom
Energy, environment and safety

David B. Henthorn, PhD, Purdue University
Biomaterials, diagnostic & therapeutic devices

Kimberly H. Henthorn, PhD, Purdue University
Particle technology, microfluidics

Scott J. McClellan, PhD, Purdue University
Colloidal and interfacial phenomena, drug delivery

Gregory T. Neumann, PhD, University of Notre Dame
Heterogeneous catalysis, materials, and energy

Adam J. Nolte, PhD, Massachusetts Institute of Technology
Polymers, surface science, materials

Irene M. B. Reizman, PhD, Massachusetts Institute of Technology
Biotechnology, synthetic biology

Sharon G. Sauer, PhD, Rice University
Thermodynamics

Atanas Serbezov, PhD, University of Rochester
Adsorption, process control

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