

What is Chemical Engineering?

Chemical Engineering (ChE) is an exciting, multi-faceted, and well paid career in an ever changing market. It is a broad field amenable to many categories of business, such as biochemical, biomedical, chemical, environmental, food, materials, paper and pulp, petroleum, pharmaceutical, polymers, and semi-conductors. Because of the breadth of the technical and scientific background, chemical engineers are often referred to as "universal" engineers. Many fields that require technical training are open to chemical engineers. Their expertise has been invaluable in areas such as law, education, finance, and medicine.

Chemical engineers utilize their knowledge of mathematics, science (especially chemistry), and engineering principles to address technical problems safely and economically. A range of challenging technical problems, from devising completely new chemical processes or design of products to improving existing processes, are encountered by the chemical engineer.



By applying their technical knowledge and training, communication and teamwork skills, the most up-to-date practices available, and hard work these challenges are met successfully. In addition to the financial benefits, the gratification arising from working with the processes of nature to meet the needs of society and the respect within industry and from society in general are very rewarding to chemical engineers.

For more detailed information on the various careers in which chemical engineers typically embark, please see the website of the international organization: American Institute of Chemical Engineers (AIChE) (<http://www.aiche.org/spins/careers/job.htm>)

Why Chemical Engineering at Rose-Hulman?

The Department of Chemical Engineering at RHIT is dedicated to providing our students with the highest quality education to prepare them for a successful career in the many exciting areas of chemical engineering. The faculty and staff are committed to the professional and intellectual development of our students. Our mission includes the provision of a balanced education to enable our students to practice in the dynamic and progressive chemical engineering profession. Students not only gain the necessary technical skills but also develop an appreciation of their responsibility to their colleagues in industry, the community and the world.

Competitive internships and co-op programs are available to students interested in gaining industrial experience during their tenure at RHIT. The internships are typically ten weeks during the summer months while the co-op program generally involves work during one quarter of the academic year in addition to the summer months. Our course offerings are arranged to accommodate students participating in the co-op program. Please see our website for details.

Courses

In order to provide students a well-rounded engineering education, in addition to the chemistry, physics, and mathematics classes, they take courses in the humanities and social science, such as literature and economics, often pursuing a minor in a foreign language or economics. This is a very important aspect of preparing students for the global work force. In order to receive a B.S. in Chemical Engineering, students are required to take several core courses including

Fluid Mechanics	Material & Energy Balances
Heat Transfer	Thermodynamics
Mass Transfer	Phase & Chemical Equilibrium
Process Control	Kinetics & Reactor Design
Design	Unit Operations Laboratory

Students broaden their technical savvy by taking courses in other disciplines and often pursue a Minor in areas such as Applied Biology, Biochemical Engineering, Biochemistry & Molecular Biology Biomedical Engineering, Chemistry, Environmental Engineering, Math, Physics, etc. Areas of concentration in Polymers, Semi-conductors, and Engineering Analysis are also available.



RHIT ChE graduates

After graduating with a B.S. in Chemical Engineering from RHIT, our graduates pursue a variety of career paths. Many choose to enter the work force immediately working in industries such as chemicals, engineering service firms, environmental, food, materials, petrochemicals, pharmaceuticals for a variety of companies including the following:

<i>ADM</i>	<i>Exxon Mobil</i>	<i>Marathon</i>
<i>Anheuser Busch</i>	<i>Frito Lay</i>	<i>Milliken</i>
<i>Bemis</i>	<i>G.A.F. Materials</i>	<i>ON Semiconductor</i>
<i>Cook</i>	<i>Genentech</i>	<i>Procter & Gamble</i>
<i>Dow</i>	<i>General Electric</i>	<i>Schlumberger</i>
<i>Ecolab</i>	<i>General Mills</i>	<i>Tate & Lyle</i>
<i>Eli Lilly</i>	<i>Koch</i>	<i>UOP</i>

Others choose to continue their engineering education in Masters of Science and/or Doctor of Philosophy programs. Recent graduates have attended top programs across the US including Cal Tech, Clemson, Colorado, Ga. Tech, Illinois, IIT, Michigan State, Minnesota, MIT, NC State, Purdue, RHIT, Stanford, UCLA, Univ. of Texas, University of Washington and Wisconsin. Some graduates pursue the Jurist Doctor (Harvard Law School, University of Vermont, IU), medicine (IU, Ohio State) or dentistry (IU).

Undergraduate Research Opportunities



Interested in research? Our program includes the flexibility to allow students to pursue independent research projects. Recent project topics/areas include surfactants, biochemical, modeling combustion chemistry, optimization of heat exchanger networks, adsorption, and phase equilibria of polar fluids. Some students have presented their work at regional and national conferences. In addition to being an opportunity to prepare for graduate school, undergraduate research experience is valuable in preparing students for industrial employment by experiencing an independent study, which develops skills such as project management, time management, writing, and presentation skills.

Faculty

Mark R. Anklam, Head (Interfacial Phenomena)
Ronald S. Artigue, Prof. (Process Control)
Daniel G. Coronell, Assoc. Prof. (Reactor Engineering, Materials)
M. Hossein Hariri, Prof. (Petrochemical)
Kimberly H. Henthorn, Assoc. Prof. (Particle Technology, Microfluidics)
Scott McClellan, Asst. Prof. (Colloids & Interfacial Phenomena)
Adam Nolte, Asst. Prof. (Polymers, Surface Science, Materials)
Sharon G. Sauer, Assoc. Prof. (Physical Property Methods)
Atanas Serbezov, Prof. (Separations, Process Control)

Staff

Frank Cunning, Technician
Mary M. Wade, Secretary

Rose-Hulman and Terre Haute

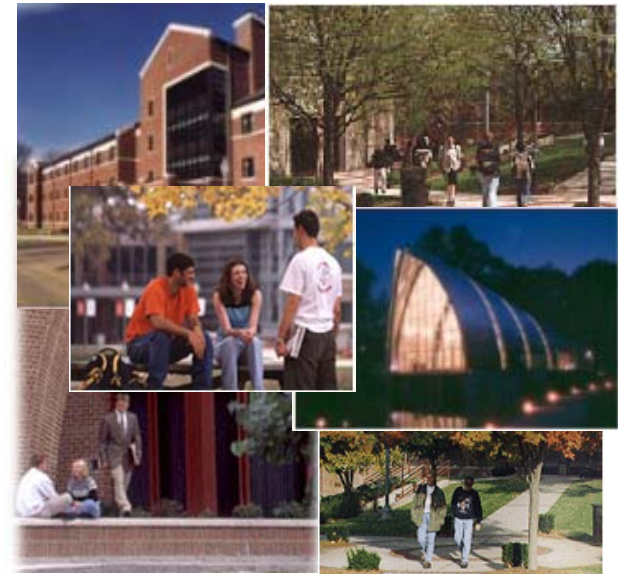
Rose-Hulman Institute of Technology is one of the few private colleges for undergraduate engineering, mathematics and science in the United States. Rose-Hulman has earned a reputation as one of the nation's leading independent colleges because of its educational philosophy that focuses on small classes, dedicated faculty, and an innovative curriculum which are all supported by modern educational facilities. The campus is located in a suburban area about five miles east of Terre Haute in west-central Indiana. Terre Haute (pronounced *ter a hōt*) is a city of ~60,000 residents and is located near the Wabash River. The city is about an hour drive from Indianapolis and within approximately 3 hours of Chicago, Cincinnati, Louisville, and St. Louis.



For more information about **Chemical Engineering** at Rose-Hulman Institute of Technology, contact

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