

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING



WHAT IS CHEMICAL ENGINEERING?

Chemical engineers are taught to link chemistry and engineering in order to produce substances or products that improve people's lives. Chemical engineers develop techniques and processes to convert raw materials into products such as plastics, food, pharmaceuticals, petroleum products and other consumer goods while maximizing efficiency and minimizing risk and environmental impact.

CAREERS IN CHEMICAL ENGINEERING

Chemical engineering careers span chemicals manufacturing, refining, advanced materials, resource management, medicine, pharmaceuticals development and production, pollution control and environmental remediation.

Career opportunities in chemical engineering are excellent – especially in the city of Houston, the Energy Capital of the World. The average starting salary for the department's Spring 2022 B.S. graduates was \$86,000.

Career opportunities for chemical engineers in Houston tend to be better than the national average. Almost half of Houston's economy is driven by energy, with more than 3,600 energy-related companies based in Houston. All of the major oil and gas companies have operations in Houston, and the region boasts almost 40,000 jobs just in oil and gas extraction, representing one-third of such positions worldwide!

WHY EARN YOUR CHEMICAL & BIOMOLECULAR ENGINEERING DEGREE AT THE UNIVERSITY OF HOUSTON?

ACADEMICS

The chemical and biomolecular engineering department at the University of Houston Cullen College of Engineering is one of the top-ranked chemical engineering programs in the nation. Chemical engineering undergraduates are prepared to meet or exceed the expectations of employers, particularly in the energy and chemical industries. Many graduates of the chemical engineering program are currently employed in leading positions in industry, academia and government across the Houston region and around the world.

Conveniently located in the Energy Capital of the World, students have direct access to internships and full-time positions throughout the region and are strongly encouraged to pursue professional opportunities while they are still in school.

Learn more at www.chee.uh.edu/undergraduate/degree

RESEARCH

At the University of Houston Cullen College of Engineering, there's no shortage of research for chemical engineers. The University of Houston is home to some of the world's most advanced energy research, touching on areas such as sustainability, alternatives, grid power, solar energy, wind energy and superconductivity. Moreover, the university has a 74-acre campus, called Energy Research Park, dedicated solely to bringing industry and academia together to conduct energy research in clean engines and fuels, wind energy, superconductivity and petroleum engineering. All undergraduate students in the chemical engineering department are strongly encouraged to get hands-on research experience in one of the many faculty research groups, labs or centers on campus while they are pursuing their degrees.

Learn more at www.chee.uh.edu/research/overview

SCHOLARSHIPS

Departmental scholarships are offered from the Lubrizol Foundation, Bayer, BP America, Chevron, ConocoPhillips, ExxonMobil, Founders/Worley, Scheller, Tiller and Fleischer Scholarship Funds. Merit-based scholarships are also awarded by the Cullen College of Engineering.

Scholarships are also offered by the University of Houston Office of Scholarships and Financial Aid. Additionally, the university's co-op program allows students to receive career training while financing their education.

Learn more at www.chee.uh.edu/undergraduate/scholarships/chbe-department

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering.

Chemical engineering organizations include the American Institute of Chemical Engineers (AIChE) and the Society of Petroleum Engineers (SPE).

Learn more at www.chee.uh.edu/people/student_organizations

ChBE FAST FACTS

400 Total Undergrad Students in Department

208 Total Faculty in Cullen College

\$86,000 Average Salary

21:1 Student-to-Faculty Ratio Across the University



Cullen College of Engineering
UNIVERSITY OF HOUSTON

YEAR 1

SEMESTER 1			SEMESTER 2			Total
ENGI 1100	Introduction to Engineering	1	ENGI 1331	Computing for Engineers	3	
CHEM 1331	Fundamentals of Chemistry*	3	CHEM 1312	Fundamentals of Chemistry 2*	3	
CHEM 1111	Fundamentals of Chemistry Lab	1	CHEM 1112	Fundamentals of Chemistry Lab	1	
ENGL 1301	First Year Writing I*	3	ENGL 1302	First Year Writing II*	3	
MATH 2413	Calculus I*	4	MATH 2414	Calculus II*	4	
GOVT 2306	U.S. & TX Constitution/Politics*	3	PHYS 2325	University Physics I	3	
Semester Hours 15			Semester Hours 17			32



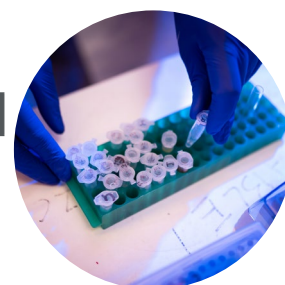
YEAR 2

SEMESTER 1			SEMESTER 2			Total
CHEE 2331	Chemical Processes	3	CHEE 2332	Thermodynamics I	3	
CHEM 2323	Organic Chemistry I	3	CHEE 3300	Materials Science & Engineering	3	
MATH 2415	Calculus III	4	CHEM 2123	Organic Chemistry Lab	1	
PHYS 2326	University Physics II	3	CHEM 2325	Organic Chemistry II	3	
HIST 1301	The United States to 1877*	3	ENGI 2304	Technical Communications*	3	
			CHEE 3321	Analytical Methods for Chem Engr	3	
Semester Hours 16			Semester Hours 16			32



YEAR 3

SEMESTER 1			SEMESTER 2			Total
CHEE 3333	Thermodynamics II	3	CHEE 3367	Process Modeling & Control	3	
CHEE 3334	Statistical/Numerical Techniques	3	CHEE 3369	Chemical Engr Transport Processes	3	
CHEE 3363	Fluid Mechanics	3	CHEE 3462	Unit Operations	4	
GOVT 2305	U.S. Government *	3	CHEE 3466	Biological and Physical Chemistry	4	
ECON 2302	Principles of Microeconomics *	3				
CHEM ELEC	Chemistry Elective	3				
Semester Hours 18			Semester Hours 14			32



YEAR 4

SEMESTER 1			SEMESTER 2			Total
CHEE 4321	Chemical Engr Design I	3	Science ELEC	Advanced Science Elective	3	
CHEE 4361	Chemical Engr Practices	3	CHEE 4322	Chemical Engr Design II	3	
CHEE 4367	Chemical Reaction Engr	3	CORE	Language, Philosophy & Culture*	3	
HIST 1302	The United States Since 1877*	3	CHEE 4366	Biomolecular Engr Fundamentals	3	
Tech ELEC	Technical Elective	3	TECH ELEC	Technical Elective	3	
CORE	Creative Arts*	3				
Semester Hours 18			Semester Hours 15			33
TOTAL SEMESTER HOURS						129

*Students should meet with their academic advisor to formulate their own plan. Course offerings are subject to change.

FOR MORE INFORMATION

Get in touch with us and schedule a virtual or in person meeting: <https://www.egr.uh.edu/academics/undergraduate-programs>

UH Department of Chemical and Biomolecular Engineering: www.chee.uh.edu

Undergraduate Program: www.chee.uh.edu/undergraduate/overview | Email: vellison@central.uh.edu

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