



CHEMICAL ENGINEERING

Chemical engineers apply chemistry, math and engineering to solve problems associated with the production and use of chemicals. They contribute to industries such as biotechnology, oil and gas, alternative energy, semiconductor processing, environmental engineering, biomedical engineering, and pharmaceutical and industrial chemicals manufacturing, and are concerned with the design and operation of devices as small as drug-delivery patches, or as large as refineries or desalination facilities. Since chemical engineers solve problems in such a broad array of industries they are often known as universal engineers.

Our undergraduate program prepares students to enter the chemical engineering profession or to pursue a research career. The curriculum provides broad training required to develop processes to produce chemicals, plastics, pharmaceuticals, foods, textiles, petroleum derivatives and semiconductors. Courses emphasize the understanding and application of mathematics, chemistry, physics and engineering to the design, construction, operation, control and improvement of industrial-scale chemical processes with minimum adverse impact on the environment. In addition, most students also obtain substantial research and/or industrial experience through internships. Graduate students can explore specialized areas of concentration, including biotechnology, environmental health and safety, and semiconductors and polymers processing.

Experiential Learning

At the Davidson College of Engineering, students will have the opportunity to apply theoretical knowledge to solve real-world problems.

Learn by Doing

At SJSU, you will work on project teams with state-of-the-art equipment in hands-on lab environments to master practical engineering, technical skills, and the theoretical principles needed for your very first job.

Accomplished Faculty

You will study with faculty who are dedicated to teaching and active engagement in cutting-edge applied research, scholarly activity and professional practice.

Industry Partners

You will have opportunities to collaborate with Silicon Valley industry partners on projects, internships and applied research.

Campus Diversity

You will study and mingle with students and faculty who have diverse backgrounds, experiences, perspectives and ideas.

Degrees Offered

BS Chemical Engineering
MS Chemical Engineering

Careers: What You'll Do

With a chemical engineering degree from SJSU, you can pursue high-demand, high-paying careers working for technology giants or pioneering startups. You will find opportunities as a chemical process engineer, chemical plant manager, product design engineer, biomedical engineer, pharmaceutical engineer, and research engineer, just to name a few. Some of you may also choose to go for top graduate programs for an outstanding research career in industry or academia.



“My favorite hands-on experience is the annual ChemE car competition. Our student chapter of the American Institute of Chemical Engineers designed and built a small-scale car fueled solely by a chemical reaction. To compete against universities around the world was amazing.”

— Maribel Locsin, Alumna, Chemical Engineering

What You'll Earn

Here are the average entry-level salaries reported by graduates of the Davidson College of Engineering who were hired for professional Chemical engineering positions in Silicon Valley.¹

Bachelor of Science: 78,000

Master of Science: 87,000

Where You'll Work

Here in Silicon Valley and the San Francisco Bay Area, local companies hire more SJSU engineering, computer science and business graduates than from any other college or university. Whether you're searching for an internship, ready to enter the professional workforce or looking to take the next step up in your career, you'll find motivated recruiters at events like SJSU job fairs. Here are some of the many Silicon Valley companies and organizations that hire our materials engineering graduates:

- Adicet Bio
- Agilent
- Applied Materials
- Bayer
- Bloom Energy
- Chevron
- Dow Chemical
- Dupont
- Genecor
- Genentech
- Hewlett-Packard
- IBM
- Intel
- Lockheed Martin

College Tuition and Expenses

SJSU is one of the most affordable public universities, providing a quality education at a reasonable cost. The university ranks among the 50 best college investments nationwide and third in California in terms of low tuition and high starting salaries. For current financial information, please visit www.sjsu.edu/finances.

About Our College

The Charles W. Davidson College of Engineering at San José State University is located in Silicon Valley, one of the most innovative regions in the world. Ideally positioned to address 21st-century challenges such as clean energy, smart transportation and cybersecurity, the Davidson College of Engineering receives high rankings among national undergraduate and graduate engineering programs for academic excellence from *U.S. News & World Report*.²

Students choose the Davidson College of Engineering to experience our hands-on learning environments, applied research techniques and opportunities to master the engineering fundamentals and technical skills needed to solve real-world problems. Collaborating with faculty and industry partners, students actively prepare for professional engineering careers. Silicon Valley technology companies currently employ more SJSU graduates from engineering, computer science and business than from any other college or university.

The Davidson College of Engineering will prepare you for a rewarding career in the professional engineering field. When Silicon Valley companies search for top talent, they recruit from SJSU.

Let's Talk About Your Future

We want to answer your questions and tell you more about the many advantages and opportunities you will experience at the Davidson College of Engineering at SJSU. Write to our email address below to speak with an advisor, check us out on Facebook, or visit us online at engineering.sjsu.edu.

¹ Salary data from payscale.com, November 2019. ² The Davidson College of Engineering was ranked No. 3 among the nation's best engineering programs offering bachelor's and master's degrees, excluding private and service universities, by *U.S. News & World Report* (2020).
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