

Chemical Engineer

Design and run the plants that turn raw material into fuel, medicine, plastic and food. Four years of hard math, then real money.

TYPICAL PAY

\$125,040

a year, full time

PAY RANGE

\$79k to \$183k

starting to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Moderate

job outlook

LICENCE NEEDED

No

anyone can do it

WHERE YOU WORK

**Refineries, chemical plants,
pharmaceutical plants, labs, cons...**

How you get there

- 1 High school** Grades 11 and 12
 Calculus, chemistry and physics, as far as your school goes. This degree assumes all three on day one.
- 2 Bachelor of science in chemical engineering** 4 to 5 years
 Four to five years at a program accredited by ABET (the Accreditation Board for Engineering and Technology). Accreditation matters because state licensing boards require it.
- 3 Co-ops and internships** During the degree
 Paid terms inside a real plant. This is the single biggest factor in who gets a good first job offer.
- 4 Fundamentals of Engineering exam** Senior year
 Taken in your final year. Passing it makes you an engineer in training, which is the first step toward a license.
- 5 Professional engineer license, if you want it** 4 years after graduation
 Four years of qualifying work experience, then the Principles and Practice of Engineering exam in your discipline.

Pros and cons

- + One of the highest paying bachelor's degrees in the country
- + Paid co-ops mean real income and a job offer before graduation
- + The degree transfers into law, medicine, finance and research
- The degree is genuinely hard and the dropout rate is high
- The best jobs are concentrated in a few states and you may have to move
- Plant work means being on call, and turnarounds eat your life for weeks

Optional boosts

Process safety. Process control and automation. Pharmaceutical manufacturing. Semiconductors.

Good to know

Accreditation is a global system

ABET (the Accreditation Board for Engineering and Technology) accredits 4,863 programs at 950 institutions in 42 countries, and more than 200,000 students graduate from them every year.

The first master's degree was in 1921

Purdue University's chemical engineering school awarded the first master of science degree in the field in 1921. The discipline itself is barely older than that, which makes it one of the youngest branches...

Where these numbers come from

My Next Move: Chemical Engineers (17-2041.00)

NCEES: the path to engineering licensure

ABET: accreditation of engineering programs

Purdue University, Davidson School of Chemical Engineering

Numbers checked September 2026. Pay figures are typical full-time annual amounts in United States dollars, based on Bureau of Labor Statistics wage data and published pay scales. They vary by state, employer and experience. Tuition is for in-state students at public schools unless the card says otherwise. Sources, links and the click-through version: <https://career.help/us/careers/chemical-engineer>



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