

Materials Engineer

Decide what things are made of, and find out why they broke. Four years of chemistry and physics, then good pay in industry.

TYPICAL PAY

\$112,860

a year, full time

PAY RANGE

\$72k to \$176k

starting to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Very high

job outlook

LICENCE NEEDED

No

anyone can do it

WHERE YOU WORK

Manufacturing plants, research labs, semiconductor fabs, aerosp...

How you get there

- 1 High school** Grades 11 and 12
Chemistry, physics and calculus, in that order of importance. Materials science is the place where chemistry and engineering meet.
- 2 Bachelor's degree** 4 years
Materials science and engineering, or metallurgical, ceramic or polymer engineering. Make sure the program is accredited by ABET (the board that accredits engineering degrees).
- 3 Co-ops and internships** 1 to 3 summers
Paid terms in a plant or lab. This is where you find out whether you like the factory floor or the microscope.
- 4 The FE (Fundamentals of Engineering) exam** Final year
Taken in your final year. It is the first step toward a professional license and costs \$250 to register.
- 5 Master's degree or doctorate, if research pulls you** 2 to 6 years
Needed for most research and for senior semiconductor process work. Usually funded rather than paid for.

Pros and cons

- + Strong pay from the first year with only a bachelor's degree
- + You work on physical objects you can hold and break
- + The degree opens doors in aerospace, chips, medical devices and energy
- It is a small field, so there are fewer job postings than for mechanical engineers
- Jobs cluster in specific regions and you may have to move
- Plant work can be hot, loud and on a shift schedule

Optional boosts

Semiconductors and thin films. Batteries and energy storage. Metallurgy and failure analysis. Polymers and composites.

Good to know

Your phone screen is this job

The federal occupation profile opens with exactly this example: developing a new type of shatterproof glass for phone screens is materials engineering. So is the heat resistant compound on equipm...

Breaking things is a recognized specialty

Failure analysis, working out why a part cracked, is a formal discipline with its own certificate programs. Engineers in it read fracture surfaces the way a detective reads a scene.

Where these numbers come from

My Next Move: Materials Engineers
NCEES: the Principles and Practice of Engineering exam
ABET, which accredits engineering degrees
MIT Department of Materials Science and 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/materials-engineer>



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