

Microbiologist

Grow, identify and outsmart the organisms too small to see, in medicine, food, water and drug manufacturing.

TYPICAL PAY

\$87,990

a year, full time

PAY RANGE

\$55k to \$150k

starting to experienced

TIME TO QUALIFY

4 to 9 years

after high school

DEMAND

Moderate

job outlook

LICENCE NEEDED

No

anyone can do it

WHERE YOU WORK

**Hospital and public health labs,
drug and biotech companies, foo...**

How you get there

- 1 High school** Grades 11 and 12
Biology and chemistry are the core. Take the hardest math you can, because statistics runs through everything later.
- 2 Bachelor's degree** 4 years
Microbiology, biology or biochemistry. Get into a research lab on campus as early as year two, even washing glassware. Lab experience is what employers and graduate schools actually read.
- 3 First lab job** 1 to 3 years
Quality control, food or water testing, a hospital lab, or a research technician post. This is where you find out whether you like the bench.
- 4 Graduate school, if you want the research jobs** 2 to 6 years
A doctorate is funded and takes about 5 to 6 years. A master's is quicker and aimed at industry and management roles.
- 5 Specialize** Ongoing
Clinical microbiology, virology, fermentation, sterility assurance, antibiotic resistance. This is where careers stop looking alike.

Pros and cons

- + Real science with obvious use in medicine and food safety
- + Predictable daytime hours in most jobs
- + Doctorates are funded rather than paid for
- A bachelor's degree alone caps your pay fairly early
- Research funding is unstable and postdoctoral pay is poor
- Repetitive bench work and a lot of documentation

Optional boosts

Clinical microbiology. Sterility assurance and quality in drug manufacturing. Molecular methods. Bioinformatics.

Good to know

Most microbes refuse to grow in a lab

For over a century microbiology could only study organisms that would grow on a plate, which is a small minority of what is out there. Sequencing changed that: we can now read the genes of microbes n...

Penicillin was a contaminated plate

In 1928 Alexander Fleming came back from holiday to find mold growing on a bacterial culture he had left out, with a clear ring around it where the bacteria had died. The world's first antibiotic came out o...

Where these numbers come from

My Next Move: Microbiologists
American Society for Microbiology
University of Wisconsin, Department of Bacteriology
Centers for Disease Control and Prevention

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/microbiologist>



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