

Careers in Microbiology

(Information from <http://www.asm.org/Education/index.asp?bid=1272>)

Who is a Microbiologist?

Microbiologists investigate the fascinating world of organisms too small to be seen with the naked eye. Although known by many different titles, a microbiologist is a scientist who studies living organisms and infectious agents many of which can only be seen with a microscope. They also study the interaction of microorganisms with people. Everyday microbiologists around the world explore, investigate and discover how these organisms, called microbes exist and affect our lives.

What Kinds of Careers Paths Are There?

Depending on your experience and education, there are a number of options and opportunities to choose from in your career as a microbiologist.

Baccalaureate Degree

Upon graduation, your baccalaureate degree in biology or microbiology will help you qualify for many technical, research, environmental, and clinical positions.

Research assistant - A key player to research teams, providing technical support to conduct research. A research assistant participates in a team with a director and scientists as well as marketing, administrative and sales professionals.

Food, industrial or environmental microbiologists, quality assurance

technologists - Identifies disease or harmful causing microorganisms in water, food, dairy, pharmaceutical and environmental products. In addition, they check for the quality and safety of vitamins, vaccines, antibiotics, antiseptics and disinfectants.

Clinical and veterinary microbiologists, medical technologists - Identifies disease causing microorganisms in humans and animals.

Masters Degree

A masters degree will broaden your career choices in marketing, sales, administrative, teaching and technical support positions. Opportunities include:

Supervisor or laboratory manager - Supervises day to day activities in a variety of laboratories.

Research manager or associate - Performs experiments and provides technical support to research teams.

Instructor - Teaches courses at the community and junior college levels.

Doctoral Degree (or equivalent)

A M.D., Ph.D. or M.D./Ph.D. degree is almost always required for higher level positions in microbiology and other sciences. Achieving your doctoral degree will greatly enhance your opportunities. You will be able to perform independent research, teach undergraduate and graduate students and assume executive level responsibilities in government and industry. Specific jobs include:

Scientist - Formulates hypotheses for experimental investigation, conducts research and trains students and laboratory personnel.

University or college professor - Teaches in the classroom or laboratory, trains students, conducts research and performs community service.

Academic science administrator - Serves as college or university dean or in other administrative positions such as vice president or president.

Research director - Leads research team that explores and tries to understand unanswered questions and unproven theories.

Corporate executive - Oversees part or all of a company such as a biotechnology, pharmaceutical, agricultural or environmental firm.

Consultant - Advises and reports information to organizations such as businesses or government agencies.

Science advisor or administrator - Leads programs concerned with safety of new devices, food, drugs and chemicals and helps influence laws, regulations and research for government agencies.

Combining a Science Education with Another Discipline

You may choose to combine your undergraduate degree in a science related field with a graduate degree in another area such as business, marketing or journalism. This will enable you to pursue opportunities in scientific sales, technical support, writing, public relations, communications, regulatory affairs or management. Completing a bachelors degree in microbiology also gives you the necessary foundation to continue an education in the medical, veterinary, dental or legal fields.

How Much Does a Microbiologist Make?

Salaries among microbiologists vary a great deal depending on education, experience, type of job and education. The following information provides a general guide to what you could expect to earn given the indicated educational level of achievement and type of company or institution.

Educational Institution	Industry	Public Sector Government
Doctorate \$46,000+	Doctorate \$66,000+	Doctorate \$56,500+
Masters \$29,000+	Masters \$35,000+	Masters \$28,000+
Baccalaureate \$21,000+	Baccalaureate \$21,000+	Baccalaureate \$23,000+

***Note:** Above figures are based on a 1995 salary survey conducted by the Commission on Professional in Science and Technology. Pay scales are based on various institutions and should be taken as a median starting salary only.

More information available on the ASM website