Microbiologists

SOC: 19-1022 • Career Profile Report

■ Key Facts

$87,330	20,700	+4.0%
Median Salary	Employment	Growth Rate

■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 8.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■■ Work-Life Balance

7.5/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	6.2/10	**Investigative**	9.4/10
Artistic	5.6/10	**Social**	6.4/10
Enterprising	4.8/10	**Conventional**	6.4/10

■ Top Skills Required

Communication skills, Detail oriented, Interpersonal skills, Logical-thinking skills, Perseverance, Problem-solving skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Microbiologists typically perform the following tasks: • Isolate and maintain cultures of bacteria or other microorganisms in prescribed or developed media, controlling moisture, aeration, temperature, and nutrition. • Provide laboratory services for health departments, community environmental health programs, and physicians needing information for diagnosis and treatment. • Monitor and perform tests on water, food, and the environment to detect harmful microorganisms or to obtain information about sources of pollution, contamination, or infection. • Examine physiological, morphological, and cultural characteristics, using microscope, to identify and classify microorganisms in human, water, and food specimens. • Supervise biological technologists and technicians and other scientists. • Use a variety of specialized equipment, such as electron microscopes, gas and high-pressure liquid chromatographs, electrophoresis units, thermocyclers, fluorescence-activated cell sorters, and phosphorimagers. • Investigate the relationship between organisms and disease, including the control of epidemics and the effects of antibiotics on microorganisms. • Prepare technical reports and recommendations, based upon research outcomes. • Observe action of microorganisms upon living tissues of plants, higher animals, and other microorganisms, and on dead organic matter. • Study growth, structure, development, and general characteristics of bacteria and other microorganisms to understand their relationship to human, plant, and animal health. • Study the structure and function of human, animal, and plant tissues, cells, pathogens, and toxins. • Develop new products and procedures for sterilization, food and pharmaceutical supply preservation, or microbial contamination detection. • Conduct chemical analyses of substances such as acids, alcohols, and enzymes. • Research use of bacteria and microorganisms to develop vitamins, antibiotics, amino acids, grain alcohol, sugars, and polymers.