Science Technician/Research Technician

■ Job Description

Science technicians use the principles and theories of science and mathematics to solve problems in research development and to investigate, invent, and help improve products. Their jobs are more practically oriented than those of scientists. They typically work with and under the guidance of research scientists.

Science technicians make extensive use of computers, computer-interfaced equipment, robotics, and high-technology industrial applications such as biological engineering. Technicians set up, operate, and maintain laboratory instruments, monitor experiments, calculate and record results, and often develop conclusions.

Agricultural technicians work with agricultural scientists in food and fiber research, production, and processing. Some conduct tests and experiments to improve the yield and quality of crops while others do animal breeding and nutrition work.

Biological technicians work with biologists, studying living organisms. Many help conduct medical research, helping to find a cure for cancer or AIDS, for example, or helping to conduct pharmaceutical research. Biological technicians also analyze organic substances such as blood, food, and drugs often associated with crime investigations. Biological technicians working in biotechnology labs use the knowledge and techniques gained from basic research including gene splicing and recombinant DNA and apply these techniques in product development.

Chemical technicians work with chemists and chemical engineers developing and using chemicals and related products and equipment. Most do research and development, testing, or other laboratory work. Some collect and analyze samples of air and water to monitor pollution levels while others focus on basic research.

Nuclear technicians operate nuclear test and research equipment, monitor radiation, and assist nuclear engineers and physicists in research. Some also operate remote control equipment to manipulate radioactive materials.

■ Job Settings

Most science technicians work indoors, usually in laboratories. However, agricultural, environmental and petroleum technicians perform much of their work outdoors. Some technicians are exposed to contaminants. For example, chemical technicians may work with toxic chemicals. Nuclear technicians may be exposed to radiation. Biological technicians may be exposed to infectious agents. These working conditions pose little risk if proper safety procedures are followed. Major employers of science technicians include research and testing services, drug companies, Federal, state, and local government agencies, and chemical manufacturing companies.

■ Projected Need

Nationally, and in Illinois, employment of science technicians is expected to grow at an average rate through 2010. Outlook varies by industry and type of technician. All types of technicians can expect faster than average growth at research and testing companies. Chemical and biological technicians can also expect more jobs to be created at drug companies. In contrast, the number of jobs with chemical manufacturers should decline for all technicians. The outlook with government agencies is mixed. Some agencies will hire more science technicians and others will hire fewer.

Many job openings will arise from the need to replace technicians who retire or leave the field. Opportunities will be best for graduates of applied science technology programs who have lab experience.

In Illinois, there were about 8,040 people employed in this medium-sized occupation in 2000.

■ Salaries

Both nationally and in Illinois, the median wage for science technicians varies by field. Monthly wages for some fields are shown below:

Science Field	National Wage	Illinois Wage
Agriculture and food science	$2,290	$2,406
Biology	$2,690	$2,725
Chemistry	$3,020	$3,025
Environmental science	$2,890	$2,978

and protection		
Geology and petroleum	$3,210	$3,649
Nuclear	$4,970	$5,812

■ Related Careers

Other technicians who apply scientific principles at a level usually taught in two-year associate degree programs include engineering technicians, broadcast technicians, drafters, and health technologists and technicians.

■ Differences in Training

There are several ways to prepare for this occupation. Most science technicians have an associate's degree in applied science or technology. Some technicians have a bachelor's degree in biology or chemistry. It is possible to work as a technician if you do not have a bachelor's degree in a life science. In this case you still need college-level science and math courses.

Some professional technical schools offer one-year certificate programs in science technology. The type of science an individual works in will determine the level of degree needed.

■ Related Educational Programs

The programs of study listed below are the recommended areas of study to pursue for this occupation. Clicking on these will lead to files that show in-state and national schools that offer these programs.

The following link(s) will take you to CIS for more information. CIS requires an ID and password that can be obtained at http://cis.ilworkinfo.com/loginhelp/login.asp

Biomedical Technology
Biotechnology Laboratory Technician
Chemical Technology
Engineering Technology, General
Forensic Science

■ Credentials

Most colleges and universities train science technicians as agriculture, biology, chemistry, health science, mathematics, physics, or general science majors.