
Careers in Lab Sciences

A Student's Guide to Finding a Career
Pathway with a Degree in Biology

Medical Field

Careers Available in Medical Technology

■ Technicians

- Apheresis Technician
 - Donor Phlebotomy Technician
 - Medical Laboratory Technician
 - Histology Technician
 - Phlebotomy Technician
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Careers continued

- **Technologists**
 - Medical Technologist
 - Blood Banking
 - Chemistry
 - Cytotechnologist
 - Hematology
 - Histotechnologist
 - Microbiology
 - Molecular Pathology
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Careers Continued

- **Specialists**
 - Hemapheresis Practitioner
 - Blood Banking
 - Chemistry
 - Hematology
 - Pathologist's Assistant
 - Microbiology
 - Cytotechnology
 - Virology
 - Laboratory Safety
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Nature of Work

■ Technicians

□ Apheresis Technician [3]

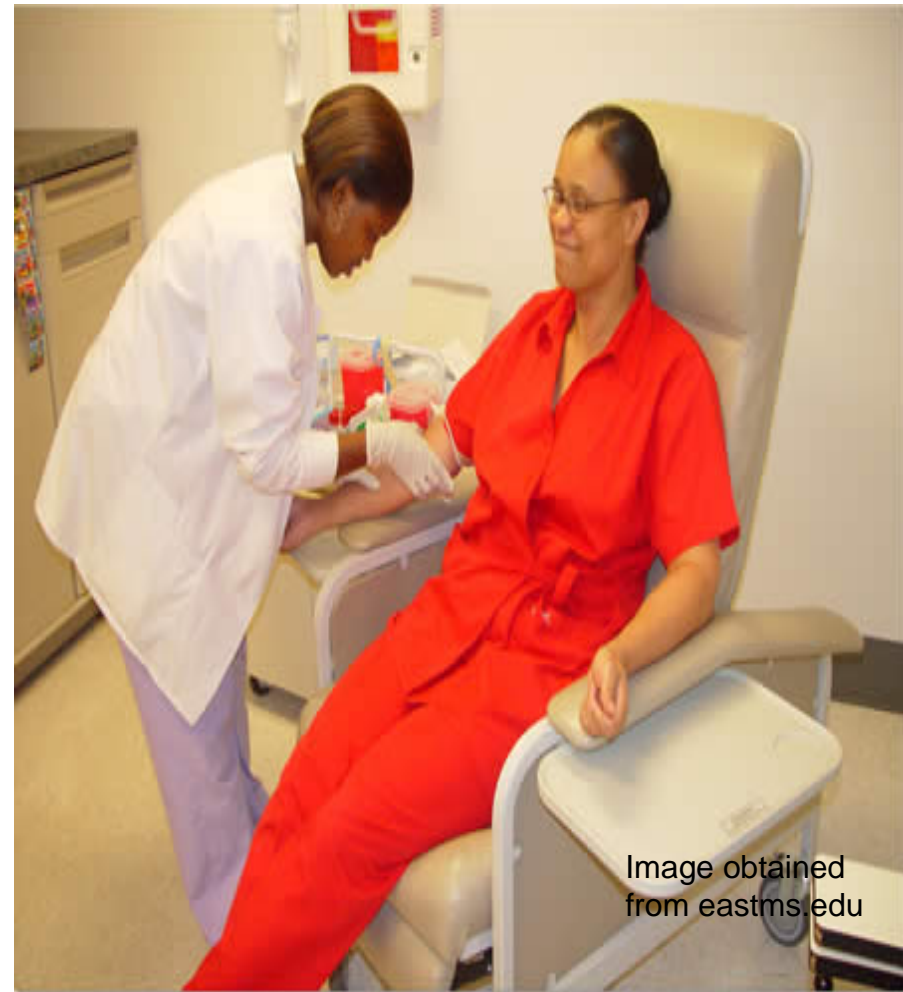
- Specialize in separating blood components from whole blood such as platelets, red blood cells, and plasma. Once component is removed, blood components are returned to the patient.

□ Phlebotomy Technician [3]

- Draw blood from donors or patients
 - Question patients about donor eligibility
 - Analyze blood samples for abnormalities
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Nature of Work

- ❑ **Medical Laboratory Technician [3]**
 - Perform routine laboratory procedures and tests
 - Use microscopes, computers, and specialized instruments and equipment
 - Evaluate test results
 - Prepare specimens and operate analyzers



Nature of Work

- Technicians

- Histology Technician [3]

- Prepare microscope slides of bodily tissue for analysis by a pathologist, research, or teaching
 - Slice tissue and apply appropriate dyes



Picture obtained from
istockphoto.com

Nature of Work

Technologists

❑ Medical Technologist [3]

- Perform chemical, bacteriological, and hematological (blood) tests and assist doctors in diagnosis
 - Analyze body tissues and fluids to identify disease
 - Prepare specimens for analysis
 - Operate automated equipment and computerized instruments
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Nature of Work

- Technologists

- Blood Banking [3]

- Collect and prepare blood and it's components for transfusions.
 - Determine blood type



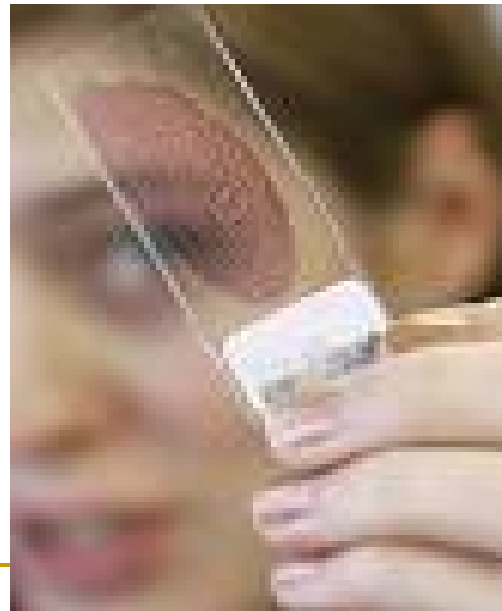
Picture obtained from google images from stem cell cord blood banking website

Nature of Work

Technologists

❑ Cytotechnologist [3]

- Prepare and examine samples of cells under a microscope to determine abnormalities in structure or function of cells



Picture obtained from
google images on Mayo
Clinic Website

Certifications

- The American Society for Clinical Pathology (ASCP) is a professional society for pathologists and lab professionals that provides certification exams to students to ensure that the necessary requirements have been met for the designated program.
 - For a list of the certification requirements go to [ASCP Certification Requirements](#)
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UW System Programs

- Clinical Laboratory Science
 - UW-Lacrosse-
 - Major
 - UW-Madison-
 - Major
 - cytotechnology option
 - UW-Stevens Point
 - CT,HT,MT options
 - UW-Milwaukee
 - Biomed submajor, CT and MT submajors, Public Health, Radiologic Tech
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UW System Programs

- Clinical Laboratory Science
 - UW- Green Bay
 - CT
 - Medical Technology
 - UW-Oshkosh
 - Major
 - Medical Science
 - UW-Madison
 - Major
-

UW System Programs

- These technical schools also offer a range of associates degree programs
 - Chippewa Valley Technical College
 - Northeast Wisconsin Technical College
 - Milwaukee Area Technical College
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Schools

- Different states have different requirements so be sure to check the ASCP website for discrepancies.
 - A directory of schools can be found at www.medicaltrainingdirectory.com or at the [all allied health schools](http://allalliedhealthschools.com) website
 - These websites show many different program possibilities and offer links to the various schools
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General Information

- Technicians require an associates degree from an accredited agency whereas technologists require a baccalaureate degree.
 - The duties of technologists and technicians are generally similar except for the fact that a technologist has to develop procedures and can have management responsibilities.
 - Technicians usually work under the supervision of a lab manager or technologist
 - Hours are first, second, or third shift with the possibility of working holidays and weekends
 - The hours and shifts depend on the type of laboratory you are working in
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Typical Places of Employment

- Hospitals are the largest employers of graduates from medical training programs.
- Reference labs and private practitioners also have a demand for qualified personnel.



Image obtained
from chal.org

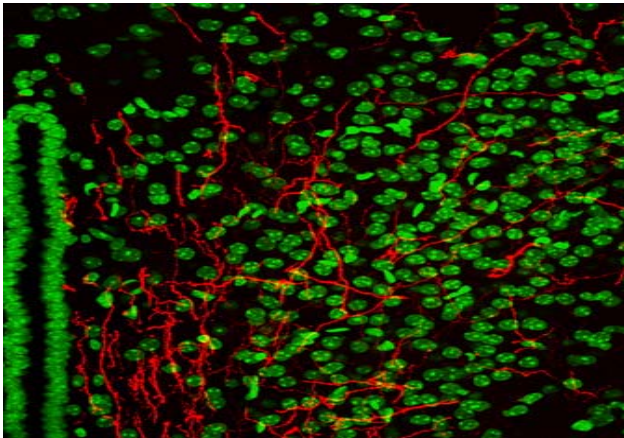
Job Outlook

- The job outlook is expected to be very high due to the increasing population, the increase in retiring baby-boomers, and the increase in laboratory tests that need to be performed.
 - Small hospitals in rural areas are in the most need of qualified personnel [1]
 - 44% of labs reported difficulties hiring in a study conducted by the ASCP [1]
 - Second and third shift positions are the hardest to fill [1]
 - Training programs are in high demand for students interested in pursuing careers
 - Overall, medical laboratory sciences is a growing field that is in high demand for qualified graduates
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Salary Information

- Wages vary among the disciplines with Cytotechnologists and Medical Technologists earning the highest wages and phlebotomists earning the least. [2]
 - Wages are generally higher at large hospitals and lower at private offices. [1]
 - In general, average wages are increasing annually at a rate of about 3.5% [1]
 - For specific information on wages and job outlook visit the [Bureau of Labor Statistics website](#) [2]
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Research and Development



Photos
obtained from
google images

Career Options

- Assistant Scientist
 - Associate Scientist
 - Microbiologist
 - Quality Assurance Analyst
 - Chemist
 - Analytical Chemist
 - Food Scientist
 - Sales
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Places of Employment

- Pharmaceutical research labs
 - Food product manufacturing plants
 - Medical research firms
 - Medical Diagnostics Manufacturers
 - Pharmaceutical Sales Corporations
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General Information

- Since a B.S. in Biology is a very general degree, there are a lot of possibilities that you can pursue.
 - Many employers look for graduates of biology because of their strong background in mathematics, chemistry, and physics in addition to biology.
 - Biology graduates gain a well rounded education which makes them very marketable to a variety of different careers.
 - [The Bureau of Labor Statistics](#) [2] gives a good overview of careers in biological sciences including outlook for the future and wage statistics.
 - This is a good website for finding various different careers applicable to biology students.
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Ways to Benefit Yourself While in School

- Internships are a great way to get ahead of the competition and gain valuable experience while still in school.
 - There are a variety of internships available to students not only in Wisconsin but nationwide
 - Some places for more information include
 - [UW Madison summer intern program](#)
 - [UW Whitewater internship website](#)
 - [Conservation Internships](#)
 - [Aquatic Science Internships](#)
 - [National Science Foundation](#)
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Employers of Biologists

■ Large Scale Laboratory Testing Facilities

- ❑ Covance, Inc.
- ❑ Abbott Labs
- ❑ PPD
- ❑ Sigma-Aldrich
- ❑ Promega
- ❑ Invitrogen



Image obtained
from goolge
images

Employers

- Scientific Staffing Agencies
 - Kelly Services
 - Aerotek Scientific
 - Celerity Staffing Solutions
 - The QTI Group
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Employers

Other Research facilities

- [Medical College of Wisconsin](#)
 - [The Blood Center of Wisconsin](#)
 - Many colleges also are in need of graduates to work in labs in association with various studies
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Other Job Search Engines

- Wiscareers
 - JobsinMadison
 - JobsinMilwaukee
 - careerbuilder.com
 - Wisconsinjobs.com
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Works Cited

- 1. Steward, C., Ward-Cook, K., Tannar, S., ASCP 2005 Wage and Vacancy Survey of Medical Labs. ASCP Lab Medicine. 2006, 37(8). p. 465-68.
 - 2. Occupational Outlook Handbook. Bureau of Labor Statistics. <http://www.bls.gov>.
 - 3. American Society for Clinical Pathology <http://www.ascp.org>
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