Careers in Lab Sciences

A Student’s Guide to Finding a Career Pathway with a Degree in Biology
Careers Available in Medical Technology

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

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

- **Specialists**
  - Hemapheresis Practitioner
  - Blood Banking
  - Chemistry
  - Hematology
  - Pathologist’s Assistant
  - Microbiology
  - Cytotechnology
  - Virology
  - Laboratory Safety
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
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

Image obtained from eastms.edu
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
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
Nature of Work

- Technologists
  - Blood Banking [3]
    - Collect and prepare blood and its 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
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](ASCP_Certification_Requirements)
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
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
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 website

- These websites show many different program possibilities and offer links to the various schools
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.
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.
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
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](https://www.bls.gov) [2]
Research and Development

Photos obtained from google images
Career Options

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

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


This is a good website for finding various different careers applicable to biology students.
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
Employers of Biologists

- Large Scale Laboratory Testing Facilities
  - Covance, Inc.
  - Abbott Labs
  - PPD
  - Sigma-Aldrich
  - Promega
  - Invitrogen

Image obtained from google images
Employers

- Scientific Staffing Agencies
  - Kelly Services
  - Aerotek Scientific
  - Celerity Staffing Solutions
  - The QTI Group
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
Other Job Search Engines

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


3. American Society for Clinical Pathology http://www.ascp.org