

BIOLOGY



Clinical Science/Medical Technology

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Obtaining Information

Several laboratories in Bakersfield and surrounding communities are licensed for training. Information concerning the requirements for California State Licensure as a Clinical Laboratory Technologist Trainee as well as a listing of all state licensed training laboratories may be obtained from:

California State Department of Health
Laboratory Field Services
<http://www.cdph.ca.gov/LFS>

For more information on programs outside of California please contact:
American Society of Clinical Pathologists (ASCP)
<http://www.ascp.org/>



CSU Bakersfield
School of Natural Sciences,
Mathematics, and Engineering

This emphasis is designed to provide coursework required necessary for entrance for post-baccalaureate study in clinical laboratory science in a state-licensed training laboratory and/or NAACLS Approved Program.

Clinical Laboratory Science is a helping profession offering intrinsic rewards to its members. It is the performance of laboratory tests on various body fluids and tissues to determine the presence or absence of disease, monitor response to treatment and aid in health maintenance. The clinical laboratory scientist/medical technologist performs routing tests as well as specialized tests that require complex techniques, and is often required to make independent decision concerning the quality of laboratory results. Responsibilities include education of peers, students and subordinates, research and development, and supervision of the laboratory.

Career Outlook

The outlook for job opportunities is very good and is expected to continue. At career entry, laboratorians are most likely to be employed in a hospital laboratory; but positions are available in other health-related and scientific areas such as: private laboratories, clinic laboratories, industrial laboratories, public health agencies, health maintenance organizations, research institutions, and teaching institutions.

Requirements for Licensure/Certification

Minimal eligibility requirements for state licensure and national certification examinations include completion of a baccalaureate degree, one year of training in a state-approved clinical laboratory, and a specified number of academic units in each of the following subject areas:

- Chemistry:** including instruction in biological and analytical chemistry.
- Biology:** including instruction in immunology, hematology, and medical microbiology, which may include bacteriology, mycology, virology, and parasitology.
- Physics:** Must include instruction in the principles of light and electricity.
- Mathematics:** One college-level course.

Clinical Laboratory Science

This track provides the above basic courses for entry into post-baccalaureate study in clinical laboratory science. The course list below also satisfies the major requirements for a Bachelor of Science (B.S.) degree in Biology with a minor in Chemistry.

A. Biology Courses:

Lower Division

BIOL 2010, 2110, 2120

Upper Division Core

BIOL 3120, 3010, 3020, 3110, 4100 and 4910

Upper Division Electives (20 units)

Must include the following:

BIOL 3410 General Microbiology

BIOL 3530 Immunology

BIOL 3540 Hematology

BIOL 4200 Medical Microbiology

At least three courses must be four units with lab and at least one must be a laboratory course at the 4000-level. Four units selected from the following may be substituted for an elective: CHEM 3400, 3401, 4400, or 4401.

B. Cognates

CHEM 1000, 1001, 1100, 2300

PHYS 2110

MATH 1050

Additional requirements for some CLS programs:

CHEM 2400

CHEM 2100 or 3100

PHYS 2120

It is important to note that the major requirements for the BS Biology degree may be obtained by taking fewer courses than listed. Furthermore, various courses can be substituted for the major. Details for these adjustments can be provided by appropriate Biology advisors.