

## BIOLOGY



## Clinical Laboratory Science

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.

#### A. Biology Courses:

Lower Division

BIOL 2010, 2110, 2120

Upper Division Core

BIOL 3120, 3010, 3020, 3110, 4100 and 4918

Upper Division Electives (20 units)

Must include the following:

BIOL 3410 General Microbiology

BIOL 3530 Immunology

BIOL 3540 Hematology

BIOL 4200 Medical Microbiology

AND

BIOL 3XXX/4XXX (4 unit with lab)

BIOL 3XXX/4XXX

Four units selected from the following may be substituted for an elective:

CHEM 3400, 3401, 4400, 4401.

#### B. Cognates

CHEM 1000, 1001, 1100, 1600, and 2300

PHYS 2110 and 2120

MATH 2010

Additional Requirements for CLS-

Pre-req's for program

CHEM 2400

CHEM 2100, 2110, 3100, or 3110

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

### Contact Us

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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

<https://www.cdph.ca.gov/Programs/OPSPHLD/LFS/Pages/CLS.aspx>

For more information on programs outside of California please contact:

American Society of Clinical Pathologists (ASCP)

<http://www.ascp.org/>



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