

PRE-CLINICAL LABORATORY SCIENCE

This is a four-year program of mostly biology and chemistry followed by a one-year hospital laboratory internship. It prepares a student for a career working in a hospital diagnostic laboratory.

The program below leads to a Bachelor of Science degree in biology and satisfies the California Trainee License requirements.

Course Number	Course Title	Units
Biol 1A/B	Introductory Biology	9
Biol 101	General Ecology	3
Biol 102	Genetics	3
Biol 103	Cellular Biology	3
Biol 104	Genetics and Cellular Biology Lab	1
Biol 105	Evolution	3
Biol 120	Microbiology	4
Biol 157-157L	Immunology	5
Biol 160	Microbial Physiology	4
Biol 121	Medical Microbiology	3
Biol 164	Hematology	3
Chem 1A/B	General Chemistry	5
Chem 128A/B-129A	Organic Chemistry	8
Chem 150	Biochemistry	3
Chem 105	Quantitative Analysis Laboratory	4
Phys 2A/B	General Physics	8
Math 70 or 75	Calculus	4
Math 101 or Psych 42	Statistics	4
General Education		51

After you finish your B.S. degree, you should apply to the hospitals of your choice for admission to the one year internship. Many hospitals take one trainee every six months. The cost ranges from free to several thousand dollars.

Children's Hospital and Kaweah Delta (Visalia) are currently free. All other programs charge.

A current list of California training programs is at <http://www.camlt.org/train.html>

Information about the profession and a list of jobs available can be found at <http://www.camlt.org/>

CLINICAL LABORATORY SCIENCE

HOSPITAL MEDICAL TECHNOLOGY AS A CAREER

Hospitals have recently begun offering training for diagnostic laboratory technicians. The establishment of these training programs is due to the fact that the average age of staff in California hospitals is about 50 years and significant retirements will be occurring soon. A hospital like Children's Hospital employs about 100 Clinical Laboratory Scientists (CLS) so the number of CLS needed state wide is going to be substantial.

Why should you consider Clinical Laboratory Science as a career? There are several reasons why this could be an attractive option for you.

1. You can get all of your training right in the Fresno area. The Biology Department at California State University Fresno is one of relatively few places where you can get the state-required courses that you must have to enter the hospital training program. Right now, there are two hospitals in the Tulare/Fresno/Madera County area offering in-house laboratory training. A few more local hospitals have at least part of their training in the Bay Area and you will pay for courses at an associated university.
2. Because Clinical Laboratory Scientists are in short supply, salaries have increased significantly in recent years. Current starting salaries average about \$50,000 a year and top salaries after 10 years are about \$85,000.
3. Finally, a career as a CLS has an extremely favorable cost benefit ratio as compared to some other medically-related careers. Going to medical, dental, or pharmacy school involves three or four years of training. CLS training is just one year. After graduation from medical, dental, or pharmacy school, a person usually has between \$100,000 and \$200,000 of schooling debt. Valley CLS training is locally free and may even pay you a stipend. Medical, dental, and pharmacy salaries are much higher than CLS salaries but the first few years on the job can be financially difficult because of the debt.

There are a few other things to think about. If you are a "people person" then CLS may not be attractive to you. CLS is laboratory work. While you are surrounded by numerous coworkers in the lab, interaction with people is not the primary focus of your work. You also need to be willing to work nights or weekends at least some of the time. A hospital lab needs to be available 24 hours 7 days a week.

A well prepared high school student will take the following courses: One year of biology, chemistry and physics, four years of math up through calculus, and four years of English.

A well prepared community college student will take freshman biology, chemistry, physics, and one semester of calculus.

In either high school or community college, human anatomy and physiology courses should be considered optional; physics, if it is available, is more important.

Lab Assistant jobs are available in most hospital clinical laboratories. Contact your local hospital about these jobs. Working in a lab is a good way to see if CLS is a good career choice for you.