

UCSF Medical Center

Department of Laboratory Medicine

Clinical Laboratory Specialty Training Programs

Choosing a Career In The Clinical Laboratory

Nature of work in Clinical Laboratories

Testing of human specimen in clinical laboratories play a crucial role in the detection, diagnosis, and treatment of human diseases. California licensed clinical laboratory scientists (CLS) and specialists perform most of laboratory tests. Those licensed personnel require high level of interpersonal skills, ability to work independently and interdependently, ability to prioritize and manage multiple tasks simultaneously, and possess communication skills and leadership qualities.

The clinical laboratory scientists (CLS) work in many different areas of the clinical laboratory, which include:

1. Clinical Chemistry and Body Fluids

The CLS perform analysis on blood and other body fluids utilizing some of the most sophisticated diagnostic techniques and instrumentation to analyze human body chemistry such as glucose, cardiac and liver markers, electrolytes, kidney function tests, drugs of abuse and many more.

2. Clinical Microbiology

The CLS perform analysis on various body specimens to identify pathogenic microorganisms including bacteria, mycobacteria, fungi, viruses, and parasites utilizing the latest isolation and identification techniques.

3. Hematology

The CLS perform analysis on blood, bone marrow specimens and other body fluids utilizing some of the most advanced diagnostic instruments and techniques to detect hematopoietic diseases such as anemia, leukemia, hemoglobinopathies and coagulation syndromes.

4. Immunohematology (Blood Banking and Transfusion Services)

The CLS perform various tests on patient blood utilizing the latest diagnostic instruments and techniques to ensure safe transfusion and component therapy.

5. Immunology

The CLS perform various tests employing the latest methodologies and instrumentations, which are in use for the detection and identification of immune complex diseases.

6. Molecular Biology

The CLS perform various tests employing the use of DNA and RNA methodologies for detection of disease causing organisms and inherited human genetic disorders.

7. Cytogenetics

The CLS perform various laboratory tests in cytogenetics, which includes chromosome analysis and fluorescence *in situ* hybridization (FISH). Tests are routinely performed on cells prepared from chorionic villus, amniotic fluid, peripheral and cord blood, tissue, bone marrow, lymph node and solid tumor.

All laboratory tests performed require high level of accuracy, judgments, and knowledge of tests principle, procedure, and interpretation. The reported laboratory results to the treating physician have direct influence in the medical treatment a patient receives.

Working Conditions

Hours and other working conditions of the CLS vary. In most large hospital and reference laboratories, CLS work the day, evening, night shifts, rotate weekends, and work holidays. The CLS perform more sophisticated laboratory tests and tends to be working in one department of the clinical laboratory. In smaller hospital laboratories, physician office labs, and small private labs, the CLS rotate through out all sections of the clinical laboratory and also cover all shifts and holidays.

Safety of laboratory personnel are ensured by providing the CLS with protective clothes, masks, gloves, and goggles. Hoods are used when working with infectious agents and toxic substances.

Job Opportunities

The majority of CLS work in hospital, independent, and public health laboratories. Additional opportunities are available in physician office laboratories, molecular diagnostics, biotechnology companies, in vitro fertilization and research laboratories.

Opportunities for Advancement

CLS who gain extensive experience in any discipline of the clinical laboratory may advance to a specialist, supervisory, and management positions. Advances in laboratory education, genetic testing, quality assurance, product development, marketing and sales exist for those who further their education and experience in the desired area.

Employment Outlook

Employment of clinical laboratory workers is expected to grow through in the coming years, as the volume and sophistication of laboratory tests increases with population growth and the development of new types of diagnostic tests. Many openings will also result from the need to replace laboratory workers who retire and/or transfer to other occupations. In California the average age of licensed clinical laboratory scientists is about 50 years, making the need for future licensed scientists more urgent.

Earnings

Median annual earning of an entry level licensed clinical laboratory scientists ranges between \$70,000-\$75,000 depending on the need and location of the hiring institution. Evening and night shift positions receive shift differential payments.

Introduction

The University of California at San Francisco (UCSF) is the only campus among the UC system dedicated solely to the health sciences and continues to be at the forefront in the development of new medical technologies.

UCSF Medical Center constantly ranked as one of the top 10 hospitals in the country and #1 in Northern California. UCSF has always been considered one of the premier medical centers in the country.

In 2002, the Department of Laboratory Medicine embarked on starting the only comprehensive training programs in the specialties of Clinical Chemistry, Clinical Cytogenetics, Clinical Microbiology, Clinical Hematology, and Clinical Immunohematology (Blood Bank) in the State of California.

The clinical laboratories are staffed with over 200 full time, part time, and per diem California licensed clinical laboratory scientists, performing over 5.7 million tests annually, occupying approximately 39,000 square feet, and a state of the art equipments and computer system.

UCSF Mission Statement

The Mission of UCSF is to attract and educate the nation's most promising students to future careers in the health sciences and health care professions, with continuing emphasis on open access and diversity; to bring our patients the best in health care service, from primary care to the most advanced technologies available; to encourage and support research and scholarly activities to improve our basic understanding of the mechanisms of disease and the social interactions related to human health; and to serve the community at large through educational and service programs that take advantage of the knowledge and skills of UCSF faculty, staff and students.

Training Programs Mission

The programs mission is to provide high quality training and professional preparation for a diverse student population and to prepare them for traditional and emerging roles as clinical science professionals and to produce clinical scientists in the specialty areas of clinical chemistry, microbiology, hematology, immunohematology, and molecular biology who can research, develop, evaluate and implement laboratory procedures utilizing a high degree of independent judgment.

UCSF Code of Ethics

All members of the campus community are expected to engage in the following:

- **Trustworthy conduct** - including dependability, loyalty' and honesty in communications and actions.
- **Respectful behavior** - treating everyone with civility, courtesy, tolerance and acceptance, and recognizing the worth, dignity and unique characteristics of each individual.
- **Accountability** - taking personal responsibility for one's actions and decisions.
- **Fair and just actions** – utilizing equitable processes in decision-making.
- **Compassion** – caring for others, both within and apart from UCSF community, and providing the highest quality service to patients and humanity.
- **Good citizenship** – striving to make the UCSF community functions well now and in the future.
- **Responsible management** – including prudent use of University resources in a fiscally responsible manner.

Non-Discrimination Policy

The UCSF, in conformance with applicable laws and regulation, does not discriminate on the basis of race, color, national origin, religion, sex, physical or mental disability, sexual orientation or age, in any of its policies, procedures, or practices. This non-discrimination policy covers admission, access and treatment in University programs and activities, and application for and treatment in University employment.

Disability Services

Reasonable accommodations for applicants and students with documented disabilities are made, pursuant to federal and state law. Any applicant or student with a disability who needs accommodation must request the accommodation on application. UCSF will make the sole determination regarding appropriate accommodations.

Education Coordinator Responsibilities

The education coordinator is responsible for the overall administration of the training programs including the recruitment and selection of applicants, orientation of new students, explanation of personnel policies, lecturing, scheduling of rotations, coordination of theoretical and practical training with lecturers/trainers, maintenance of records, and regular communication with Laboratory Field Services.

Academic Requirements of the Programs

Candidates seeking admission into each of the training programs must possess a minimum of a baccalaureate degree or higher degree from a regionally accredited college or university. It is highly recommended for candidates to complete the desired program required courses within **5 years** prior to admission. The academic requirements are based on the requirements established by the California Department of Public Health/ Laboratory Field Services.

The training curriculum of all five training programs is challenging and requires dedicated, self-motivated, and disciplined individuals to achieve success.

The minimum academic requirements of each training discipline are as follow:

- **Microbiology:** Hold a baccalaureate or higher degree in microbiology or an equivalent major, which shall include at least 25 semester or 38 quarter units in microbiology including courses in medical or pathogenic or clinical microbiology or bacteriology. College courses in immunology, mycology, parasitology, virology, molecular biology, and genetics are recommended.
- **Chemistry:** Hold a baccalaureate or higher degree in chemistry or equivalent major, which shall include at least 25 semester or 38 quarter units in chemistry including courses in analytical (quantitative) chemistry and instrumentation. College courses in immunology and molecular biology are recommended.
- **Hematology:** Hold a baccalaureate or higher degree in biological science or an equivalent major, which shall include at least 25 semester or 38 quarter units in biology, including hematology. College courses in immunology and genetics are recommended.
- **Immunoematology:** Hold a baccalaureate or higher degree in biological science or an equivalent major, which shall include at least 25 semester or 38 quarter units in biology, including genetics and immunology. A college course in immunoematology is recommended.
- **Cytogenetics:** Hold a baccalaureate or an equivalent or higher degree, which shall include at least 25 semester or 38 quarter hours in biology, chemistry or clinical laboratory science from an accredited college or university.

Completion of the recommended courses is highly desirable

Eligibility Requirements

1. Coursework and degree requirements as listed in the academic requirements above.
2. A minimum overall and science courses Grade Point Average (GPA) of 2.7.
3. Completed application packet.
<http://labmed.ucsf.edu/education/specialty/specialty-index.html>
4. Valid Clinical Laboratory Specialist Trainee License issued by California Department of Public Health/Laboratory Field Services.
5. Graduates of foreign colleges or universities must get their academic credentials evaluated by the American Association of Collegiate Registrars and Admissions Officers (AACRAO). Contact AACRAO at (202) 293-9161 or at www.aacrao.org
6. Foreign degree must be equivalent to a baccalaureate or higher degree from a regionally accredited college or university in the United States.

Educational Facilities

The clinical and didactic portion of training of all five programs will take place at the Parnassus and China Basin locations. Selected components of training may take place at the Mount Zion campus laboratory.

Also available to students during training is access to the UCSF library, which includes a wealth of medical and other health related resources for student utilization. Contemporary

audiovisual resources are used to reinforce lecture and clinical learning to supplement further knowledge and understanding. Internet access will be available to students to surf the web in order to complete certain assignments.

Compensation

Admitted students will receive a compensation of \$2144 per month for 12 months.

The Training Programs Objectives

The clinical laboratory specialty training is of one-year duration. Training is 40 hours per week and takes place during the day shift.

The training programs provide the students the opportunity to develop, demonstrate, apply, and evaluate scientific knowledge and competencies necessary to achieve skills through integration of the program objectives as listed below:

1. A description of the full role of the clinical laboratory in the delivery of health care.
2. Understand the importance of QC and quality assurance in the clinical laboratory.
3. Didactic lectures provided by the Department of Laboratory Medicine professors and clinical laboratory staff aimed to correlate test results with disease states.
4. Understand and interpret laboratory test procedures, principle of reactions, specimen type, normal/panic values, sources of errors and clinical interpretation of results.
5. Understand, operate, and troubleshoot a variety of automated and manual tests.
6. Assume responsibility for reading assignments, running parallel testing, timely completion of unknown specimen, quizzes/exams, practical evaluation, and discussions with the instructors of all modules.
7. Describe the functions of laboratory management principles.
8. Emphasize the need for continued education.

Student Responsibilities

During the 52 weeks of training, each student will be expected to:

1. Observe and adhere to all UCSF Clinical Labs policies and procedures.
2. Develop a disciplined and balanced schedule of independent study, attendance, and other required assignments.
3. Take initiative to perform and reflect on applied learning skills at the bench.
4. Seek assistance, when appropriate from section supervisors, instructors, or other resourceful personnel.
5. Complete homework, unknowns, quizzes/examinations, and reading assignments when scheduled.
6. Use judgment in making maximum effective use of time at the bench.

Terminal Objectives

These general program objectives apply to all training programs through which students rotate. Each training program has its own specific objectives that are used to evaluate student progress.

The Cognitive Domain

1. Select the proper specimen for the procedure given.
2. Select the proper instruments and reagents for the procedure given.
3. Understand the principle of all tests performed.
4. Know the reference or normal ranges and panic values of patient results.
5. Perform calculations necessary for all laboratory procedures.
6. Distinguish normal from abnormal results.
7. Utilize data to evaluate accuracy of results.
8. Maintain accurate and complete records.
9. Apply problem-solving techniques to identify and correct procedural errors, identify instrument malfunction and institute appropriate corrective measures under supervision.
10. Correlate information from didactic lectures with laboratory procedures and practices.
11. Correlate laboratory results with the disease state of the patient.
12. Make judgments concerning the results of Quality Control measures and institute proper procedures or corrective action to maintain accuracy and precision of test results.
13. Use correct technical and scientific vocabulary.

Psychomotor Domain

1. Collect specimens from patients with proper technique and minimal trauma.
2. Operate and maintain lab instrumentations with care.
3. Verify results through the use of laboratory computer system.
4. Keep working area clean and organized at all times.
5. Perform more than one task at a time without sacrificing precision and accuracy.
6. Utilize procedures and follow direction without deviation from established policies and procedures.
7. Perform parallel testing and other practical assignments with minimal supervision.
8. Arrive on time and remain in the department for the scheduled time.

Affective Domain

1. Maintain optimal safety precautions in terms of physical and chemical hazards, cleanliness, and exposure to infectious agents.
2. Utilize relationships concerning the entire health care team for total patient care.
3. Demonstrate respect for confidentiality regarding patient laboratory records and professional relationships.
4. Demonstrate willingness to go beyond the minimal requirements of service.
5. Respond ethically and sympathetically to patient needs.
6. Use optimal verbal and non-verbal communication.
7. Use all available learning opportunities.

Checklists

The checklists are week-by-week guides to maintain a record of student progress while providing a listing of the laboratory tests to be performed during each training module. Checklists give the student and the instructor clear expectation of what to be accomplished in order to satisfy the completion of the terminal objectives of each module. Upon the completion of each module, the student and the instructor will sign off the checklists acknowledging that pertinent training is completed successfully, if deficiencies exist, a time will be set aside to complete any pending deficiency(ies).

Student Performance

Satisfactory performance is measured by:

1. The attainment of a minimum score of 75% in each of the module written quizzes/ examinations, 90% in practical examinations and unknown specimen assignments of manual procedures, and 95% in parallel testing of automated procedures. Same scores apply to all programs final examination. (Students will analyze each question missed by writing several sentence paragraphs discussing why the correct answer is right and why the other choices are wrong. Student write-up is then discussed with the instructor).
2. Adherence to established policies and procedures.
3. Voluntary willingness to do additional work or accept additional assignments to improve practical skills.
4. Being courteous and respectful to colleagues, supervisors, and patients.

Unsatisfactory performance means that trainee:

1. Does not attain the minimum scores listed above after retraining and /or reexamination.
2. Does not adhere to established policies and procedures.
3. Violates the code of ethics of the UCSF.

When the student does not attain the minimum acceptable score(s). Every effort will be made to help the student succeed in every module by providing additional instructions, practice for the method in question, retraining and /or retaking of an examination.

Student Appeal Process

Every effort should be made to resolve the appointee's grievance on an informal basis through discussion between the appointee and their immediate supervisor. Mediation, when agreed to by both parties, can provide a process for reaching a mutually acceptable resolution to a problem. Individual appointees and departmental personnel may consult with the grievance liaison in the Office of the Vice Chancellor, Academic Affairs for assistance in possible resolution of the problem. Attempts at informal resolution do not extend the time limits for filing a formal grievance unless the grievance liaison has granted a written extension.

Probation

1. All students are on probation for the first three months of the program.
2. Failure to successfully complete and pass two modules (practical and/or theoretical) of the training program.
3. Unprofessional conduct, such as poor attendance, tardiness, lack of integrity, unsafe behavior, and deviation from established policies and procedures.
4. Students will be notified of their probation status in writing of the reason for such action, and will be given a remedial action plan specific to the area of weakness and a set date (one to two weeks) to meet the criteria(s) of the remedial action plan.
5. If the requirements of the action plan are met, students will be removed from probation status. If the requirements are not met, the student will be considered for dismissal from the training program.

Dismissal

1. Failure to meet the established protocols, goals, and departmental standards of the training programs.
2. Failure to meet the criteria(s) of the remedial action plan.
3. Those who receive poor evaluations in more than two training modules.
4. Those who fail to improve satisfactorily despite numerous attempts to bring them back to meet the department standards.
5. Documented excessive absences, tardiness, unsafe behavior, and lack of integrity.
6. Students who are in danger of dismissal or disciplinary action will be informed in writing of the reasons for such action.

Student Evaluations

Student's performance will be evaluated after the completion of each module, at six months, and at 12 months as indicated by institutional policies.

Competency Assessment

Student competency is assessed during and upon completion of each training module. Ways to evaluate competency include:

1. Direct observation of test performance; including pre-analytical, analytical, and post-analytical variables.
2. Correct recording and reporting of test results.
3. Assessment of quality control, instrument function checks and preventive maintenance.
4. Assessment of problem solving and troubleshooting skills, behavioral and cognitive skills.

Review

Time will be time allotted at the end of each module and toward the end of the training programs for review and retraining if necessary. Nonetheless the last two weeks of each

specialty training program is dedicated for review and administration of a comprehensive final examination.

Completion of Training

Certificate of completion will be awarded to successful trainees at the end of the one-year training program. Notification of anticipated completion for each student will be submitted to Laboratory Field Services approximately one month prior to completion of training. Students will be requested to sign a “Release Form” in order to obtain a copy of the State of California examination result to evaluate our programs.

Notification of Laboratory Field Services

Notice will be submitted to Laboratory Field Services within 30 days of any change of teaching personnel (addition or deletion), any change of major test methodology (additions or deletions), and/or any major change in the training programs (instructional or practical). Also a notice will be submitted to Laboratory Field Services within 30 days whether the student voluntarily resigned or dropped from the training program due to unsuccessful performance, with a listing of the portion successfully completed prior to termination.

Licensing

Successful students of the training program will be eligible to take the California administered licensing examination or California approved certifying examination in their specialty. Trainees of **the clinical genetic molecular biologist scientist and clinical cytogeneticist scientist categories must take the examination provided by the National Credentialing Agency (NCA). www.nca-info.org. Those who pass the NCA examination will be eligible to apply for the State of California licensure.** The State of California Department of Public Health/Laboratory Field Services will issue a license to students who pass the examination, thus allowing the licensed individuals to engage in performance of high complexity laboratory testing in their specialty area and moderate and or waived laboratory testing in other sections of the clinical laboratory after documentation of competency by the medical director of the clinical laboratory.

Accreditation

The five training programs offered by UCSF clinical laboratories are approved by the State of California Department of Public Health/ Laboratory Field Services.

Student policies

Trainee License

Each student is required to have a current Trainee License issued by California Laboratory Field Services in the desired discipline of the training prior to starting date of the program.

Attendance

Students must complete a minimum of 50 weeks of full time training. The remaining two weeks can be used for time off, emergency, and /or sick use when warranted so long the time requested does not interfere with the overall quality of training. The program is eight hours per day from 8:00 A.M. to 4:30 P.M. Monday to Friday. Students are not required to report to training during the 13 annual university's observed holidays.

Make-up Assignments and Exams

Class assignments and exam(s) missed due to emergencies are made up. It is the student's responsibility to notify the education coordinator and section senior supervisor or designee to review and obtain make-up assignments and make arrangements to take the make-up exam.

Tardiness

It is expected that the student should be present in the assigned module on time. Repeated tardiness for the same reason is unacceptable.

Absences

Students are expected to attend all training modules. If for any reason a student is absent, the education coordinator and/or section supervisor must be contacted as soon as possible. All student absences in excess of two weeks, whether excused or unexcused must be made up, usually toward the end of the training module. It is the responsibility of the student to arrange a make-up schedule with the trainer or the education coordinator.

Breaks

Thirty minutes lunch and two 15 minutes break will be provided and should be scheduled so as not to conflict with the training time.

Uniforms

The UCSF Clinical Labs will provide two laboratory coats to admitted students at no charge to trainees.

Textbooks

Students are expected to purchase the designated textbooks for each specialty-training program.

Parking

A parking lot is available for a fee across the street from the medical center. However utilization of public transportation is highly recommended.

Identification Badges

Each student receives an identification badge free of charge on first entry to the training program. Identification badge should be worn whenever the student is at work and /or on campus.

Values

UCSF Clinical Labs places special emphasis on the Values of Service, Honesty, Respect, Stewardship, and Performance.

Conduct Standards

Students are expected to conduct themselves in a good citizen manner and comply with the State and Federal laws. A conduct not in compliance will subject the student to disciplinary action. The following behaviors receive disciplinary action:

1. Possession, sale, manufacture, and/or use of or being under the influence of alcoholic beverages, illegal drugs or controlled substances on UCSF properties.
2. Disorderly conduct or disruptive behavior.
3. Dishonesty, including cheating, plagiarism, and fabrication.
4. Making false statements about satisfying eligibility criteria with the intent to deceive and/or omitting information on forms, documents, and application will lead to barring of student in current and future training/employment at this institution.
5. Theft, vandalism, misuse, or damaging of UCSF Clinical Labs property.
6. Non-compliance with UCSF Clinical Labs policies.
7. Possession or use of firearms, harmful weapons or explosives.

Student Insurance

Health, dental, and vision are not covered during the training period. However, UCSF Clinical Labs will provide liability insurance, workman's compensation, and pre-employment vaccinations if needed.

International Students

Admitted students must possess legal residency in the United States. Students with F or H or any other Visa are not eligible for admission to the training programs.

Jury Duty

If a student is called for jury duty, the manager of the laboratory will provide an appropriate letter requesting postponement of jury duty service.

Harassment policy

UCSF Clinical Labs is committed to providing a work environment free of unlawful behavior. Harassment of any kind, including but not limited to actions, words, jokes, comments, photographs, pictures, drawings, gestures or other forms of verbal, visual, or physical conduct-based on an individual's race, color, ancestry, religion, gender, national origin, ethnicity, age, marital status, handicap or any other legally protected characteristic will not be tolerated. Sexual conduct, unwelcome sexual advances or demands, and unwelcome physical contact can create an offensive work environment and are therefore prohibited.

Any student who engages in any of the above behaviors may be subject to immediate termination from the training program.

Change of Name and Address

Students must report within 30 days any change of name, address, and telephone number to the program education coordinator and the:

California Department of Public Health/ Laboratory Field Services
850 Marina Bay Parkway, Bldg. P, 1st Floor
Richmond, CA 94804-6403
Telephone # (510) 620-3800

Responsibility of Patient Results

All laboratory results must be reviewed and released by a California licensed Clinical Laboratory Scientist or Specialist in the limited specialty area.

Confidentiality Statements

Students are required to sign confidentiality statements concerning patient information and laboratory testing results. These statements should be signed during students Orientation, which takes place in the first day of the program.

Telephone Etiquette

Each student is responsible for making the telephone experience as pleasant as possible for the caller. The caller is to be treated courteously and without impatience regardless of the nature of pressure.

Safety

Students will be provided information to comply with the institution guidelines for general laboratory safety, OSHA chemical and bloodborne pathogen standards, fire, Radiation safety, and CDC Universal Precautions. A safety post-test will become part of the student file.

Application Process Requirements

The application process is initiated when the Department of Laboratory Medicine first receives all the required documents:

1. The completed application, the Resume Supplement and Background Authorization form, which must be received by the **first Friday of December for the March training program and first Friday of May for the September training program** of each application year.
2. Two letters of recommendation one from a college instructor and the other from a supervisor or two letters of recommendation from college instructors: family members are not acceptable. The letters of recommendation must be sent directly from the person writing the letter.
3. 500-word essay “Statement of Purpose” form citing the student’s interest in the selected specialty.
4. Official transcripts **directly** sent to UCSF Clinical Labs and Laboratory Field Services (LFS) by all accredited colleges/universities attended showing date of graduation and completion of all required courses (documents received from students are considered unofficial).
5. Official evaluation of the candidate’s foreign degree **directly** sent to UCSF Clinical Labs and Laboratory Field Services from the American Association of Collegiate Registrars and Admissions Officers (AACRAO).
6. Provide additional information as requested by the education coordinator of the training programs.
7. Criminal Background Check Record.
8. Possession of a valid Trainee License in the Specialty area for which the student is applying. To request Trainee License application, contact Laboratory Field Services at **(510) 620-3800**.

Selection of Applicants:

The Selection Committee, which consists of the laboratory administrative director, laboratory technical director, education coordinator, and the section senior supervisor of the discipline for which the applicant has chosen, will review each completed “Applicant File” and base their decision on the applicant’s academic performance, content of the letters of recommendation and the 500 word Statement of Purpose in the specialty of choice, essay prompt, completion of the recommended courses, experience (paid or volunteer) in a clinical laboratory, and interview questions. The selected candidates will be summoned for personal interview with the Selection Committee around the middle of January for March class and around middle of June for the September class of each application year.

Selection for admission into the training programs is on competitive basis as each entering class is limited by number of students it can accommodate.

The selection process includes review of the completed Applicant File and the personal interview score(s). Each applicant is ranked according to his/her score, with the highest ranked offered the training position in the selected program. If the first ranked candidate declines the position, then the selection goes to the second ranked and so forth until the class is filled provided all candidates meet the programs requirements. Alternates are strongly encouraged to keep their files active by contacting the education coordinator, and obtaining advice.

Notification of acceptance/rejection to the training programs will be mailed to students within a week after the interview.

Applicants selected for admission are expected to notify the education coordinator in writing within one week of receipt of the acceptance letter.

Accepted applicants will be required to:

1. Undergo Physical Examination and immunization for: Mumps, Measles, Rubella, Tetanus, Hepatitis B or waiver if completed and Tuberculin Skin Test.
2. Submit their valid California Clinical Laboratory Specialty Trainee License on the first day of training.
3. Provide evidence of having a legal right to stay in the United States.

Physical Capabilities and Essential Functions

Physical capabilities are to ensure the student is capable of performing essential functions in educational and training activities in such a way that shall not endanger other students or the public, including patients.

Physical Capabilities	Essential Functions
1. Visual	Read charts and graphs, discriminate major colors and read microscopic materials
2. Communication	Communicate effectively in English and adequately transmit information to members of the health care team.
3. Fine Motor/ Movement	Possess all skills necessary to carry out diagnostic procedures, manipulate instruments, operate equipment, lift and move objects, comply with safety regulations, and perform phlebotomy safely and accurately.
4. Locomotion	Move freely from one location to another in physical settings such as the clinical laboratory, patient rooms, elevators and stairways.
5. Intellectual/Conceptual	Possess the emotional health required for full utilization of the student’s intellectual abilities. Recognize emergency situations and take appropriate actions through critical thinking.

UCSF Medical Center

Department of Laboratory Medicine

Clinical Laboratory Specialty Training Programs

Important Facts to Remember

1. All applicants must possess a minimum of baccalaureate degree or equivalent from an accredited college/university prior to admission.
2. A minimum GPA of 2.70 in science courses and 2.70 in overall courses.
3. All required coursework must be completed prior to training start date.
4. Application materials, official college/university transcript(s), and letters of recommendation must be in our possession on or before the **first Friday of December for March class and first Friday of May for September class** of each application year.
5. Laboratory Field Services must receive your trainee license application, \$35 trainee license fee, and official college/university transcript(s) directly from your college/university by the first week of December for March class and first week of June for September class of each application year.
6. Graduates of foreign colleges/universities must have their academic work evaluated by the American Association of Collegiate Registrars and Admission Officers (AACRAO) and received by both, the Laboratory Field Services and UCSF Admission Committee by the first week of December for March class and first week of June for September class of each application year.

Important Contacts/Links

1. For Laboratory Field Services, the main contact is Mr. Frank Barnes. His telephone number is (510) 620-3828 or you can contact the main office telephone number at (510) 620-3800.
2. For the evaluation of foreign degrees, the only agency, which Laboratory Field Services recognizes is the American Association of Collegiate Registrars and Admissions Officers (AACRAO). Their web site address is www.aacrao.org and telephone number is (202) 293-9161.
3. California Department of Public Health **Trainee license** application (LAB 156) can be downloaded by visiting the following website at:
<http://www.dhs.ca.gov/publications/forms/labs.htm>
4. California Department of Public Health **Clinical Laboratory Scientist** examinations application can be electronically filled out by visiting the following website:
<https://secure.cps.ca.gov/cltreg/>

If you have any question, please do not hesitate to contact me at (415) 353-7843.

Joseph I. Musallam, CLS
Education Coordinator
UCSF Specialty Training Programs