SAN DIEGO MIRAMAR COLLEGE | Medical Laboratory Technology Training Program

Student Handbook

Last Updated August 2018

Dear Student,

Welcome to Miramar College's Medical Laboratory Technician (MLT) Training Program. As you begin your educational experience here at Miramar College, we are confident that our MLT program will be essential to helping you progress in your future career.

This MLT student handbook contains information and guidelines that will assist you throughout your time in the MLT program. The MLT curriculum is challenging, but enjoyable. Your role as a student is to ensure that you stay active and engaged throughout the program.

The faculty and staff of Miramar Community College are fully committed to providing you with the appropriate knowledge and necessary clinical skills to excel in the clinical laboratory sciences. Our program has been designed to provide an associate degree in Medical Laboratory Technology and to prepare the student to sit for the approved California licensure examination for Medical Laboratory Technicians. This program integrates traditional classroom didactic instruction with directed "hands on" clinical practice in a California licensed clinical laboratory. It is the fundamental goal of our program to combine the classroom didactic lectures with the pre-analytical, analytical and post analytical skills which will allow students to comprehensively and systematically achieve mastery of the competencies required for this profession.

Our licensed clinical faculty brings many years of experience in the practice of the clinical laboratory sciences while the Miramar College campus makes available to our students extensive academic and scientific resources. Our didactic program provides the students with 486 hours of clinical education while our affiliated clinical laboratory provides over 640 hours of practical bench experience.

The job of an MLT is a very demanding, but extremely fulfilling component of the health care team. The educational process you have chosen to experience will allow you to grow intellectually and expand your view of our community. We know that you will find this program exciting, challenging, and enjoyable.

We encourage you to bring your enthusiasm and curiosity to learn. The MLT faculty and staff wish you the best of luck and highest academic achievements throughout the year!

Have fun and enjoy!

Sincerely,

The San Diego Miramar College MLT Faculty and Staff

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Introduction

The Medical Laboratory Technician Training (MLTT) program at San Diego Miramar College provides a quality educational program that complies with the established essentials and guidelines of an accredited educational program for the Medical Laboratory Technician. The college recognizes that to achieve this, the student must be able to grasp technical and theoretical knowledge and to successfully apply this knowledge in a clinical setting. This program consists of lectures and laboratory experiences on campus at San Diego Miramar College, as well as practical clinical experiences at Laboratory Corporation of America (LabCorp), our affiliate clinical laboratory.

In 2010, the MLTT program received accreditation from Laboratory Field Services, the agency in California designated to provide licensing. In California, Medical Laboratory Technician is a new category of personnel in clinical laboratories. California regulations require specified course work, and 60 semester, or 90 quarter, unit-hours of approved college credits or an Associate Degree or higher. The MLTT program has achieved accreditation status for NAACLS (North American Association for Clinical Lab Science). Students who begin on or after Sept. 2013 are eligible to take the exam.

General Description

The Medical Laboratory Technology Training program prepares students for employment in clinical laboratories, industry, and biotechnology as a Medical Laboratory Technician, Laboratory Assistant and or Research Technician/Associate. The required curriculum integrates basic concepts, technical procedures, and laboratory exercises prior to the required practical experience (practicum classes). Practicum classes are held at an affiliate site where students receive actual workplace experience in the job duties of the Medical Laboratory Technician. The entire program is designed for students to master the competencies, skills, and knowledge required in this profession. Classes and times for the program may vary between days and nights and are not offered on-line.

This curriculum prepares individuals to perform clinical laboratory procedures in chemistry, urinalysis, hematology, coagulation, microbiology, immunology, and immunohematology. These procedures may be used in the maintenance of health and diagnosis/treatment of disease. Coursework emphasizes mathematical and scientific concepts related to specimen collection, laboratory testing and procedures, quality assurance and reporting/recording and interpreting findings involving tissues, blood, and body fluids. The program recognizes the importance of professional standards and ethical obligations critical to health care professions. Development of professional competence, personal growth and effective patient care are integrated into each part of the curriculum.

Graduates of the Medical Laboratory Technician Program may be eligible to take the examination given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists (ASCP) or the American Association of Bioanalysts (AAB) to obtain a California License through Laboratory Field Services Personnel Licensing of the California Department of Public Health. Students who begin the program on or after Sept. 2013 are encouraged to take the national licensing exam offered by NAACLS. Employment opportunities for both licensed MLTT graduates include laboratories in hospitals, medical offices, industry laboratories and research facilities.

Program Mission Statement

The MLTT program at San Diego Miramar College is designed to produce trained individuals to enter the medical laboratory workforce as Medical Laboratory Technicians. As such, the program's primary learning outcome is to graduate competent, workplace-ready members of the health care team who:

- Exhibit theoretical comprehension and competence in all MLT courses by passing comprehensive college and certification exams.
- Demonstrate entry-level MLT skills in the following clinical laboratory areas: Clinical Chemistry, Hematology, Urinalysis, Coagulation, Immunology, Immunohematology, and Microbiology.
- Demonstrate professionalism and awareness of their role in the delivery of health care to patients: respecting the rights of patients, colleagues and other health professionals as they perform duties within the constraints of legal, moral and ethical conduct.
- Exhibit positive attitudes in the areas of professionalism and commitment to delivering excellent health care.

Program Goals and Objectives

- To produce graduates eligible to take and pass the certification examination required for licensure in California.
- To provide students with the necessary academic instruction and professional training in the field of laboratory medicine to satisfy the employment needs of the San Diego area and surrounding communities.
- To produce a skilled clinical laboratory employee who has a competent working knowledge of the principles inherent in the laboratory tests being performed.
- To prepare students to become accurate and reliable members of the health care team.
- To provide students with an awareness of their crucial role in the delivery of health care to the patient.
- To develop positive student attitudes in the areas of professionalism and commitment to delivery excellent health care.

MLT Occupational Competencies and Certification

- Collecting, processing and analyzing biological specimens and other substances
- Performing analytical tests of body fluids, cells, and other substances
- Recognizing factors that affect procedures and results, and taking appropriate actions within predetermined limits when corrections are indicated
- Performing and monitoring quality control within predetermined limits
- Performing preventative and corrective maintenance of equipment and instruments or referring to appropriate sources for repairs
- Applying principles of safety

- Demonstrating professional conduct and interpersonal communication skills with patients, laboratory personnel, and other health care professionals, as well as with the public
- Recognizing the responsibilities of other laboratory and health care personnel and interacting with them with respect for their jobs and patient care
- Applying basic scientific principles in learning new techniques and procedures

The MLT program is designed to educate and prepare students to take a national exam which, when passed, will allow for immediate entry into a technician-level position in a clinical lab environment as a Medical Laboratory Technician. The types of clinical labs include community-based hospital labs, teaching hospitals, private hospitals and clinics, and clinical research organization (CRO) support services. Many graduates also become employed in the regional biotechnology industry that provides specialized clinical services and diagnostics development and support.

Accreditation Status

Miramar College is accredited by both The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) and Laboratory Field Services of the California Department of Public Health. They define the essential abilities and requirements for licensure of Medical Laboratory Technicians. The San Diego Miramar College Medical Laboratory Technician Training curriculum is designed to provide training in these essential abilities. These abilities include information acquisition as well as performance of laboratory tests at a clinical affiliate site. The student must have the ability to master information presented in course work in the form of lectures, written material, and projected images. Additionally, the student must have the cognitive abilities necessary to master relevant content in basic science and clinical courses at a level deemed appropriate by the faculty. Students must also have the physical and cognitive abilities to perform laboratory procedures in a classroom laboratory and at the clinical affiliate site.

General Program Requirements

College Admission Criteria

San Diego Miramar College is an open college. Admission is open to anyone who meets one of the following criteria (as per the college catalog **http://www.sdccd.edu/ catalogs/miramar/**):

- High School Diploma/CA High School Proficiency Exam or GED with an average score of 45 or higher
- Persons 18 years of age or older or emancipated minors who possess a high school diploma or equivalent may be admitted by the college under provisional admission status

Selection and Restrictions specific for the MLTT Program

Students wishing to take the Medical Laboratory Technician Training program classes must have successfully **passed all of the prerequisite classes** (shown on page 5) at San Diego Miramar College or the equivalent classes at other institutions of higher education. Students seeking course equivalency from other institutions should visit a Miramar College counselor.

For those who have completed the prerequisites and applied to the MLTT Program, the student selection into the MLTT Program is by lottery. **You must file an application by June the 30th for the Fall semester, or October 1st for the Spring semester**. The application is to check recency and completion of prerequisites. Completed applications that meet the requirements will be put in a lottery to determine which applicants will start that semester.

MLT students must be able to perform patient testing safely and accurately. He/She must be able to distinguish objects both macroscopically and microscopically. The student must be able to read labels and safety warnings in small font on patient specimens, reagents and supplies and lab instruments. It is required that students have sufficient upper body muscle coordination to practice safe specimen handling. He/She must be able to perform delicate manipulations on specimens and instruments necessary for complete and accurate diagnostic test results. The student must be able to use a rubber bulb to draw liquid into a calibrated pipette and use a gloved finger to control the release of liquid to within 1 mm of a fixed point on the pipette. He/She must be able to lift and move objects, e.g., load individual tubes in an analyzer and move test tube racks from one bench to another. He/She must be able to isolate bacteria by smoothly moving a loop over the surface of an agar (gel) culture plate without tearing the surface of the agar. The student must be able to discern colors. Also, the student must have touch discrimination to discern veins in order to perform venipunctures.

MLT students must be able and willing to work with body fluids such as blood and organisms that may be infectious. He/She must be able to work with a wide variety of chemical reagents. MLT students must possess the emotional stability required for full utilization of their intellectual abilities. He/She must be able to work accurately and safely under stress, e.g., work under the time constraints; read and record numbers accurately; perform repetitive tasks; concentrate in distracting situations; and make subjective evaluations and decisions where mistakes may have a high impact on patient care. He/She must be able to adapt to changing environments and be able to prioritize tasks.

The student must be able to communicate effectively in written and spoken English in order to transmit information to other members of the health care team. The appropriate communication may also rely on the student's ability to make a correct judgment in seeking supervisory help and consultation in a timely manner. The student must possess attributes which include integrity, responsibility, and tolerance. He/She must show respect for self and others, work independently as well as with others, and project an image of professionalism.

These technical skills identify some of the requirements for successful completion of the MLT program. Graduates are expected to be qualified to enter the field of Medical Laboratory Technology. It is therefore the responsibility of the student to make any conditions affecting their performance as an MLT known to the faculty. Reasonable accommodation can be made in certain instances, i.e. a learning disability, when the student feels the necessity in order to execute the essential requirements described.

Restriction on Directed Clinical Practice

Students who have successfully completed the prerequisites courses, MLTT 201, 202, 203, and 204 will be accepted into the Directed Clinical Practice Classes 51, 52, 53, 54 on a basis of Phlebotomy Certification by the State of California or CPT-1 licensing and lottery.

Program Course Requirements

Prerequisites for major:

BIOL 107, General Biology- Lecture and Lab	4
(***OR***	
BIOL 131, Introduction to Biotechnology)	4
BIOL 230, Human Anatomy	4
BIOL 235, Human Physiology	4
CHEM 100, Fundamentals of Chemistry	3
CHEM 100L, Fundamentals of Chemistry Lab	1
(OR	
CHEM 152, Introduction to General Chemistry	3
CHEM 152L, Introduction to General Chemistry Lab)	1
CHEM 130, Introduction to Organic and Biological Chemistry	3
CHEM 130L, Introduction to Organic and Biological Chemistry Lab	1

Courses required for major:	**Units**
Prerequisite for Practica:	
MLTT 201, Clinical Chemistry and Urinalysis	4
MLTT 202, Clinical Hematology and Immunology	4
MLTT 203, Clinical Microbiology	4
MLTT 204, Principles of Blood Banking	2
Practica Courses:	
MLTT 51, Directed Clinical Practice in Clinical Chemistry	2
MLTT 52, Directed Clinical Practice in Clinical Hematology, Urinalysis, and Coagulation	2
MLTT 53, Directed Clinical Practice in Clinical Immunology and Immunohematology	2
MLTT 54, Directed Clinical Practice in Clinical Microbiology	2
TOTAL UNITS	**36- 41**

Phlebotomy

In addition to the courses listed above, students must be Licensed Certified Phlebotomists before they can enroll in the Directed Clinical Practice courses. Additionally, having your CPT-1 license current is an important aspect of ranking when it comes to setting up internship schedules. Please see the program web site for a list of some CA- approved phlebotomy training programs. A list of approved California phlebotomy training schools in San Diego County is included in the Appendix section of this handbook.

Projected Course Sequence

Below is a possible sequence of coursework needed to complete an associate degree in Medical Laboratory Technology. This information is subject to change. Class times and days vary. Currently students need to complete the required phlebotomy training at USA Colleges (where a Laboratory Field Services accredited program is currently offered at a discounted rate). San Diego Miramar College is working with a CADPH approved school of phlebotomy to provide a site for phlebotomy training.

Possible Course Sequence

Semester 1 (FALL)		**Semester 2 (SPRING)**	
Courses	**Units**	**Courses**	**Units**
MATH 96 or above*	3	CHEM 130/130L	4
BIOL 107	4	BIOL 235	4
General Education*	4	BIOL 230	4
CHEM 100/100L	4	Physical Education*	.5
Total Units	**15**	**Total Units**	**12.5**

Semester 3 (FALL)		**Semester 4 (SPRING)**	
Courses	**Units**	**Courses**	**Units**
MLTT 201	4	MLTT 203	4
MLTT 202	4	MLTT 204	2
General Education*	6		
Physical Education*	0.5	General Education*	5
Open Electives*	5		
Total Units	**19.5**	**Total Units**	**11**

*District requirement for Associate Degree

At the end of the proposed sequence, students are ready to start their internship classes, MLTT 051, 052, 053, and 054. Once a student begins internship classes, it may take approximately eight months to complete the program and pass the BOC (Board of Certification) examination.

Outlines of record for all required courses are included as an attachment to this document (outlines are subject to change, information is up to date as of the printing of this handbook). All required courses have been approved by the San Diego Community College District's Curriculum Committee.

The Medical Laboratory Licensure is subject to Title 17 of the California Code of Regulations shown below and administered by the Laboratory Field Services (LFS) section of the California Department of Public Health (CADPH).

MLT Licensure Requirements

17 CA ADC § 1032.5
17 CCR s 1032.5 Cal. Admin. Code tit. 17, s 1032.5

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS
TITLE 17. PUBLIC HEALTH
DIVISION 1. STATE DEPARTMENT OF HEALTH SERVICES
CHAPTER 2. LABORATORIES
SUBCHAPTER 1. SERVICE LABORATORIES
GROUP 2. CLINICAL LABORATORY REGULATIONS
ARTICLE 1.5. LICENSURE OF CLINICAL LABORATORY PERSONNEL

This database is current through 11/23/07, Register 2007, No. 47 s 1032.5. Licensure of Medical Laboratory Technicians.

(a) In order to qualify for licensure as a medical laboratory technician, a person shall apply for a license pursuant to Section 1031.4 (b) and meet the following requirements:

(1) Have successfully completed at least 60 semester (90 quarter) units from an accredited college or university. The coursework shall consist of at least 36 semester units of physical and biological sciences with an emphasis on applied clinical science. Coursework shall include 6 semester units of chemistry and 6 semester units of biology appropriate for transfer to a baccalaureate program in science, taken prior to, or concurrently with, training or experience, and

(2) Have met the following training or experience requirements by documenting one of the following:

(A) Graduating from a medical laboratory technician training program accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS); or

(B) Graduating from a medical laboratory technician training program approved by the department pursuant to Section 1035.3; or

(C) Meeting admission requirements for a clinical laboratory scientist licensing examination, as determined by the department pursuant to Section 1032; or

(D) Completing a minimum of three years on-the-job practical experience within the previous five years, in a clinical laboratory outside California as a medical laboratory technician, with evidence of satisfactory performance on an examination given by a certifying organization for medical laboratory technicians, performing tests in the specialties of chemistry, hematology, microbiology, and immunology. This work experience shall include at least 480 hours in each of these specialties and shall be documented by the laboratory director(s) of the laboratory(ies) employing the applicant pursuant to Section 1031.4(b)(8); or

(E) Completing a minimum of three years on-the-job practical experience within the previous five years, in a clinical laboratory outside California as a clinical laboratory scientist, with evidence of satisfactory performance on an examination given by a certifying organization for clinical laboratory scientists, performing tests in the specialties of chemistry, hematology, microbiology, and immunology. This clinical laboratory scientist, also called medical technologist in some states, need not be California licensed pursuant to Business and Professions Code section 1204, but shall have work experience outside California of at least 480 hours in each of these specialties as documented by the laboratory director(s) of the laboratory(ies) employing the applicant pursuant to Section 1031.4(b) (8); or

(F) Completing a minimum of three years on-the-job practical experience within the previous five years, as a medical laboratory technician or clinical laboratory scientist in a California physician office laboratory or in a laboratory owned and operated by the United States of America. This person shall have evidence of satisfactory performance on an examination given by a certifying organization for medical laboratory technicians or clinical laboratory scientists, respectively, and have performed tests in the specialties of chemistry, hematology, microbiology and immunology. This work experience shall include at least 480 hours in each of these specialties, and shall be documented by the physician(s) directing the laboratory(ies) employing the applicant pursuant to Section 1031.4(b)(8); and

(3) Have passed a written examination for medical laboratory technicians administered by a certifying organization for medical laboratory technicians approved by the department pursuant to Section 1031.8. The department shall, for licensure purposes, accept evidence of satisfactory performance on examinations taken within the four years previous to department approval of a certifying organization's medical laboratory technician examination. The applicant shall have also passed a separate written, self-administered examination on California clinical laboratory law provided by the department. This self-

administered test shall accompany the application. A minimum passage rate of 70 percent shall be required.

(b) A licensed medical laboratory technician shall be authorized to:

(1) Perform tests and examinations classified as waived and moderate complexity by Centers for Disease Control and Prevention in the specialties of chemistry, including routine chemistry, urinalysis, endocrinology and toxicology; hematology including coagulation; microbiology, including bacteriology, mycobacteriology, mycology, parasitology and virology; and immunology, including syphilis serology and general immunology, with the exception of those moderate complexity tests requiring microscopy, or in the specialty of immunohematology.

(2) Perform phlebotomy, but shall not perform skin tests for specific diseases pursuant to Section 1242 of the Business and Professions Code.

(3) Perform tests and examinations under the supervision of a licensed physician and surgeon, or a doctoral scientist, clinical laboratory bioanalyst, clinical laboratory scientist, or clinical laboratory specialist licensed under Chapter 3. On-site supervision shall be required during the entire time the medical laboratory technician performs moderate complexity clinical laboratory tests or examinations. The ratio of medical laboratory technician to supervisor at the site of moderate complexity testing shall not exceed four to one.

(4) Report test results and perform phlebotomy only after competency has been documented by the laboratory director pursuant to Section 1209(e) of the Business and Professions Code.

(5) Supervise Limited Phlebotomy Technicians or Certified Phlebotomy Technician Is.

(c) The license application fee and license renewal fee for a medical laboratory technician shall be the same as the license application fee and license renewal fee for a clinical laboratory scientist pursuant to Section 1300(c) and (e) of the Business and Professions Code.

(d) A medical laboratory technician shall complete twelve hours of continuing education each year as a condition for renewal.

Course Descriptions and Objectives

MLTT 201: Clinical Chemistry and Urinalysis

This course introduces the theory and practice underlying the basic methodologies used in clinical chemistry and urinalysis. Lecture covers an introduction to components of body fluids such as blood and urine, basic principles of the clinical laboratory, quality control and quality assurance, patient confidentiality and safe handling practices of body fluids. Laboratory covers principles and theories of clinical chemistry with an emphasis on methodologies and instrumentation common to the clinical

chemistry and urinalysis laboratory, specimen handling, measurement, and data analysis. This course is intended for students majoring in Medical Laboratory Technology or those wanting to update their medical laboratory skill set.

Upon successful completion of the course the student will be able to:

1. Apply the basic principles and theory of clinical chemistry and urinalysis.
2. Demonstrate a working knowledge of components of body fluids analyzed in the clinical chemistry and urinalysis laboratory.
3. Demonstrate a working comprehension of the technical and procedural aspects of the laboratory tests used in clinical chemistry of human body fluids and in urinalysis.
4. Demonstrate ability to follow established procedures for collecting and processing biological specimens for analysis.
5. Select and operate instruments used in clinical chemistry and urinalysis.
6. Create reports and document results obtained in clinical chemistry and urinalysis.
7. Identify and describe the principles of quality control and quality assurance in the clinical chemistry and urinalysis laboratory.
8. Assess abnormal or inconsistent test results to determine appropriate action.
9. Apply principles of computer applications to clinical chemistry and urinalysis laboratory.
10. Apply working knowledge of safety mandates and principles to the clinical chemistry and urinalysis laboratory.
11. Perform laboratory mathematics as it applies to the clinical chemistry and urinalysis laboratory.

MLTT 202: Clinical Hematology and Immunology

This course introduces the theory and practice underlying the basic methodologies used in clinical hematology, immunology and blood banking. Lecture covers an introduction to components of blood with emphasis on the immune system and blood typing, principles and practices of blood banking, quality control and quality assurance, patient confidentiality and safe handling practices of body fluids. Laboratory covers principles and theories of clinical hematology and immunology with an emphasis on methodologies, specimen handling, measurement, and data analysis. This course is intended for students majoring in Medical Laboratory Technology or those wanting to update their medical laboratory skill set.

Upon successful completion of the course the student will be able to:

1. Apply basic principles and theory of clinical hematology, immunology and blood banking in the hematology and transfusion medicine.

2. Demonstrate a working comprehension of the technical and procedural aspects of the laboratory tests used in clinical hematology, immunology and blood banking.

3. Demonstrate ability to follow established procedures for collecting and processing biological specimens for analysis.

4. Select and operate instruments used in clinical hematology/immunology and blood banking.

5. Create reports and document results obtained in clinical hematology/immunology and blood banking.

12. Identify and describe the principles of quality control and quality assurance in the clinical hematology/immunology laboratory.

13. Assess abnormal or inconsistent test results to determine appropriate action.

14. Apply principles of computer applications to clinical hematology/immunology laboratory.

15. Apply working knowledge of safety mandates and principles to the clinical hematology/immunology laboratory.

16. Perform laboratory mathematics as it applies to the clinical hematology and immunology lab.

MLTT 203: Clinical Microbiology

This course introduces the theory and methods used in clinical microbiology laboratory. Lecture covers an introduction to distinguishing clinically relevant organisms from normal flora. Laboratory covers principles and theories of the identification of clinically relevant microorganisms. This course is intended for students majoring in Medical Laboratory Technology or those wanting to update their medical laboratory skill set.

Upon successful completion of the course the student will be able to:

1. Apply the basic principles and theory of clinical microbiology to the clinical laboratory setting.

2. Demonstrate a working comprehension of the technical and procedural aspects of the laboratory tests used in clinical microbiology.

3. Demonstrate ability to follow established procedures for collecting and processing biological specimens for analysis.

4. Apply knowledge of clinically relevant microorganisms to standard low and moderate complexity identification tests.

5. Select and operate instruments used in clinical microbiology.
6. Create reports and document results obtained in clinical microbiology laboratory.
7. Identify and describe the principles of quality control and quality assurance in the clinical microbiology laboratory.
8. Assess abnormal or inconsistent test results to determine appropriate action.
9. Apply principles of computer applications to clinical microbiology laboratory.
10. Demonstrate working knowledge of safety mandates and principles in the clinical microbiology laboratory.
11. Perform laboratory mathematics as it applies to the clinical microbiology laboratory.

MLTT 204: Principles of Blood Banking

This course This course introduces the theoretical and practical concepts of blood banking and transfusion medicine. Topics include donor screening and selection, basic blood group serology, component selection and therapeutic use, hemolytic disease of the fetus/newborn (HDN), and transfusion reactions. Other topics include blood group antigens and rhesus (ABO/Rh) grouping, antibody screening, compatibility testing, and single antibody identification. This course provides a deep understanding of the fundamentals of blood banking technology and equips entry level medical laboratory technicians with the required knowledge and skills to sit for the national certification examinations.

Upon successful completion of the course the student will be able to:

1. Define the process of donor screening and selection for allogeneic whole blood donation and autologous pre-deposit donation.
2. Explain the preparation, management, handling and therapeutic use of the following products for transfusion: packed red blood cells, fresh frozen plasm, random platelets, and cryoprecipitate.
3. Apply the principles and applications of direct agglutination testing (ABS/Rh) as well as direct and indirect antiglobulin testing to identify unknown antibodies.
4. Compare and contrast the serologic characteristics, notable aspects, and clinical significance of significant blood group systems including ABO, Rh, Kell, Kidd, Duffy, MNSs, and Lewis.

5. Evaluate the results of routine blood bank testing to recognize expected findings, discrepant ABO findings, and invalid anti-globulin results.

6. Formulate a basic plan of action for investigating unexpected findings when given the results of blood bank testing.

7. Categorize hemolytic diseases of the newborn and autoimmune hemolytic anemia with regard to testing, cause, management and treatment.

8. Determine the process of investigating a suspected transfusion reaction as it relates to classification of the reaction, as well as recommendations for future transfusions.

9. Interpret quality control measures used in blood bank testing.

MLTT 51: Directed Clinical Practice (Internship) in Clinical Chemistry

This course provides clinical laboratory practice and experience in the laboratory of general and specialized chemistry. Different instrumentation will be introduced, as well as bench and manual methods. Emphasis is placed on technique, accuracy and precision. This practicum will take place at a clinical affiliate site that will be assigned by the Medical Laboratory Technician Training Program Director. This course is intended for students majoring in Medical Laboratory Technology or those wanting to update their medical laboratory skill set.

Upon successful completion of the course the student will be able to:

1. Demonstrate and apply departmental procedures for safety according to Occupational Safety and Health Administration (OHSA) mandates.

2. Demonstrate and explain the safe use and disposal of biohazardous material.

3. Explain and demonstrate the specimen processing and handling, criteria for specimen rejection, and use of laboratory information system (LIS).

4. Apply working knowledge of instrumentation to the selection and operation of automated or semi-automated instruments.

5. Summarize the test methods and principles learned during their rotation.

6. Perform and interpret low to moderate complexity chemistry and special chemistry tests with results acceptable to the supervising Clinical Laboratory Scientist.

7. Demonstrate professionalism in appearance and behavior while in the laboratory setting

MLTT 52: Directed Clinical Practice (Internship) in Clinical Hematology, Urinalysis and Coagulation

This course provides laboratory practice and experience in the laboratory of hematology, urinalysis and coagulation. Different instrumentation will be introduced, as well as bench and manual methods. Emphasis is placed on technique, accuracy and precision. This practicum will take place at a clinical affiliate site that will be assigned by the Medical Laboratory Technician Training Program Director. This course is intended for students majoring in Medical Laboratory Technology or those wanting to update their medical laboratory skill set.

Upon successful completion of the course the student will be able to:

1. Apply departmental procedures for safety according to Occupational Safety and Health Administration (OSHA) mandates.

2. Demonstrate and explain the safe use and disposal of biohazardous materials.

3. Demonstrate and explain specimen processing and handling, criteria for specimen rejection, and use of laboratory information system (LIS).

4. Apply working knowledge of instrumentation to operation of automated and/or semi-automated instruments.

5. Identify and apply the test methods and principles learned during their rotation.

6. Perform and interpret all low to moderate complexity urinalysis and body fluid tests in the laboratory with results acceptable to the supervising Clinical Laboratory Scientist.

7. Perform and interpret all low to moderate complexity hematology and coagulation tests in the laboratory with results acceptable to the supervising Clinical Laboratory Scientist.

8. Demonstrate professionalism in appearance and behavior while in the laboratory setting.

MLTT 53: Directed Clinical Practice in Clinical Immunology and Immunohematology

This course provides clinical laboratory practice and experience in the laboratory of serology and blood banking, including syphilis serology and general immunology. Different instrumentation will be introduced, as well as bench and manual methods. Emphasis is placed on technique, accuracy and precision. This practicum will take place at a clinical affiliate site that will be assigned by the Medical Laboratory Technician Training Program Director. This course is intended for students majoring in Medical Laboratory Technology or those wanting to update their medical laboratory skill set.

Upon successful completion of the course the student will be able to:

1. Apply departmental procedures for safety according to Occupational Safety and Health Administration (OSHA) mandates.

2. Demonstrate and explain the safe use and disposal of biohazardous materials.

3. Explain and demonstrate the specimen processing and handling, criteria for specimen rejection, and use of laboratory information system (LIS).

4. Apply working knowledge of instrumentation to the selection and operation of automated and/or semi-automated instruments.

5. Perform and interpret all low to moderate complexity blood bank (immunohematology) tests and confirm results with the supervising Clinical Laboratory Scientist.

6. Perform and interpret all low to moderate complexity serology (immunology) assays with results acceptable to the supervising Clinical Laboratory Scientist.

7. Summarize the test methods and principles learned during their rotation.

8. Demonstrate professionalism in appearance and behavior while in the laboratory setting.

MLTT 54: Directed Clinical Practice in Clinical Microbiology

This course provides laboratory practice and experience in the clinical laboratory of microbiology. Different instrumentation will be introduced, as well as bench and manual methods. It emphasizes technique, accuracy and precision. This practicum will take place at a clinical affiliate site that will be assigned by the Medical Laboratory Technician Training Program Director. This course is intended for students majoring in Medical Laboratory Technology or those wanting to update their medical laboratory skill set.

Upon successful completion of the course the student will be able to:

1. Apply departmental procedures for safety according to Occupational Safety and Health Administration mandates.

2. Demonstrate and explain the safe use and disposal of biohazardous material.

3. Apply working knowledge of instrumentation to the selection and operation of automated or semi-automated instruments.

4. Apply and identify the test methods and principles learned during their rotation.

5. Explain and demonstrate specimen processing and handling, criteria for specimen rejection, and use of laboratory information system (LIS).

6. Perform and interpret quality control procedures involving media, equipment and sensitivity testing.

7. Identify sources of potential error in the clinical microbiology laboratory.

8. Identify and describe current state and federal regulations regarding microbiology specimens.

9. Demonstrate professionalism in appearance behavior while in the laboratory setting.

Course Repetition Policy:

- No course in which a "C" or better grade has been earned may be repeated.
- Students will not be allowed more than four enrollments in similar active participatory courses in Physical Education and Visual and Performing Arts, regardless of grade or symbol earned.
- Academic renewal is not allowed for work experience courses.
- Each course in which an unsatisfactory grade ("D," "F," or "NP") has been earned may be repeated twice without a petition. The course being repeated must be the same as the original course, not its equivalent. Only the newly-earned units and grades will be used in computing the grade point average.
- Students will not be allowed more than three enrollments in any course, regardless of grade or symbol earned.

Course Repetition—Lapse of Time

Academic departments may require that courses for the major be completed within a specified number of years prior to the granting off the Associate Degree, Certificate of Achievement, or Certificate of Performance. Students may be required to repeat a course in which a satisfactory (A, B, C, P) grade has already been earned. Students with questions about the applicability of previous coursework are advised to consult the department as early as possible.

MLT Faculty and Staff

Name	E-mail Address
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Aline Grigorian **Affiliate MLT Student Coordinator**	**Grigora@LabCorp.com** **Tel: (858)668-3848** **Fax: (858)486-5804**
Manita Gordon, MT (ASCP), CLS **LabCorp Manager** **Affiliate MLT Student Coordinator**	**Thomm26@LabCorp.com**
Meg Kiperts **Project Assistant** **MBEPS, Miramar College**	**mkiperts@sdccd.edu** **Tel: (619) -388-7750**

Tuition and Fees

Application Fee: Application to San Diego Miramar College is free and available online at www.sdccd.edu

The **enrollment fee** is assessed of all students, including nonresidents. The fee is currently $46.00 per unit.

- Waiver of the enrollment fee is available to students who petition and qualify as recipients of benefits under the Temporary Assistance to Needy Families (TANF) program, the Supplemental Security Income/State Supplementary (SSI) program, or the General Assistance program.

- Financial Aid may be available to students who qualify. See the Financial Aid office to determine if you qualify.

Textbooks, instructional supplies, uniforms, living expenses, and cost of transportation to campus and clinical facilities are not included in tuition costs.

Program acceptance is by a lottery system. For more information, please see the full application in the appendix.

Refund Policy

1. Fees will be refunded to students who reduce their program in accordance with the following schedule:
    - **Primary Session (16 weeks)**
      Friday of the second week
    - **Non-Primary Sessions (16 weeks or more)**
      Monday of the third week
    - **Short-Term Sessions (Less than 16 weeks)**
      Monday of the second week
    - **Classes 1 week or shorter**
      See Admissions Office for deadline dates

Policy/Procedure for Advising When Clinical Placement Cannot Be Guaranteed:

When a student cannot be placed or continue in a clinical placement for unforeseen circumstances or situations that are beyond the control of the college or student, the first step will be to reach out to the current site for additional placement. Alternatively, we would work with our Advisory Board and try to develop a new placement location. If additional students cannot be placed at the existing site and a new site cannot be found, the student will either follow the Incomplete Grade policy explained in the college catalog or the student can also take a leave of absence from the program until the student can be placed. Students who cannot be placed but are eligible will receive priority over other students when new openings occur.

Attendance Policies

General SDCCD Attendance Policies:
Student attendance policies are developed in accordance with the academic standards of San Diego Miramar College and the practicum host sites. The purpose of the attendance policies are to insure student success in the program and to insure that students have the requisite number of hours to sit for a National Certification exam. Individual attendance policies can be found on page 21 of this handbook. As such, attendance policies will be strictly enforced.

MLTT Program Attendance Policies:

Requirement to Fulfill Licensure Required Training Hours
As per the attendance policy of the San Diego Community College District, students who miss the equivalent of one week of didactic classes based on a 16- week semester **(two lectures and two labs) will be dropped from the program.** Students who arrive at class more than 10 minutes late or leave 10 minutes early will be marked as tardy/late. Three "tardies" will equal one absence. Students should review the class syllabus for specific attendance information

This program is approved by Laboratory Field Services of the CA Dept. of Public Health. The approval requires that students complete the required number of training hours in each MLT discipline. To verify that students are meeting the required training hours, Instructors will have sign-in and sign-out sheets at all classes or maintain accurate attendance records. Hours required will not be allowed to be "made-up" unless there are extenuating circumstances. Hours can only be substituted at the discretion of the instructor. The instructor will decide if 'make-up' hours are possible on a case by case basis.

General Program Policies

Academic Probation

Students whose grade point average falls below 2.0 after completion of 12 units at San Diego Miramar College will be placed on academic probation and remain there until their overall GPA reaches or exceed 2.0. A student on academic probation status is disqualified when his/ her non-cumulative GPA falls below 2.0 in a subsequent semester. Note that students may not repeat practicum classes.

Policies Relative to Interruption or Withdrawal

Academic departments at San Diego Miramar College may require that courses for the major be completed with a specified number of years prior to granting of an Associate's Degree, Certificate of Achievement or Certificate of Performance. (Students may be required to repeat a course in which a satisfactory (A, B, C) grade has already been earned. Students with questions about the applicability of previous coursework are advised to consult the department chair and the program director.) See leave form on page 35 for MLTT Program policies.

Grounds for Dismissal

A student who has been placed on lack of progress probation shall be disqualified when the percentage of units for which entries of "W," "I," and "NP" are recorded in a subsequent semester reaches or exceeds 40%. Students will follow the Honest Academic Conduct Policy of San Diego Miramar College (Policy 3100).

Students who violate safety and patient confidentiality rules will receive F grades in the classes in which they are enrolled and may be prevented from repeating the classes.

Medical Insurance/Liability

All students will pay a mandatory fee for health services and accident insurance. The health services fee is currently $18 per semester. Students enrolled in occupational courses that require directed clinical practice (MLTT 51, 52, 53, 54) must pay for liability insurance. The current fee is $7.00 per semester. These fees will be automatically assessed at the time of registration.

Laboratory Safety Standards

Students will follow all Universal Safety Precautions and CAL OSHA requirements as set forth in the training provided in both the didactic and practical classes. Each didactic class will provide safety training. Practicum safety training will take place at the clinical affiliate site as required by the institution. This training may occur outside of normal class hours.

Patient Confidentiality

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) is a federal law that defines patients' rights to privacy to control how their personal health care information is used. The law specifies who can access patients' protected, identifiable health information and when disclosure of this information is permitted. At LabCorp, every student will be required to review, understand, and practice the confidentiality and privacy of every patient as prescribed by law.

Students will be oriented to facility policies and will observe all procedures related to patient confidentiality and release of information during clinical rotations. Students are also cautioned to maintain the confidentiality of their peers, instructors, clinical staff, and clinical affiliates. Students will keep personal beliefs and opinions a private matter. A breach in the confidentiality policy may be cause for immediate dismissal from the program.

Student Grievance/Appeals

The purpose of the procedure is to provide a prompt and equitable means for resolving student grievances. The procedures enumerated in Student Grievance Administrative Procedures AP 3100.1 shall be available to any student who believes a district decision or action has adversely affected his/her rights as a student specified in Student Rights and Responsibilities, BP 3100, Section *a* through *i*.

Note that grades are not grievable under this policy. Refer to the Grade Challenge section of the catalog.

Occupational Hazards

Occupational hazards for the field of laboratory medicine may include, but are not limited to: exposure to infectious diseases such as AIDS or hepatitis, exposure to hazardous chemicals or substances, accidental injury, exposure to blood borne pathogens, exposure to radiation and allergic reactions to latex, or other chemical agents.

Service Work

Students may not replace or serve as full time staff when doing Directed Clinical Practice Classes. Directed clinical practice is class time. In general, service work by students in clinical settings outside of regular academic hours must be noncompulsory, paid, supervised on site, and subject to employee regulations. Students shall not take the responsibility or the place of qualified staff. However, after demonstrating proficiency, students, with qualified supervision, may be permitted to perform procedures.

Teach Out Policy

The College policy is to maintain for a reasonable time classes in vocational programs to which there are matriculated students such that students can complete their degree (e.g. teach out).
Specifically:

1. Notice will be given to students and counselors that the program has been closed and, effective immediately, students not already matriculated will not be accepted to the program or enrolled.
2. Program classes for matriculated students will remain open and available to those students only.
3. As soon as all matriculated students have completed a class, the class will be discontinued. This process will continue until all matriculated students have completed all of the classes required for the program. At that time the program will be discontinued.

Required Textbooks

Note: Textbook Requirements are Subject to Change

Bishop, Michael L., Edward P. Fody, and Larry E. Schoeff. Clinical Chemistry: Techniques, Principles, Correlations. 7th ed. Baltimore: Lippincott Williams & Wilkins, a Wolters Kluwer business, 2013.

Di Lorenzo, Marjorie Schaub and Susan King Strasinger. Urinalysis and Body Fluids. 5th ed. Philadelphia: F.A. Davis Company, 2008.

Ciesla, Betty. Hematology in Practice. 2nd ed. Philadelphia: F.A. Davis Company, 2012.

Tille, Patricia M. Bailey & Scott's Diagnostic Microbiology. 13th ed. St. Louis: Mosby Elsevier, 2014.

Holladay, E. Blair and Patricia A. Tanabe. BOR Study Guide: Clinical Laboratory Certification Examinations. 5th ed. Hong Kong: American Society for Clinical Pathology, 2009.

Turgeon, Mary Louise. Immunology and Serology in Laboratory Medicine. 5th ed. St. Louis: Mosby Elsevier, 2013.

Attendance Policies

Attendance policies in the MLTT program are strictly enforced to ensure that students attend the required number of hours dictated by licensure requirements and the CA Department of Public Health—Laboratory Field Sciences.

Attendance Requirement (Didactic Training)

As per the attendance policy of the San Diego Community College District, students who miss the equivalent of one week of classes based on a 16 week semester (two lectures and two labs) will be dropped from the program and may not re-enroll under Department of Labor funding. Students who arrive at class more than 10 minutes late or leave 10 minutes early will be marked as tardy. Three tardies will equal one absence. Students should review the class syllabus for specific attendance information.

Attendance Requirement (Clinical Practical)

It is the policy and expectation that students will be at the lab on time every day they are scheduled to train. Each student is personally responsible to resolve all factors under his/her control, which might prevent him/her from coming to training each day, such as transportation, responsibility for children, outside business interests, etc. All students are responsible for, and required to follow the appropriate reporting procedures for calling in an absence or late.

In accordance with Title 17, Section 1035.3, California Code of Regulations, the San Diego Miramar College MLT program must provide and monitor students in clinical laboratory practice in a California licensed clinical laboratory. Within each assigned clinical hour of training there is both an educational component as well as a clinical practice experience component which each student must master in order to be a successful MLT practitioner. It is because of this dual role that attendance is important and will be taken into account for grading purposes.

As required in the regulations, there are four Directed Clinical Practicum; MLTT 51; MLTT 52; MLTT 53 and MLTT 54 within the MLT program. Each practicum is four weeks in length and comprises 40 hours per week for a total of 160 hours each. Each student will be assigned a directed practicum start date and a start time as well as an end date and end time. It is expected and required

that the student will complete the entire practicum within the assigned four week period. Students will need to arrange their life schedules to conform to the practicum schedule. Students may not modify, change or alter their assigned practicum schedules.

Students may be dismissed from the training program if they have more than 2 unexcused absences during the 4-week training period. Missed hours should be made up within the 4- week practicum period within the department where hours were missed. Conversely, if approved by the Director, students may make-up their hours in the fifth week. All 160 hours must be completed. Students who fail to complete all 160 hours will receive a grade of F for the course.

Absences may be excused by the Program Director on a case by case basis. Any illness or family emergency occurring during the practicum must be accompanied with a physician's note or other appropriate documentation in order to be excused.

The fifth week is provided specifically for the purpose of making up hours missed due to a medical illness or family emergency. It is not for vacations, time off or other non-emergency activities.

Call-In Procedures

Students are required to give as much advance notice as possible. For cases not involving extenuating circumstances, the Student shall notify the Affiliate MLT Student Coordinator and Program Director of his/her inability to be at the lab for training **at least two (2) hours prior to the Student's start time.** If the student fails attend their work/training assignment or fails to notify the Affiliate MLT Student Coordinator and Program Director at least 2 hours in advance, the absence will be considered unexcused.

To comply with this requirement, a student must:

1) E-mail Affiliate MLT Student Coordinator, Dr. Aline Grigorian, at LabCorp Inc. at Grigora@LabCorp.com or 858-668-3764 (office).

2) E-mail Program Director, Dr. Ana Dowey at adowey@sdccd.edu or call at (760) 473-7684.

Tardiness

A student is deemed to be tardy if he/she fails to report to work within 5 minutes of his/her scheduled start time. Two incidents will initiate review of student's progress and possible dismissal from the training program.

Breaks and Lunches

Students are entitled to two ten-minute breaks that must be taken in or around the middle of each 4 hour period. All students who train more than six hours a day are **required** to take a thirty-minute (minimum) meal break within the first 5 hours of training.

Guidelines for Students with Multiple Absences During Practica Classes

Students may be dismissed from the training program if they have more than two unexcused absences during the 4-week training period. Absences may be excused by the Program Director on a case by case basis. Any illness or family emergency occurring during the practicum must be accompanied with a physician's note or other appropriate documentation in order to be excused.

Students should make every effort to make up missed hours within the first four weeks of the practicum period within the department where hours were missed. If the Miramar MLTT Program Director approves excused absences, students may make-up their hours in the fifth week. The fifth week is provided specifically for the purpose of making up hours missed due to a medical illness or family emergency. It is not for vacations, time off or other non-emergency activities. The LabCorp staff cannot approve these make ups. All 160 hours must be completed for each practicum. Students who fail to complete all 160 hours within the scheduled practicum dates will receive a grade of F for the course.

ADA Requests

The Americans with Disabilities Act and comparable state and local laws require reasonable accommodations for disabilities. Accommodations in the laboratory may take various forms, including workplace adjustments or modifications, which range from making the physical work environment accessible, providing a flexible schedule or providing assistive equipment (examples: TTY machine for hearing impairments or a computer that enlarges print for vision impairments). Students with disabilities are encouraged to request accommodation when needed. If you desire an accommodation, you should notify your Supervisor and the College in writing. Each request will be decided on a case by case basis.

Loitering

Students are not permitted to begin a regularly scheduled shift prior to five minutes of their regular start time without a supervisor's prior approval. Additionally, students are not allowed to remain on company premises after a regular shift without prior approval. Loitering will not be tolerated and could be subject to progressive discipline.

Rules and Regulations

As a program of San Diego Miramar College students are required to adhere to all San Diego Community College District rules and regulations, which can be found at this website: http://sdccd.edu/index.shtml

Student Responsibilities

Each student is responsible for reviewing the course syllabus and individual learning modules regarding weekly class assignments and schedules for examinations. Each student is expected to have read the required assignment(s) before class, to contribute to classroom discussions and to demonstrate the application of learned principles. If absent from class, it is the student's responsibility to check with each instructor regarding make-up of missed work (see Attendance Policy). The classroom, clinical settings and the lab are the places where most of the students' formal instruction takes place. It is important that the environment in each of these areas is conducive to learning. It is the faculty's belief that the rights of all students, staff and clients must be preserved. Based on these beliefs, the faculty reserves the right to ask a student who is disruptive and displaying an attitude not consistent with professional standards, or is otherwise impaired, to immediately leave the classroom, clinical setting or nursing lab. Each student is responsible for completing all course evaluations. Each student is responsible for speaking with the instructor or MLTT Program Director, if he/she continues to have difficulty with schoolwork or exams. Appropriate remediation strategies or campus referrals will be instituted. Please note: According to college policy, there is to be no consumption of food or drink in the classrooms or labs. An individual who is not currently enrolled in a course may not be in the classroom or lab during scheduled class time, including family members and/or friends.

Student's Bill of Responsibilities

- I have the responsibility to come to every class prepared to listen, to participate and to learn. I have the responsibility to read the assigned textbooks carefully, noting important ideas and rephrasing concepts in my own words.
- I have the responsibility to consult with other students, the instructor, a tutor and other resources whenever I need the extra help. I have the responsibility to understand that the instructor is not principally responsible for making me understand, but that it is my job to study and to learn. I have the responsibility of keeping an open mind and trying to comprehend what the instructor is trying to get across.
- I have the responsibility to do assigned homework with proper attention and thought. I have the responsibility to view my instructor as a partner in my education, not someone who is intent on causing me pain and frustration.
- I have the responsibility to understand that I am not the only student in my class and that if I fall behind in class and all of my questions are not appropriately asked in the classroom setting, that I have the responsibility of going to my instructor's office for help.
- I have the responsibility to act as a competent adult. I have the responsibility of trying to integrate the present nursing content into all aspects of my professional life.
- I have the responsibility to be polite and honest with my instructor.
- I have the responsibility to accept that my work will be evaluated in terms of what skills any student in the course is expected to master.

The MLTT Program is a demanding commitment of time and energy. If it is absolutely necessary for the student to work during the program, the student is expected to arrange his/her working schedule so that no interference will occur with meeting his/her responsibilities with any facet of the nursing program. It is recommended that work hours not be scheduled immediately prior to attendance in the clinical area. The clinical experience will begin and end at times specified in the class syllabus. Students must be on time for all practica. Students are required to give the MLTT Program Director and Clinical Affiliate coordinator advance notice when they are going to be late or are unable to attend for any reason. This should be done as soon as possible.
Compliance with HIPAA confidentiality is mandatory. Failure to comply will result in immediate program dismissal.

Policy for Maintaining Standards for MLT Program Continuation

Introduction

It is the goal and the mission of the San Diego Miramar College Medical Laboratory Technician Program to develop students who demonstrate the program academic and practical expectations as medical laboratory professionals. In order to meet the challenges of modern healthcare, students need to actively participate in the MLT career pathway. The Medical Laboratory Technician program at Miramar College requires students to meet these challenges through a strong academic adherence to the materials presented in the didactic classes and an active participation in the directed clinical practicums.

Policy: Standards for Continuation

It is the responsibility of the MLT Program to prepare students to be successful in the clinical laboratory profession. It is the student's responsibility to maintain the program standards of continuation.

The successful MLT student is expected to exhibit the following standards of continuation:

- Exhibits appropriate attitudes and interpersonal relationships.
- Works as a team player and exhibits such qualities as the acceptance of responsibility for actions taken, empathy, inquisitiveness, and tolerance required for the profession.
- Demonstrates professional and ethical conduct.
- Demonstrate safe and competent performance of skills as evidenced in class work, laboratory practice and directed clinical work.
- Communicates effectively, verbally and in writing with instructors, peers, clinical staff, patients and others (including expressive and receptive language that is mutually comprehensible).
- Possesses the physical, mental, and emotional health appropriate to perform the duties related to the Program and profession.

- Uses good judgment and exhibits the ability to make sound decisions.
- Follows through on written and verbal instructions.
- Maintains professional appearance and grooming.
- Meets attendance requirements as outlined in the attendance section of the program and course syllabus.
- Maintains a "C" or better in each program course. Any student who earns a "D" or less or who withdraws will be disqualified from his/her Program studies.
- Participates in program courses without interruption in the publicized sequence of courses. A student who does not complete coursework as outlined in the Program Information packets is considered to have withdrawn from the Program.

MLT Program Policy for Professionalism

In addition, the MLT program has instituted the following policies and guidelines:
Medical Laboratory Technician Training Program Policy for Professionalism and Academic Honesty.

Professionalism

Students enrolled in the Miramar Medical Laboratory Technician Program are expected to maintain a high standard of professionalism at all times as described in the Miramar Policy Standards for Program Continuation. Classroom courtesies are to be in evidence such as: respect for the instructor and fellow classmates, the avoidance of student-to-student conversations during lecture, and the avoidance of disturbing activities. Students may be excluded from class or the college whenever the student exhibits behavior which interferes with the educational process. An Instructor may remove a student from class for disruptive behavior. Refer to Policy 3100 for additional information regarding Student Rights & Responsibilities and the Administrative Due Process as outlined in the college catalog and student handbook.

Healthcare is a conservative industry. In alignment with industry standards and clinical site policies, to maintain professionalism and to help assure safety, the following guidelines will be enforced in laboratory classes and directed clinical practice courses:

1. Tattoos must be covered so they are not visible.
2. Body piercings must be limited to one per earlobe and earrings must be limited to one small stud per earlobe (no bigger than the diameter of a pencil eraser)

3. In the phlebotomy training program where students are working with patients, artificial nails are not allowed and nails must not extend beyond the finger pad.

4. In the classroom and at the clinical affiliate, clothing will conform to any Miramar dress code policies as well as the affiliate work place dress code policies.

5. In the classroom laboratory and in the affiliate training site students will be expected to wear the appropriate clothing for safety and the handling biohazardous materials, this includes laboratory coats, gloves, eye protection and closed toed shoes that enclose the entire foot

Academic Honesty

Honesty and integrity are integral components of the academic process, and are key factors in the success of an MLT professional. Procedure 3100.3 describes the Academic and Administrative Sanctions for students who are found cheating. In addition to policies outlined in the college catalog, the following criteria apply.

Cheating includes, but is not limited to:

• plagiarizing

• copying off someone else's examination/test

• cueing of a classmate during examinations (including laboratory testing)

• obtaining copies of an examination without the Instructor's permission

• copying assignments from a classmate

• having electronic devices (including cell phones) out during testing or exam review (unless specifically allowed by Instructor)

• knowingly and intentionally assisting another student in any of the above

Attendance

In accordance with the established policies of the San Diego Community College District and as outlined in the college catalog, course schedules and course syllabus, the attendance policy of the MLT program is as follows:

- Disqualification from a course and a student's program will automatically apply to those students failing to meet the attendance policy as described in the College Catalog; Course Schedules; Student Handbook or Course Syllabus.

- Every student is expected to attend each meeting of all program classes, arrive on time, and return from breaks on time and stay for the full class period. "On time" is defined as seated in the classroom or present in lab ready for the class activity. Tardiness and leaving early may be treated in the same manner as absences.

NOTE: Refer to the course syllabus for clarification of each Instructor's treatment of tardies and absences to avoid penalty.

- College policy dictates that students MAY be administratively dropped from class whenever they:

    1. fail to attend the first class meeting
    2. fail to pay all mandatory fees in accordance with the fee payment schedule
    3. accumulate absences that exceed the allowed absences as outlined in the course syllabus
    4. process an add code issued to another

Students who are absent or tardy, with or without pre-approval, are responsible for obtaining any missed information on their own. When possible, students absent with pre-approval will be given appropriate assignments by the Instructor prior to the missed class. Instructors are available to provide assistance with unclear information *after* students review missed information.

Program Disqualification

Students are disqualified and dropped from their Allied Health Program when an unsatisfactory final grade (less than a "C") in any Program course is received.

Disqualification also may apply to those students who:

- fail to meet the Standards for Continuation
- fail to meet the Standards for Professionalism and Academic Honesty
- fail to meet the program Attendance requirements
- fail to clear any Incomplete Grade prior to the next semester
- elect to drop or withdraw from a Program core course
- fail to continue in the Program without interruption in the publicized sequence of courses

Probation may be omitted if the student's behavior warrants program dismissal.

Students who fail to meet either of the attendance and academic standards for continuation of the San Diego Miramar College Medical Laboratory Technology Program will be assessed on a periodic basis in order to determine their fitness to remain in the program. If based on a review of their attendance as defined by the program attendance policy or their ability to maintain successful academic scores, any member of the MLT faculty may recommend that the student be evaluated by the entire MLT faculty in concert with the Department Chair and with the recommendation of the College Math and Science Dean, the student may be dropped from the program.

Students who have exceeded the attendance policy or have achieved a failing grade in any didactic course or directed practicum may petition to be given one opportunity to successfully repeat the entire failed course or practicum. If students are allowed to repeat the failed course, students will be informed that their future course work will be monitored for academic success. If the student repeats the unsuccessful behavior then it will be the decision of the MLT faculty and the Miramar Department Academic Administrators to decide if the student will be dropped from the program.

Conflict Resolution:

Whenever a student feels that he or she has grounds to challenge an assigned grade, the student shall follow the guidelines outlining Conflict Resolution in the San Diego Miramar College Catalog.

Certificate of Achievement

To obtain the Certificate of Achievement:

Note: The Certificate of Achievement is a graduating award, but does not require that the student get a degree as well. There is no requirement to pass an external exam to receive the certificate or degree. The process is much like a petition for graduation. Here are the steps to obtain the certificate:

1) The student will need to see a counselor to make sure that a computer- generated education plan is on file for them.
2) If they have attended any other colleges/university, they will need to submit official transcripts for them. Sub-note: If the student is only requesting the Certificate of Achievement, and not the degree, they can fill out the General Student Petition with a counselor requesting that their transcripts be waived.
3) Fill out a Petition for Graduation once the two above criteria are met.
4) If the student needs documentation showing that the program is completed, they may contact the Evaluations Office (contact information below) once they have received their official Graduation Evaluation.

References:

San Diego Miramar College Catalog
San Diego Miramar College MLT Program Attendance policy
San Diego Mesa College Allied Health Department Policy Manual

Clinical Affiliate

LabCorp of America
13112 Evening Creek Drive
San Diego, CA 92128-4108
(858) 668-3700

The clinical setting, whether it be the hospital or a community agency, is considered an extended campus and all college policies apply. Students will not be used to substitute for regular employees as part of their training.

Phlebotomy Affiliate

U.S. Colleges
San Diego County Campus
2650 Camino Del Rio N.
Ste 100
San Diego, CA 92108
(619) 858-3480

US Colleges offers a discount to Miramar College students (with ID). Please call US Colleges directly for more information.

Contact Information

Evaluations Office
Miramar College, K-207
10440 Black Mountain Road
San Diego, CA 92126
(619) 388-7371

If you have any further questions regarding the program, please do not hesitate to contact a member of the faculty, Dr. Ana Dowey at adowey@sdccd.edu or Meg Kiperts at mkiperts@sdccd.edu

Revised On	Approved By
July 31, 2018	Ana Dowey, CLS, (ASCP), Ed D., Program Director
January 4, 2017	Ana Dowey, CLS, (ASCP), Ed D., Program Director
August 4, 2015	Sandra Slivka, Ph.D., Program Coordinator
January 15, 2015	Sandra Slivka, Ph.D., Program Coordinator
August 7, 2014	Sandra Slivka, Ph.D., Program Coordinator
January 8, 2014	Sandra Slivka, Ph.D., Program Coordinator
August 13, 2013	Sandra Slivka Ph. D., Program Coordinator
June 20, 2013	Sandra Slivka Ph. D., Program Coordinator
October 10, 2012	Sandra Slivka Ph. D., Program Coordinator
November 10, 2011	Les Revier, BS, MBA, CLS/C, Program Director
July 11, 2011	Les Revier, BS, MBA, CLS/C, Program Director
April 17, 2011	Les Revier, BS, MBA, CLS/C, Program Director
March 30, 2011	Les Revier, BS, MBA, CLS/C, Program Director
January. 7, 2011	Sandra Slivka Ph.D., Program Coordinator
August 17, 2010	Les Revier, BS, MBA,CLS/C, Program Director

APPENDIX

Approved California Phlebotomy Training Schools

(San Diego County)

(North)

MiraCosta College (Harper Rand Group)
Technology Career Institute
2075 Las Palmas Drive
Carlsbad, CA 92011
760-795-6820
Approximate Cost $ 2750
lkurokawa@miracosta.edu or www.miracosta.edu

Kaplan College, Vista, North Campus
2022 University Drive
Vista, CA 92083
760-630-1555
Approximate Cost $ 3200
bbunyi@kaplan.edu or www.kaplan.edu

Vista Adult School, Sunset Campus
510 Sunset Drive
Vista, CA 92081
760-758-7122 X3507
tcrisost@vusd.k12.ca.us

(South)

Universal Schools & Colleges of Health and Human Services (US Colleges)
2650 Camino Del Rio N,
Suite 100
San Diego, CA 92108
(619) 858-3480
Approximate Cost $ 2700
*** may provide discount to Miramar College Students***
Uscmed@uscmed.com or www.uscmed.com

Mesa College
7250 Mesa College Drive
San Diego, CA 92111
619-388-2267
http://www.sdmesa.edu/academics/schools-departments/allied-health/

EMSTA College
11489 Woodside Ave
Santee, CA 92071
619-593-6782
www.emstacollege.com
Approximate Cost $ 2499

Family Health Services
3500 5th Ave. # 203
San Diego, CA 92103
619-955-1007
phlebservices@sbcglobal.net OR www.familyhealth-services.com
Approximate Cost $ 2500

Grossmont Health Occupations
9368 Oakbourne Rd.
Santee, CA 92071
619-596-3690
www.sdcoe.net/rop

Kaplan College San Diego
9055 Balboa Ave.
San Diego, CA 92123
858-279-4500
www.kaplan.edu
Approximate Cost $ 3271.50

Newbridge College
878 Jackman Street
El Cajon, CA 92020
619-593-5111
www.newbridgecollege.edu

Phlebotomy Training Specialists
22 W 35th St.
Suite #104A
National City, CA 91950
(888) 517-8161
www.phlebotomyusa.com

Approximate Cost: $1735.00

SAN DIEGO MIRAMAR COLLEGE | Medical Laboratory Technology Training Program

2017 Application Guide
San Diego Miramar College

Job description

According to the American Society for Clinical Pathology,

> *a medical laboratory technician (MLT) performs routine tests in all areas of the clinical laboratory. A medical laboratory technician searches for basic clues to the absence, presence, extent, and causes of diseases. This skilled individual is responsible for performing laboratory tests efficiently and accurately for high-quality patient care.*

Medical lab technicians must be prepared to work graveyard shifts. For example such shifts include working 9:00PM until 5:00AM or working 11:00 PM to 7:30AM.

Program Description

The Medical Laboratory Technology Training program prepares students for employment in clinical laboratories, industry, and biotechnology as a Medical Laboratory Technician, Laboratory Assistant and or Research Technician/Associate. The required curriculum integrates basic concepts, technical procedures, and laboratory exercises prior to the required practical experience (practicum classes). Practicum classes are held at an affiliate site where students receive actual workplace experience in the job duties of the Medical Laboratory Technician. The entire program is designed for students to master the competencies, skills, and knowledge required in this profession.

This curriculum prepares individuals to perform clinical laboratory procedures in chemistry, urinalysis, hematology, microbiology, and immunology. These procedures may be used in the maintenance of health and diagnosis/treatment of disease. Coursework emphasizes mathematical and scientific concepts related to specimen collection, laboratory testing and procedures, quality assurance and reporting/recording and interpreting findings involving tissues, blood, and body fluids. The program recognizes the importance of professional standards and ethical obligations critical to health care professions. Development of professional competence, personal growth and effective patient care are integrated into each part of the curriculum.

Graduates of the Medical Laboratory Technician Program may be eligible to take examinations given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists (ASCP) or the American Association of Bioanalysts (AAB) to obtain a California License through Laboratory Field Services Personnel Licensing of the California Department of Public Health. As of 2014, the cost of applying to Laboratory Field Services is $230. To take the

ASCP exam is an additional $200. Employment opportunities for both licensed and unlicensed MLTT graduates include laboratories in hospitals, medical offices, industry laboratories and research facilities.

Classes consist of three lecture/lab courses and four practica courses. Lecture classes and phlebotomy must be completed before a student can begin practica. Class days and time will vary. Currently, lecture classes occur during the day Monday through Friday. Practica classes are 40 hours a week, often graveyard shifts, but vary depending on the schedule of our partner lab. It takes approximately 18-24 months to complete the entire program. For example a typical student starting in the fall or spring would have one of the following schedules:

FALL START	
Semester	Course
Fall	MLTT 201 MLTT 202
Spring	MLTT 203
	MLTT 204
Summer	Phlebotomy (not at Miramar)
Fall	2 practica Classes
Spring	2 Practica Classes

SPRING START	
Semester	Course
Spring	MLTT 203
	MLTT 204
Summer	Phlebotomy (not at Miramar)
Fall	MLTT 201 MLTT 202
Spring	2 Practica Classes
Fall	2 Practica Classes

SAN DIEGO MIRAMAR COLLEGE | Medical Laboratory Technology Training Program

Application Process

Submit your application and all supporting documents to The Dean's Office of Mathematics, Biological, Exercise and Physical Sciences (M-202) by June the 30th for admission in Fall and by October 1st for selection in Spring. Students must resubmit an application for each semester they wish to be considered for the program.

It is the responsibility of the student to assure their application is complete. It is not the responsibility of the college or program to contact applicants regarding the complete or incomplete status of program application materials submitted. Prospective students need to understand the information given and ask questions of the appropriate person in the appropriate timeframe if they need further clarification.

Completion of all designated prerequisites does not guarantee selection to the Medical Laboratory Technician Training program. Applications are reviewed each semester. Applications will be put into a pool from which a computerized, random selection process will select those to start that semester.

Acceptance notices for the Medical Laboratory Technician Training Program will be sent out via e-mail by July 15th and October 15th of each year to the e-mail address listed on the application (regardless of any e-mail addresses used by the student to communicate to the program; printing your e-mail address carefully on the application is very important). The deadline for the return of the acceptance verification email is on or near June 30th for Fall and in or near October 30th for Spring. Applicants must confirm acceptance in writing or e-mail (as directed) by the stipulated date to maintain the admission status (postmarks are not considered). Any candidate wishing to withdraw or cancel their application must provide immediate written communication to the MLTT project Assistant in the Dean's Office for Mathematics, Biological, Exercise and Physical Sciences. All applicants are responsible for maintaining their current and accurate contact information (address, telephone and e-mail).

Applicants are responsible for understanding the application and selection procedures and for obtaining timely clarification on any matter related to their application, selection, and eligibility status.

SAN DIEGO MIRAMAR COLLEGE | Medical Laboratory Technology Training Program

Application Checklist

1. ☐ **Application for selection (2 pages) completed.**

2. ☐ **Unofficial Transcripts attached.**

Note: Once selected, you must also have official transcripts on file with the district.
MAIL TO:

San Diego Community College District
Transcripts Department
3375 Camino Del Rio South, Suite 100
San Diego, CA 92108-3883

All prerequisite courses must have been successfully completed no more than **seven years before program start date.**

3. ☐ **Phlebotomy License Attached (if completed)**

Please submit application packet to:

Dean of Math and Sciences
C/O MLTT Program
10440 Black Mountain Road, San Diego, CA 92126

SAN DIEGO MIRAMAR COLLEGE | Medical Laboratory Technology Training Program

Application to Clear Prerequisites for Lottery Selection to Medical Laboratory Technician Training Program

NAME (PRINT)_____

ADDRESS:_____

_____

PHONE: Home _____ Cell _____

E:MAIL:_____

Student ID #_____

☐ **I understand that I need to file this application with unofficial transcripts attached to check for recency of prerequisites.**

☐ **I understand that if I am not chosen for enrollment in the coming semester I must re-submit each semester (by July 1 for fall, by October 1 for spring).**

☐ **I understand that enrollment in the MLTT classes is on a space available basis by computer assisted lottery.**

☐ **I understand that I will need either an Associate's Degree or Bachelor's Degree and proof of CPT-1 Phlebotomy License in addition to program completion in order to sit for the State Licensure Exam.**

☐ **I have taken phlebotomy (not required prior to starting program)**

Prerequisite Checklist

Course at Miramar	Where	Year	Equivalent course#
Bio 107 or equiv			
Chem 100 & 100 L or equiv.			
Chem 130 and 130L or equiv.			
Bio 230 or equivalent			
Bio 235 or equivalent			

TECHNICAL STANDARDS (Essential Functions) FOR MEDICAL LABORATORY TECHNOLOGY

MLTs must be physically and mentally capable of performing the clinical duties of their job. If a "No" response is given to one of the tasks, reasonable accommodation will be considered and utilized as appropriate to maintain program standards. While the program may be able to accommodate certain physical limitations, the student should be aware that potential employers may not be able to make similar accommodations.

DIRECTIONS: Please check the appropriate box on the right, sign, date, and return with your application.
Note: Please read each item carefully and answer the below questions accurately and honestly. Any answer of "no" will be addressed with the student to determine reasonable accommodation; however, fraudulent answers will be considered as a violation of the San Diego Miramar College "Honest Academic Conduct" Code Policy 3100.

A. ARE YOU ABLE TO:	YES	NO
1. Stand for 60+ minutes (up to 4 hours) on a tiled or carpeted surface?		
2. Sit for 50 minutes on a chair at a table or desk?		
3. Walk 600 feet one way on a tiled or carpeted surface? Turn to either direction on a tiled or carpeted surface? Walk backwards for up to 20 feet on a tiled or carpeted surface?		
4. Lift and carry various equipment of up to 30 lbs with both hands?		
5. Lift equipment of approximately 10 lbs to shoulder level and then carry same up to 30 feet?		
6. Maintain your standing balance in awkward positions (such as when you are handling equipment in sterile conditions)?		
7. Bend, stoop, or crouch to reach a low object?		
8. Rotate your trunk (spine) from side to side?		
9. Rotate your forearms to turn knobs and levers?		
10. Reach overhead, forward, and side to side and are able to push overhead equipment in the same manner?		
11. Manipulate small size objects such as small dials and switches, needles and syringes, individual keys on a keyboard, pipettes, etc.?		
12. Read very small print on reagent bottles?		
13. SEE: all spectrum of colors, read printed information; read small control panels; observe patient skin and coloration before, during, and after treatment; read patient identification and medical records on paper and computer screens; observe that the work area is free of obstacles,		
14. HEAR: questions/comments face-to-face and without being face-to-face; fain, emergency call bells, equipment timers, etc.?		
15. SPEAK: give instructions to coworkers/peers in everyday work and in emergency situations, etc.?		
16. TACTILE: feel hot and cold sensations, feel liquid that may spill or touch any part of your body, feel pressure such as to avoid accidentally touching or bumping a sterile field with any part of your body?		

Name: _____ **Date:** _____

Signature: _____

LabCorp Practica Schedule

Below are the expected Practicum Schedules at LabCorp, Inc. You must be available during the hours shown for four consecutive weeks Monday through Friday. The fifth week is for excused absences only. Schedules are subject to change. Also make note that you are required to attend a Safety Orientation at LabCorp on the **first day of your very first practicum class at 9:00 am**, regardless of your scheduled time.

51_Chem	CRN:	ADD CODE:		HOURS				
Week Starting	Week		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8-Sep	1	Cobas	10:00am-6:30pm	8:00pm-4:30am	8:00pm-4:30am	8:00pm-4:30am	8:00pm-4:30am	
15-Sep	2	E170		3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm
22-Sep	3	Integra	2:30am-11:00am	3:00pm-11:30pm	3:00pm-1130pm	3:00pm-11:30pm	3:00pm-11:30pm	
29-Sep	4	Manuals	8:00am-4:30pm	8:00am-4:30pm	7:00am-3:30pm	6:30a-3:00pm	12:00am-8:30am	
6-Oct	5	make ups only						

52 Hem	CRN:	ADD CODE:	HOURS					
Week Starting	Week		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8-Sep	1	hem.	9:00pm-5:30am	9:00pm-5:30am	9:00pm-5:30am	9:00pm-5:30am	5:00pm-1:30am	
15-Sep	2	coag	6:00pm-2:30am	6:00pm-2:30am	9:00pm-5:30am	9:00pm-5:30am	9:00pm-5:30am	
22-Sep	3	urine	9:00pm-5:30am	9:00pm-5:30am	9:00pm-5:30am	9:00pm-5:30am	9:00pm-5:30am	
29-Sep	4	Body Fl./Centaur		12:00am-8:30am	12am-8:30am	12:00am-8:30am	12:00am-8:30am	12:00am-8:30am
6-Oct		make ups only						

53 Imm.	CRN:	ADD CODE:	HOURS					
Week Starting	Week		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8-Sep	1	day ANA	6:00am-2:30pm	6:00am-2:30pm	6:00am-2:30pm	6:00am-2:30pm	6:00am-2:30pm	
15-Sep	2	day ELP	3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm	
22-Sep	3	day lab DSX		3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm	3:30am-12:00pm
29-Sep	4	Blood Bank	9:00pm-5:30am	9:00pm-5:30am	12:00am-8:30am	12:00am-8:30am	12:00am-8:30am	
6-Oct	make ups only							

54 Micro	CRN:	ADD CODE:	HOURS				
Week Starting	Week		Monday	Tuesday	Wednesday	Thursday	Friday
8-Sep	1	B	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm
15-Sep	2	C	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm
22-Sep	3	D	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm	7:00am-3:30pm
29-Sep	4	A	3:00pm-11:30pm	3:00pm-11:30pm	3:00pm-11:30pm	3:00pm-11:30pm	3:00pm-11:30pm
6-Oct		make ups only					

San Diego Miramar College

Medical Laboratory Technician Training Program

Leave Form

Name: _____ **CSID #:**_____

Date of leave: _____

Reason for leave: _____

_____

_____

Courses completed (check all that apply):

- ☐ **MLTT 201**
- ☐ **MLTT 202**
- ☐ **MLTT 203**
- ☐ **MLTT 204**
- ☐ **MLTT 51**
- ☐ **MLTT 52**
- ☐ **MLTT 53**
- ☐ **MLTT 54**

Anticipated date of return:_____

To continue the MLTT program, you must return within 5 years of leaving the program. You will not have to be entered into a lottery when you return. However you will be placed in the needed classes as space is available only if there is space after all continuing students have been accommodated.

Note: Dropping out of the program will cause you to fall to the bottom of the priority list for current students. The sooner you notify us of your return, the better your chances of obtaining a favorable spot will be.

Program Director signature:_____

Date: _____

Created: May 2014
Edited July 2014

ACCOUNTABILITY FORM

I hereby certify that I read each page of the Miramar MLTT Student Handbook, that I am fully familiar with the contents of this document and that I fully understand and agree to its terms and provisions. Any questions that I have about the MLTT Program and the contents of the Student Handbook have been fully explained to my satisfaction. Any changes or additions to this document will be communicated with me via electronic mail and will be posted on the MLTT website.

NAME _____

SIGNATURE _____

DATE _____