

American Society for Clinical Laboratory

EDUCATION SCIENTIFIC ASSEMBLY



CLINICAL LABORATORY EDUCATION

***DIRECTORY OF ONLINE
MLS PROGRAMS –
UNDERGRADUATE AND GRADUATE***

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Introduction

Currently the *Medical Laboratory Education Online Directory* lists online programs that fall under one of four categories:

- ✓ **Medical Laboratory Technician (MLT)**
- ✓ **Medical Laboratory Science (MLS)**
- ✓ **MLT to MLS articulation programs**
- ✓ **Graduate programs in Clinical Laboratory Science**

It is possible that this is not a “comprehensive” listing of online programs, therefore please contact the Education Scientific Assembly (ESA) chair to have your program added. This Online Directory will be amended as new information becomes available. Contact information for the ESA chair can be found at the following ASCLS web address <http://www.ascls.org/ascls-leadership/scientific-assemblies>.

To efficiently utilize this directory simply double click or “Ctrl+click” on the program listed in the table of contents.

Online MLS Undergraduate Programs

Allen College

Type of degree program: Medical Laboratory Science

Institution: College

Online delivery options: Blended delivery format (online delivery of coursework with on-site visits to campus every semester)

“On-campus” (face to face) time required for online courses:

Summer session – 12 hours of required student lab time

Fall semester – On-site on-campus lab days required as scheduled (usually twice a month); Service Learning project (hours vary according to type of project); 120 hours of rotation completed at rotation site

Spring semester – On-site on-campus lab days required as scheduled (usually twice a month); 120 hours of rotation completed at rotation site

Total Length of program: Full-time – 12 months

Contact person: Brenda C. Barnes
Director, Medical Laboratory Science Program &
Professor
Phone: 319-226-2082
Fax: 319-226-2508
Email: brenda.barnes@allencollege.edu

Mailing Address: Medical Laboratory Science Program
Allen College
1825 Logan Ave.
Waterloo, IA 50703

Program Web address: <http://www.allencollege.edu/medical-laboratoryscience-mls.aspx>

Enrollment Process:

The MLS program begins once each year in May. Applications will not be considered until all required materials are received. Review of complete applicant

files begins after each priority deadline. The review process requires six to eight weeks.

Priority Deadline

November 1

Admission requirements can be found here: <http://www.allencollege.edu/mls-admission-requirements.aspx>

The MLS application form is available on the Allen College website- https://cams.unitypoint.org/alo_application/login.asp. A \$50.00 non-refundable application fee is required. In addition to the application form, please submit the following documents:

- Reference form
- Essential Functions form
- Official high school transcripts (EAGER applicants only)
- Official transcripts from all colleges attended

International student admission requirements can be found here: <http://www.allencollege.edu/future-students-international-student-admission.aspx>.

Retraining or refresher course options: None at this time

Florida Gulf Coast University

Type of degree program: MLS

Institution: University

Online delivery options: All MLS didactic classes offered online

“On-campus” (face to face) time required for online courses: All student didactic courses are delivered completely online. Student’s clinical experiences are completed at a Florida Gulf Coast University clinical affiliates located in South Florida.

Total Length of program: BS degree seeking students can expect to complete the entire program in four years. Post- baccalaureate non-degree seeking students can expect to complete the certificate program in 4 semesters.

Contact person:

Julie Zemplinski, MSH, MS, MLS(ASCP)^{CM}
Program Director
Phone: 239-590-7453
Fax: 239-590-7460
Email: jzemplinski@fgcu.edu

Mailing Address:

Florida Gulf Coast University
Marieb College of Health & Human Services
Department of Health Sciences
Clinical Laboratory Science Program
10501 FGCU Blvd. South
Fort Myers, FL 33965-6565

Program Web address: <http://www2.fgcu.edu/mariebcollege/hs/>

Enrollment Process:

BS Program Admission Requirements

- Submit [FGCU Undergraduate Admission Application](#) and satisfy all applicable university admission requirements.
- A minimum pre-requisite grade point average of 3.00.
- Provide verification of TOEFL or IELTS scores that meet minimum university admission requirements.
- Submission of a completed [Clinical Laboratory Science supplemental](#)

[application.](#)

- Satisfy [Common Prerequisites](#)

Certificate Program Admissions Requirements

- Submission of a FGCU [Non-Degree Enrollment application \(postbaccalaureate\)](#) to the Office of Graduate Admissions.
- Submission of a completed [Clinical Laboratory Science supplemental application.](#)
- Graduation from a baccalaureate level program from an accredited college or university documented by official transcripts.
- Satisfaction of prerequisites.
- A minimum cumulative grade point average of 3.20

Retraining or refresher course options: Yes, courses can be taken for credit or no credit/audit.

George Washington University

Type of degree program: MLS baccalaureate degree and certificate programs are available

Institution: University - private

Online delivery options: Didactic courses are fully online. Practicum courses may be completed at approved sites.

Total Length of program: Varies based on number of credits taken per semester. Full time baccalaureate degree takes approximately 4 semesters to complete. A certificate program is available for those individuals who already possess a baccalaureate degree. Certificates may be completed in 3 semesters.

Contact person: Kelly Carr, M.Ed.
Assistant Director of Admissions and Enrollment Services for BSHS in MLS
Phone: (202) 994-3650
kmc@gwu.edu

Stephanie Serven, M.Ed.
Assistant Director of Admissions and Enrollment Services for Certificate and Graduate MLS Programs
sserven@gwu.edu
(202) 994-7732

Or send e-mail: studymls@gwu.edu

Mailing Address: School of Medicine and Health Sciences
Medical Laboratory Sciences Programs
2100 Pennsylvania Avenue, NW
Washington, DC 20037

Program Web address:
<http://smhs.gwu.edu/medical-laboratory-sciences/>

Enrollment Process: Apply online at <http://smhs.gwu.edu/medical-laboratory-sciences/programs>

Retraining or refresher course options: Online courses may be taken for retraining or as refresher course with permission. Interested individuals should contact the program for the admission process and non-degree course offerings.

Georgia Regents University

Type of degree program: Bachelor of Science in Clinical Laboratory Science

Institution: University

Online delivery options: All MLS classes offered online

“On-campus” (face to face) time required for online courses: All MLS classes offered online. Students do not have to come to Augusta campus for any classes. Laboratories will be at satellite campuses or Clinical Affiliates, and internships will be at the Clinical Affiliates. Please call for further clarification.

Total Length of program: 4 semesters

Contact person: Barbara Kraj, MS, MLS(ASCP)^{CM}, MB(ASCP)^{CM}
Associate Professor and Program Director
Phone: 706-721-3047
Email: bkrajl@gru.edu or clsprogram@gru.edu

Mailing Address: Clinical Laboratory Science
Georgia Regents University
EC-2430
987 St. Sebastian Way
Augusta, GA 30912

Program Web address: <http://www.gru.edu/alliedhealth/mlirs/cls/index.php>

Enrollment Process:

Complete core requirements, information on core requirements are found at http://catalog.gru.edu//preview_program.php?catoid=17&poid=1186&returno=2233

Apply on-line at <http://www.gru.edu/admissions/hs-programs/clinical-laboratory-science.php>

Retraining or refresher course options: None

Idaho State University

Type of degree program: MLS

Institution: University

Online delivery options: ALL classes offered online*

“On-campus” (face to face) time may be required for online courses:

BIOL 411 P Phlebotomy, Urinalysis and Waived Testing

BIOL 411 I Transfusion Medicine and Immunology II

BIOL 411 E Clinical Microbiology II

BIOL 411 K Molecular Lab Techniques

Either need the support of a clinical affiliate clinical laboratory or need to spend appropriate hours in the ISU MLS student lab to show proficiency.

Total Length of program: 12 months (intensive!)

Contact person: (Pocatello or Meridian)
Sonja Nehr-Kanet, MS, MLS(ASCP)^{CM}
Program Director/Clinical Associate Professor
Phone: 208-373-1716
Fax: 208-327-7430
Email: nehrsonj@isu.edu

Mailing Address: (Pocatello and Meridian Locations)
Idaho State University
Medical/Clinical Laboratory Science (Medical
Technology) Program
Idaho State University - Meridian Health Science
Center
1311 East Central Drive
Meridian, Idaho 83642

Telephone: 208-373-1716
Fax: 208 - 373-1795

Program Web address: www.isu.edu/cls

Enrollment Process: Applicants may apply online at the web address listed above.

Retraining or refresher course options: Yes. Students may apply as non-degree seeking and take up to 7 credits. Depending upon the situation courses may be taken with the permission of MLS faculty for credit or audit.

Marshall University

Type of degree program: BSMT (Post MLT degree)

Institution: Marshall University

Online delivery options: Blackboard course delivery—all BSMT 300 and 400 level CLS courses offered through online course delivery

“On-campus” (face to face) time required for online courses: Clinical Rotation Courses and Instrumentation courses require hands on laboratory experiences for which locations are negotiated with the program director upon acceptance into the program.

Total Length of program: 2 years (after completion of AAS MLT)

Contact person: Jennifer D. Perry, MS, BSMT (ASCP)
Chairperson and Program Director
Phone: 304-696-3188
Fax: 304-696-6739
Email: jennifer.perry@marshall.edu

Mailing Address: Marshall University
Clinical Laboratory Sciences Department
One John Marshall Drive
Huntington, WV 25755

Program Web address: www.marshall.edu/cohp (then click on Clinical Lab Science on the left for program information)

Enrollment Process: Admission to the program is required and students must possess an AAS in MLT degree from a NAACLS accredited program—application procedures may be found on our website

Retraining or refresher course options: NA

Northern Illinois University

Type of degree program: MLS

Institution: University

Online delivery options: General education and select MLS classes offered online.

"On-campus" (face to face) time required for online courses: Introduction to Medical Laboratory Sciences: blended format of online and face to face.

Total Length of program: 8 semesters for routine students, 3 semesters for articulating MLT students with AS

Contact person: Jeanne M. Isabel, MsEd, SH, MLS(ASCP)
MLS Program Coordinator
Phone: 815-753-6330
Fax:815-753-7653
Email: jisabel@niu.edu

Mailing Address: Medical Laboratory Sciences
Dusable 159
Northern Illinois University
DeKalb, IL 60115

Program Web address: <http://www.chhs.niu.edu/mls/>

Enrollment Process: Applications available on-line

Retraining or refresher course options: No

New York Methodist Hospital Center for Allied Health Education

Type of degree program: MLS

Institution: New York Methodist Hospital Center for Allied Health Education

Online delivery options: All MLS courses delivered online.

“On-campus” (face to face) time required for online courses: n/a

Total Length of program: 9-month didactic phase followed by 6 – 18 months of clinical rotations (15- 27 months).

Contact person: Lynn Jones, MT (ASCP)
Acting Program Director
Phone (Toll Free): 855.645.3500
Fax: 718.645.3533
Email: info@nymahe.org

Mailing Address: New York Methodist Hospital
Center for Allied Health Education
1401 Kings Highway, Floor 2
Brooklyn, NY 11229

Program Web Address:
http://www.nymahe.org/school_clinical_laboratory_distance.php

Enrollment Process:

- Complete the program application (including transcripts and reference letters) and mail it with a \$100.00 (non-refundable) application fee.
- Within two weeks of receipt of your application, a confirmation letter will be mailed to you.
- If applicant satisfies all eligibility requirements within four weeks of receipt of your completed application you will be scheduled for an interview with members of the Admissions Committee.
- The Admissions Committee will convene and evaluate your admission file, including but not limited to your supporting documentation, previous academic performance and the results of your interview.
- A final decision regarding your acceptance into the program may be expected within four weeks of your interview.
- Upon acceptance into the program, a \$500.00 (non-refundable) enrollment

fee must be paid to reserve a seat in the class.

Retraining or refresher course options: None

San Jose State University

Type of degree program: MLS

Institution: University

Online delivery options: All MLS/MLT classes offered online

Total Length of program: 52 weeks and three days

Contact person: Mara Williams
Director
Phone: 408-924-4851
Fax: 408-924-4840
Email: cls@science.sjsu.edu

Mailing Address: Clinical Laboratory Sciences Program
San Jose State University
1 Washington Sq.
San Jose, CA 95192-0100

Program Web address: www.sjsu.edu/cls

Enrollment Process: The application and directions are available on the website. Applicants must apply by July 1 for enrollment the following March and by December 1 for enrollment the following September. Applicants must be eligible for a California Clinical Laboratory Scientist Trainee License at least three months before they begin their course of study.

Retraining or refresher course options: No

Thomas University

Type of degree program: Medical Laboratory Science

Institution: College

Online delivery options: Traditional Track – Blended
2+2 B.S. in Medical Laboratory Science [MLT-to-MLS] – Online

“On-campus” (face to face) time required for online courses:

Traditional Track – Meet on-site every week during didactic level I courses–online for the level 2 courses, and clinical rotations are held on-site at a clinical affiliate, requiring student to travel to and from affiliate

2+2 MLS Option – fully online - clinical rotations are individualized for each student. Contact Program Director for more information.

Total Length of program: “On-campus” is approx. 24 months & 2+2 Online route is 18-24 months (part-time and full time options are avail)

Contact person: Jill Dennis, Ed.D, MLS(ASCP)C^M
Acting MLS Program Director, Associate Vice
President of Enrollment Management & Marketing,
MLS Associate Professor
Phone: 229-226-1621, Ext 1046
Fax: 229-584-2421
Email: jdennis@thomasu.edu

Mailing Address: Medical Laboratory Science Program
Thomas University
1501 Millpond Rd
Thomasville, GA 31792

Program Web address:

<http://www.thomasu.edu/Content/Default/103/4685/0/medical-laboratory-science/medical-laboratory-science.html>

Enrollment Process:

The application to the university is required as the first step. Applicants must choose a major when applying. All current MLT/CLT students should apply under the Route A option which requires a current A.A.S. in Medical or Clinical Lab Technology from a NAACLS accredited college. All non-A.A. degree students must

apply under the Route B option. Students should forward official transcripts from all colleges attended immediately following the application process. Once all documents are received, the file will be reviewed for acceptance criteria.

Once the application is received and accepted, students will be required to submit the following documents:

- Proctor form – 2+2 MLS students only
- Essential Functions form
- Official transcripts from all colleges attended
- Health physical, immunization records, TB Skin Test, Drug Screen and Background check.

Retraining or refresher course options: Contact Jill Dennis for specific inquiry.

University of Arkansas for Medical Sciences

Type of degree program: MLS

Institution: University

Online delivery options: All CLS/CLT classes offered online

“On-campus” (face to face) time required for online courses: At the end of the first fall and spring semesters, there is about a 2 week on campus lab requirement.

Total Length of program: Varies by track.
Traditional two plus two track: 2 years
MLT-to-MT track: 2-3years
Post baccalaureate second degree track: 12 months

Contact person: Karen K. Hunter, M.S., MT(ASCP)
Assistant Professor/Program Director
Phone: 501-686-5776
Fax: 501-526-6563
Email: kkhunter@uams.edu

Mailing Address: Department of Laboratory Sciences
Medical Technology Program
University of Arkansas for Medical Sciences
4301 W. Markham Street, #597
Little Rock, AR 72205-7199

Program Web address: <http://www.uams.edu/chrp/medtech/>

Enrollment Process: Complete necessary pre-professional prerequisites listed on website. Submit application form found on website.

Retraining or refresher course options: None

University of Cincinnati

Type of degree program: MLS

Institution: University

Online delivery options: General Education classes offered online; All MLS classes are offered online

“On-campus” (face to face) time required for online courses: Campus visits are not required.

Total Length of program: 7 Semesters + 1 Course

Contact person: Charity Accurso, PhD, MT(ASCP)
Interim Program Director, Medical Laboratory
Science Program
Phone: 513-558-7493
Fax: 513-558-7428
Email: Charity.Accurso@uc.edu

Mailing Address: Medical Laboratory Science Program
College of Allied Health Sciences
University of Cincinnati
3202 Eden Ave., 321 French East
Cincinnati, Ohio 45267-0394

Program Web address: <http://medlabscience.uc.edu/>

Enrollment Process: Applicants can complete an information request form at:
<http://medlabscience.uc.edu/>

Retraining or refresher course options: Offerings are in development.

University of Delaware

Type of degree program: MLS

Institution: University

Online delivery options: General education and select MLS classes offered online.

“On-campus” (face to face) time required for online courses: Need for “on campus” time varies depending on the nature of the course.

The University of Delaware offers a number of Online/Distance Learning Courses. The subject areas range from the sciences, to mathematics, to liberal arts, etc. These courses are available in different formats, e.g., web-based, CD-ROM, Web-enhanced videotape, videotape, etc.

In medical technology, Diagnostic Parasitology and Introduction to Molecular Diagnostics are lecture courses available through videotape and Web-enhanced videotape respectively.

Total Length of program: 18 months for medical technology program component; prior 2 years spent taking basic science and liberal arts courses.

Contact person: Anna P. Ciulla, MCC, MT(ASCP)SC, CC(NRCC), CLS(NCA)
Phone: 302-831-2849
Fax: 302-831-4180
Email: aciulla@udel.edu

Mailing Address: Department of Medical Laboratory Science
305 Willard Hall Education Building
University of Delaware
Newark, DE 19716-3720

Program Web address: <http://www.udel.edu/mls/>

Enrollment Process: Students need to contact the Division of Professional and Continuing Studies. E-mail continuing-ed@udel.edu Telephone: 302-831-1053 (UD Online Courses)

Retraining or refresher course options: The Diagnostic Parasitology and the

Introduction to Molecular Diagnostics courses can function as refresher courses. No other retraining/refresher courses are offered in medical technology subject areas.

University of Nebraska Medical Center

Type of degree program: MLS

Institution: University

Online delivery options: ALL MLS classes offered online.

“On-campus” (face to face) time required for online courses: Thirteen weeks during the summer (mid-May to mid-August) all students are required to be on-campus for student laboratory and access some course materials online. Students are assigned to be at their clinical site for clinical rotations during the Fall and Spring semesters and access course content online. Non-laboratory courses (e.g. management, capstone, etc.) do not require on-campus time.

Total Length of program: 7 Semesters

Contact person: Karen Honeycutt, M.Ed, MLS (ASCP)^{CM}, SM (ASCP)^{CM}
Program Director and Associate Professor
Phone: 402-559-9045
Fax: 402-559-9044
Email: khoneycu@unmc.edu

Mailing Address: University of Nebraska Medical Center
College of Allied Health Professions
Academic and Student Affairs
984035 Nebraska Medical Center
Omaha, NE 68198-4035

Program Web address: <http://www.unmc.edu/alliedhealth/education/cls/>

Enrollment Process: Student can apply on-line through the website.

Retraining or refresher course options: Yes, the MLS courses are available as continuing education credits for individuals interested in retraining or refreshing. Additionally, categorical certificate programs are offered for individuals who already have a baccalaureate degree.

University of New Mexico

Type of degree program: MLS

Institution: University

Online delivery options: Web assisted MLS classes offered online.

“On-campus” (face to face) time required for online courses: All of the rotation courses are at the clinical sites. The students are not required to come to the University Campus for any of these hours (19 credits).

Total Length of program: 3 on-campus semester (spring, summer, fall) plus 19 weeks of clinical rotations at laboratories around the state.

Contact person: Barbara Masten, PhD, MT(ASCP)
Director of Program
Phone: 505-272-5434
Fax: 505-272-8079
Email: bmasten@salud.unm.edu

Mailing Address: Medical Laboratory Sciences Program
MSC09 5250
1 University of New Mexico
Albuquerque, NM 87131-0001

Program Web address: <http://pathology.unm.edu/medical-laboratory-sciences/program/>

Enrollment Process:

1. Applications are on-line at the above website.
2. Applications are due on March and October 15.
 - a. March 15th for the summer entrance
 - b. October 15th for the January entrance
3. The application plus 3 letters of reference are due on the above dates.
4. An interview is then scheduled with qualified applicants by the end of the month.
5. Applicants are notified at least 1 month prior to admittance.

Retraining or refresher course options: None

University of North Dakota School of Medicine and Health Sciences

Type of degree program: Baccalaureate in Medical Laboratory Science

Institution: University

Online delivery options: Online delivery options are available both Fall and Spring semesters for the following courses:

| | |
|---------|----------------------------------|
| MLS 301 | Immunology |
| MLS 325 | Hematology |
| MLS 234 | Parasitology |
| MLS 336 | Laboratory Calculations |
| MLS 340 | Molecular Diagnostics |
| MLS 394 | Medical Microbiology |
| MLS 490 | Financial and Quality Management |

“On-campus” (face to face) time required for online courses:

Students must spend one year on campus to be accepted into the MLS final year curriculum. The final year curriculum includes 13 weeks in the summer semester and the following fall and spring semesters at a clinical affiliate. The U of ND program has over 70 clinical affiliates.

Total Length of program:

To earn a BS degree at the University of North Dakota, a total of 125 semester credits and successful completion of program requirements is necessary.

Contact person: Ruth Paur, PhD, MLS(ASCP)^{CM}
MLS Program Director
Phone: 701-777-2651
Fax: 701-777-2404
Email: ruth.paur@med.und.edu

Mailing Address: UND School of Medicine and Health Sciences
501 N. Columbia Rd. Stop 9037
Grand Forks, ND 58202

Program Web address: <http://www.med.und.edu/medical-laboratory-science/>

Enrollment Process: Contact Ruth Paur at the above address

University of North Dakota School of Medicine and Health Sciences

Type of degree program: Certificate in Medical Laboratory Science

Institution: University

Online delivery options: Online delivery options are available both Fall and Spring semesters for the following courses:

| | |
|---------|----------------------------------|
| MLS 301 | Immunology |
| MLS 325 | Hematology |
| MLS 234 | Parasitology |
| MLS 336 | Laboratory Calculations |
| MLS 340 | Molecular Diagnostics |
| MLS 394 | Medical Microbiology |
| MLS 490 | Financial and Quality Management |

“On-campus” (face to face) time required for online courses:

Students must have earned a BS or BA degree with specific pre-requisites completed. The final year curriculum includes 13 weeks in the summer semester and the following fall and spring semesters at a clinical affiliate. The U of ND program has over 70 clinical affiliates.

Total Length of program: The certificate program is 12 months.

Contact person: Ruth Paur, PhD MLS(ASCP)^{CM}
MLS Program Director
Phone: 701-777-2651
Fax: 701-777-2404
Email: ruth.paur@med.und.edu

Mailing Address: UND School of Medicine and Health Sciences
501 N. Columbia Rd. Stop 9037
Grand Forks, ND 58202

Program Web address: <http://www.med.und.edu/medical-laboratory-science/>

Enrollment Process: Contact Ruth Paur at the above address for specific information

University of Texas Health Science Center – San Antonio

Type of degree program: MLS

Institution: University

Online delivery options: Select MLS classes offered online (Level II). Advanced professional senior courses including: hematology, clinical chemistry, med microbiology, molecular diagnostics, immunohematology, management.

These courses are designed for CLTs/MLTs who have associate degrees and certification or those who have college coursework, work in a clinical laboratory and pass level I challenge exams offered by the Program. CLTs/MLTs with associate degrees and certification do not need to challenge level I courses to receive credit.

“On-campus” (face to face) time required for online courses: The molecular diagnostics course requires one weekend of class on campus. This time is used to conduct the laboratory procedures.

Total Length of program: Two years of prerequisite work and 2 years of professional course work (Level I, level II and practicums). CLTs/MLTs with associate degrees and certification are given credit for level I professional coursework and some practicum based on competency.

Contact person: Linda A. Smith, Ph.D., CLS(NCA)
Professor and Chair
Graduate Program Director
Phone: 210-567-8869
Fax: 210-567-8875
Email: lasmith@uthscsa.edu

Mailing Address: University of Texas Health Science Center at San Antonio
Department of Clinical Laboratory Sciences
7703 Floyd Curl Drive
San Antonio, TX 78229-3990

Program Web address: www.uthscsa.edu/shp/cls/index.asp

Enrollment Process: Students must apply and be accepted. They fill out an application that can be obtained on-line, send two references and submit transcripts from each school attended. The program has rolling admissions. That

means students are evaluated as completed applications are received.

Retraining or refresher course options: Yes, students can take for course credit or audit. Post-baccalaureate certificates (MLS and categorical) are available for CLT/MLT and other applicants who already have a Baccalaureate.

University of Texas Medical Branch

Type of degree program: MLS and Categorical Certificates

Institution: University

Online delivery options: ALL didactic MLS classes offered online for individuals who hold a baccalaureate degree. Must attend on-campus courses with laboratories.

“On-campus” (face to face) time required for online courses: If individual does not hold a MLT associate degree, must attend on-campus laboratories. (SEE MLT to MLS directory)

Total Length of program: 2 years

Contact person: Muneeza Esani, Ph.D., MPH, MT(ASCP)
Assistant Professor and Program Director
Phone: 409-772-9456
Fax: 409-772-9470
Email: muesani@utmb.edu

Mailing Address: Department of Clinical Laboratory Sciences
University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-1140

Program Web address: <http://shp.utmb.edu/cls/>

Enrollment Process: Student can apply on-line through the website.

Retraining or refresher course options: Yes, the MLS courses are available as continuing education credits for individuals interested in retraining or refreshing. Additionally, categorical certificate programs are offered for individuals who already have a baccalaureate degree.

Weber State University

Type of degree program: MLS

Institution: University

Online delivery options: General education and ALL MLS classes offered online.

“On-campus” (face to face) time required for online courses: None

Total Length of program: Two years for MLT and additional 2 years for MLS

Contact person: Scott H. Wright, MS, M(ASCP)^{CM}
Department Chair and Professor
Phone: 801-626-6716 or 801-626-6118
Fax: 801-626-7508
Email: swright@weber.edu

Janet Oja, MHA, MLS(ASCP)^{CM}
Program Director and Assistant Professor
Phone: 801-626-7284 or 801-626-6118
Fax: 801-626-7508
Email: janetoja@weber.edu

Julie Kakazu, MLS(ASCP)^{CM}
Online Program Coordinator and MLS Adjunct
Phone: 801-626-6120
Fax: 801-626-7508
Email: juliekakazu@weber.edu

Mailing Address: Weber State University
Clinical Laboratory Sciences Department
3905 University Circle
Ogden, Utah 84408-3905

Program Web address: <http://www.weber.edu/mls>

Enrollment Process: Students have to be employed by a clinical laboratory in order to enroll. In order to be eligible for the MLT going to MLS, students must be MLT(ASCP) certified.

Retraining or refresher course options: MLS 5101 Clinical Chemistry, MLS

5102 Hematology and Hemostasis, MLS 5103 Clinical Laboratory Microbiology I, MLS 5104 Clinical Laboratory Microbiology II, and MLS 5105 Clinical Immunohematology are offered as online refresher courses.

Wichita State University

Type of degree program: MLS

Institution: University

Online delivery options: Select MLS courses:
HP 203 Medical Terminology (2 credits)
HP 303 Medical Terminology (3 credits)
MLS 405 Immunology
MLS 311 Biochemistry for Clinical Scientist

“On-campus” (face to face) time required for online courses: none

Total Length of program: 17 months

Contact person: Diana Cochran-Black, Dr.PH, MLS (ASCP) SH
Chair and Associate Professor
Phone: 316-978-3146 or 316-978-5657
Fax: 316-978-3003
Email: diana.cochran@wichita.edu

Mailing Address: Department of Medical Laboratory Science
College of Health Professions
Wichita State University
1845 N. Fairmount, Box 43
Wichita, KS 67260-0043

Program Web address: <http://www.wichita.edu/thisis/home/?u=mls>

Enrollment Process:

1. Apply for admission to Wichita State University at <http://webs.wichita.edu/?u=ugrad&p=/apply>
Apply as a non-degree seeking guest if you wish to register for on-line courses only.
2. Receive a WSU identification number upon acceptance.
3. Log on to My WSU, <http://mywsu.wichita.edu/cp/home/loginf>, with your WSU identification number. Register for classes through “My Classes.” Pay tuition and fees through “My Finances.”
Out of state students who register for on-line courses as a non-degree seeking guests will pay in-state charges.

Retraining or refresher course options: Lecture classes may be audited for re-

training. Lab classes may be taken for re-training; however, students must be registered in lab classes and submit all compliance items.

Online MLS Graduate Programs

Georgia Regents University

Type of degree program: Master of Health Science in Clinical Laboratory Science

Institution: University

Online delivery options: All MLS classes offered online

“On-campus” (face to face) time required for online courses: All MLS classes offered online. Students do not have to come to Augusta campus for any classes. Laboratories will be at satellite campuses, or Clinical Affiliates and internships will be at the Clinical Affiliates. Please call for further clarification.

Total Length of program: 5 semesters

Contact person: Barbara Kraj, MS, MLS(ASCP)^{CM}, MB(ASCP)^{CM}
Professor and Program Director
Phone: 706-721-3047
Fax: 706-721-7631
Email: bkraj@gru.edu or clsprogram@gru.edu

Mailing Address: Clinical Laboratory Science
Georgia Regents University
EC-2430
987 St. Sebastian Way
Augusta, GA 30912

Program Web address: <http://www.gru.edu/alliedhealth/mlirs/cls/index.php>

Enrollment Process:

Complete core requirements, information on core requirements are found at http://catalog.gru.edu/preview_program.php?catoid=18&poid=1456

Apply on-line at <http://www.gru.edu/admissions/graduate/master-clinical-laboratory.php>

Retraining or refresher course options: No

George Washington University

Type of Degree Program: Numerous online, graduate degree programs are available:

- MSHS in Medical Laboratory Sciences
- MSHS in Molecular Diagnostic Sciences
- MSHS in Clinical Microbiology
- MSHS in Translational Microbiology
- MSHS in Clinical and Translational Microbiology
- MSHS in Immunohematology and Biotechnology

Institution: University - private

Online Delivery Options: Didactic courses are fully online.

“On-campus” (face to face) time required for online courses: Some graduate programs include a required practicum, which may be completed at approved sites.

Total Length of Program: Typical program of study takes 2 years, but may vary depending on the number of courses taken per semester.

Contact Information: Stephanie Serven, M.Ed.
Assistant Director of Admissions and Enrollment
Services for Certificate and Graduate MLS Programs
sserven@gwu.edu
(202) 994-7732
Or send e-mail to: studymls@gwu.edu

Mailing Address: School of Medicine and Health Sciences
Medical Laboratory Sciences Programs
2100 Pennsylvania Avenue, NW
Washington, DC 20037

Program Web Address:
<http://smhs.gwu.edu/medical-laboratory-sciences/>

Enrollment Process: Apply online at <http://smhs.gwu.edu/medical-laboratory-sciences/>

Retraining or refresher course options: Online graduate courses may be taken for retraining or as a refresher course with permission. Interested individuals should contact the program for the admission process and non-degree course offerings.

Idaho State University

Type of degree program: MLS Graduate Program

- Route 1: Professionals, who already possess credentials as Medical/Clinical Laboratory Scientists or Medical Technologists
- Route 2: Professional Entry level M.S. completing certification requirements while pursuing the M.S. degree. Completion of a B.S. or B.A. degree and at least 16 credits of chemistry to include Inorganic, Organic, and/or Biochemistry and/or Analytical Chemistry, 16 semester hours of Biology, one semester in Microbiology, one semester of Calculus, one semester of Physics. Candidates entering by route 2 will be required to take 6 credits of BIOL 411N which does not count toward the MS Degree.

Institution: University

Online delivery options: ALL MLS classes offered online (with permission)

“On-campus” (face to face) time required for online courses: Many graduate courses required are available on-line or by distant learning technology. Some travel to ISU campus may be required for the presentation of seminar and defense of thesis.

Total Length of program: 2 – 3 years (Variable)

Contact person: Sonja Nehr-Kanet MS, MLS
Program Director/Clinical Associate Professor
Phone: 208-373-1716
Fax: 208 - 373-1795
Email: nehrsonj@isu.edu

Mailing Address: (Program offered at two locations – Pocatello and Meridian, Idaho)

Idaho State University
Medical/Clinical Laboratory Science (Medical
Technology) Program
Idaho State University - Meridian Health Science
Center
1311 East Central Drive, Meridian, Idaho 83642

Program Web address: www.isu.edu/cls

Enrollment Process: Applicants may apply online at the web address

listed above. They also need to apply to ISU Graduate school.

<http://www.isu.edu/graduate/index.shtml>

Retraining or refresher course options: Yes. Students may apply as non-degree seeking and take up to 7 credits. Depending upon the situation courses may be taken with the permission of MLS faculty for credit or audit.

Michigan State University

Type of degree program: Master of Science (MS) in Clinical Laboratory Science, Master of Science in Biomedical Laboratory Operations, and Master of Arts (MA) in Biomedical Laboratory Science and various Certificate Programs

Institution: University

All three degrees can be completed as online programs. The MS in Clinical Laboratory Science can be Plan A (with thesis project when completed in the appropriate setting) or Plan B. The MS in Biomedical Laboratory Operations is a plan B option and requires completion of a science and management project. The MA in Biomedical Laboratory Science (non-thesis option) is a course based degree program.

Online delivery options: All courses required for the master's degree programs are taught online. Each student's program is individually designed by that student, the graduate advisor, graduate director and their graduate committee to meet the needs and interests of the student.

"On-campus" (face to face) time required for online courses: No campus time is required for the online classes listed; or for our master's degree programs.

Total Length of program: The pace at which the student progresses through the program is designed to fit the working professional's needs. It can be completed in as little as 2 years or as many as six years. Minimum credit requirements for our programs are 30 to 31 credits (based on the degree program). The graduate academic advisor can assist you with developing a course plan that best suits your timeline for degree completion.

Contact person: Michelle Russell MS, MLS (ASCP)^{CM}
Graduate Program Coordinator and Academic Advisor
Email: russmich@msu.edu
Phone: (517) 432-2559

Rachel Morris PhD, MLT (ASCP)^{CM}
Graduate Program Director
Email: rlmorris@msu.edu
Phone: (517) 432-2609

Mailing Address: Biomedical Laboratory Diagnostics Program
Michigan State University
North Kedzie Hall
354 Farm Lane, Room N322
East Lansing, MI 48823-1031

Program Web address: <https://bld.natsci.msu.edu/online-education/>.

Along the left hand side of this website, there are links to various aspects of our online programs, including our certificate programs.

Enrollment Process: There are two types of students that can take our graduate courses:

- Graduate Students- These are students that have applied to and have been accepted to one of our graduate degree programs. This is a formal application process. The admitted student progresses through the program and their course credits apply towards a conferred degree. See the following website for more information on the Application Process:

<https://bld.natsci.msu.edu/academics/graduate-programs/applying/>

- Lifelong Education Students: These students do not go through the same rigorous application process as the graduate students. All of our courses may be taken as a Lifelong student, either as part of a certificate program or as individual coursework. A Lifelong student may take as many individual courses as they desire. See the following website for information on the Lifelong student application: <https://bld.natsci.msu.edu/online-education/molecular-laboratorydiagnostics/registration/>

Note: Up to 9 credits of graduate course work taken as a Lifelong student can be applied toward one of our degree granting programs, upon formal acceptance to the program. Contact the Graduate Program Coordinator for details.

CERTIFICATE PROGRAMS:

Molecular Laboratory Diagnostics Program

BLD 830 – Concepts in Molecular Biology – 2 Credits

BLD 831 – Clinical Applications of Molecular Biology – 2 Credits

BLD 832 – Molecular Pathology Laboratory – 2 Credits*

Managing Biomedical Laboratory Operations

BLD 842 – Managing Biomedical Laboratory Operations – 2 Credits

BLD 844 – Topics in Biomedical Laboratory Operations – 1 Credit

BLD 846 – Decision Processes for Biomedical Laboratory Operations – 2 Credits

Immunodiagnosics and Clinical Flow Cytometry

BLD 850 – Concepts in Immunodiagnosics – 2 Credits

BLD 851 – Clinical Applications of Immunodiagnosics – 2 Credits

BLD 852 – Immunodiagnosics Laboratory – 2 Credits*

Advanced Flow Cytometry

BLD 853 - Advanced Flow Cytometry - 2 credits

BLD 854 - Advanced Flow Cytometry Laboratory - 2 credits*

Transfusion Service Management

BLD 835 – Hemostasis, Thrombosis and Effective Resource Management - 3 Credits

BLD 836 – Transfusion Complications: Detection, Monitoring, and Prevention - 2 Credits

BLD 837 – Transfusion Service Operations and Management – 1 Credit

BLD 838 - The Clinical Context of Blood Product Management - 1 credit

Clinical Mass Spectrometry

BLD 870 - Clinical Mass Spectrometry Theory - 2 credits

BLD 871 - Applied Clinical Mass Spectrometry - 2 credits

BLD 872 - Clinical Mass Spectrometry Laboratory - 2 credits*

*NOT AN ONLINE CLASS, CAMPUS ATTENDANCE NECESSARY (OR ARRANGED AS AN INDEPENDENT STUDY)

OTHER AVAILABLE ONLINE COURSES

BLD 805 - Communication in the Sciences - 2 credits

BLD 811 - Fundamentals of Scientific Research - 1 credit

BLD 861 - Emerging Infections, Emerging Technology - 2 credits

Course Series in Cell Biology

BLD 815 - Cell Biology in Health and Disease I - 2 credits

BLD 816 - Cell Biology in Health and Disease II - 2 credits

Rush University

Type of degree program: Masters of Science in Clinical Laboratory Management (Two-year Program)

Institution: University

Online delivery options: All didactic courses are offered online.

Total Length of program: 2 years; Part-time enrollment is available

Online courses offered:

Management Courses*

Year 1

CLM 590 Principles of Lab Management

CLM 591 Evidence-Based Research & Applied Statistics

CLM 592 Ethics

CLM 584 Health Care Finance

CLM 595 Method Comparison & Process Validation

CLM 593 Scientific & Technical Writing

CLM 596 Quality Systems & Regulatory Issues

CLM 597 Issues & Practices in Human Resource Management

CLM 598 Health Care Informatics

Year 2

CLM 594 Advanced Health Care Finance

CLM 586 Compliance & Regulatory Issues

CLM 587 Organizational Development

CLM 588 Legal Issues in Health Care

CLM 589 A, B, C Management Practicum I, II, III

CLM 599 A, B, C Management Project I, II, III

* Subject to Change

Contact persons: Denise Harmening, Ph.D., MT(ASCP)
Director, Online Master of Science in Clinical Laboratory Management.

Email: Denise_Harmening@rush.edu

Phone: 727-329-8333

Mailing Address: Rush University, 1021-AAC
600 South Paulina Street
Chicago, IL 60612

Program Web address: www.rushu.rush.edu/cls/

Address to download applications for the SBB/MS Program:

www.rushu.rush.edu/admiss/hlthadm.html

Enrollment Process: Students apply to the graduate SBB/Masters Program by submitting an **online** application to the Medical Laboratory Science department at: <https://ruapplying.learn.rush.edu/admissions/pages/welcome.aspx>

Minimum requirements include:

- Bachelor's degree from a regionally accredited university/college in medical laboratory, biological or other related science
- Minimum GPA of 3.0 out of 4.0 (Lower GPAs may be considered on an individual basis)
- Documentation of MLS(ASCP), MT(ASCP), CLS(NCA) or other Certification
- 2 years working experience in an accredited laboratory. One year laboratory experience in a blood bank laboratory for the SBB/CLM and SBB Certificate Program.

Can the online courses be used for "retraining" or as a "refresher" course? If yes, please explain and indicate if taken for credit or no credit/audit.

Yes. Individual courses may be taken for credit. Priority to register for courses given to enrolled students.

Rush University

Type of degree program: Accelerated Masters of Science in Clinical Laboratory Management with the Specialist in Blood Bank Certificate

First year-SBB courses. At the completion of the first year, the candidate will be eligible to take the Specialist in Blood Bank (SBB) Certification Exam. Second year-Management courses.

Institution: University

Online delivery options: All didactic courses are offered online. "Face to Face" time required for the Specialist in Blood Banking Clinical Practicum online course

Students with prior clinical experience may qualify to complete the SBB Clinical Practicum course through credit by proficiency based upon standardized departmental evaluation.

Total Length of program: 2 years; Part-time enrollment is available

1st year SBB graduate curriculum, 2nd year Masters in Clinical Laboratory Management.

Individuals who are certified SBBs through ASCP Board of Certification may earn credit by proficiency for professional experience through standardized departmental evaluation.

Online courses offered:

SBB Courses* (First Year)

SBB 580 Human Blood Group Systems

SBB 581 Principles & Methods of Antibody Identification

SBB 582 Blood Procurement & Blood Product Manufacturing

SBB 583 Blood Bank & Transfusion Service Operation

SBB 584 Clinical Immunohematology & Transfusion

SBB 585 Comprehensive Review

SBB 586 Clinical Practicum

SBB 587 Selected Topics and SBB Project

(Second Year- same as Year 1 of the Two-year Master's Program plus CLM 599 A,B,C Management Project I, II, III)

* Subject to Change

Contact persons: Laurie Gillard, MS, MT(ASCP)SBB

Director, Specialist in Blood Bank Program
Phone: 312-942-2402
E-mail: laurie_gillard@rush.edu

Denise Harmening, Ph.D., MT(ASCP)
Director, Online Master of Science in Clinical Laboratory
Management.
Email: Denise_Harmening@rush.edu
Phone: 727-329-8333

Mailing Address: Rush University, 1021-AAC
600 South Paulina Street
Chicago, IL 60612

Program Web address: www.rushu.rush.edu/cls/

Address to download applications for the SBB/MS Program:
www.rushu.rush.edu/admiss/hlthadm.html

Enrollment Process: Students apply to the graduate SBB/Masters Program by submitting an **online** application to the Medical Laboratory Science department at:
<https://ruapplying.learn.rush.edu/admissions/pages/welcome.aspx>

Minimum requirements include:

- Bachelor's degree from a regionally accredited university/college in medical laboratory, biological or other related science
- Minimum GPA of 3.0 out of 4.0 (Lower GPAs may be considered on an individual basis)
- Documentation of MLS(ASCP), MT(ASCP), CLS(NCA) or other Certification
- 2 years working experience in an accredited laboratory. One year laboratory experience in a blood bank laboratory for the SBB/CLM and SBB Certificate Program.

Can the online courses be used for "retraining" or as a "refresher" course? If yes, please explain and indicate if taken for credit or no credit/audit.

Yes. Individual courses may be taken for credit. Priority to register for courses given to enrolled students.

Rutgers – School of Health Professions

Type of degree program: Graduate Certificate in Clinical Laboratory Science

Institution: University

Online delivery options: All courses offered online.

“On-campus” (face to face) time required for online courses: No

Total Length of program: 12 credits

Contact person: Catherine Otto, Ph.D., MBA, MLS (ASCP) CM
Associate Professor & Program Director
Phone: 973-972-8826
Fax: 973-972-8527
Email: co247@shp.rutgers.edu
Mailing Address:
Rutgers - School of Health Professions
Clinical Laboratory and Medical Imaging Sciences
65 Bergen Street SSB Suite GB 20
Newark, NJ 07107

Program Web address: <http://shp.rutgers.edu/dept/CLS/GCLS/index.html>

Enrollment Process:

Non-matriculated enrollment in courses (up to 12 credits) at:

http://shp.rutgers.edu/prospective_students/admissions/admissions9_non_matric.html

Retraining or refresher course options: No.

Rutgers – School of Health Professions

Type of degree program: Masters of Science in Clinical Laboratory Science (MS-CLS)

Institution: University

Online delivery options: All courses offered online.

“On-campus” (face to face) time required for online courses: No

Total Length of program: 33 credits

Contact person: Catherine Otto, Ph.D., MBA, MLS (ASCP) CM
Associate Professor & Program Director
Phone: 973-972-8826
Fax: 973-972-8527
Email: co247@shp.rutgers.edu
Mailing Address:
Rutgers - School of Health Professions
Clinical Laboratory and Medical Imaging Sciences
65 Bergen Street SSB Suite GB 20
Newark, NJ 07107

Program Web address: <http://shp.rutgers.edu/dept/CLS/MSCLS/index.html>

Enrollment Process:

Matriculation application at:

http://shp.rutgers.edu/prospective_students/admissions/online_app.html

Non-matriculated enrollment in courses (up to 12 credits) at:

http://shp.rutgers.edu/prospective_students/admissions/admissions9_non_matric.html

Retraining or refresher course options: No

Rutgers – School of Health Professions

Type of degree program: Master of Science in Health Care Management (MSHM)

Institution: University

Online delivery options: All courses offered online.

“On-campus” (face to face) time required for online courses: No

Total Length of program: 30 credits

Contact person: Al Heuer, PhD
Program Director
Phone: 973-972-2418
Email: heueraj@shp.rutgers.edu
Mailing Address:
Rutgers School of Health Professions
65 Bergen Street SSB Rm. 353
Newark, NJ 07107

Program Web address: <http://shp.rutgers.edu/dept/IDS/mshh/program.html>

Enrollment Process:

Matriculation application at:

http://shp.rutgers.edu/prospective_students/admissions/online_app.html

Non-matriculated enrollment in courses (up to 12 credits) at:

http://shp.rutgers.edu/prospective_students/admissions/admissions9_non_matric.html

Retraining or refresher course options: None

Rutgers – School of Health Professions

Type of degree program: Doctorate in Clinical Laboratory Science-DCLS
(Advanced Practice Doctorate)

Institution: University

Online delivery options: All theoretical courses offered online

“On-campus” (face to face) time required for online courses:

- None for theoretical courses.
- Program requires one year full-time clinical residency

Total Length of program: Total credits: 80

Contact person: Nadine A. Fydryszewski, PhD, MLS (ASCP)^{CM}
DCLS Program Director, Professor and Vice-Chair
Phone: 973-972-5089
Fax: 973-972-8527
Email: fydryсна@shp.rutgers.edu

Mailing Address: Rutgers - School of Health Professions
Clinical Laboratory and Medical Imaging Science
65 Bergen Street SSB Suite GB 20
Newark, NJ 07107

Program Web address: <http://shp.rutgers.edu/dept/CLS/DCLS/index.html>

Enrollment Process: Matriculation application at:
http://shp.rutgers.edu/prospective_students/admissions/online_app.html

Retraining or refresher course options: No.

Texas Tech University Health Sciences Center

Type of degree program: Second Degree Post Baccalaureate in Medical Laboratory Science

Institution: University

Online delivery options:

All MLS courses are delivered online for individuals who have completed a four-year science degree from an accredited university.

“On-campus” (face to face) time required for online courses:

Six-day laboratory session is conducted on-site at the end of each of the first two semesters (fall and spring)

Total Length of program: 12-months

Contact person: Tammy Carter, PhD, MT(ASCP), MB(ASCP)^{CM}
Program Director
Phone: 806-743-4457
Email: tammy.carter@ttuhsc.edu

Mailing Address: TTUHSC School of Health Professions
3601 4th Street, Stop 6281
Lubbock, TX 79430-6281

Program Web address:

<https://www.ttuhsc.edu/health-professions/second-degree-postbac-clinical-laboratory-science/>

Enrollment Process:

<https://www.ttuhsc.edu/health-professions/second-degree-postbac-clinical-laboratory-science/admissions-requirements.aspx>

Retraining or refresher course options: None

Texas Tech University Health Sciences Center

Type of degree program: Post Baccalaureate Certificate Program in Clinical Laboratory Science

Institution: University

Online delivery options:

All CLS courses are delivered online for individuals who have completed a four-year science degree from an accredited university.

“On-campus” (face to face) time required for online courses:

Six-day laboratory session is conducted on-site at the end of each of the first two semesters (fall and spring)

Total Length of program: 12-months

Contact person: Tammy Carter, PhD, MT(ASCP), MB(ASCP)^{CM}
Program Director
Phone: 806-743-4457
Email: tammy.carter@ttuhsc.edu

Mailing Address: TTUHSC School of Health Professions
3601 4th Street, Stop 6281
Lubbock, TX 79430-6281

Program Web address:

<https://www.ttuhsc.edu/health-professions/second-degree-postbac-clinical-laboratory-science/>

Enrollment Process:

<https://www.ttuhsc.edu/health-professions/second-degree-postbac-clinical-laboratory-science/admissions-requirements.aspx>

Retraining or refresher course options: None

San Francisco State University

Type of degree program: Post-baccalaureate CLS/MLS

Certification program Institution: University

Online delivery options: Undergraduate courses offered online
All CLS courses are offered off-line

Total Length of program: 1 pre-clinical semester on campus; 10 months clinical internship at affiliated laboratory; fourteen months total

Contact person: Susan Kazarian MB,CLS(CA)
Director
Clinical Laboratory Science Internship
Program Phone: 415-338-2332
Fax: 415-338-7747
Email: kazarian@sfsu.edu

Mailing Address: San Francisco State
University
CLS Internship Program
1600 Holloway Avenue,
Science 202
San Francisco, CA 94132

Program Web Address: <http://www.cls.sfsu.edu>

Enrollment Process: Admission information, including mandatory pre-requisite courses and application procedure, may be found on the website. Applicants must demonstrate eligibility for California's Clinical Laboratory Scientist Trainee License
Deadline: July 1st for spring semester and November 1st for fall semester.

Retraining or refresher course options: none at this time

University of Massachusetts Lowell Continuing Studies and Corporate Education

Type of degree program: Graduate Certificate in Clinical Pathology

Institution: University

Online delivery options: All classes offered online.

Required:

30.550 Human Development and Pathophysiology

36.551 Advanced Pathophysiology

Electives - Choose 2:

32.604 Health Data Analysis

36.553 Advanced Clinical Biochemistry

36.580 Clinical Applications of Molecular Genetics

36.613 Infectious Disease

36.617 Medical Parasitology

36.559 Clinical Pharmacology

36.563 Nutritional Biochemistry

“On-campus” (face to face) time required for online courses: All of the above courses are offered online; however, if there is a proctored exam requirement, students who are enrolled in online courses and live within a 60 mile radius of UMass Lowell are required to come to campus to take proctored exams. Students who live beyond the 60 miles radius of UMass Lowell must identify a proctor and make appropriate arrangements with their instructors. For more information, visit <http://continuinged.uml.edu/online/clinicalpath.cfm>

Total Length of program: 4 courses

Contact person: Dr. Eugene Rogers
Phone: (978) 934-4478
Fax: (978) 934-3006
Email: Eugene_Rogers@uml.edu

Mailing Address: University of Massachusetts Lowell
Continuing Studies and Corporate Education
1 University Avenue
Lowell, MA 01854

Program Web address: <http://continuinged.uml.edu/online/clinicalpath.cfm>

Enrollment Process: To enroll in graduate-level courses, students must already possess an earned bachelor's degree. Students may register for one or two of these online courses as a non-certificate student, but the courses you take will not be counted towards a certificate until you have applied and have been formally accepted into the program.

Visit the Continuing Studies website to download a registration form at <http://continuinged.uml.edu> or call (800) 480-3190.

Visit the Graduate School website for a graduate certificate program application form at <http://www.uml.edu/grad> or call (978) 934-2380.

Retraining or refresher course options: Yes, anyone with a bachelor's degree may take these online courses. All of the courses are for graduate credit.

University of North Carolina at Chapel Hill

Type of degree program: Master's in Clinical Laboratory Science
Molecular Diagnostic Science Track

Institution: University

Online delivery options: Eligibility routes:

Route 1: This is the standard curriculum for the Master's in Clinical Laboratory Science – Molecular Diagnostic Science program (MDS). Students complete four semesters of coursework including a clinical rotation that lasts for one semester in the fall of the second year of the program.

Route 2: This curriculum option is available to applicants who meet all the eligibility requirements for the MDS program and

- Hold current ASCP – BOC (or equivalent) certification at the technologist level or higher (e.g. MLS, CG, SH) **OR** have 2 years full-time experience working in the U.S. or Canada in an accredited clinical laboratory within the last four years
AND

- Are currently working in a CLIA certified molecular diagnostic laboratory.

The curriculum plan is the same as the curriculum described in Route 1; however the requirement for the clinical rotation in a molecular laboratory may be satisfied by demonstrating competency in a specific set of molecular tests in molecular oncology, molecular genetics, and molecular infectious disease and by completing a Capstone project in the applicant's current work setting. For additional information on this eligibility route, visit the MDS website:

<http://www.med.unc.edu/ahs/clinical/students/mds-prospective/mds-curriculum>

Route 3: This curriculum option is available to applicants who meet all the eligibility requirements for the MDS program and

- Hold current ASCP – BOC (or equivalent) certification at the technologist level or higher (e.g. MLS, CG, SH) **OR** have 2 years full-time experience working in the U.S. or Canada in an accredited clinical laboratory within the last four years
AND

- Are currently working in a CLIA certified laboratory that performs molecular testing, but are currently employed in a different area of the clinical laboratory (e.g. microbiology, chemistry).

This curriculum option requires three years for completion because the students must learn molecular testing in their current work setting. The student is responsible for arranging the instructional time and obtaining the documentation of core competencies (See [Competency Checklist](#).)

For additional information on this eligibility route, visit the MDS website:

The requirement for the clinical rotation in a molecular laboratory may be satisfied by demonstrating competency in a specific set of molecular tests in molecular oncology, molecular genetics, and molecular infectious disease and by completing a Capstone project. Students will be required to gain and demonstrate laboratory skills with verification of molecular competencies. The instruction and competency verification can be acquired over three semesters (fall year 2, spring year 2, and fall year 3) while the individual continues to work in the clinical laboratory. The Capstone project must be completed when the student is enrolled in CLCS 743L. All required competencies must be documented by the end of the third fall semester in order to receive credit for CSLC 743L. An affiliation agreement must be established with the applicant's institution before the student is enrolled in the MDS program.

Five courses are entirely on-line, five courses have both an on-line and on-campus component and one course is a clinical rotation in a molecular diagnostic laboratory.

MDS Curriculum

| | Course # | Course Title | Credits | Format |
|-------------------|-----------------|--|----------------|---|
| Summer Session II | CLSC 610L | Clinical Laboratory Methods | 2 | Online instruction plus on-campus laboratory week just prior to fall semester. |
| Fall 1 | CLSC 710 | Principles of Molecular Diagnostics | 3 | Course is entirely on-line. |
| | CLSC 770 | Educational Methods and Applications | 3 | Course is entirely on-line. |
| | BIOS 600 | Principles of Statistical Inference | 3 | Course is entirely on-line. |
| | | | | |
| Spring 1 | CLSC720 | Molecular Diagnostic Science Applications | 3 | Course is entirely on-line. |
| | CLSC 720L | Molecular Diagnostic Science Applications Lab | 3 | Online instruction for entire semester. On-campus laboratory course during last week of semester. |
| | CLSC 735 | Method Evaluation | 3 | Course is entirely on-line. |
| | | | | |
| Fall 2 | CLSC 730 | Research Methods | 3 | Course is entirely on-line. |
| | CLSC 740L | Molecular Diagnostic Science Clinical Rotation | 7 | Clinical rotation in full service clinical molecular diagnostic |

| | | | | |
|----------|----------|-------------------------------------|----|--|
| | | | | laboratory. Rotations are Mon-Friday, 8 hours/day. |
| Spring 2 | CLSC 650 | Clinical Laboratory Administration. | 3 | Course is entirely on-line. |
| | CLSC 780 | Capstone Seminar | 3 | Online instruction for entire semester. On-campus presentation during last week of semester. |
| | | Total: | 36 | |

“On-campus” (face to face) time required for online courses: Two courses include a one week of on-campus laboratory sessions. Two courses include on-campus presentations at the culmination of the MDS program. The clinical rotation is a full time learning experience in a molecular diagnostic laboratory for one semester.

Total Length of program: The MDS program can be completed in 22 months.

Contact person: Susan Beck Ph.D., MLS(ASCP)^{CM}
Phone: 919-966-3033
Email: sbeck@med.unc.edu

Mailing Address: Division of Clinical Laboratory Science
Suite 4100 Bondurant Hall, CB#7145
UNC – Chapel Hill
Chapel Hill, NC 27599-7145

Program Web address: www.med.unc.edu/ahs/clinical/mds/

Enrollment Process: Applications are available on-line from the program website. See website for admissions deadlines and information.

To apply for Route 2, the prospective student should:

- Review the Competency Checklist to assess whether or not the specific types of testing (test menu) needed to complete the Competency Checklist are available at the student’s institution
- Develop a plan that describes in detail the testing to be performed, the platform or methodology to be used, and how the student will obtain and document competencies on the Competency Checklist.

The student’s proposed plan to meet the rotation objectives and

competency should include the following:

- Test menus from each molecular laboratory section within the institution to include the test methodology or molecular platform used for each test.
- A proposed schedule for training for all academic semesters included in the rotation.
- Meet with the Laboratory Director and the immediate Supervisor and obtain their signed approval of the plan.
- Submit the plan with the signed approval of the Laboratory Director and the immediate Supervisor to the Division of Clinical Laboratory Science in addition to the application to the MDS program.
- Provide the Laboratory Director's contact information so that the Division of CLS can initiate an affiliation agreement.

To apply for Route 3, the prospective student should:

- Review the Competency Checklist to assess whether or not the specific types of testing (test menu) needed to complete the Competency Checklist are available at the student's institution
- Develop a plan that describes in detail the testing to be performed, the platform or methodology to be used, and how the student will obtain and document competencies on the Competency Checklist.

The student's proposed plan to meet the rotation objectives and competency should include the following:

- Test menus from each molecular laboratory section within the institution to include the test methodology or molecular platform used for each test.
- A proposed schedule for training for all academic semesters included in the rotation.
- Meet with the Laboratory Director and the immediate Supervisor and obtain their signed approval of the plan.
- Submit the plan with the signed approval of the Laboratory Director and the immediate Supervisor to the Division of Clinical Laboratory Science in addition to the application to the MDS program.

Provide the Laboratory Director's contact information so that the Division of CLS can initiate an affiliation agreement.

University of North Dakota School of Medicine and Health Sciences

Type of degree program: Masters in Medical Laboratory Science

Institution: University

Online delivery options: All courses delivered online; Courses available 24/7 with no mandated online meeting times

“On-campus” (face to face) time required for online courses:

Two 4-day sessions required (one toward the beginning and the other toward the end of the program)

Total Length of program: Variable depending on student preference; Average for a student also working full-time is ~3 years (fall and spring semesters only)

Contact person: Brooke Solberg, PhD, MLS(ASCP)^{CM}
Associate Professor/Graduate Program Coordinator
Phone: 701-330-3202
Email: brooke.solberg@med.und.edu

Mailing Address: UND Department of MLS
SMHS Stop 9037
Attn: Brooke Solberg
Grand Forks, ND 58202

Program Web address: <http://www.med.und.edu/medical-laboratory-science/mls-ms-program-overview.cfm>

Enrollment Process: Applications reviewed twice annually; Due by November 1st for a spring semester start date, or by July 15th for a Fall semester start date. See further application information on the program website.

Retraining or refresher course options: Non-degree option available for those wanting to complete a select few courses.

The University of Southern Mississippi

- Type of degree program:** Master's Degree Program in Medical Laboratory Science for individuals who possess certification as a medical technologist/medical laboratory scientist from a recognized national certification agency.
- Institution:** The University of Southern Mississippi
- Online delivery options:** All classes are offered online.
- "On-campus" (face to face) time required for online courses:** None
- Total Length of program:** 36 hours with a minimum of 18 of the 36 hours in courses numbered 600 or above. Students must complete the master's degree within five calendar years from the date of initial enrollment. Continuous enrollment during fall and spring semesters or reapplication is required.
- Contact person:** Cindy Handley, PhD, MT(ASCP)
Assistant Teaching Professor/Graduate Coordinator
Department of Medical Laboratory Science
University of Southern Mississippi
601-266-4909
Fax: 601-266-4913
cynthia.handley@usm.edu
- Mailing Address:** Master's degree in Medical Laboratory Science
Department of Medical Laboratory Science
118 College Drive, #5134
Hattiesburg, MS 39406-0001
- Program Web address:** <https://online.usm.edu/graduate/medical-laboratory-sciences-ms/>
- Enrollment Process:** http://apps.usm.edu/graduate-school/grad-school-apps/?utm_source=top-nav&utm_medium=web&utm_content=grad-apply&utm_campaign=admissions
- Retraining or refresher course options:** None

University of Tennessee Health Science Center

Type of degree program: Master of Science in Clinical Laboratory Science, Laboratory Management and Laboratory Utilization Tracks

Institution: University

Online delivery options: Web based courses

“On-campus” (face to face) time required for online courses: Campus visits are not required.

Total Length of program: 36 semester hours which will require 2 years of full time study or 3-5 years part time study.

Contact person: Linda L. Ross, MS, MT(ASCP), CLS(NCA)
Chairman, Department of Clinical Laboratory Sciences
Phone: (901)448-6304
Fax: (901)448-7545
Email: lross@utmem.edu

Mailing Address: University of Tennessee Health Science Center
Department of Clinical Laboratory Sciences
930 Madison Avenue, Suite 664
Memphis, TN 39163

Program Web address: <https://www.uthsc.edu/health-professions/cls/mls/>

Enrollment Process: The application to UTHSC is available from the program website. Admission requirements include:

- A degree from an accredited program in clinical laboratory sciences with a minimum GPA of 3.0 on a 4.0 scale
- National certification as a medical technologist, cytotechnologist or histotechnologist
- Two years work experience in a clinical laboratory; Tennessee state licensure will be required for any person who will be responsible for the performance of laboratory testing on human samples during the course of the studies. Licensure is available to all persons having a national certification as a medical technologist or cytotechnologist.
- Graduate Record Examination (GRE): combined score of 1000 on Verbal and Quantitative portions

Retraining or refresher course options: No

University of Texas Medical Branch

Type of degree program: Doctorate in Clinical Laboratory Sciences – DCLS
(Advanced Practice Doctorate)

Institution: University

Online delivery options: ALL theoretical classes offered online.

“On-campus” (face to face) time required for online courses:

- All didactic courses are available online.
- A minimum of four (4) consecutive weeks of DCLS clinicals which are face-to-face on-campus are required (currently only offered at the UTMB-Galveston location). These clinicals are spread out through the curriculum (about 1 per year).

Total Length of program: Approximately 3 years full time; part time option available

Contact person: Jose (Eddie) Salazar, Ph.D.
DCLS Program Director
Phone: 409-772-3044
Fax: 409-772-3067
Email: jhsalaza@utmb.edu

Mailing Address: Department of Clinical Laboratory Sciences
University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-1140

Program Web address:

<https://shp.utmb.edu/ClinicalLaboratorySciences/DCLSprogram.asp>

Enrollment Process: Student can apply on-line through the website:

<https://shp.utmb.edu/ClinicalLaboratorySciences/ProspectiveStudents/Application.asp>

Retraining or refresher course options: No

University of Texas Medical Branch

Type of degree program: Master of Sciences for Science graduates, Master of Sciences for MLS graduates and Master of Sciences in Transfusion Medicine

Institution: University

Online delivery options: ALL MLS classes offered online.

“On-campus” (face to face) time required for online courses: Individuals who do not hold a MLS undergraduate degree must attend on-campus laboratories. Non-laboratory courses (e.g. management, research, etc.) do not require on-campus time.

Total Length of program: Approximately 2 years

Contact person: Jianzhi Zhang, M.D., M.S., M(ASCP)
Associate Professor/Program Director MLS Program
Phone: 409-772-3055
Fax: 409-772-9470
Email: jzzhang@utmb.edu

LeeAnn Walker, MEd; MT(ASCP) SBB
Assistant Professor/Program Director SBB Program
Phone: 409-772-3055
Fax: 409-772-9470
Email: lpwalker@utmb.edu

Mailing Address: Department of Clinical Laboratory Sciences
University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-1140

Program Web address: <http://shp.utmb.edu/cls/>

Enrollment Process: Student can apply on-line through the website:
<http://shp.utmb.edu/cls/application.asp>

Retraining or refresher course options: Yes, the MLS courses are available as continuing education credits for individuals interested in retraining or refreshing. Additionally, categorical certificate programs are offered for individuals who already have a baccalaureate degree.

The University of Texas Rio Grande Valley

Type of degree program: Accelerated Master of Science Health Science (MSHS) with a concentration in Clinical Laboratory Sciences (CLS)

Institution: University

Online delivery options: All MSHS and CLS courses are delivered 100% on-line via the Blackboard Learning Management System in the form of 8 week accelerated modules.

The curriculum consists of 6 Health Sciences Core courses and 6 Clinical Laboratory Sciences Concentration courses:

Health Sciences Core:

HSCI 6345 Legal and Ethical Issues in Healthcare

HSCI 6307 Health Care Policy, Organization, and Financing

HSCI 7302 Professional Proposal Writing

HSCI 6310 Research in Health Science

HSCI 6300 Intro Health Care Systems & Quality Improvement

INFS 6340 Healthcare Informatics

Clinical Laboratory Sciences Concentration Courses:

CLSC 6300 Pathophysiology of Disease

CLSC 6302 Advanced Practice in Clinical Chemistry

CLSC 6301 Adv. Clinical Practice in Hematology & Hemostasis

CLSC 6305 Clinical Applications in Molecular Diagnostics

CLSC 6303 Adv. Practice in the Clinical Lab Diagnosis of Infectious Disease

CLSC 6304 Adv. Practice in Immunohematology and Immunology

“On-campus” (face to face) time required for online courses: There is no on-campus requirement for the Master of Science Health Science program.

Total Length of program: 1 year for full-time students, 2 years for part-time students

Contact person: Kim Garcia, MEd
Program Advisor
Phone: (956) 665-4781
Email: kim.garcia@utrgv.edu

Mailing Address: The University of Texas Rio Grande Valley

Graduate College
Marialice Shary Shivers Bldg. 1.158
1201 W. University Drive
Edinburg, Texas 78539

Program Web address: <http://www.utrgv.edu/hbs/graduate-programs/master-of-science-health-science-cls/index.htm>

Enrollment Process: Apply online at: <http://getonline.utrgv.edu/apply.aspx?program=UTRGV-M-HLTHSCI> and specify your interest in the CLS concentration in your application materials. Call 844-218-2727 for on-line application assistance.

An applicant who meets the following criteria is eligible for clear admission to the MSHS-CLS degree program:

- Has submitted all required documents.
- Has earned at least a 3.0 (on a 4.0 scale) on the graduate admission GPA calculation or earned a previous master's degree from an accredited university.
- Has been awarded a bachelor of science degree in Clinical Laboratory Science from an accredited institution or
- Is a medical technologist or medical lab scientist with AMT or ASCP generalist certification.

More information including conditional acceptance criteria can be found using the following link: <http://www.utrgv.edu/hbs/graduate-programs/master-of-science-health-science-cls/admission-criteria/index.htm>

Retraining or refresher course options: No

Virginia Commonwealth University

Type of degree program: CLS - PhD

Institution: University

Online delivery options: All courses for the doctoral degree are offered on-line.

“On-campus” (face to face) time required for online courses: Students spend periods on campus ranging from seven to fourteen days each during the months of June/July and December/January to complete one 6-month semester series of courses and begin the next 6-month semester course series.

Total Length of program: 4 years

Contact person: Teresa S. Nadder, PhD, MLS(ASCP)^{CM}
Chairman
Phone: (804) 828-9469
Fax: (804) 828-1911
Email: tsnadder@vcu.edu

Mailing Address: Virginia Commonwealth University
P.O. Box 980583
Richmond, Virginia 23298-0583

Program Web address: <http://www.sahp.vcu.edu/phd>

Enrollment Process: Complete the graduate application – forms available on website

Retraining or refresher course options: No

Winston-Salem State University

Type of degree program: Post-bachelor's categorical certificate (NOT a graduate degree)

Institution: University

Online delivery options: Completely online

"On-campus" (face to face) time required for online courses: None

Total Length of program: 9 – 12 months (depending upon course offerings); 14 semester hours to be taken in sequence

Contact person: Ellie Luethy, MT (ASCP), MHS
Coordinator CLS Distance Learning
Phone: (336) 750-2517
Fax: (336) 750- 2636

Email: clsdistancelearning@wssu.edu

Mailing Address: Winston Salem State University
CLS Distance Learning
137 Anderson Center
Winston-Salem, NC 27110

Program Web address:
http://catalog.wssu.edu/preview_program.php?catoid=13&pooid=777&returnto=603

Enrollment Process: Apply to WSSU Undergraduate Admissions and to the MLS Dept. Instructions are on web page above.

Retraining or refresher course options: This certificate is for students with a bachelor's degree in biology, microbiology or chemistry who work in a clinical lab and are seeking MLS certification in clinical chemistry, hematology, microbiology, or immunohematology.