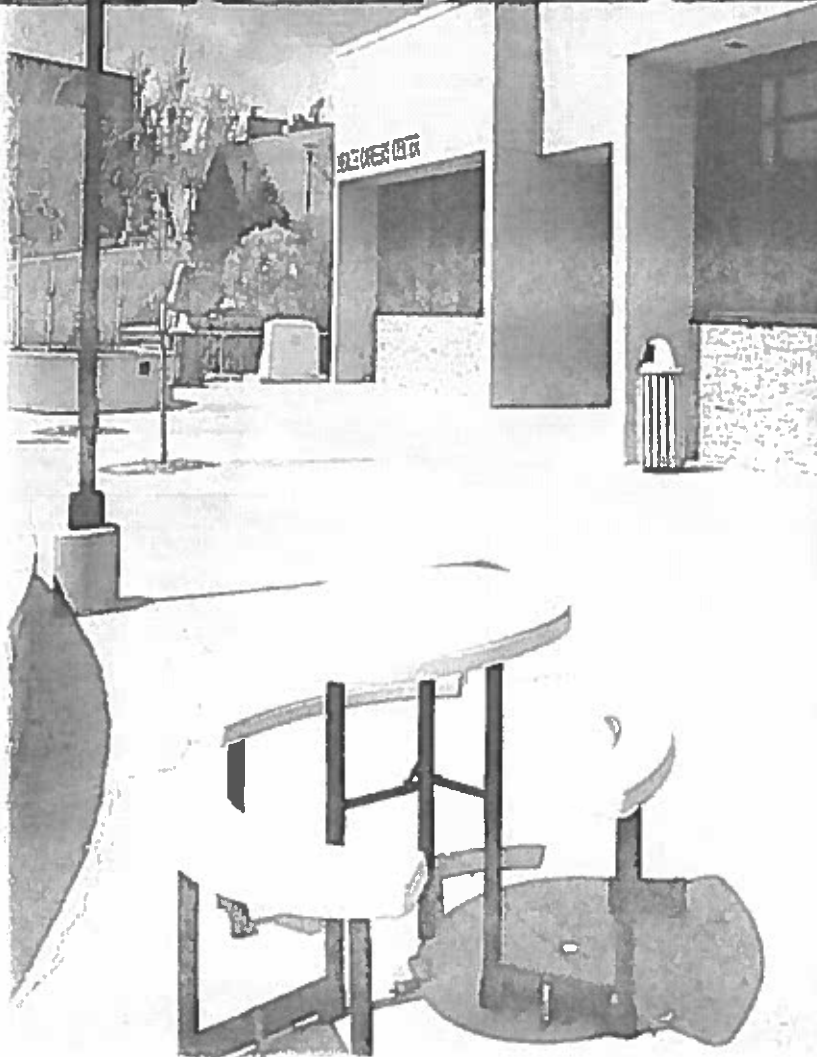
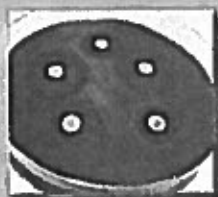


University of New Mexico - Gallup Medical Laboratory Technology Program



Program Review

Fall 2016

PROGRAM REVIEW FALL 2016

Name of Program: Medical Laboratory Technology

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**PROGRAM REVIEW
FALL 2016**

Name of Program: Medical Laboratory Technology

DOCUMENT 1

Description of the department:

The Medical Laboratory Technology (MLT) Program at the University of New Mexico-Gallup (UNM-G) offers students the opportunity to achieve a 71- credit associate degree. The MLT program is one of the health-related programs administratively housed in the college's Health Careers Center under the Department of Education, Health and Human Services. The UNM-G MLT Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

The MLT Program was formerly located on the grounds of Gallup Indian Medical Center. Laboratory training in the Gallup area was originated by GIMC when it founded the MLT certificate program in the late 1960's. For many years GIMC operated this hospital-based program at the current location. In 1983 UNM-Gallup and GIMC teamed to co-sponsor the MLT associate degree program. This arrangement continued until 1996. At that time the hospital substantially reduced support due to constricting resources, and the University of New Mexico-Gallup assumed primary sponsorship for the program. The transition was completed with the construction of a new Health Careers building on the UNM-Gallup campus in fall 2001.

While the program is relatively small, its presence has prevented a chronic shortage of laboratory professionals from developing while providing much needed employment opportunities for residents of the region. During the course of the MLT program's existence, it has produced numerous graduates, most have entered the local workforce, and many have gone on to earn Bachelor's degrees. Several graduates have continued their educations to earn advanced degrees i.e. Master's Degree, Ph.D. or M.D.

The medical laboratory technician has diverse and multi-level functions in the areas of collecting, processing, and analyzing biological specimens and other substances, principles and methodologies, performance of assays, problem-solving, troubleshooting techniques, significance of clinical procedures and results, principles and practices of quality assessment, for all major areas practiced in the contemporary clinical laboratory. Medical laboratory technicians perform, evaluate, correlate and assure accuracy and validity of laboratory information; direct and supervise clinical laboratory resources and operations; and collaborate in the diagnosis and treatment of patients.

The MLT Program aims to continue helping students fulfill their potential and become productive members of society, thereby improving the quality of life for both themselves and the community they serve.

Department missions and goals:

The University of New Mexico – Gallup Medical Laboratory Technology Program develops *life long learners to be clinically competent and culturally sensitive professionals* delivering diagnostic testing services to clients within our rural health care setting.

The UNM-G MLT Program is designed to prepare graduates for employment in hospital and medical clinic laboratories as entry-level laboratory professionals, and to build in them a solid foundation of knowledge, skills and abilities to undertake additional study for advanced degrees. To this end, the MLT Program has identified the following goals:

1. Provide high quality education and training that enables graduates to pass the MLT board examinations.
2. Provide high quality education and training that enables graduates to obtain suitable employment in the healthcare field.
3. Provide high quality education and training that enables graduates to continue their formal educations by transferring to four-year colleges or universities to earn a Bachelor's Degree.
4. Meet the staffing needs of local and regional healthcare facilities by providing graduates with the knowledge, skills and abilities needed to meet performance standards for hospital and medical laboratories.

Relationship to campus strategic plan:

The MLT Program of the University of New Mexico - Gallup is dedicated to fulfilling the following components of the college's strategic plan:

1. Provide the opportunity for students to earn an Associate of Science Degree.
2. Provide the opportunity for students to prepare for employment and to become a part of the workforce.
3. Provide the opportunity for students to meet transfer requirements toward earning a Bachelor's Degree.
4. Meet the needs of the community to improve the quality of life.
5. Build a foundation for the student to become a lifelong learner.

Student employment/placement profile:

Academic year	# of Graduates	# of Graduates who found employment	# of Graduates with no data
2011-2012	2	1	1
2012-2013	11	8	2
2013-2014	3	2	0
2014-2015	11	9	0
2015-2016	8	5	1
2016-2017	3 (summer)	2	0
Total	38	27	4

Note: The number of graduates we don't have data for include those who moved to different states, and did not actively seek employment nor continue their education.

Many of our MLT graduates find employment immediately after graduation. They get hired by the hospital affiliates where they completed the clinical component of the Program. Based on the data above, the employment/placement rate of the graduates we have data for is 79.41% (27 out of 34). The MLT Program prevents a critical shortage of laboratory professionals in our area which is an emerging concern in many parts of the country.

Profile of graduate transfers:

Academic year	# of Graduates	# of Graduates who continued their education	# of Graduates with no data
2011-2012	2	0	1
2012-2013	11	2	2
2013-2014	3	1	0
2014-2015	11	4	0
2015-2016	8	4	1
2016-2017	3 (summer)	2	0
Total	38	13	4

Note: Some of our graduates both find employment and continue their education.

More than a third (38.24%) of our MLT graduates continue their education. Some stay at UNM-Gallup to obtain a Bachelor's degree, or complete their prerequisite courses and transfer to the main campus. Others who find employment are also able to take online degrees, usually from other universities.

Additional questions:

1. **How difficult was it to collect the necessary data?**

Most of the data from the last four years were on hand and just had to be put together. It is an advantage that the current full-time faculty has been in the Program for the majority of the time covered by the Program Review. Otherwise, it would have been very difficult to obtain the data especially employment rate and graduate transfers. Having an Institutional Researcher is a great help. Most data in Document 2 were provided by the Institutional Researcher.

2. **How could the Program Review process be improved?**

It would be very helpful if the necessary information are available online such as the program review process, schedule, copies of previous program reviews, and a fillable template. It may also help if the required data were submitted periodically i.e. annually or every semester. Doing so has a lot of advantages and will also lessen the bulk of work when the Program Review is due, as the data are already available. It's easier to contact recent graduates than those who graduated several years ago due to lack of current contact information. The enrollment data should also include summer terms.

3. **Did all Program Faculty participate in the Program in the Program Review Process?**

There's only one full-time faculty in the MLT Program. Recommendations and comments were obtained from adjunct instructors.

4. **Was the Program Review work equally shared by the faculty?**

Only one full-time MLT faculty prepared the Program Review.

DOCUMENT 2

Registrar/Enrollment History

1. Indicate departmental (program courses) enrollment for the past 5 years for fall and spring semesters.

MLT Course Enrollment

Fall Semester	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Total Student Credit Hours	140	140	174	171	266
Total Course Enrollments	35	38	45	44	67
Spring Semester	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Total Student Credit Hours	120	58	110	121	145
Total Course Enrollments	27	19	29	31	40

Enrollment of MLT Majors

Fall Semester	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Total Students Enrolled	54	49	64	58	55
Total Course Enrollments	581	512	661	557	542
Spring Semester	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Total Students Enrolled	44	49	64	51	41
Total Course Enrollments	495	516	576	499	393

2. List number of program graduates by academic year.

Academic Year	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Certificates	N/A	N/A	N/A	N/A	N/A
Associate Degrees	2	11	3	11	8

3. Give faculty/course/sections information for the past 3 years for the fall semester only.

	2013-2014	2014-2015	2015-2016
Total full-time faculty	1	1	1
Total Part-time faculty	3	3	3
Percentage of student credit hours taught by full-time faculty	68.63%	68.63%	78.43%

Curriculum History

- List all the courses offered by this program.
- Give the date of first offering for each, if known.
- Indicate how many sections were successfully offered during each of the last six regular semesters (three years).

Course Prefix	Course #	Name	Date First Offered
MLT	111	Introduction to Basic Laboratory Skills, Urinalysis and Body Fluids	Not known
MLT	112	Clinical Practicum: Phlebotomy	Not known
MLT	211	Clinical Hematology and Coagulation	Not known
MLT	214	Clinical Microbiology	Not known
MLT	216	Clinical Chemistry	Not known
MLT	219	Immunohematology and Serology	Not known
MLT	271	Directed Clinical Practicum I	Not known
MLT	281	Directed Clinical Practicum II	Not known
MLT	291	Preparation for MLT Board Examination	Not known

MLT 111 Intro to Basic Lab Skills, Urinalysis and Body Fluids

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	1	0	1	0	0	0
2014-15	0	1	1	0	1	1
2015-16	0	1	1	0	0	0

MLT 112 Clinical Practicum: Phlebotomy

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	1	0	1	1	0	1
2014-15	1	0	1	1	0	1
2015-16	1	0	1	1	0	1

MLT 211 Clinical Hematology & Coagulation

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	1	0	1	0	0	0
2014-15	0	0	0	1	0	1
2015-16	0	0	0	1	0	1

MLT 214 Clinical Microbiology

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	1	0	1	0	0	0
2014-15	1	0	1	0	0	0
2015-16	1	0	1	0	0	0

MLT 216 Clinical Chemistry

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	0	0	0	1	0	1
2014-15	1	0	1	0	0	0
2015-16	1	0	1	0	0	0

MLT 219 Immunohematology and Serology

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	0	0	0	1	0	1
2014-15	0	0	0	1	0	1
2015-16	0	0	0	2	0	2

MLT 271 Directed Clinical Practicum I

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	1	0	1	1	0	1
2014-15	1	0	1	1	0	1
2015-16	1	0	1	1	0	1

MLT 281 Directed Clinical Practicum II

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	1	0	1	1	0	1
2014-15	1	0	1	1	0	1
2015-16	1	0	1	1	0	1

MLT 291 Preparation for MLT Board Exam

Academic Year	Fall Semester			Spring Semesters		
	Day Sections	Evening Sections	Total Sections	Day Sections	Evening Sections	Total Sections
2013-14	1	0	1	1	0	1
2014-15	1	0	1	1	0	1
2015-16	1	0	1	1	0	1

DOCUMENT 3: Copy of Latest Assessment Plan

Please see attached.

**The University of New Mexico
Medical Laboratory Technology Program
Plan for Assessment of Student Learning Outcomes**

A. College, Department and Date

1. College: *UNM-Gallup Campus*
2. Department: *Education, Health and Human Resources*
3. Date: *August 2016*

B. Academic Program of Study*

Associate of Science in Medical Laboratory Technology

C. Contact Person(s) for the Assessment Plan

Corine Lei Gonzales, MLT Faculty
gonzalesc@unm.edu
(505)863-7598

D. Broad Program Goals & Measurable Student Learning Outcomes

1. Broad Program Learning Goals for this Degree/Certificate Program

The UNM-G MLT Program is designed to prepare graduates for employment in hospital and medical clinic laboratories as entry-level laboratory professionals, and to build in them a solid foundation of knowledge, skills and abilities to undertake additional study for advanced degrees. To this end, the MLT Program has identified the following goals:

- A. Provide high quality education and training that enables graduates to pass the MLT board examinations.
- B. Provide high quality education and training that enables graduates to obtain suitable employment in the healthcare field.
- C. Provide high quality education and training that enables graduates to continue their formal educations by transferring to four-year colleges or universities to earn a Bachelor's Degree.
- D. Meet the staffing needs of local and regional healthcare facilities by providing graduates with the knowledge, skills and abilities needed to meet performance standards for hospital and medical laboratories.

* Academic Program of Study is defined as an approved course of study leading to a certificate or degree reflected on a UNM transcript. A graduate-level program of study typically includes a capstone experience (e.g. thesis, dissertation, professional paper or project, comprehensive exam, etc.).

2. List of Student Learning Outcomes (SLOs) for this Degree/Certificate Program

- a. Student will identify and explain the theory and principles behind medical laboratory procedures.
- b. Student will interpret laboratory data and recognize if follow-up testing is necessary.
- c. Student will explain specimen processing and handling procedures and criteria for rejection.
- d. Student will recognize and resolve discrepancies in laboratory test results.
- e. Student will demonstrate competency in performing laboratory tests.
- f. Student will perform manual, automated or semi-automated procedures in laboratory testing.
- g. Student will perform quality control procedures in different areas of the laboratory
- h. Student will demonstrate ethical behavior in classroom and clinical settings including patient confidentiality.
- i. Student will demonstrate effective communication and good interpersonal relationship among other students, didactic and clinical instructors, patients and staff in the academic and clinical settings.

E. Assessment of Student Learning Three-Year Plan

All programs are expected to measure some outcomes annually and to measure all priority program outcomes at least once over two consecutive three-year review cycles. Describe below the plan for the next three years of assessment of program-level student learning outcomes.

1. Student Learning Outcomes

Relationship to UNM Student Learning Goals (insert the program SLOs and check all that apply):

University of New Mexico Student Learning Goals			
Program SLOs	Knowledge	Skills	Responsibility
a. Student will identify and explain the theory and principles behind medical laboratory procedures.	x		
b. Student will interpret laboratory data and recognize if follow-up testing is necessary.	x		
c. Student will explain specimen processing and handling procedures and criteria for rejection.	x		
d. Student will recognize and resolve discrepancies in laboratory test results.	x		
e. Student will demonstrate competency in performing laboratory tests.		x	
f. Student will perform manual, automated or semi-automated procedures in laboratory testing.		x	
g. Student will perform quality control procedures in different areas of the laboratory		x	
h. Student will demonstrate ethical behavior in classroom and clinical settings including patient confidentiality.			x
i. Student will demonstrate effective communication and			x

good interpersonal relationship among other students, didactic and clinical instructors, patients and staff in the academic and clinical settings.			
--	--	--	--

2. How will learning outcomes be assessed?

A. What:

- i. *For each SLO, briefly describe the means of assessment, i.e., what samples of evidence of learning will be gathered or measures used to assess students' accomplishment of the learning outcomes in the three- year plan?*
- ii. *Indicate whether each measure is direct or indirect. If you are unsure, then write "Unsure of measurement type." There is an expectation that at least half of the assessment methods/measures will be direct measures of student learning. [See <http://www.unm.edu/~assess/ToolsAndTemplates.html>]*
- iii. *Briefly describe the criteria for success related to each direct or indirect means of assessment. What is the program's performance target (e.g., is an "acceptable or better" performance by 60% of students on a given measure acceptable to the program faculty)? If scoring rubrics are used to define qualitative criteria and measure performance, attach them to the plan as they are available.*

B. Who: State explicitly whether the program's assessment will include evidence from all students in the program or a sample. Address the validity of any proposed sample of students.

3. When will learning outcomes be assessed? When and in what forum will the results of the assessment be discussed?

[Briefly describe the timeframe over which your unit will conduct the assessment of learning outcomes selected for the three-year plan. For example, provide a layout of the semesters or years (e.g., 2008-2009, 2009-2010, and 2010-2011), list which outcomes will be assessed, and which semester/year the results will be discussed and used to improve student learning (e.g., discussed with program faculty, interdepartmental faculty, advisory boards, students, etc.)]

4. What is the unit's process to analyze/interpret assessment data and use results to improve student learning?

Briefly describe:

1. *who will participate in the assessment process (the gathering of evidence, the analysis/interpretation, recommendations).*
2. *the process for consideration of the implications of assessment for change:*
 - a. *to assessment mechanisms themselves,*
 - b. *to curriculum design,*
 - c. *to pedagogy**...in the interest of improving student learning.*
3. *How, when, and to whom will recommendations be communicated?*

SLOs	What?			Who?	When?	Analysis and Interpretation Process
	Means of assessment	Direct or Indirect?	Criteria for Success			
Student will identify and explain the theory and principles behind medical laboratory procedures.	written exams, recitation, class participation	direct	- Freshmen students will obtain a cumulative grade of least 75% on didactic courses. - Practicum students will obtain an average grade of at least 75% in exams per content area and comprehensive exam.	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the end of every rotation for practicum students	Exam results will be analyzed based on the mean, mode, highest and lowest scores. These scores will be used to identify areas of concern. The faculty will focus on strengthening such areas that need more attention.
Student will interpret laboratory data and recognize if follow-up testing is necessary.	written exams, recitation, class participation	direct	- Freshmen students will obtain a cumulative grade of least 75% on didactic courses. - Practicum students will obtain an average grade of at least 75% in exams per content area and comprehensive exam.	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the end of every rotation for practicum students	
Student will explain specimen processing and handling procedures and criteria for rejection.	written exams, recitation, class participation	direct	- Freshmen students will obtain a cumulative grade of least 75% on didactic courses. - Practicum students will obtain an average grade of at least 75% in exams per content area and comprehensive exam.	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the end of every rotation for practicum students	
Student will recognize and resolve discrepancies in laboratory test results.	written exams, recitation, class participation	direct	- Freshmen students will obtain a cumulative grade of least 75% on didactic courses. - Practicum students will obtain an average grade of at least 75% in exams per content area and comprehensive exam.	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the end of every rotation for practicum students	
Student will demonstrate competency in performing laboratory tests.	laboratory exercises, practical exams, clinical practicum	direct	- Students in the freshmen group will obtain an average of 75% in classroom lab	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the	

	performance evaluation guide and general skills list		activities. - Practicum students will obtain an average of 80% on their performance evaluation assessments.		end of every rotation for practicum students
Student will perform manual, automated or semi-automated procedures in laboratory testing.	laboratory exercises, practical exams, clinical practicum performance evaluation guide and general skills list	direct	- Students in the freshmen group will obtain an average of 75% in classroom lab activities. - Practicum students will obtain an average of 80% on their performance evaluation assessments.	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the end of every rotation for practicum students
Student will perform quality control procedures in different areas of the laboratory	laboratory exercises, practical exams, clinical practicum performance evaluation guide and general skills list	direct	- Students in the freshmen group will obtain an average of 75% in classroom lab activities. - Practicum students will obtain an average of 80% on their performance evaluation assessments.	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the end of every rotation for practicum students
Student will demonstrate ethical behavior in classroom and clinical settings including patient confidentiality.	professional behavior assessment by didactic and clinical instructors	Direct and indirect	- Students (freshmen and graduating) will obtain a score of at least 80% on professional behavior assessment.	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the end of every rotation for practicum students
Student will demonstrate effective communication and good interpersonal relationship among other students, didactic and clinical instructors, patients and staff in the academic and clinical settings.	professional behavior assessment by didactic and clinical instructors	Direct and indirect	- Students (freshmen and graduating) will obtain a score of at least 80% on professional behavior assessment.	freshmen class and practicum (graduating) students	periodically throughout semester for freshmen class; at the end of every rotation for practicum students

DOCUMENT 4: List of Instructors with Qualifications

MLT Program Faculty (in alphabetical order)

Corine Lei Gonzales, MS, MT(AMT), MT(ASCP) is the MLT Program Director and a full-time faculty teaching Introduction to Basic Laboratory Skills and Urinalysis and Other Body Fluids, Clinical Immunohematology and Serology, Microbiology, Phlebotomy, Clinical Practicum courses, and Board Exam Preparation class. She earned her Bachelor of Science in Medical Technology from Angeles University Foundation and Master of Science in Microbiology from the University of Santo Tomas in the Philippines. For several years, she had also been a college instructor in the Department of Chemistry and Medical Technology Department, and a graduate school professor at Angeles University Foundation. She has MT certifications from American Society for Clinical Pathology International (ASCP) and American Medical Technologists (AMT).

Donald Charles Harris Jr, MBA, MT(AMT), MT(ASCP) has been a part-time instructor of the program since 2013. He teaches Clinical Chemistry, Introduction to Basic Lab Skills, Urinalysis and Body Fluids and Clinical Hematology and Coagulation. He earned his Bachelor's Degree in Medical Laboratory Sciences and Master in Business Administration from Thomas University, Georgia. He has been working as an MT for the Department of Army and Indian Health Services for several years. He is a certified MT through American Medical Technologists (AMT) and American Society for Clinical Pathology (ASCP).

Phyllis Ingham, EdD, Med, MT(ASCP) is an adjunct instructor for Introduction to Basic Lab Skills, Urinalysis and Body Fluids. She is the MLT Program Director at West Georgia Technical College. She earned her Bachelor's degree from Uburn University, Master's degree from Alabama State University, and Doctorate degree from Argosy University.



DOCUMENT 5: Advisement Summary Identifying Any Concerns

Students must first be admitted to UNM-Gallup before applying to the MLT Program. However, admission to UNM-Gallup does not necessarily mean acceptance into specific degree programs. Qualified students receive an admission letter from UNM-Gallup which also instructs them to meet with the MLT Program Director for advisement. General education prerequisite courses must be completed prior to admission. Students are admitted each regular semester based on selection criteria. Class size is limited to twelve. Priority is given to continuing students who are in good academic standing. Students are required to complete all professional coursework within a five-year time period.

Advisement concerns include the following:

- A few students either do not have or do not follow the suggested course sequencing leading to a degree in MLT.
- English, Math, Chemistry and Biology courses included in the MLT curriculum must be taken in sequence, and therefore, the student must pay careful attention to which courses must be taken first. There may also be additional prerequisites to these courses that are not in the MLT curriculum.
- New students who do not meet the required Compass/Placement test score need to take additional reading and math courses.
- Many students may have already decided to take an MLT major upon admission to UNM-Gallup. But some students only decide to apply to the MLT Program later on, when they explore more career options in our campus.

DOCUMENT 6: Copy of Recent Program Advisory Board Recommendation

MLT Advisory Board Members: (in alphabetical order)

- Ted Lewis (Microbiology Lead Tech, RMCH)
- Cassandra Lopez (Laboratory Director, RMCH)
- Michael Nye (VP for Professional Services, RMCH; former MLT Program Director)
- James Selleck (Laboratory Supervisor, GIMC)
- Katherine Serna (Blood Bank Supervisor, GIMC)
- Dr. Harry Sheski (Interim Campus President, NMSU; former MLT Program Director)
- Donna Talker (Laboratory Manager, TMC)
- Berlinda Wyaco (Laboratory Supervisor, ZPHS)

Recommendations from Advisory Board Members

- Offer a Bachelor's program for our MLT graduates who wish to take it locally, at UNM-Gallup.
- Hire an additional full-time faculty or clinical coordinator.
- If possible, establish more clinical laboratory affiliates. The continuous high number of clinical practicum students can be overwhelming for laboratory preceptors.
- Figure out ways to encourage the graduates to obtain national certification i.e. financial assistance, review courses.

DOCUMENT 7: Copy of Nationally Accredited External Review, with Recommendations

Please see attached.

The National Accrediting Agency for Clinical Laboratory Sciences

presents this

CERTIFICATE OF ACCREDITATION

to

University of New Mexico-Gallup
Gallup, New Mexico

for being in compliance with the
Standards of Accredited Educational Programs
for the Medical Laboratory Technician

Awarded Continuing Accreditation for Five Years
April 30, 2014


President, Board of Directors




Chief Executive Officer

NAACLS

National Accrediting Agency
for Clinical Laboratory Sciences

A NON-PROFIT ORGANIZATION

April 16, 2014

Christopher Dyer, PhD
Executive Director
University of New Mexico - Gallup
200 College Road
Gallup, NM 87301

Dear Dr. Dyer:

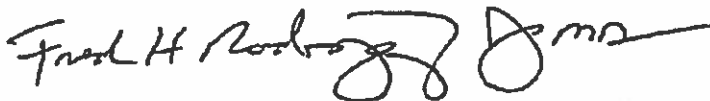
Enclosed is the NAACLS Board of Directors' official accreditation award for your Medical Laboratory Technician program's accreditation as decided at its April 10, 2014 meeting.

The Board of Directors' award is based on the continuing accreditation review process that included a site visit of your program in Fall 2013.

Accreditation for your program will continue until April 30, 2019. As a result, your program will commence the continuing accreditation process with submission of the Self-Study Report on April 1, 2018 and the scheduling of a site visit during Fall 2018. We provide this information to assist you in your program's administrative and financial planning.

This letter and the accompanying award represent formal accreditation by NAACLS. The NAACLS Certificate of Accreditation will be forwarded to the Program Director.

Sincerely,



Fred Rodriguez, MD
President, NAACLS Board of Directors

cc: Michael S. Nye, MS, MT(ASCP), Program Director
Corine Gonzales, MS, MT(ASCP), RM, RMT, Faculty

NAACLS BOARD OF DIRECTORS' ACCREDITATION AWARD

The MLT Program of University of New Mexico – Gallup in Gallup, NM, is awarded Continuing Accreditation for five (5) years.

The program is marginal compliance with the following Standard(s):

Standard 22A:

Instruction must follow a plan which documents a structured curriculum composed of general education, basic sciences, mathematics, and professional courses including applied (clinical) education. The curriculum must include clearly written program goals and competencies and course syllabi which must include individual course goals and objectives.

The curriculum must include all major subject areas currently offered in the contemporary clinical laboratory. Behavioral objectives which address cognitive, psychomotor, and affective domains must be provided for didactic and applied (clinical practice) aspects of the program and must include clinical significance and correlation. Course objectives must show progression to the level consistent with entry into the profession.

The applied courses must be taught in a clinically equipped teaching laboratory on the college campus, in an affiliated clinical facility, or in both facilities sufficient for developing basic skills, understanding principles, and mastering the procedures involved.

Rationale:

MLT 211 Hematology and Coagulation: Affective objectives were submitted but no affective evaluations. Cognitive objectives in hemostasis were submitted but were very limited and inadequate, not at appropriate taxonomic levels. Laboratory exercises in hemostasis were submitted but with no corresponding psychomotor objectives or evaluations.

MLT 216 Clinical Chemistry: Affective objectives were submitted but no affective evaluations.

MLT 214 Microbiology: Cognitive objectives were submitted but were very limited and inadequate, not at appropriate taxonomic levels. Very limited and inadequate psychomotor objectives. Affective objectives were submitted but no affective evaluations.

MLT 219 Immunohematology and Serology: Cognitive and psychomotor objectives were submitted but all were very limited and

inadequate, not at appropriate taxonomic levels. Affective objectives were submitted but no affective evaluations.

**Recommendation
for Compliance:**

MLT 211 Hematology and Coagulation: Submit affective evaluations to correlate with affective objectives. Submit cognitive objectives in hemostasis that are detailed and at appropriate taxonomic levels. Submit psychomotor objectives and corresponding evaluations related to laboratory exercises in hemostasis.

MLT 216 Clinical Chemistry: Submit affective evaluations to correspond to objectives.

MLT 214 Microbiology: Submit cognitive objectives in microbiology that are detailed and at appropriate taxonomic levels. Submit psychomotor objectives and corresponding evaluations related to laboratory exercises in microbiology. Submit affective evaluations to correspond to objectives.

MLT 219 Immunohematology and Serology: Submit cognitive objectives that are detailed and at appropriate taxonomic levels. Submit affective evaluations to correspond to objectives.

Standard 22C:

The learning experiences needed in the curriculum to develop and support entry level competencies must be properly sequenced and include instructional materials, classroom presentations, discussion, demonstrations, laboratory sessions, supervised practice and experience.

- 1. Student experiences must be educational and balanced so that all competencies can be achieved.**
- 2. Student experiences at different clinical sites must be comparable to enable all students to achieve entry level competencies.**
- 3. Policies and processes by which students may perform service work must be published and made known to all concerned in order to avoid practices in which students are substituted for regular staff. After demonstrating proficiency, students, with qualified supervision, may be permitted to perform procedures. Service work by students in clinical settings outside of academic hours must be noncompulsory. Instruction**

must follow a plan which documents a structured curriculum composed of general education, basic sciences, mathematics, and professional courses including applied (clinical) education. The curriculum must include clearly written program goals and competencies and course syllabi which must include individual course goals and objectives.

The curriculum must include all major subject areas currently offered in the contemporary clinical laboratory. Behavioral objectives which address cognitive, psychomotor, and affective domains must be provided for didactic and applied (clinical practice) aspects of the program and must include clinical significance and correlation. Course objectives must show progression to the level consistent with entry into the profession. The applied courses must be taught in a clinically equipped teaching laboratory on the college campus, in an affiliated clinical facility, or in both facilities sufficient for developing basic skills, understanding principles, and mastering the procedures involved.

Rationale:

Laboratory exercises were submitted for all areas, but there were no corresponding psychomotor objectives or evaluations.

Clinical practicum objectives in the psychomotor and cognitive domains were submitted, but with no performance criteria or evaluations.

**Recommendation
for Compliance:**

Submit psychomotor objectives and evaluations to correspond to laboratory exercises in all areas. Submit performance criteria and evaluations to correspond to clinical practicum objectives.

Standard 22D:

Written criteria for passing, failing, and progression in the program must be provided. These must be given to each student at the time of entry into the program. Evaluation systems must be related to the objectives and competencies described in the curriculum for both didactic and applied education components. They must be employed frequently enough to provide students and faculty with timely indications of the

students' academic standing and progress and to serve as a reliable indicator of the effectiveness of instruction and course design

Rationale:

MLT 211 Hematology and Coagulation: Affective objectives were submitted but no affective evaluations. Cognitive objectives in hemostasis were submitted but were very limited and inadequate, not at appropriate taxonomic levels. Therefore they cannot be correlated with the evaluations. Laboratory exercises in hemostasis were submitted but with no corresponding psychomotor objectives or evaluations.

MLT 216 Clinical Chemistry: Cognitive evaluations were submitted but were found to be predominantly at a Level 1 taxonomic level. . No psychomotor objectives were submitted. Affective objectives were submitted but no affective evaluations.

MLT 214 Microbiology: Cognitive objectives were submitted but were very limited and inadequate, not at appropriate taxonomic levels. Cognitive evaluations were submitted but were found to be predominantly at a Level 1 taxonomic level. Very limited and inadequate psychomotor objectives. No psychomotor evaluations were submitted. Affective objectives were submitted but no affective evaluations.

MLT 219 Immunohematology and Serology: Cognitive and psychomotor objectives were submitted but all were very limited and inadequate, not at appropriate taxonomic levels. Therefore objectives cannot be correlated to evaluations. Affective objectives were submitted but no affective evaluations.

MLT 271/281 Directed Clinical Practicum: In that many evaluation tools and/or objectives in all domains were not present, correlation of objectives to evaluations was not possible.

Recommendation
for Compliance:

MLT 211 Hematology and Coagulation: Submit affective evaluations to correlate with affective objectives. Submit cognitive objectives in hemostasis that are detailed and at appropriate taxonomic levels. Submit psychomotor objectives and corresponding evaluations related to laboratory exercises in hemostasis.

MLT 216 Clinical Chemistry: Submit psychomotor objectives with corresponding evaluations. Submit affective evaluations to correspond to objectives.

MLT 214 Microbiology: Submit cognitive objectives in microbiology that are detailed and at appropriate taxonomic levels. Submit psychomotor objectives and corresponding evaluations related to laboratory exercises in microbiology. Submit affective evaluations to correspond to objectives.

MLT 219 Immunohematology and Serology: Submit cognitive objectives that are detailed and at appropriate taxonomic levels. Submit affective evaluations to correspond to objectives.

A Progress Report documenting compliance with the above Standard(s) must be submitted in triplicate to the NAACLS office no later than April 1, 2015.

Failure to submit the required report(s) by the due date may result in Administrative Probation.

Michael S. Nye, MS, MT(ASCP) is recognized as Program Director.

The following institutions are recognized as clinical affiliates of the program:

Rehoboth McKinley Christian Hospital	Gallup, NM
Gallup Indian Medical Center	Gallup, NM
Zuni Comprehensive Community Health Center	Zuni, NM
Fort Defiance Indian Hospital	Fort Defiance, AZ

Fred Rodriguez, MD
President, NAACLS Board of Directors

Dianne M. Cearlock, PhD
Chief Executive Officer

April 10, 2014

NAACLS Progress Report now being reviewed

Edward Rotchford <ERotchford@naaccls.org>

Thu 4/16/2015 9:24 AM

to Edward Rotchford <ERotchford@naaccls.org>;

Importance: High

This email constitutes official correspondence from NAACLS.

If you require a paper copy, please print this email for your records.



April 16, 2015

Dear Program Official,

We received the Progress Report for your MLT program. The report will be forwarded to members of the Review Committee for Accredited Programs (RCAP) for preliminary review. Should additional material be required, we will notify you.

Following the review, we will forward the report to the full committee at its next regular meeting on July 16-17, 2015. We will then inform you of the RCAP recommendation to the NAACLS Board of Directors in September 2015.

If you have any questions about this process, please contact me.

Sincerely,

NAACLS Progress Report Review

Edward Rotchford <ERotchford@naacls.org>

Wed 6/3/2015 12:23 PM

to: Corine Lei Gonzales <gonzalesc@unm.edu>;

importance: High

This email constitutes official correspondence from NAACLS.

If you require a paper copy, please print this email for your records.



June 3, 2015

****Satisfactory Progress Report Review****

Corine Gonzales, MS, MT(ASCP)I, MT(AMT), RM, RMT
Program Director
University of New Mexico - Gallup
705 Gurley Dr.
Gallup, NM 87301-

Dear Ms. Gonzales,

A preliminary review has indicated that your recently submitted Progress Report is complete with no further documentation needed. The Progress Report and its review will be submitted to the Review Committee for Accredited Programs (RCAP) at its next meeting in July 2015. The committee's action becomes the recommendation to the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) Board of Directors at its September 2015 meeting. NAACLS will convey the RCAP recommendation to you by mid-August 2015 and the action of the Board of Directors by early October 2015. Please note that no actions are final or official until adopted by the Board of Directors.

NAACLS

National Accrediting Agency
for Clinical Laboratory Sciences

A NON-PROFIT ORGANIZATION

August 10, 2015

Christopher Dyer, PhD
Executive Director
University of New Mexico - Gallup
200 College Road
Gallup, NM 87301

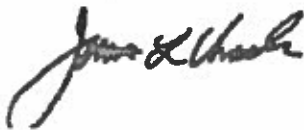
Dear Dr. Dyer:

Enclosed is the Review Committee for Accredited Programs (RCAP) recommendation to the NAACLS Board of Directors concerning your Medical Laboratory Technician program's accreditation as decided at the July 16-17, 2015 meeting of the RCAP.

The RCAP recommendation is based on the continuing accreditation review process that included a progress report submitted by your program in Spring 2015.

This letter does not represent a formal accreditation award by NAACLS. NAACLS will notify you of that award after the next Board of Directors Meeting in September 2015.

Sincerely,



James L. Vossler, MS, MT(ASCP)SM
Chair, RCAP

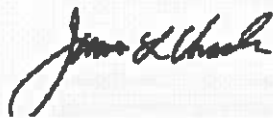
cc: Corine Gonzales, MS, MT(ASCP)i, MT(AMT), RM, RMT, Program Director

THE FOLLOWING IS THE RCAP RECOMMENDATION FOR YOUR PROGRAM AS IT MAY APPEAR IN THE BOARD OF DIRECTORS' OFFICIAL ACCREDITATION AWARD:

The Progress Report from the MLT Program of University of New Mexico-Gallup, Gallup, New Mexico, addressing Standards 22A, 22C, and 22D is accepted as satisfactory

This report is recommended as satisfactory but this does not predetermine an acceptable finding on these same issues at the next review.

Corine Gonzales, MS, MT(ASCP)i, MT(AMT), RM, RMT is recognized as Program Director.



James L. Vossler, MS, MT(ASCP)SM
Chair, RCAP



Dianne M. Cearlock, PhD
Chief Executive Officer

July 17, 2015

DOCUMENT 8: Summary Report or Recommendation from Respective Department Members

Current MLT Faculty FY 2016-2017 (in alphabetical order)

- Corine Gonzales, MLT Program Director, full-time instructor
- Donald Charles Harris, adjunct instructor
- Dr. Nancy Phillis Ingham, adjunct instructor

Recommendations from Current Program Faculty

- Expand the capability of the online courses with some technology changes and more virtual interaction with students.
- For the lab components of the courses, sufficient and current instrumentation and equipment should be made available for every student in class.
- Most of the MLT courses may be split into separate courses to facilitate better instruction and to ensure all topics are covered.

Current Combined Courses	Separate Into
MLT 111: Introduction to Basic Laboratory Skills, Urinalysis and Body Fluids	Introduction to Basic Laboratory Skills (with Phlebotomy)
	Urinalysis and Body Fluids
MLT 211: Clinical Hematology and Coagulation	Clinical Hematology
	Coagulation (Hemostasis)
MLT 216: Clinical Chemistry	Clinical Chemistry
	Molecular Diagnostics
MLT 219: Immunohematology and Serology	Immunology and Serology
	Blood Banking
MLT 271: Directed Clinical Practicum I	Clinical Practicum: Urinalysis and Body Fluids
	Clinical Practicum: Chemistry
	Clinical Practicum: Hematology and Coagulation
MLT 281: Directed Clinical Practicum II	Clinical Practicum: Microbiology
	Clinical Practicum: Blood Banking

DOCUMENT 8: Summary Report or Recommendation from Respective Department Members

Current MLT Faculty FY 2016-2017 (in alphabetical order)

- Corine Gonzales, MLT Program Director, full-time instructor
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MLT 211: Clinical Hematology and Coagulation	Clinical Hematology
	Coagulation (Hemostasis)
MLT 216: Clinical Chemistry	Clinical Chemistry
	Molecular Diagnostics
MLT 219: Immunohematology and Serology	Immunology and Serology
	Blood Banking
MLT 271: Directed Clinical Practicum I	Clinical Practicum: Urinalysis and Body Fluids
	Clinical Practicum: Chemistry
	Clinical Practicum: Hematology and Coagulation
MLT 281: Directed Clinical Practicum II	Clinical Practicum: Microbiology
	Clinical Practicum: Blood Banking



Dean of Instruction Office

Curriculum Committee
UNM Gallup
Tuesday, October 4, 2016

Reference: Medical Laboratory Technology program review.

Please accept this letter in strong support of the MLT program in its review.

Although faculty have yet to identify what UNM Gallup's *10-year Regional Identity* may be, there is no doubt that maintaining and even expanding our presence in the medical fields is essential. Although the MLT program is relatively expensive, I recommend that because of its success in finding graduates employment and the regional need, it should be given priority in future budget discussions and the program should not be put at risk.

The MLT review documentation is thorough and very well presented which is a reflection of the professionalism of our one full-time faculty in the area, Ms. Corine Gonzales. The program is accredited and well respected because of Ms. Gonzales' tireless work.

The reasons to continue to support this program are best summed up by two statements in the documentation:

(a) While the program is relatively small, its presence has prevented a chronic shortage of laboratory professionals from developing while providing much needed employment opportunities for residents of the region.

(b) The MLT Program aims to continue helping students fulfill their potential and become productive members of society, thereby improving the quality of life for both themselves and the community they serve.

Truly,

A handwritten signature in black ink that reads "Kenneth R. Roberts".

Professor Kenneth R. Roberts, Dean of Instruction.

Cc Ms. Irene Den Bleyker, Chair EHHS
Ms. Corine Gonzales, Lecturer II, MLT

Appendix A:

MLT Program Data

From

Institutional Researcher

All data is for the Gallup Medical Laboratory Technology AS Program.
 Subject: MLT Major: MDLA CIP Code: 51.1004
 Data pulled from Banner Tables using MyReports

MLT Course Enrollment

Fall Semester	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Total SCH	140	140	174	171	266	181
Total Course Enr	35	38	45	44	67	46
Spring Semester	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Total SCH	120	58	110	121	145	
Total Course Enr	27	19	29	31	40	

Enrollment of MDLA Majors

Fall Semester	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Total Enrolled	54	49	64	58	55	49
Total Credit Hours	581	512	661	557	542	456
Spring Semester	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Total Enrolled	44	49	64	51	41	
Total Credit Hours	495	516	576	499	393	

Graduates by Academic Year

Academic Year	2011-12	2012-13	2013-14	2014-15	2015-16
Certificates	--	--	--	--	--
Associate Degrees	2	11	3	11	8

Faculty Teaching MLT Courses and Total Credit Hours Generated

Academic Year	Semester	PRIMARY_INSTRUCTOR_FIRST_NAME	PRIMARY_INSTRUCTOR_LAST_NAME	CrHrs
2014-15	F	Berlinda	Wyaco	28
2014-15	F	Corine	Gonzales	87
2014-15	F	Donald	Harris	56
2015-16	F	Berlinda	Wyaco	48
2015-16	F	Corine	Gonzales	138
2015-16	F	Donald	Harris	80
2016-17	F	Corine	Gonzales	109
2016-17	F	Donald	Harris	44
2016-17	F	Nancy	Ingham	28

List of Courses Offered by Academic Year and Semester and Meeting Time

Academic Year	Semester	MEETING_TIME	SUBJECT	COURSE_NUMBER	COURSE_TITLE_SHORT	COURSE_SECTION_NUMBER
2011-12	F		MLT	211	Clinical Hem & Coag	400
2011-12	F	1000-1200	MLT	111	Intro Lab Ua & Body Fl	400
2011-12	F	1330-1530	MLT	216	Clinical Chemistry	400
2011-12	S		MLT	214	Clinical Microbiol	400
2011-12	S		MLT	219	Immunochem & Serology	400
2011-12	S		MLT	271	Clinical Prac I	400
2011-12	S		MLT	281	Directd Clin Prac II	400
2011-12	S		MLT	291	MLT Board Exam Rev	400
2012-13	F		MLT	112	Clinical Prac:Phle	490
2012-13	F		MLT	271	Clinical Prac I	490
2012-13	F		MLT	281	Directd Clin Prac II	490
2012-13	F		MLT	291	MLT Board Exam Rev	490
2012-13	F	0900-1400	MLT	111	Intro Lab Ua & Body Fl	401
2012-13	F	1730-2000	MLT	214	Clinical Microbiol	400
2012-13	S		MLT	112	Clinical Prac:Phle	400
2012-13	S	0930-1350	MLT	219	Immunochem & Serology	401
2012-13	S	0930-1450	MLT	211	Clinical Hem & Coag	490
2012-13	S	1715-1855	MLT	216	Clinical Chemistry	400
2013-14	F		MLT	112	Clinical Prac:Phle	490
2013-14	F		MLT	271	Clinical Prac I	490
2013-14	F		MLT	281	Directd Clin Prac II	490
2013-14	F		MLT	291	MLT Board Exam Rev	490

Academic Year	Year	Semester	SUBJECT	SCH	Enrollment
2011-12	2011	F	MLT	140	35
2012-13	2012	F	MLT	140	38
2013-14	2013	F	MLT	174	45
2014-15	2014	F	MLT	171	44
2015-16	2015	F	MLT	266	67
2016-17	2016	F	MLT	181	46
2011-12	2012	S	MLT	120	27
2012-13	2013	S	MLT	58	19
2013-14	2014	S	MLT	110	29
2014-15	2015	S	MLT	121	31
2015-16	2016	S	MLT	145	40

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PROGRAM_CL

CAMPUS	STATUS	ATION	MAJOR	ASSIFICATION	DEGREE	ID COUNT
GA	AW	201210	MDLA	511004	AS	2 2011-12
GA	AW	201280	MDLA	511004	AS	7 2012-13
GA	AW	201310	MDLA	511004	AS	4 2012-13
GA	AW	201380	MDLA	511004	AS	2 2013-14
GA	AW	201410	MDLA	511004	AS	1 2013-14
GA	AW	201460	MDLA	511004	AS	6 2014-15
GA	AW	201480	MDLA	511004	AS	4 2014-15
GA	AW	201510	MDLA	511004	AS	1 2014-15
GA	AW	201580	MDLA	511004	AS	7 2015-16
GA	AW	201610	MDLA	511004	AS	1 2015-16
GA	AW	201660	MDLA	511004	AS	3 2016-17

MAJOR	Semester	Academic Year	Year	CountOfID	SumOfTOTAL_CREDITS
MDLA	F	2011-12	2011	54	581
MDLA	F	2012-13	2012	49	512
MDLA	F	2013-14	2013	64	661
MDLA	F	2014-15	2014	58	557
MDLA	F	2015-16	2015	55	542
MDLA	F	2016-17	2016	49	456
MDLA	S	2011-12	2012	44	495
MDLA	S	2012-13	2013	49	516
MDLA	S	2013-14	2014	64	576
MDLA	S	2014-15	2015	51	499
MDLA	S	2015-16	2016	41	393

Academic Year	Semester	PRIMARY_INSTRUCTOR_FIRST_NAME	PRIMARY_INSTRUCTOR_LAST_NAME	CrHrs
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2011-12	S		MLT	214	Clinical Microbiol	400
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2011-12	S		MLT	271	Clinical Prac I	400
2011-12	S		MLT	281	Directd Clin Prac II	400
2011-12	S		MLT	291	MLT Board Exam Rev	400
2012-13	F		MLT	112	Clinical Prac:Phle	490
2012-13	F		MLT	271	Clinical Prac I	490
2012-13	F		MLT	281	Directd Clin Prac II	490
2012-13	F		MLT	291	MLT Board Exam Rev	490
2012-13	F	0900-1400	MLT	111	Intro Lab Ua & Body Fl	401
2012-13	F	1730-2000	MLT	214	Clinical Microbiol	400
2012-13	S		MLT	112	Clinical Prac:Phle	400
2012-13	S	0930-1350	MLT	219	Immunochem & Serology	401
2012-13	S	0930-1450	MLT	211	Clinical Hem & Coag	490
2012-13	S	1715-1855	MLT	216	Clinical Chemistry	400
2013-14	F		MLT	112	Clinical Prac:Phle	490
2013-14	F		MLT	271	Clinical Prac I	490
2013-14	F		MLT	281	Directd Clin Prac II	490
2013-14	F		MLT	291	MLT Board Exam Rev	490
2013-14	F	0815-1215	MLT	214	Clinical Microbiol	403

2015-16	F		MLT	271	Clinical Prac I	400
2015-16	F		MLT	281	Directd Clin Prac II	400
2015-16	F		MLT	291	MLT Board Exam Rev	400
2015-16	F	0900-1100	MLT	214	Clinical Microbiol	400
2015-16	F	0900-1220	MLT	216	Clinical Chemistry	473
2015-16	F	1715-2035	MLT	111	Intro Lab Ua & Body Fl	402
2015-16	S		MLT	112	Clinical Prac:Phle	400
2015-16	S		MLT	271	Clinical Prac I	400
2015-16	S		MLT	281	Directd Clin Prac II	400
2015-16	S	0830-1150	MLT	219	Immunochem & Serology	420
2015-16	S	0830-1150	MLT	219	Immunochem & Serology	430
2015-16	S	0900-1040	MLT	211	Clinical Hem & Coag	420
2015-16	S	0900-1040	MLT	291	MLT Board Exam Rev	401
2016-17	F		MLT	112	Clinical Prac:Phle	400
2016-17	F		MLT	271	Clinical Prac I	400
2016-17	F		MLT	281	Directd Clin Prac II	400
2016-17	F		MLT	291	MLT Board Exam Rev	400
2016-17	F	0900-1040	MLT	111	Intro Lab Ua & Body Fl	401
2016-17	F	0900-1120	MLT	214	Clinical Microbiol	401
2016-17	F	1130-1310	MLT	216	Clinical Chemistry	400

Appendix B:

MLT Curriculum

And

Suggested

Course Sequencing

Associate of Science in Medical Laboratory Technology (MLT)

Medical laboratory technicians (MLT) collect, process and analyze biological specimens (blood, urine, other body fluids, tissue samples) for microscopic, chemical, hematologic, immunologic and microbial testing or transfusion services. This array of complex laboratory tests is significant in the detection, diagnosis and treatment of diseases and also in health and wellness promotion.

The Associate of Science Degree in Medical Laboratory Technology is structured to meet the standards mandated by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) and has been granted full accreditation since 1986. Articulation for the Bachelor's Degree is in place. A student successfully completing the program is eligible to take the American Society for Clinical Pathology (ASCP) Board of Certification examination.

Interested students must first be admitted to UNM-Gallup before applying to the MLT Program. General education prerequisite courses must be completed prior to admission. A grade of C or better is required in all courses. Deadline for submission of application to the MLT Program is June 1st for fall admissions and October 1st for spring admissions. Students are admitted each regular semester based on selection criteria. Class size is limited to twelve. Priority is given to continuing students who are in good academic standing. Students are required to complete all professional coursework within a five-year time period.

Suggested Course Sequence

The following is the recommended course sequence for full-time students who met the prerequisites for the required courses. Part-time students should see the MLT program coordinator to customize their educational plan.

Term 1 (13cr)

ENGL 110	3cr
MATH 121	3cr
BIOL 123/124L or 136/139L or 237/227L	4cr
Behavioral/Social Sciences course	3cr

Term 2 (12cr)

ENGL 120 or CJ 221	3cr
CHEM 121/123L or 111/111L or 122/124L	4cr
BIOL 200 or BIOL 238/237L	4cr
HCHS 101	1cr

Term 3 (12cr)

CHEM 212	4cr
Behavioral/Social Sciences course	3cr
Fine Arts/Humanities course	3cr
Health/Physical Education	2cr

Term 4 (13cr)

MLT 111 Intro to Basic Lab Skills, Urinalysis and Body Fluids	4cr
MLT 214 Clinical Microbiology	5cr
MLT 216 Clinical Chemistry	4cr

Term 5 (8cr)

MLT 211 Clinical Hematology & Coagulation	4cr
MLT 219 Immunohematology and Serology	4cr

Term 6 Capstone Courses (13cr)

MLT 112 Clinical Practicum: Phlebotomy	1cr
MLT 271 Directed Clinical Practicum I	4cr
MLT 281 Directed Clinical Practicum II	6cr
MLT 291 Preparation for MLT Board Exam	2cr

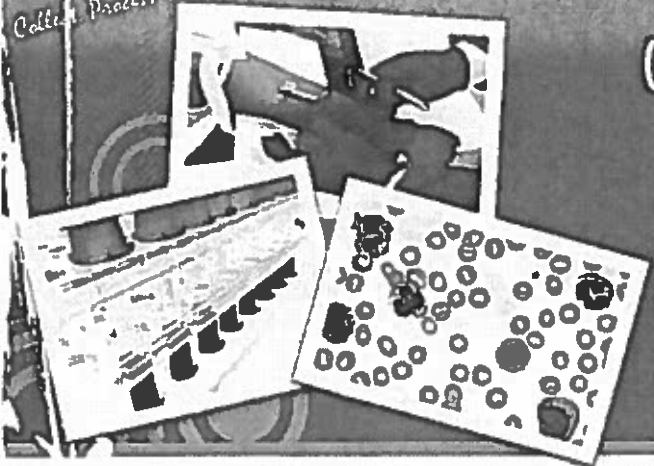
Notes:

1. English, Math, Chemistry and Biology courses must be taken in sequence. Please note that there may be prerequisites to these courses that are not in the MLT curriculum.
2. Interested students MUST apply to the MLT Program. General education prerequisite courses must be completed prior to admission. A grade of C or better is required in all courses. **Deadline for submission of application to the MLT Program is June 1st for fall admissions and October 1st for spring admissions.** Students are admitted each regular semester based on selection criteria. Class size is limited to twelve. Priority is given to continuing students who are in good academic standing. Students are required to complete all professional coursework within a five-year time period.

Collect. Process. Analyze. Discover.

BE A HEALTH CARE DETECTIVE.

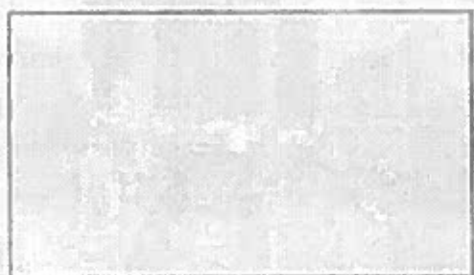
Get into medical laboratory technology.



For inquiries and advisement, please contact:
Christie Gonzalez
MLT Program Director
(505) 863-7596
cgonzal@unm.edu

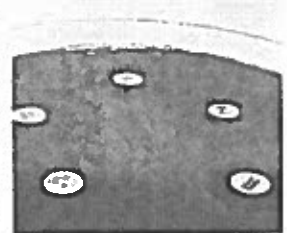
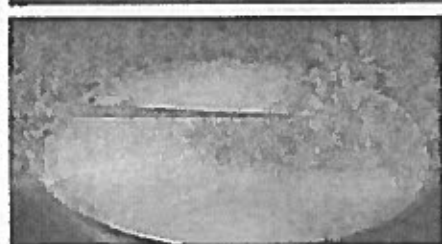
Health Careers Center
University of New Mexico - Gallup Campus
705 Garley Ave.
Gallup, NM 87301

www.gallup.unm.edu/mlt



University of New Mexico
Gallup Campus

Medical Laboratory Technology Program



MEDICAL LABORATORY TECHNOLOGY (MLT) PROGRAM

Medical laboratory technicians (MLT) collect, process and analyze biological specimens (blood, urine, other body fluids, tissue samples) for microscopic, chemical, hematologic, immunologic and microbial testing or transfusion services. This array of complex laboratory tests is significant in the detection, diagnosis and treatment of diseases and also in health and wellness promotion.



Employment: In 2010, medical laboratory professionals held about 330,600 jobs in the US. Most were employed in hospitals (52%), others were in medical and diagnostic laboratories (16%), physicians' offices (10%), and federal government (3%) (www.bls.gov). According to the ASCP 2010 Wage Survey, MLT earn an annual salary of \$35,694 – \$52,385.

The MLT Program: The Associate of Science Degree in Medical Laboratory Technology (MLT) is structured to meet the standards mandated by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) and has been granted full accreditation since 1986. A student successfully completing the program is eligible to take the American Society for Clinical Pathology (ASCP) Board of Certification Examination.

Mission Statement: The University of New Mexico – Gallup Medical Laboratory Technology Program develops life long learners to be clinically competent and culturally sensitive professionals delivering diagnostic testing services to clients within our rural health care setting.

Admission to the MLT Program: Interested students must first be admitted to UNM-Gallup before applying to the MLT Program. General education prerequisite courses must be completed prior to submitting an application. A grade of C or better is required in all courses. **Deadline for submission of application to the MLT Program is June 1st for fall admissions and October 1st for spring admissions.** Students are admitted on a regular semester based on selection criteria. Class sizes limited to twelve. Priority is given to continuing students who are in good academic standing. Students are required to complete a professional coursework within a five year time period.

THE MLT CURRICULUM (71 credits)

General Education Requirements (37 credits)

<i>Communication Credits</i>	
ENGL 110 Comp I: Exposition	3cr
ENGL 120 Comp II: Analysis & Argument	OR
CJ 221 Interpersonal Communication	3cr

For required courses, refer to the UNM Core Curriculum

<i>Mathematics Credits</i>	
Choose from STAT 145, MATH 150 or MATH 123	3cr
CHEM 121/123L or CHEM 131/131L	4cr
CHEM 122/124L or CHEM 212	4cr

<i>Science Credits</i>	
Choose from BIOL 123/124L, BIOL 130/130L, 200, 237/237L and 258/257L	

For required courses, refer to the UNM Core Curriculum

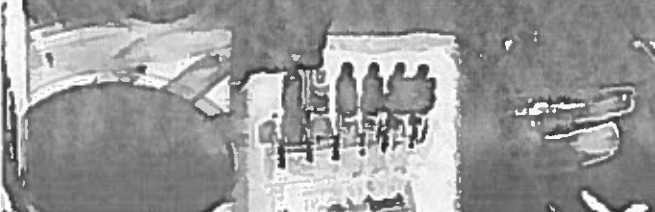
HCHS 101	Philobotomy	1cr
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MEDICAL LABORATORY TECHNOLOGY CORE (34 credits):

MLT 111	Intro to Basic Laboratory Skills, Urinalysis and Body Fluids	4cr
MLT 112	Clinical Practicum: Philobotomy	1cr
MLT 211	Chemical Hematology & Coagulation	4cr
MLT 213	Clinical Microbiology	5cr
MLT 216	Clinical Chemistry	4cr
MLT 219	Immunohematology and Serology	3cr
MLT 271	Directed Clinical Practicum I	3cr
MLT 281	Directed Clinical Practicum II	6cr
MLT 291	Preparation for MLT Board Exam	2cr

The Medical Laboratory Technology Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

5600 N. River Rd., Suite 720, Roswell, N.M. 8018-5119
(817) 939-3597, (773) 714-9860



Appendix C:

MLT

Course Syllabi





Name of Department:	Education, Health and Human Services
Name of Program:	Medical Laboratory Technology Program
Semester:	Fall 2016
Instructor Name	Dr. Phyllis Ingham
Office Location	(adjunct faculty)
Office Hours	(adjunct faculty)
E-mail	inghamn@unm.edu
Telephone	678-451-8880
Class Meeting Days/Times	Lecture: online; Lab: Tuesday 9:00-10:40AM
Location	GHCC 133 (MLT Lab)

Syllabus	
Title of Course:	Introduction to Basic Laboratory Skills, Urinalysis, and Body Fluids
Course Number	MLT 111
Course Description	An introduction to the profession of medical diagnostic testing and the clinical laboratory. Content areas consist of: general laboratory safety, laboratory mathematics, general instrumentation, use of the microscope, urinalysis, and body fluids.
Credit Hours and Contact Hours	4
Pre-requisites/co-requisites	ENGL 101, MATH 119 or 122, and MLT 211 or consent of the instructor/program director.

Learning Objectives and Outcomes	
<ul style="list-style-type: none"> • List important milestones in the history of the clinical laboratory and describe the type of professionalism desired in clinical laboratory personnel. • Describe behavior consistent with the ethical practice of clinical laboratory medicine. • Apply principles of confidentiality for all patients and test results. • State the special knowledge and talent of other members of the health care team needed for quality patient care. • Explain the impact of federal and state regulatory agencies on the clinical laboratory. • Detail the transmission of the AIDS (HIV) virus and state how the virus affects the immune system. • Name other pathogens, in addition to the HIV virus, that could be transmitted by blood or body fluids. • List and describe safety hazards in the laboratory and discuss the proper techniques to avoid accidents. 	

- Use basic metric systems for laboratory procedures and use formulas to calculate strengths of dilutions and solutions.
- Discuss processing clinical specimens according to established procedures.
- List and explain the basic laboratory procedures in clinical chemistry, hematology, coagulation, urinalysis, microbiology, and immunology/serology.
- Evaluate quality control values.
- Apply principles of safety, quality assurance and quality control;
- Describe the composition, formation, and function of selected body fluids.
- Explain the collection procedure for urine and other selected body fluids.
- Evaluate the suitability of the body fluid specimens collected.
- Exhibit an understanding of the anatomy and function of the renal system.
- Perform a routine urinalysis and explain the principles of each test.
- Evaluate laboratory test outcomes and correlate test results with patient condition(s).

Course Outline

Teaching Methods

- MLT 111 is a combination of both lecture and laboratory instruction.

Evaluation/Grading Methods

Method of Assessment	Brief Description of Assessment	Percentage of Grade
Assignments	Assignments will consist of case studies and study questions. Assignments are submitted through Blackboard	20%
Tests/Quizzes	One quiz per unit/module administered via Blackboard	*30%
Lab Skills	Lab sessions will coincide with the units.	20%
*Midterm Test	The midterm will cover units 1 and 2	*30%
*Final Exam	The final exam is comprehensive covering all units	*30%
Total		100%

*Tests, Quizzes, MidTerm, are all 30% of grade combined calculation

*Final Exam is 30% of grade

The following percentage scale will be used to award final grades:

A+	≥97%	C	73 - 76%
A	93 - 96%	C-	70 - 72%
A-	90 - 92%	D+	67 - 69%
B+	87 - 89%	D	63 - 66%
B	83 - 86%	D-	60 - 62%
B-	80 - 82%	F	<60%
C+	77 - 79%		

A final grade of "C" or better is required to receive credit for the course. A student with a grade of "C-" or "D" will need to repeat the course to receive credit. If a student receives an "F", he/she will not be allowed to take any MLT course in the succeeding semesters. (See MLT Student Handbook)

Required Text(s) & Supporting Materials

- Estridge/Basic Clinical Laboratory Techniques 1-133-90645-1
- Strasinger/Urinalysis and Body fluids 0-8036-1697-X

Attendance Policy And Policies On Classroom Behavior (use of cell phones, academic dishonesty, lap-top use, etc.)

For Lab Skill sessions: Tardiness, leaving class, or missing class minimizes your opportunity to learn, and thus affects your grade. For example, unexcused tardiness may mean missing a quiz, resulting in zero point assignment. Unexcused absences result in lost time in lab skill development, or missed opportunities to acquire needed information. In all cases, your professional demeanor suffers, resulting in point deductions. Unusual circumstances resulting in tardiness or class absence will be evaluated on a case-by-case basis by the instructor. The circumstances must be communicated to the instructor within twenty-four hours from the class time missed. Excused absences and make-up work must be negotiated with the instructor.

Students are expected to complete all assignments by designated due date and post to BlackBoard (learn.unm.edu).

Academic Honesty

- Plagiarism, cheating, collusion, and other forms of academic dishonesty are not only violations of the college system and the rules of this class, but are unethical and unprofessional. Students engaging in any form of academic dishonesty will receive a grade of "F" for the assignment and will be forwarded to department head for further review.
- Examples of cheating on a test include:
 - Copying from another students' test paper;
 - Using materials not authorized for the test;
 - Collaborating with another student during a test without authorization;
 - Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
 - Bribing another person to obtain a test that is to be administered.
- Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.
- Collusion means the unauthorized collaboration with another person in preparing written work offered for credit.

Weekly Schedule of Topics, Readings, Assignments, Tests and other Activities

Week	Date	Textbook Chapter(s) Covered/Black Board Units	Lab Points	Test/ Exam/ Quiz Points
1	8/23/16	Estridge : BlackBoard Unit 1: Introduction to Clinical Laboratory Science Text book: Unit 1:Lesson 1-1,1-2,1-3, 1-6,1-10 Blackboard Power Points Black Board Assignments Lab Skills	50	100
2	08/30/16	Estridge: Black Board Unit 2: Laboratory Safety Textbook:Unit 1: Lesson 1-4,1-5 Black Board Power Points Black Board Assignments Lab Skills	50	100
3	9/06/16	Estridge: BlackBoard Unit 3: Laboratory Math Textbook:Unit 1: Lesson 1-7,1-8 Black Board Power Points Black Board Assignments Lab Skills	50	100
4	9/13/16	Estridge: BlackBoard Unit 4: Medical Ethics Black Board Power Points Black Board Assignments Lab Skills	50	100
5/6	9/20/16 9/27/16	Estridge: Black Board Unit5: Clinical Laboratory Testing Estridge: Textbook:Unit 2 -7 Basic lab departments and testing. Black Board Power Points Black Board Assignments Lab Skills	50	100

6	9/27/16	Estridge: BlackBoard Unit 6 Quality Control TextBook:Unit 1 Lesson 1-9 Black Board Power Points Black Board Assignments LAB Skills	50	100
7	10/04/2016	Midterm Exam: Estridge:Units 1 and 4		100
7	10/11/16	Strasinger: Urinalysis and Body Fluids Kidney Anatomy and Body Fluid Analysis Chapter 2-3 Black Board Power Points Black Board Assignments Lab Skills	50	100
8	10/18/2016	Strasinger: Urinalysis and Body Fluids: Chapter 4 Physiology and Urine Chemical Properties Black Board Power Points Black Board Assignments Lab Skills Test: Strasinger Chapters 1-4	30	100
9	11/1/16	Strasinger: Urinalysis and Body Fluids: Chapters 5 Chemical Examination of Urine- pH, Carbohydrates, Ketones, Proteins, Bilirubin and Urobilinogen, Blood, Nitrate and Leukocytes Black Board Power Points Black Board Assignments Lab Skills	50	100
10	11/08/16	Strasinger Urinalysis and Body Fluids: Chapter 6 Microscopic Exam- Red Blood Cells, White Blood Cells, Epithelial Cells, Alkaline and Acid Crystals, Abnormal and Misc Crystals, Urine Casts, Misc Structures Black Board Power Points Black Board Assignments: Urine Dipstick Components/what is tested/what it means/disease association Lab Skills	50	100

11	11/15/2016	Strasinger Urinalysis and Body Fluids: Chapter 7-8 Automation, Kidney Function Tests, Calculi and Overview of Renal Disorders of Urine Schedule Black Board Power Points Black Board Assignments Lab Skills	50	100
12	11/12/2016	Strasinger Urinalysis and Body Fluids: Chapters 9-12 Cerebrospinal Fluid, Semen, Synovial Fluid, and Serous Fluid Black Board Power Points Black Board Assignments-Drawings of Urinary Sediment Lab Skills Test: Chapters 5-8	50	100
13	11/29/2016	Strasinger Urinalysis and Body Fluids: Chapters 13-15 Amniotic Fluid, Fecal Analysis, and Vaginal Secretions Black Board Power Points Lab Skills	50	100
14	12/12/2016	Final Exam: Estridge Strasinger Urinalysis and Body Fluids: Chapters 1-15 Extra Credit Case Study Due		100 100

Academic Accommodations

In keeping with the university's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations is welcome to meet with Dr. Phyllis Ingham privately.

All conversations will be kept confidential (between student and instructor). Students requesting any accommodations will also need to contact:

STUDENT SERVICES – CAREER & ACCESSIBILITY RESOURCE CENTER (ARC)

By Appointment Only

Mary Lou Mraz, MEd, LMSW
UNM Student Success Specialist
Phone: (505) 863-7527
Location: Gurley Hall 2205 B
Email: mloumraz@unm.edu

To contact office:
Phone: (505)863-7757
Advisement Counter
Location: Gurley Hall 2205

ARC will conduct an intake and, if appropriate, will provide an approved academic accommodation notification letter for you to bring to Dr. Phyllis Ingham. At that point, I will review the letter with you and discuss these accommodations in relation to this course.

Reporting Sexual Harassment

The University is committed to creating and maintaining a community in which students and employees can learn and work together in an atmosphere that enhances productivity and draws on the diversity of its members and is free from all forms of disrespectful conduct, harassment, exploitation, or intimidation, including sexual harassment and sex-based discrimination. For more information, please see Policy 2730: Sexual Harassment (<http://policy.unm.edu/university-policies/2000/2730.html>). Persons who believe they may have experienced sexual harassment may report the incidents to the Office of Equal Opportunity (oeo.unm.edu).





Name of Division: Name of Program: Semester:	Education, Health and Human Services Medical Laboratory Technology Program Fall 2016
Instructor Name: Office Location Office Hours E-mail Telephone Class Meeting Days/Times Location	Corine Lei Gonzales, MS,MT(AMT),MT(ASCP') HCC 131 Tuesday 0800-1100, 1200-1400 or by appointment gonzalesc@unm.edu 505-863-7598 arranged clinical laboratory affiliates
Syllabus	
Title of Course:	Clinical Practicum: Phlebotomy
Course Number	MLT 112
Course Description	Supervised clinical practice in the pathology department of affiliated hospitals; Field laboratory experience in blood sample collection and processing that includes both venipuncture and capillary puncture techniques
Credit Hours and Contact Hours	One(1) credit hour; Forty(40) contact hours
Pre-requisite	HCHS 101: Phlebotomy
Learning Objectives and Outcomes	At the end of the course, the student is expected to: <ol style="list-style-type: none"> 1. demonstrate the ability to apply classroom theory and student laboratory practice to the proper collection and processing of blood samples for clinical testing purposes; 2. demonstrate the ability to prioritize and organize work in response to volume and emergency demands; 3. demonstrate the ability to work cooperatively with other members of the health care team; 4. demonstrate an understanding of professional and ethical standards of practice in interactions with clients and colleagues; 5. follow the prescribed safety policies and practices of the clinical affiliate; 6. demonstrate dependability and reliability in meeting all scheduled clinical hours.
Course Outline	
Teaching Methods: <ol style="list-style-type: none"> 1. Demonstration of collection and processing techniques 2. Clinical phlebotomy experience in a hospital laboratory, outpatient clinic or other blood collection facilities 	

Evaluation/Grading Methods:

The student's performance will be evaluated by the clinical instructor/preceptor/laboratory supervisor based on accuracy, organization, self-confidence, dependability, initiative and industry, ability to handle stress, attendance and proficiency. A grade of 70% or better is required to pass the course.

Clinical performance (evaluation grades)	50%
Professional performance evaluation	10%
Quizzes (online modules)	15%
Assignments (clinical journal)	15%
Attendance (time sheets)	10%

The following percentage scale will be used to award final grades:

A+	≥97%
A	93 - 96%
A-	90 - 92%
B+	87 - 89%
B	83 - 86%
B-	80 - 82%
C+	77 - 79%
C	73 - 76%
C-	70 - 72%
D+	67 - 69%
D	63 - 66%
D-	60 - 62%
F	<60%

A final grade of "C" or better is required to receive credit for the course. A student with a grade of "C-" or "D" will need to repeat the course. If a student receives an "F", he/she will not be allowed to take any MLT course in the succeeding semesters. (See MLT Student Handbook)

Recommended Text(s) & Supporting Materials:**Phlebotomy Notes: Pocket Guide to Blood Collection, c2013**

Susan King Strasinger/ Marjorie Schaub Di Lorenzo

F. A. Davis Company

ISBN 13: 978-0-8036-2594-5

Course Content

Depending on the affiliate's training program, the phlebotomy clinical experience may include but not limited to venipunctures and capillary punctures, inpatient and outpatient draws in the main laboratory or clinics, morning draws, neonatal screening and therapeutic or donor phlebotomy.

Attendance Policy and Policies on Behavior

Attendance is expected of the student. If the student needs to be absent, prior notice should be given to the laboratory supervisor and MLT faculty. All absences, tardiness or undertime must be made up. Make up days must be arranged with the preceptor and laboratory supervisor. A total of forty (40) clinic hours must be completed for the phlebotomy practicum.

During clinical training, the student is expected to conduct himself/herself in a professional and responsible manner at all times. He/she must comply with all the policies and procedures of the university and facility where he/she are assigned. Failure to do so will result in termination of the training.

Student ID badges and scrubs with UNM MLT patch must be worn at all times while on rotation at the affiliated laboratories.

UNM Holidays, School Breaks, and School Closure Due to Inclement Weather

The University of New Mexico observes specific holidays and school breaks each year and students are not required to be on clinical training during these days. The following holidays and school breaks are observed by the University:

- Martin Luther King Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Day after Thanksgiving
- Fall, Spring and Winter Breaks

In addition, the students are also expected to observe class cancellation or delay due to inclement weather. UNM Gallup will send out text messages to those who have enrolled in the LoboAlert system (through the UNM website) regarding emergencies such as closings. The LoboAlert system also sends out e-mails to students, faculty and staff who have UNM e-mail accounts.

If conditions are more severe at the student's location than they are on campus or clinical site, the student will need to notify the instructor of that fact and give an estimated time of arrival. A tardy will not be counted against the student if it is due to inclement weather.

Academic Dishonesty

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Accommodations

"In keeping with the university's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations is welcome to meet with Corine Gonzales privately.

All conversations will be kept confidential (between student and instructor). Students requesting any accommodations will also need to contact:

STUDENT SERVICES – CAREER & ACCESSIBILITY RESOURCE CENTER (ARC)

By Appointment:

**Mary Lou Mraz, MEd, LMSW
UNM Student Success Specialist
Phone: (505) 863-7527
Location: Gurley Hall 2205 B
Email: mloumraz@unm.edu**

To contact office:

**Administrative Assistant
Phone: (505) 863-7757
Front Desk
Location: Gurley Hall 2205**

ARC will conduct an intake and, if appropriate, will provide an approved academic accommodation notification that will be sent to you. At that point, you may contact me to review the letter and discuss these accommodations in relation to your course.

Notice of Non-Discrimination: The University of New Mexico-Gallup, as an equal opportunity/affirmative action employer and educator, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University of New Mexico-Gallup is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race/ethnicity, color, national origin, age, spousal affiliation, sex, sexual orientation, gender identity, medical condition, disability, religion, pregnancy, genetic information, or veteran status in employment, educational programs and activities, and admissions, and provides equal access to the Boy Scouts and other designated youth groups. Inquiries or complaints may be addressed to the Office of Equal Opportunity whose Director serves as the 504/ADA Coordinator and Title IX Coordinator on UNM main campus: 505-277-5251. For referrals to main campus see: UNM Gallup Title IX Coordinator; Director of Student Affairs, SSTC Room 276. Telephone: 505-863-7508. For Referrals to main campus regarding Section 504 compliance; Student Success Specialist, Gurley Hall Room 2205 B. Telephone: 505-863-7527.

Reporting Sexual Harassment

The University is committed to creating and maintaining a community in which students and employees can learn and work together in an atmosphere that enhances productivity and draws on the diversity of its members and is free from all forms of disrespectful conduct, harassment, exploitation, or intimidation, including sexual harassment and sex-based discrimination. For more information, please see Policy 2730: Sexual Harassment (<http://policy.unm.edu/university-policies/2000/2730.html>). Persons who believe they may have experienced sexual harassment may report the incidents to the Office of Equal Opportunity (oeo.unm.edu).

updated 08/2016 clg



Name of Department:	Medical Laboratory Technology Program
Semester:	Spring 2016
Instructor Name	Charles Harris (Lecture), Corine Gonzales (Lab)
Office Location	HCC 131
Office Hours	N/A
E-mail	dcharris1@unm.edu
Telephone	MLT Office 505-863-7598
Class Meeting Days/Times	Lecture: Online, Lab: Monday 9:00-12:20
Location	HCC 133

Syllabus	
Title of Course:	Clinical Hematology & Coagulation
Course Number	MLT 211
Course Description	Introduction to the theory and practice of clinical hematology. The course includes: erythropoiesis, leukopoiesis, cell enumeration, the hemogram, white blood cell morphology, differentials, coagulation testing, platelets, routine manual and automated methods, and correlation with pathologies
Credit Hours and Contact Hours	4
Pre-requisites/co-requisites	MLT 111
Learning Objectives and Outcomes	
<ul style="list-style-type: none"> • Practice laboratory safety as described in OSHA regulations including instructions in universal precautions. • Identify potential laboratory safety hazard situations and take appropriate actions to minimize injury to self and others. • Using established criteria, identify and evaluate a specimen as acceptable for hematology testing or coagulation studies. • Understand quality control needed to ensure the accuracy of all reported hematology and coagulation test results. • Understand instrument maintenance and calibrations as required to ensure optimal instrument performance. • Document quality control data, equipment maintenance, corrective actions when troubleshooting defective equipment, and test results. • Discuss hematopoiesis in terms of what, when, why, where, and how it happens. • Identify and describe classic morphologic characteristics at each stage of maturation for the erythrocyte, neutrophil, monocyte, lymphocyte, and thrombocyte. 	

- Identify and distinguish an immature from a mature blood cell.
- Describe and interpret peripheral blood smears
- Explain the mechanisms of coagulation and fibrinolysis by defining what the intrinsic, extrinsic, common and alternate pathways are; stating how they interact; identifying by name and activity the plasma proteins and blood cells involved.
- Relate peripheral smear findings to common hematological and hemostatic disorders.
- Select and prepare for use materials and reagents necessary to perform cell counts, erythrocyte sedimentation rates, calculate red cell and other cell indices, stain blood smears for the purpose of identifying and characterizing erythrocytes, leukocytes, and platelets, and conduct quality control testing.
- Explain the analytical principles (both manual and automated) and diagnostic utility for tests used in the evaluation of the disorders of red cells, white cells, platelets, and hemostasis to include: blood cell counts, reticulocyte counts, erythrocyte sedimentation rates, hematocrits, differentials, bleeding time, platelet aggregation, prothrombin time, activated partial thromboplastin time, thrombin time, d-Dimer, FDP, mixing studies, and factor assays.
- Correlate laboratory and clinical data to recommend additional laboratory tests.
- Correlate laboratory and clinical data to identify common hematological conditions and diseases including those related to bleeding disorders.
- Evaluate laboratory data to: recognize common procedural/technical problems; verify test results; check for and identify possible sources of pre-analytical and analytical error; determine possible inconsistent results; and to assess the accuracy of procedures for a given hematology or coagulation test.
- Demonstrate proper use and maintenance of a microscope in accordance with manufacturer guidelines and procedure manuals meeting faculty standards.
- Identify samples that are unsuitable for testing and reject them with 100% accuracy.
- Collect proper and adequate samples for hematological testing according to faculty standards.
- Describe proper patient and sample identification in accordance with current nation patient safety goals.
- Apply Westgard rules to Quality Control data and Levy Jennings charts to identify random and/or systematic errors with 100% accuracy.
- Recognize and differentiate normal and abnormal automated CBC results and those that require manual differentials.
- Identify, Quantitate, and Differentiate Red Blood Cell, White Blood Cell, and Platelet normal and abnormal morphology within 10% of faculty member's results.
- Perform and quantitate routine hematology procedures, including Erythrocyte Sedimentation Rates and Cell Counts within 10% of faculty results.
- Identify automated results that fall within normal and abnormal patient reference ranges and report them accordingly.

Course Outline

Teaching Methods

- MLT 211 is a combination of both Lecture and Laboratory instruction

Evaluation/Grading Methods

- Explanation of grading will be provided with each assignment as it is assigned

Required Text(s) & Supporting Materials

- Anderson / Anderson's Atlas of Hematology 1-4511-3150-X
- Ciesla / Hematology in Practice 0-8036-2561-8

Assessment Methods

- 16 Quizzes: 20%. Quizzes will be multiple choice and will cover a defined chapter set
- Midterm Exam: 20%. Midterm will cover chapters 1-8
- Final Exam: 25%. Final Exam will cover chapters 9-10 and 15-20
- Labs: 25%. Will be assigned and graded by Corine Gonzalez.
- Medtraining Assignments: 10%. Peripheral Blood and Coagulation

Attendance Policy and policies on classroom behavior (use of cell phones, academic dishonesty, lap-top use, etc.)

- Tardiness, leaving class, or missing class minimizes your opportunity to learn, and thus affects your grade. For example, unexcused tardiness may mean missing a quiz, resulting in zero point assignment. Unexcused absences result in lost time in lab skill development, or missed opportunities to acquire needed information. In all cases, your professional demeanor suffers, resulting in point deductions. Unusual circumstances resulting in tardiness or class absence will be evaluated on a case-by-case basis by the instructor. The circumstances must be communicated to the instructor within twenty-four hours from the class time missed. Excused absences and make-up work must be negotiated with the instructor.

Weekly Schedule of Topics, Readings, Assignments, Tests and other Activities

Lecture (learn.unm.edu)

Week	Open Date	Chapter(s) Covered	Midterm/Final	Medtraining Modules	Module Due Date
1-4	1/19/16	Chapters 1-8	Open Feb 8 th -14 th	Peripheral Blood	All assignments due by Feb 14, 2016
5-8	2/15/16	Chapters 9,10,15,16,17,18,19,20	Open March 9 th - 13 th	Coagulation	All assignments due by March 13, 2016

Schedule of Lab Activities

Date	Activity	Reference
January 25, 2016	<ul style="list-style-type: none"> • Peripheral Smear • Manual Differential and RBC Morphology 	Chapter 20 Pages 306 - 310
February 1, 2016	<ul style="list-style-type: none"> • Manual RBC, WBC, Platelet Counts 	Chapter 20 Pages 310 - 312
February 22, 2016	<ul style="list-style-type: none"> • Microhematocrit • Erythrocyte Sedimentation Rate • Reticulocyte Procedure 	Chapter 20 Pages 301 - 306
February 29, 2016	<ul style="list-style-type: none"> • Coagulation Studies • Hematology Automation Principles 	Chapter 20 Pages 316 - 339

Academic Honesty

- Plagiarism, cheating, collusion, and other forms of academic dishonesty are not only violations of the college system and the rules of this class, but are unethical and unprofessional. Students engaging in any form of academic dishonesty will receive a grade of "F" for the assignment and will be forwarded to department head for further review.
- Examples of cheating on a test include:
 - Copying from another students' test paper;
 - Using materials not authorized for the test;
 - Collaborating with another student during a test without authorization;
 - Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
 - Bribing another person to obtain a test that is to be administered.
- Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.
- Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit.

Disabilities Policy:

In accordance with University Policy 2310 and the Americans with Disabilities Act (ADA), any student needing academic accommodations should first contact accessibility (see below). It is also imperative that you take the initiative to bring such needs to the instructor's attention, as your instructor is not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor as to the most appropriate procedures to follow.

"In keeping with the university's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations is welcome to meet with Charles Harris privately. All conversations will be kept confidential (between student and instructor). Students requesting any accommodations will also need to contact:

Student Services - Accessibility Resource Center (ARC)

Sheryl Luther
Senior Academic Advisor
Phone: (505) 863-7660
Location: SSTC 252
Email: slutherw@unm.edu

By Appointment Only

**FOR message and/or to set up
Appointment:**

Wilma Lee
Administrative Assistant I
Phone: (505) 863-7520
Advisement Counter: (505) 863-7706
Location: SSTC 226A

ARC will conduct an intake and, if appropriate, will provide an approved academic accommodation notification letter for you to bring to Charles Harris. At that point, I will review the letter with you and discuss these accommodations in relation to this course."



Name of Division: Name of Program: Semester:	Education, Health and Human Services Medical Laboratory Technology Program Fall 2016
Instructor Name Office Location Office Hours E-mail Telephone Class Meeting Days/Times Location	Corine Lei Gonzales, MS, MT(ASCP), MT(AMT) GHCC 131 Tuesday 0800-1000, 1200-1400 gonzalesc@unm.edu (505) 863-7598 Wednesday and Thursday 0900 – 1120 GHCC 133 (MLT Laboratory)
Syllabus	
Title of Course:	Clinical Microbiology
Course Number	MLT 214
Course Description	Comprehensive current clinical study of bacteriology, mycology, and parasitology; macroscopic and microscopic identification; biochemical identification profiles; bacterial antibiotic susceptibility patterns; parasitic life cycles; pathology and epidemiology; introduction to rickettsiae and viruses.
Credit Hours and Contact Hours	Five (5) credit hours Contact hours: 4 hours and 10 minutes per week
Pre-requisites/co-requisites	MLT 111, MLT 211
Learning Outcomes	At the end of this course, the students will be able to: <ul style="list-style-type: none"> • demonstrate an understanding of the theories, principles, and procedures that comprise the science of Clinical Microbiology through both written and speaking assessment, and laboratory practical exercises; • properly select and safely employ various laboratory instruments, procedures, methods, and techniques in the analysis of biological specimens with an emphasis on isolation and identification protocols for bacteria; • correlate laboratory data with normal and abnormal body systems and functions with an emphasis upon infectious diseases; • properly perform and interpret microbiology procedures; • select and apply suitable problem-solving strategies in a practical laboratory environment; and • work cooperatively in classroom and laboratory settings with at least 80% accuracy and proficiency.

Learning Objectives

General Learning Objectives

After attending the lecture, completing exams and quizzes, reading the assignment, and performing laboratory activities, the student will:

- List several ways in which microbes affect our lives.
- Differentiate the characteristics of each group of microorganisms.
- Compare and contrast the overall cell structure of prokaryotes and eukaryotes.
- Demonstrate an understanding of the fundamental concepts of microbial metabolism and microbial growth.
- Compare the effectiveness and indications of different methods of microbial control.
- Explain the basis for classifying microorganisms.
- Identify and characterize the different groups of bacteria, bacterial family and species, their biochemical reactions, cultural characteristics, and pathogenicity.
- List the defining characteristics of clinically significant fungi, protozoans and parasites.
- Describe the isolation, cultivation, identification, multiplication and pathogenicity of viruses.
- Correctly perform and interpret laboratory procedures in microbiology such as staining, culture, identification, susceptibility testing and biochemical reactions.

Specific learning objectives will be provided throughout the course: at the beginning of each chapter for lecture topics, and on laboratory procedures and worksheets for every lab exercise.

Affective Objectives

- Student will demonstrate professionalism by complying with the attendance policy and submitting assignments by the stated deadline.
- Student will demonstrate enthusiasm and interest in the profession of the Clinical Lab profession by asking questions, participating in class discussions and meeting with professor during office hours as needed.
- Student will demonstrate initiative by reviewing objectives and completion of reading assignments prior to class.
- Student will demonstrate progression in laboratory skills by effective organization, coordination of multiple tasks and insightful evaluation of results obtained.
- Student will utilize constructive criticism to correct deficiencies and improve performance.
- Student will work cooperatively with professor and fellow students to achieve the goals of each activity assigned.

Course Outline

Teaching Methods

MLT 214 will utilize a variety of approaches to meet the course outcomes. These instructional methods may include, but are not limited to lecture, audio-visual materials, guided discussions, group activities, written assignments, laboratory experiments and/or computer and on-line activities.

Evaluation/Grading/Assessment Methods

A grade of "C" or better is required to successfully complete MLT 214.

The following percentage scale will be used to award final grades:

A+	≥97%	C	73 - 76%
A	93 - 96%	C-	70 - 72%
A-	90 - 92%	D+	67 - 69%
B+	87 - 89%	D	63 - 66%
B	83 - 86%	D-	60 - 62%
B-	80 - 82%	F	<60%
C+	77 - 79%		

The final grade for MLT 214 will be based on the following:

Major examinations (written & practical)	40%
Midterm Exam	20%
Final Exam	20%
Quizzes	25%
Laboratory Activities	25%
Assignment (Online Modules)	5%
Attendance and Professional Performance	5%

- **Major Exams.** There will be two major exams: midterms and finals. Each major exam is worth 20% of the final grade. There will be a 100-item written exam and a practical exam where the student will be given an "unknown" specimen to work on in the lab component of the exam.
- **Quizzes.** Written quizzes will be given per lecture topic. Total points for each quiz may vary.
- **Laboratory Activities.** Laboratory experiments will be performed during the lab period as scheduled. Procedures and worksheets will be provided prior to each experiment. Results and answers to questions for research must be submitted on the next class meeting.
- **Assignments.** Online modules will be assigned at the beginning of the course. All students currently enrolled in the course are registered users in www.medtraining.org. Access to the online modules is given at no additional cost to students. Subscription has been paid for by the University for the MLT Program.
- **Attendance.** Students with no unexcused absence or tardy will be awarded 100% for the attendance grade. Fifteen (15) points will be deducted for every unexcused absence; and 5 points for every tardy. Please refer to the attendance policy (below) for more information.
- **Professional Performance.** Each student's professional performance will be evaluated by peers and instructor. A copy of the professional performance evaluation form will be provided to each student at the beginning of the semester.

Required Text(s) & Supporting Materials

Introduction to Diagnostic Microbiology for the Laboratory Sciences, 1st ed
By Maria Dannessa Delost
ISBN: 9781284032314
Jones & Bartlett Learning

Attendance Policy and Policies on Classroom Behavior:

Attendance is expected of the student. Nonattendance may result in failure of a class. If a student misses more than four (4) meeting days, the student will be dropped from the class. If a student missed a quiz/exam, the student is required to notify the instructor of the course directly prior to the time of the test. More than fifteen minutes late is considered tardiness. Three (3) tardiness is equivalent to one (1) absence. However, a student may be excused if absence or tardiness is due to illness or an emergency. To be considered as a valid excuse, a proof such as medical certificate may be required depending on the case.

Any action that would disrupt or obstruct an academic activity is prohibited (i.e. use of cellphone and other electronic devices, inappropriate behavior). Any unprofessional or inappropriate behavior will not be tolerated at any time.

Closures for weather:

During inclement weather, listen to local radio stations or watch TV for information for possible changes. UNM Gallup will also send out text messages to those who have enrolled in the LoboAlert system (through the UNM website) regarding emergencies such as closings. The LoboAlert system also sends out e-mails to students, faculty and staff who have UNM e-mail accounts.

If conditions are more severe at the student's location than they are on campus, the student will need to notify the instructor of that fact and give an estimated time of arrival. A tardy will not be counted against the student if it is due to inclement weather.

Lecture topics and laboratory activities missed during school closures will be rescheduled to the next class meeting.

Academic Dishonesty

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Weekly Schedule of Topics, Readings, Assignments, Tests and other Activities

Date	Lecture (Chapters)	Quiz	Laboratory
Week 1 Aug. 24 th & 25 th	Orientation 1. Introduction to Clinical Microbiology 2. Safety in the Clinical Microbiology Laboratory		<ul style="list-style-type: none"> • Lab Apparatus & Equipment Used in Microbiology Laboratory • Use and Care of the Microscope • Aseptic Technique
Week 2 Aug. 31 st & Sept. 1 st	3. Specimen Collection, Transport, and Processing: Preliminary Identification Methods 4. Microscopy, Staining and Traditional Methods of Examination	Quiz 1 (Week 1 topics)	<ul style="list-style-type: none"> • Staining Methods • Preparation of Smears and Simple Staining • Negative Staining • Gram Staining
Week 3 Sept. 7 th & 8 th	5. Automation, Immunodiagnostics, and Molecular Methods 6. Antimicrobial Susceptibility Testing	Quiz 2 (Week 2 topics)	Culture Media Preparation Antimicrobial Susceptibility Testing
Week 4 Sept. 14 th & 15 th	7. <i>Staphylococci</i> and Other Catalase-Positive Gram-Positive Cocci	Quiz 3 (Week 3 topics)	<i>Staphylococci</i>
Week 5 Sept. 15 th & 16 th	8. <i>Streptococcus</i> , <i>Enterococcus</i> , and Related Organisms	Quiz 4 (Week 4 topics)	<i>Streptococcus</i> , <i>Enterococcus</i>
Week 6 Sept. 21 st & 22 nd	9. <i>Neisseria</i>	Quiz 5 (Week 5 topics)	<i>Neisseria</i>
Week 7 Sept. 28 th & 29 th	10. Enterobacteriaceae	Quiz 6 (Week 6 topics)	Enterobacteriaceae
Week 8 Oct. 5 th & 6 th	11. Nonfermentative Gram-Negative Bacilli 12-13. Miscellaneous Gram-Negative Bacilli	Quiz 7 (Week 7 topics)	<i>Campylobacter</i>
Week 9 Oct. 12 th	MIDTERM EXAMS (all topics discussed) <ul style="list-style-type: none"> • Written: Multiple Choice (100 items) • Practical: "Unknown" (30 points) Oct. 13-14: Fall Break		
Week 10 Oct. 19 th & 20 th	No class meeting on campus. Online Modules due: (www.medtraining.org) <ul style="list-style-type: none"> • Gram Stain • Parasitology • Mycology 		

Week 11 Oct. 26 th & 27 th	14. Gram-Positive Bacilli 15. Spirochetes 16. Anaerobes	Quiz 8 (Week 10 topics)	<i>Haemophilus</i> Anaerobic Culture
Week 12 Nov. 2 nd & 3 rd	17. Mycobacterium 18. Chlamydia, Mycoplasma, and Rickettsia	Quiz 9 (Week 11 topics)	Acid Fast Staining Prepared Slides
Week 13 Nov. 9 th & 10 th	19. Introduction to Virology	Quiz 10 (Week 12 topics)	Prepared Slides
Week 14 Nov. 16 th & 17 th	20. Introduction to Medical Mycology	Quiz 11 (Week 13 topics)	Clinical Specimens
Week 15 Nov. 23 rd	21. Introduction to Medical Parasitology Nov. 24-25: Thanksgiving Break	Quiz 12 (Week 14 topics)	Clinical Specimens
Week 16 Nov. 30 th Dec. 1 st	22. Clinical Specimens	Quiz 13 (Week 15 topics)	Identification of Unknown from Clinical Sample
Week 17 Dec. 7 th & 8 th	FINAL EXAMS (all topics discussed) <ul style="list-style-type: none"> • Written: Multiple Choice (100 items) • Practical: "Unknown" (30 points) 		

MTS (www.medtraining.org) online modules (Your username is your email address, and your initial password is 123. For your security, please change your password after your first log-in.)

- Gram Staining
- Parasitology
- Mycology

Academic Accommodations

"In keeping with the university's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations is welcome to meet with Ms. Corine Gonzales privately.

All conversations will be kept confidential (between student and instructor). Students requesting any accommodations will also need to contact:

Student Services – Career & Accessibility Resource Center (ARC)

By Appointment:

Mary Lou Mraz, MEd, LMSW
UNM Student Success Specialist
Phone: (505) 863-7527
Location: Gurley Hall 2205 B
Email: mloumraz@unm.edu

To contact office:

Administrative Assistant
Phone: (505) 863-7757
Front Desk
Location: Gurley Hall 2205

ARC will conduct an intake and, if appropriate, will provide an approved academic accommodation notification that will be sent to you. At that point, you may contact me to review the letter and discuss these accommodations in relation to your course.

Notice of Non-Discrimination: The University of New Mexico-Gallup, as an equal opportunity/affirmative action employer and educator, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University of New Mexico-Gallup is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race/ethnicity, color, national origin, age, spousal affiliation, sex, sexual orientation, gender identity, medical condition, disability, religion, pregnancy, genetic information, or veteran status in employment, educational programs and activities, and admissions, and provides equal access to the Boy Scouts and other designated youth groups. Inquiries or complaints may be addressed to the Office of Equal Opportunity whose Director serves as the 504/ADA Coordinator and Title IX Coordinator on UNM main campus: 505-277-5251. For referrals to main campus see: UNM Gallup Title IX Coordinator; Director of Student Affairs, SSTC Room 276. Telephone: 505-863-7508. For Referrals to main campus regarding Section 504 compliance; Student Success Specialist, Gurley Hall Room 2205 B. Telephone: 505-863-7527.

Reporting Sexual Harassment

The University is committed to creating and maintaining a community in which students and employees can learn and work together in an atmosphere that enhances productivity and draws on the diversity of its members and is free from all forms of disrespectful conduct, harassment, exploitation, or intimidation, including sexual harassment and sex-based discrimination. For more information, please see Policy 2730: Sexual Harassment (<http://policy.unm.edu/university-policies/2000/2730.html>). Persons who believe they may have experienced sexual harassment may report the incidents to the Office of Equal Opportunity (oeo.unm.edu).

08/2016 clg

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UNM GALLUP

Name of Division: Name of Program: Semester:	Education, Health and Human Services Medical Laboratory Technology Program Fall 2016	
Instructor Name: Office Location Office Hours E-mail Telephone Class Meeting Days/Times Location	Donald Charles Harris Jr. Online Email-Anytime; Phone 11:00am to 1:00pm dcharris1@unm.edu (912) 321-8521 Online Online	
Syllabus		
Title of Course:	Clinical Chemistry	
Course Number	MLT 216	
Course Description	Theory, principles, and procedures applicable to clinical chemistry, focused on chemical analysis of blood and other bodily fluids using manual and automated techniques/methodologies. Application of laboratory testing in the diagnosis of disease processes with a review of pathophysiology.	
Credit Hours and Contact Hours	4 (3 hours lecture and 1 hour for lab)	
Pre-requisites/co-requisites	Consent of MLT program director	
General Course Outline		
Teaching Methods		
MLT 216 will use a variety of approaches to meet the course outcomes. These instructional methods may include, but are not limited to lecture, audio-visual materials, guided discussions, group activities, written assignments, laboratory experiments and/or computer and on-line activities.		
Evaluation/Grading Methods	The following percentage scale will reflect the final grade for the course:	C 73-76% C- 70-72% D+ 63-66% D 63-66% D- 60-62% F <60%
Case Studies: 5% Final: 20% Labs: 25% Med Training: 10% Midterm: 15% Quizzes: 15% SOP 1: 2.5% SOP 2: 5% Professionalism: 2.5%	A+ 97% or Greater A 93-96% A- 90-92% B+ 87-89% B 83-86% B- 80-82%	Note: I do not round scores, i.e. a 69.9 will reflect as a final grade of 69.

Required Text(s) & Supporting Materials:

Clinical Laboratory Chemistry, 1st Edition, ISBN-10: 0131721712: Robert Sunheimer and Linda Graves
Clinical Laboratory Mathematics, 1st Edition, ISBN-10: 0132344378: Mark Ball

Attendance Policy and policies on classroom behavior:

Attendance is expected of the student. Attendance will be included as part the professionalism grade in this course. Failure to attend will be addressed if any tests or assignments are not submitted by their assign due dates. Any assignment or test that is not submitted by the assigned due date will receive a grade of 0% and points will be deducted from your professionalism score. Ample time will be provided to submit assignments.

Course Outcomes

Module 1:

8/22/2016 – 9/04/2016

Learning outcomes - Upon successful completion of this lesson, the student will be able to :

Cognitive

- Identify two methods used to produce clinical laboratory-grade water for use in the clinical laboratory.
- Explain the terms sensitivity and specificity
- Convert results from one unit format to another.
- List three items that should be monitored during the water-purification process.
- Explain the difference between air-displacement and positive-displacement micropipettes.
- Identify four types of glassware available for laboratory use.
- Define the following terms: to contain (TC) and to deliver (TD) in reference to types of pipettes, molarity, molality, normality, thermocouple, percent solution, and hydrates.
- Define the following wave parameters: amplitude, period, frequency.
- Identify the significant regions of the electromagnetic spectrum (EMS) from lowest energy to highest energy levels.
- Write the Nernst equation.
- Write the chemical reactions for the PO_2 and PCO_2 electrode.
- Define the following terms associated with electrochemical methods: potentiometer, amperometry, coulometry, conductance, resistivity, and voltammetry.
- Identify five laboratory tasks associated with the preanalytical stages of laboratory testing.
- List three techniques used to mix samples and reagents in an automated system.
- List three drawbacks of total laboratory automation.

Affective

- Distinguish density, specific gravity, and assay by weight from one another.
- Organize the steps to meet regulations for calibrations of pipettes and balances
- Diagram the correct sequence of significant components of a spectrophotometer.

Psychomotor

- Calculate basic statistics such as standard deviation, probability, and correlation coefficient
- Calculate the volumes required to prepare a 1:2, 1:5, and 1:10 dilution.
- Choose the correct samples and additives for testing
- Calculate the concentration of a solution given the absorbance values for tests and standards.

Module 2:

9/05/2016 – 9/18/2016

Learning outcomes - Upon successful completion of this lesson, the student will be able to :

Cognitive

- Compare and contrast descriptive statistics and inferential statistics.
- Explain a Gaussian distribution.
- Define accuracy and precision.
- Identify three types of errors.
- Identify five factors to consider when selecting quality-control material.
- Explain the characteristics of a Levey–Jennings chart and include x- and y-axis labels.
- Explain each Westgard rule violation.
- Identify the classes of fires and the appropriate type of fire extinguisher to use.
- List five important safety procedures to follow when handling electrical equipment.
- Identify three hazards related to handling biological specimens.
- List five examples of personal protective equipment (PPE) and engineered controls used to protect laboratory staff.
- Define teratogens, carcinogens, and transplacental carcinogenesis.
- List five examples of risk factors for cumulative trauma disorders.
- Interpret the results of selected laboratory statistics.
- Select the appropriate statistic(s) for a given set of measurements.
- Interpret a Levey–Jennings quality-control plot.
- Identify Westgard rule violations and determine a course of action.
- Identify three sources of errors associated with linear regression by least squares.
- Outline a protocol used for selection of a laboratory method.
- Identify and explain four factors that must be addressed before determining a reference.
- Identify five specific examples of labels used in immunoassays.
- Identify five specific examples of solid-phase material used to bind antibodies.
- Identify three advantages of monoclonal antibodies used in immunoassay systems.
- Define the terms antigen, antibody, immunogen, and haptan.

Affective

- Specify the proper storage and inventory practices for chemicals.
- Distinguish homogeneous immunoassays from heterogeneous immunoassays

Psychomotor

- Identify interface components of a computer network

- Identify warnings classified by labels

Module 3:

9/19/2016 – 10/02/2016

Learning outcomes - Upon successful completion of this lesson, the student will be able to :

Cognitive

- List and define the major classes of carbohydrates and give examples of each.
- Recognize the structure of the common stereoisomers of carbohydrates.
- Review the digestion of carbohydrates from the role of salivary amylase to the final CO₂ and H₂O.
- Define the most common terms associated with carbohydrate metabolism.
- Briefly summarize the three major biochemical pathways associated with carbohydrate metabolism.
- List the various hormones that affect carbohydrate metabolism and summarize their functions (gland and action).
- Compare and contrast the main characteristics of the two major types of diabetes mellitus (DM) (type 1 and type 2).
- Following successful completion of this chapter, the learner will be able to:
- Review the location and anatomy of the pancreas.
- Identify the islets of Langerhans and the major cells found in the islets of Langerhans.
- Summarize the endocrine and exocrine functions of the pancreas.
- Explain the major invasive test for assessing exocrine pancreatic function secretin–cholecystokinin (CCK).
- Summarize the most common noninvasive tests for assessing pancreatic exocrine insufficiency: pancreatic elastase-1, pancreatic chymotrypsin, pancreatic serum enzymes, breath test (C-mixed triglyceride test), urinary amylase, fecal fat, phospholipase A₂, NBT-PABA, and fecal elastase.
- Review the two major tests for monitoring the endocrine function of the pancreas: insulin and C-peptide.
- Summarize briefly diabetes mellitus, the major endocrine pancreatic disease.
- List the two primary causes of acute pancreatitis.
- Outline Ranson's indicators of severity in acute pancreatitis.
- Briefly review the etiology and prognosis of chronic pancreatitis.
- Following successful completion of this chapter, the learner will be able to:
- State the Henderson–Hasselbalch equation and identify the respiratory and metabolic components.
- Calculate various blood gas parameters given the appropriate equation(s).
- Identify the four major body buffer systems.
- Identify the five ways in which carbon dioxide is carried in blood.
- Identify appropriate calibration materials to use for pH, PCO₂, and PO₂ measurements.
- Describe the proper control material to use for blood pH, PCO₂, and PO₂ measurements.
- Identify preanalytical sources of errors in blood-gas analysis.
- Identify the specimen of choice discuss the proper handling of specimen for blood-gas analysis.

Psychomotor

- Identify laboratory tests results to classify patients as normal, impaired glucose tolerance, or diabetic.
- Identify the major tumor marker for colorectal and pancreatic cancer
- Differentiate which analytes are measured and which parameters are calculated using a blood-gas analyzer

Module 4:**10/03/2016 – 10/16/2016****Learning outcomes - Upon successful completion of this lesson, the student will be able to :****Cognitive**

- Describe protein structure.
- List the major functions of protein.
- Discuss causes of hyperproteinemia.
- Discuss causes of hypoproteinemia.
- Describe urinary protein screening, clinical significance, and methodologies.
- Describe cerebrospinal fluid protein, clinical significance, and methodologies.
- List major functions of albumin.
- List causes of hypoalbuminemia.
- Discuss the major cause of hyperalbuminemia: dehydration.
- Discuss the major components of protein electrophoresis.
- List in order the protein electrophoresis bands and approximate percentages of total protein.
- List examples of electrolytes found in plasma water, interstitial fluid, and intracellular water.
- Identify the analytes required to calculate anion gap and osmolality.
- State the specific fluid compartments that make up total body water.
- Distinguish between serum and plasma.
- State the principle differences between interstitial fluid and plasma.
- List five examples of body fluids that are assayed for electrolyte composition.
- Identify methods and instrument techniques used to measure electrolytes in body fluids.

Psychomotor

- Calculate A/G ratio.
- Diagram the renin-angiotensin-aldosterone system for water and electrolyte regulation

Module 5:**10/17/2016 – 10/30/2016****Learning outcomes - Upon successful completion of this lesson, the student will be able to :****Cognitive**

- Review cholesterol metabolism, absorption, synthesis, and catabolism.
- Outline and describe classes of clinically significant lipids.
- Define unsaturated and saturated fatty acids.
- List and explain the role of the major apolipoproteins.
- Summarize lipid metabolism, including exogenous, endogenous, and reverse cholesterol pathways.
- List the major components and the percentage composition of the major lipoproteins—for example, apoproteins, cholesterol, and triglycerides.
- Review the four major lipoproteins and their density and function.
- List conditions associated with hypercholesterolemia and hypocholesterolemia.
- Summarize the major cholesterol methodologies.

- Identify causes of hypertriglyceridemia and hypotriglyceridemia.
- Define enzyme and list general functions of enzymes.
- List the six major groups of enzymes and the reactions catalyzed by each group.
- Review enzyme catalysis, including the role of enzymes in decreasing activation energy.
- Define apoenzyme, prosthetic groups, and holoenzyme.
- Define cofactor, coenzyme, and metalloenzyme and give examples of each.
- Explain how various factors affect enzyme reactions—for example, pH, temperature, and substrate concentration.
- Summarize the reaction catalyzed (including activators and coenzymes), methodologies, clinical significance, and reference ranges for the following cardiac enzymes: creatine kinase (CK), creatine kinase isoenzymes, and lactate dehydrogenase (LD).
- Identify a normal CK isoenzyme pattern and the typical pattern following a myocardial infarction (MI).
- Following successful completion of this chapter, the learner will be able to:
- Explain the inflammatory response associated with atherosclerosis.
- Define acute coronary syndrome (ACS).
- List five factors that define an ideal cardiac biomarker.
- Discuss the advantages of point-of-care testing (POCT) for cardiac biomarkers.

Psychomotor

- Write and explain the formula for enzyme-catalyzed reactions.
- Interpret the formula $Q = K \times E \times t$ and define first-order and zero-order reactions.

Module 6:

10/31/2016 – 11/13/2016

Learning outcomes - Upon successful completion of this lesson, the student will be able to :

Cognitive

- Identify three forms of calcium as they exist in circulation.
- List three distinct methods for measuring total serum calcium.
- Identify two chemical compounds used to measure inorganic phosphate in serum.
- Identify three compounds used to measure magnesium in serum.
- Identify two main causes of hypercalcemia.
- Indicate the source of parathyroid hormone.
- Discuss the feedback effects of PTH on calcium and phosphorus levels in circulation.
- List three functions of vitamin D.
- Describe the structure, source, and function of calcitonin.
- Identify biochemical markers specific for bone formation and resorption.
- List methods used to measure biochemical markers for bone.
- Define negative feedback.
- List five examples of hormones found in the anterior pituitary gland.
- List two examples of hormones found in the posterior pituitary gland.
- Identify the location of the thyroid gland, adrenal glands, pituitary, and hypothalamus.
- Identify the hormones released by the thyroid gland.
- Identify the mineralocorticoids and the glucocorticoids.

- Identify the hormones produced by the adrenal medulla.
- Associate abnormal laboratory results with a disease or syndrome.
- State the methods used to quantitate the amount of hormones in blood.

Psychomotor

- Correlate laboratory data on patients with Addison's disease or Cushing's syndrome.
- Correlate laboratory data on patients with hypothyroidism or hyperthyroidism.
- Identify the appropriate specimen of choice for selected markers.

Module 7:

11/14/2016 – 11/27/2016

Learning outcomes - Upon successful completion of this lesson, the student will be able to :

Cognitive

- List and briefly describe the major parts of the urinary system.
- Trace the ultrafiltrate (urine) flow through the major parts of the nephron.
- Trace the blood flow in the kidney from the renal artery to the renal vein.
- Summarize the three major renal processes; glomerular filtration, tubular reabsorption, and tubular secretion, including where they occur in the nephron and constituents involved.
- Explain the difference between active transport and passive transport in relation to renal concentration.
- List the major components of nonprotein nitrogen (NPN).
- Identify the source of blood urea nitrogen (BUN) and the major organ of the urea cycle.
- Review the most common BUN methodologies including chemical reactions and specificity.
- State the reference range for BUN.
- Convert BUN to urea and urea to BUN.
- Define azotemia and uremia.
- Outline common causes of prerenal, renal, and postrenal azotemia.
- Identify causes of a decreased BUN.
- Explain the source of creatinine (CR).
- Review the Jaffe reaction and creatinase procedures.
- Cite the reference range for creatinine.
- Differentiate conjugated and unconjugated bilirubin, including composition and solubility in water and alcohol.
- Review the clinical significance of bilirubin, including levels of total, direct, and indirect bilirubin.
- Define jaundice, and identify and list examples of the three major categories of jaundice.
- Explain the enzyme deficiency or metabolic defect involved in Crigler-Najjar, Gilbert, Dubin-Johnson, and Rotor syndromes.
- Identify type of virus, route of transmission, at risk populations, incubation period, and recovery rate for the following types of viral hepatitis: A, B, C, and D.
- Briefly examine the progression in alcoholics from alcoholic fatty liver to alcoholic hepatitis to alcoholic cirrhosis.
- Review the Jendrassik-Grof methodology, including reagents and the direct bilirubin procedure.
- Summarize the clinical significance of increased ammonia.
- Briefly outline other liver function tests: enzymes, albumin, urinary and fecal urobilinogen, and

prothrombin time.

- Review common ammonia methodologies.
- Explain the biochemistry of iron in humans.
- Explain how iron is transported in the human body.
- Outline the metabolism of iron and iron-containing compounds.
- Cite examples of specific diseases associated with iron deficiency and iron overload.
- Identify methods used to measure iron in serum or plasma.
- Identify types of instrumentation used to measure iron, porphyrins, and porphobilinogen.
- Identify examples of types of specimens used for laboratory assessment of iron, porphyrins, and hemoglobin.
- List the two classes of porphyrias and outline specific porphyrias within each class.

Psychomotor

- Calculate a creatinine clearance given the relevant data.
- Diagram a hepatic lobule and identify the major vessels and cell types.
- Diagram the metabolic pathway of heme.
- Draw the basis structure of a porphyrin.

Module 8:

11/28/2016 – 12/11/2016

Learning outcomes - Upon successful completion of this lesson, the student will be able to :

Cognitive

- List five roles of tumor markers in the assessment of cancers.
- Describe four different methodologies that may be used to detect markers associated with malignancy.
- List commonly used tumor markers and state their clinical significant in relation to cancer.
- Identify the four principle biological events associated with pharmacokinetics.
- Identify the factors that influence drug absorption.
- List examples of conjugation compounds.
- Discuss two mechanisms associated with drug excretion.
- List four parameters that affect changes in dosage of drugs.
- List an example of a specific drug from a given therapeutic category.
- Identify examples of additional laboratory tests that may be requested to evaluate organ function(s) in patients taking prescribed medications.
- Contrast chemical, generic, and trade name nomenclature for drugs.
- Identify appropriate specimens for selected therapeutic drugs.
- Identify two factors that significantly affect steady state.
- Name the sources of selected drugs.

Psychomotor

- Calculate diagnostic sensitivity and specificity for a given set of data.
- Interpret percent diagnostic sensitivity and specificity relative to predicting the presence of disease or no disease.

- Identify toxic levels of selected therapeutic drugs using lab results

Fall 2016 Course Calendar

Note: Adjustments to this schedule may be made at the discretion of the instructor

Module	Chapters Covered Chemistry	Chapters Covered Mathematics	Module Dates	Assignments	Lab Date	Exam Open Dates
1	1. Laboratory Basics 2. Instrumentation 3. Laboratory Automation	1. Arithmetic and Algebra-Review 3. Rounding and the Significance of Figures-Review	8/22 to 9/18			8:00 am on 9/15 to 11:59 pm on 9/18
2	4. Laboratory Operations 5. Immunoassays	4. Systems of Measurement pages 68-77 8. Statistics pages 118-132	9/19 to 10/2		9/26	8:00 am on 9/29 to 11:59 pm on 10/2
3	6. Carbohydrates 17. Pancreas 13. Blood Gases, pH and Acid Base Balance	9. Chemistry pages 164-168	10/3 to 10/16			8:00 am on 10/11 to 11:59 pm on 10/16
4	8. Amino Acids and Proteins 12. Body Water and Electrolyte Homeostasis	9. Chemistry page 169	10/17 to 10/30	Electrophoresis Medtraining; Case Study 1; SOP 1 due 10/30	10/18	8:00 am on 10/27 to 11:59 pm on 10/30
5	7. Lipids, Lipoproteins, and Cardiovascular Disease 9. Enzymes 18. Cardiac Function	9. Chemistry pages 157-163 and 172	10/31 to 11/13	Cardiac Biomarkers Medtraining due 11/13	11/1	8:00 am on 11/10 to 11:59 pm on 11/13
6	14. Mineral and Bone Metabolism 15. The Endocrine System	11. Quality Control pages 195-200	11/14 to 11/27			8:00 am on 11/19 to 11:59 pm on 11/27
7	11. Nonprotein Nitrogen and Renal Function 19. Liver Function 20. Iron, Porphyrins and Hemoglobin	9. Chemistry page 173	11/28 to 12/11	Urinalysis Medtraining; Case Study 2; SOP 2 due 12/11	12/6	8:00 am on 12/8 to 11:59 pm on 12/11
8	10. Tumor Markers 21. Therapeutic Drug Monitoring (TDM)	11. Quality Control pages 200-201	12/12 to 12/16	Introduction to QA Medtraining due 12/16		8:00 am on 12/12 to 11:59 pm on 12/16

Academic Dishonesty

Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

- Plagiarism, cheating, collusion, and other forms of academic dishonesty are not only violations of the college system and the rules of this class, but are unethical and unprofessional. Students engaging in any form of academic dishonesty will receive a grade of "F" for the assignment and will be forwarded to department head for further review.
- Examples of cheating on a test include:
 - Copying from another students' test paper;
 - Using materials not authorized for the test;
 - Collaborating with another student during a test without authorization;
 - Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
 - Bribing another person to obtain a test that is to be administered.
- Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.
- Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit.

Academic Accommodations

"In keeping with the university's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations is welcome to meet with your instructor, Corine Gonzales, privately.

All conversations will be kept confidential (between student and instructor). Students requesting any accommodations will also need to contact:

STUDENT SERVICES – CAREER & ACCESSIBILITY RESOURCE CENTER (ARC)

Mary Lou Mraz, MEd, LMSW
UNM Student Success Specialist
Phone: (505) 863-7527
Location: Gurley Hall 2205 B
Email: mloumraz@unm.edu

FOR message:
Wilma Lee
Administrative Assistant II
Phone: (505) 863-7757
Advisement Counter
Location: Gurley Hall 2205

ARC will conduct an intake and, if appropriate, will provide an approved academic accommodation notification letter that will be e-mailed to each of the ARC student's instructors. At that point, the instructor and the student will review the letters and discuss these accommodations in relation to this course."

Reporting Sexual Harassment

The University is committed to creating and maintaining a community in which students and employees can learn and work together in an atmosphere that enhances productivity and draws on the diversity of its members and is free from all forms of disrespectful conduct, harassment, exploitation, or intimidation, including sexual harassment and sex-based discrimination. For more information, please see Policy 2730: Sexual Harassment (<http://policy.unm.edu/university-policies/2000/2730.html>). Persons who believe they may have experienced sexual harassment may report the incidents to the Office of Equal Opportunity (oeo.unm.edu).





Name of Department: Semester:	Medical Laboratory Technology Program Spring 2016 First 8-week term (January 19 - March 12, 2016)
Instructor Name: Office Location Office Hours E-mail Telephone Class Meeting Days/Times Location	Corine Gonzales, MS,MT(AMT),MT(ASCP),RM,RMT GHCC 131 M 0800-0900,1300-1400/TWF 1300-1400 or by appointment gonzalesc@unm.edu (505) 863-7598 TW 0830-1150 GHCC 133 (MLT Lab)
Syllabus	
Title of Course:	Immunohematology and Serology
Course Number	MLT 219
Course Description	Principles, procedures, and pathology for serology. Routine and advanced test procedures to identify and enumerate antibodies. Principles and procedures in Blood Banking. Introduction to genetics. Processing blood components for compatibility testing. Regulation dictated by AABB and FDA.
Credit Hours and Contact Hours	Credit hours: 4 Contact hours: 3 hours and 20 minutes per day x 16 days
Pre-requisites/co-requisites	Pre-/co-requisites: MATH 121, MLT 111, MLT 211
Learning Outcomes	At the end of the course, the student is expected to: <ol style="list-style-type: none"> 1. Discuss the theories, principles and procedures in blood banking and serology; 2. Demonstrate basic laboratory techniques in routine blood banking and serology procedures; 3. Explain the general terms and characteristics of immunity, the immune system and its components, serology, blood group systems, blood component therapy; 4. Discuss the principles of transfusion practice.
Course Objectives	
<p>After attending the lecture, completing exams and quizzes, reading the assignment, and performing laboratory activities, the student will:</p> <ul style="list-style-type: none"> • Correctly prepare and select the appropriate specimen for specific blood bank or serology procedures. 	

- Discuss basic concepts of immunity and immune response.
- Discuss how principles of immunology are used in the clinical laboratory.
- Explain the mechanisms of humoral and cell-mediated immunity.
- Recall basic concepts of major and minor blood groups.
- Properly perform and interpret immunohematology procedures.
- Properly perform and interpret serology procedures.
- Explain guidelines for blood donation.

Specific learning objectives will be provided throughout the course: at the beginning of each chapter for lecture topics, and on laboratory procedures and worksheets for every lab exercise.

Affective Objectives

- Student will demonstrate professionalism by complying with the attendance policy and submitting assignments by the stated deadline.
- Student will demonstrate enthusiasm and interest in the profession of the Clinical Lab profession by asking questions, participating in class discussions and meeting with professor during office hours as needed.
- Student will demonstrate initiative by reviewing objectives and completion of reading assignments prior to class.
- Student will demonstrate progression in laboratory skills by effective organization, coordination of multiple tasks and insightful evaluation of results obtained.
- Student will utilize constructive criticism to correct deficiencies and improve performance.
- Student will work cooperatively with professor and fellow students to achieve the goals of each activity assigned.

Course Outline

Teaching Methods:

MLT 219 will use a variety of approaches to meet the course outcomes. These instructional methods may include, but are not limited to lecture, audio-visual materials, guided discussions, group activities, written assignments, laboratory experiments and/or computer and on-line activities.

Evaluation/Grading Methods:

A grade of "C" or better is required to successfully complete MLT 219.

The final grade for MLT 219 will be based on the following:

- 5 % Attendance and Professional Performance
- 35 % Major Exams
 - Midterms
 - Finals
- 25 % Quizzes
- 10 % Assignments (Homework and Online Modules)
- 25 % Laboratory Activities

- **Attendance.** Students with no unexcused absence or tardy will be awarded 100% for the attendance grade. Fifteen (15) points will be deducted for every unexcused absence; and 5 points for every tardy. Please refer to the attendance policy (below) for more information.
- **Professional Performance.** Each student's professional performance will be evaluated by peers and instructor. A copy of the professional performance evaluation form will be provided to each student at the beginning of the semester.
- **Major Exams.** There will be two major exams: midterms and finals. Each major exam is worth 20% of the final grade. There will be a 100-item written exam and a practical exam where the student will be given an "unknown" specimen to work on in the lab component of the exam.
- **Quizzes.** Written quizzes will be given per lecture topic. Total points for each quiz may vary.
- **Assignments.** Online modules will be assigned at the beginning of the course. All students currently enrolled in the course are registered users in www.medtraining.org. Access to the online modules is given at no additional cost to students. Subscription has been paid for by the University for the MLT Program.
- **Laboratory Activities.** Laboratory experiments will be performed during the lab period as scheduled. Procedures and worksheets will be provided prior to each experiment. Results and answers to questions for research must be submitted on the next class meeting.

The following percentage scale will be used to award final grades:

A+	≥97 %	C	73 - 76.9 %
A	93 - 96.9 %	C-	70 - 72.9 %
A-	90 - 92.9 %	D+	67 - 69.9 %
B+	87 - 89.9 %	D	63 - 66.9 %
B	83 - 86.9 %	D-	60 - 62.9 %
B-	80 - 82.9 %	F	<60%
C+	77 - 79.9 %		

Required Textbook:

Immunohematology for Medical Laboratory Technicians, 1st ed, by Delmar Cengage Learning
By Whitlock, Sheryl A.
ISBN: 978-1435440333

Reference Materials (not required):

Modern Blood Banking & Transfusion Practices, 6th ed, c2012 by F. A. Davis Company.
By Harmening, Denise M.
ISBN-13: 978-0-8036-2682-9

Clinical Immunology and Serology: A Laboratory Perspective, 3rd ed, c2009 by F. A. Davis Company
By Stevens, Christine D.
ISBN-13:978-0-8036-1814-5

AABB Technical Manual, 17th ed
By American Association of Blood Banks
ISBN-13:9781563953156

Attendance Policy and Policies on Classroom Behavior:

Attendance is expected of the student. Nonattendance may result in failure of a class. If a student misses more than two (2) classes, the student will be dropped from the class. If a student must miss a test, the student is required to notify the instructor of the course directly prior to the time of the test. More than fifteen minutes late is considered tardiness. Three (3) tardiness is equivalent to one (1) absence. However, a student may be excused if absence or tardiness is due to illness or an emergency. To be considered as a valid excuse, a proof such as medical certificate may be required depending on the case.

Any action that would disrupt or obstruct an academic activity is prohibited (i.e. use of cellphone and other electronic devices, inappropriate behavior). Any unprofessional or inappropriate behavior will not be tolerated at any time.

Closures for weather:

During inclement weather, listen to local radio stations or watch TV for information for possible changes. UNM Gallup will also send out text messages to those who have enrolled in the LoboAlert system (through the UNM website) regarding emergencies such as closings. The LoboAlert system also sends out e-mails to students, faculty and staff who have UNM e-mail accounts.

If conditions are more severe at the student's location than they are on campus, the student will need to notify the instructor of that fact and give an estimated time of arrival. A tardy will not be counted against the student if it is due to inclement weather.

Lecture topics and laboratory activities missed during school closures will be rescheduled to the next class meeting, unless otherwise specified.

Note: If a two-hour delay is announced, the class meets at 10:00AM. If it's a "snow day", the class is cancelled but students must check their emails for announcements from the instructor.

Academic Dishonesty

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records. Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Weekly Schedule of Topics

Date	Lecture	Laboratory
Week 1 Jan. 19-20	Orientation <u>Unit 1: Introduction to Immunohematology</u> Chapter 1: Basic Immunology	Ex. 1: Specimen Preparation: Serum, Plasma, RCS Ex. 2: In-Vitro Phagocytosis
Week 2 Jan. 26-27	Quiz 1 (Week 1 topic) Chapter 2: Reagents and Methods Used For Immunohematology Testing Chapter 3: Quality Control and Quality Assurance in Blood Bank	Ex. 3: Antihuman Globulin (AHG) Tests: Direct and Indirect Ex. 4: ABO Typing: Slide and Tube Methods
Week 3 Feb. 2-3	Quiz 2 (Week 2 topics) <u>Unit 2: Blood Group Systems</u> Chapter 4: Genetics and Inheritance of Blood Group Systems Chapter 5: ABO Blood Group Systems	Ex. 5: ABO Forward and Reverse Typing: Tube and Gel Card Methods
Week 4 Feb. 9-10	Quiz 3 (Week 3 topics) Chapter 6: Rh Blood Group System Chapter 7: Other Blood Group Systems	Ex. 6: Rh Typing and Weak D Testing Ex. 7: Antibody Screen (Detection of Unexpected Antibodies)
Week 5 Feb. 16-17	Written Midterm Exam (All topics listed above) <u>Unit 3: Patient Pre-Transfusion Testing</u> Chapter 8: Antibody Screening and Antibody Identification	Ex. 8: Antibody Identification
Week 6 Feb. 23-24	Quiz 4 (Week 5 topics) Chapter 9: Compatibility Testing <u>Unit 4: Blood Components and Their Administration</u> Chapter 10: Donor Criteria and Blood Collection	Ex. 9: Full Crossmatch: Immediate Spin, 37°C, AHG Phases
Week 7 Mar. 1-2	Quiz 5 (Week 6 topics) Chapter 11: Processing Blood Components Chapter 12: Adverse Reaction to Transfusion <u>Unit 5: Hemolytic Disease of the Newborn</u>	Ex. 10: ABO/Rh Typing, Antibody Identification and Antiglobulin Crossmatch Using Gel Card Method
Week 8 Mar. 8-9	Quiz 6 (Week 7 topics) Serological Diagnosis of Infectious Disease Written Final Exam (All topics after midterms)	Ex. 11: Rheumatoid Arthritis (RA) Screen, RPR (Rapid Plasma Reagin), <i>H. pylori</i> Test, Mono (Infectious Mononucleosis) Test

MTS Online Modules (www.medtraining.org) (due before midnight of specified date)

1. Patient Identification (01/22/15)
2. Introduction to Transfusion Service (01/29/15)
3. Transfusion Safety: Ordering and Administering (02/12/15)
4. Transfusion Safety: Specimen Collection (02/26/15)
5. Transfusion Safety: Testing and Issuance (03/11/15)

Academic Accommodations

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All conversations will be kept confidential (between student and instructor). Students requesting any accommodations will also need to contact:

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Location: Gurley Hall 2205 B
Email: mloumraz@unm.edu**

**FOR message:
Wilma Lee
Administrative Assistant II
Phone: (505) 863-7757
Advisement Counter
Location: Gurley Hall 2205**

ARC will conduct an intake and, if appropriate, will provide an approved academic accommodation notification letter that will be e-mailed to each of the ARC student's instructors. At that point, the instructor and the student will review the letters and discuss these accommodations in relation to this course."



Name of Division:	Education, Health and Human Services
Name of Program:	Medical Laboratory Technology Program
Semester:	Fall 2016
Instructor Name:	Corine Lei Gonzales
Office Location	HCC 131
Office Hours	Tuesday 0800-1100, 1200-1400 or by appointment
E-mail	gonzalesc@unm.edu
Telephone	505-863-7598
Class Meeting Days/Times	Arranged
Location	Clinical laboratory affiliates
Syllabus	
Title of Course:	Directed Clinical Practicum I
Course Number	MLT 271
Course Description	Supervised clinical practice in the clinical pathology department of affiliated hospitals; Field laboratory experience includes rotations through urinalysis, clinical hematology and coagulation, and clinical chemistry
Credit Hours and Contact Hours	Four (4) credit hours; 200 contact hours
Pre-requisite	MLT 111, 211, 214, 216, 219 Student must be concurrently enrolled in MLT 281 and 291.
Learning Outcome	At the end of the course, the student will <ul style="list-style-type: none"> • demonstrate the ability to apply classroom theory and student laboratory practice in an actual clinical laboratory setting; • demonstrate the ability to prioritize and organize work in response to volume and emergency demands; • demonstrate the ability to work cooperatively with other members of the health care team; • demonstrate an understanding of professional and ethical standards of practice in interactions with clients and colleagues; • follow the prescribed safety policies and practices of the clinical affiliate; • demonstrate dependability and reliability in meeting all scheduled clinical hours by obtaining a grade of 70% or better in each of the clinical rotation area.
Course Objectives	<u>General Laboratory</u> <ul style="list-style-type: none"> • Student will demonstrate and apply departmental procedures for safety according to Occupational Safety and Health Administration (OSHA) mandates.

- Student will demonstrate and explain the safe use and disposal of biohazardous materials.
- Student will demonstrate proficiency in the operation of automated or semi-automated instrumentation.
- Student will summarize and identify the test methods and principles learned during their rotation.
- Student will interpret and evaluate all hematology and coagulation values.
- Student will interpret and evaluate all urinalysis and body fluid values.
- Student will interpret and evaluate all chemistry values.
- Student will demonstrate professionalism in appearance and behavior while in the laboratory setting.

Specimen Collection and Processing

- Student will explain and demonstrate the specimen processing and handling, criteria for specimen rejection, and use of laboratory information system (LIS).
- Student will collect samples by venipuncture and capillary puncture.
- Student will correctly and completely label all patient samples.
- Student will maintain records of samples and requested testing.
- Student will confirm patient identification, requisition forms, and specimens, resolving any discrepancies.
- Student will collect and prepare samples for referral to a reference laboratory.

Urinalysis

- Student will communicate collection procedures to patients.
- Student will perform and evaluate physical examination of urine specimens.
- Student will select, perform, and evaluate confirmatory biochemical tests.
- Student will perform microscopic examination of urine specimens.
- Student will perform and evaluate pregnancy tests.

Hematology

- Student will perform and evaluate routine hematology testing using automated, semi-automated, and/or manual methods.
- Student will correlate common pathologies with hematology results.
- Student will correctly prepare and stain routine blood smears.
- Student will perform and evaluate erythrocyte sedimentation rates.
- Student will perform and evaluate reticulocyte counts.
- Student will perform and evaluate routine coagulation testing using automated, semi-automated, and/or manual methods.

	<p>Chemistry</p> <ul style="list-style-type: none"> • Student will perform and evaluate routine testing for carbohydrates. • Student will perform and evaluate routine testing for lipids. • Student will perform and evaluate routine testing for proteins. • Student will perform and evaluate routine testing for enzymes. • Student will perform and evaluate routine testing for liver function. • Student will perform and evaluate routine testing for renal function. • Student will perform and evaluate routine testing for electrolytes. • Student will perform and evaluate routine testing for vitamin and mineral metabolism. • Student will perform and evaluate routine testing for hormones. • Student will perform and evaluate routine testing for therapeutic drug monitoring.
<p>Affective Objectives</p>	<ul style="list-style-type: none"> • Student will demonstrate professionalism by complying with the attendance policy and submitting assignments by the stated deadline. • Student will demonstrate enthusiasm and interest in the profession of the Clinical Lab profession by asking questions, participating in class discussions and meeting with professor during office hours as needed. • Student will demonstrate initiative by reviewing objectives and completion of reading assignments prior to class. • Student will demonstrate progression in laboratory skills by effective organization, coordination of multiple tasks and insightful evaluation of results obtained. • Student will utilize constructive criticism to correct deficiencies and improve performance. • Student will work cooperatively with professor and fellow students to achieve the goals of each activity assigned.
<p>Course Outline</p>	
<p>Teaching Methods:</p> <ol style="list-style-type: none"> 1. Demonstration of clinical laboratory practice 2. Clinical experience in a hospital laboratory 	
<p>Evaluation/Grading Methods:</p> <p>The student's performance will be evaluated by the clinical instructor/preceptor/laboratory supervisor based on accuracy, organization, self-confidence, dependability, initiative and industry, ability to handle stress, attendance and proficiency. A performance evaluation guide will be provided in the clinical practicum packet. A grade of "C" or better per laboratory section is required to pass the course. The cumulative final</p>	

grade will be computed using the following:

Clinical performance (evaluation grades)	50%
Professional performance evaluation	10%
Quizzes (online modules)	15%
Assignments (clinical journal)	15%
Attendance (time sheets)	10%

The following percentage scale will be used to award final grades:

A+	≥97%	C	73 - 76%
A	93 - 96%	C-	70 - 72%
A-	90 - 92%	D+	67 - 69%
B+	87 - 89%	D	63 - 66%
B	83 - 86%	D-	60 - 62%
B-	80 - 82%	F	<60%
C+	77 - 79%		

A final grade of "C" or better is required to receive credit for the course. A student with a grade of "C-" or "D" will need to repeat the course. If a student receives an "F", he/she will not be allowed to take any MLT course in the succeeding semesters. (See MLT Student Handbook)

Recommended Textbooks & Supporting Materials:

All MLT textbooks and manuals may be used as references.

Lab Notes: Guide to Lab and Diagnostic Tests, 2nd ed., F.A.Davis Company
By Tracey B. Hopkins
ISBN 13:978-0-8036-2138-1
ISBN 10:0-8036-2138-8

Heme Notes: A Pocket Atlas of Cell Morphology, 1st ed., F.A.Davis Company
by Denise M. Harmening, Kathleen Finnegan
ISBN-13: 978-0803619029
ISBN-10: 0803619022

Course Content

The clinical laboratory training program will include pre-analytic, analytic and post-analytic skills in urine and body fluid analysis, hematology and coagulation, and clinical chemistry.

Attendance Policy and Policies on Behavior

Attendance is expected of the student. If the student needs to be absent, prior notice should be given to the laboratory supervisor and MLT faculty. All absences, tardiness or undertime must be made up. Make up days must be arranged with the preceptor and laboratory supervisor.

During clinical training, the student is expected to conduct himself/herself in a professional and responsible manner at all times. He/she must comply with all the policies and procedures of the university and facility where he/she is assigned. Failure to do so will result in termination of the training.

Student ID badges and scrubs with UNM MLT patch must be worn at all times while on rotation at the affiliated laboratories.

UNM Holidays, School Breaks, and School Closure Due to Inclement Weather

The University of New Mexico observes specific holidays and school breaks each year and students are not required to be on clinical training during these days. The following holidays and school breaks are observed by the University:

- Martin Luther King Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Day after Thanksgiving
- Fall, Spring and Winter Breaks

In addition, the students are also expected to observe class cancellation or delay due to inclement weather. UNM Gallup will send out text messages to those who have enrolled in the LoboAlert system (through the UNM website) regarding emergencies such as closings. The LoboAlert system also sends out e-mails to students, faculty and staff who have UNM e-mail accounts.

If conditions are more severe at the student's location than they are on campus or clinical site, the student will need to notify the instructor of that fact and give an estimated time of arrival. A tardy will not be counted against the student if it is due to inclement weather.

Rotation Schedule

The student will be provided a copy of his/her rotation schedule for the whole semester prior to or upon registering for the course. The schedule is subject to change and prior notice will be given.

Academic Accommodations

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All conversations will be kept confidential (between student and instructor). Students requesting any accommodations will also need to contact:

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By Appointment:

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UNM Student Success Specialist
Phone: (505) 863-7527
Location: Gurley Hall 2205 B
Email: mloumraz@unm.edu**

To contact office:

**Administrative Assistant
Phone: (505) 863-7757
Front Desk
Location: Gurley Hall 2205**

ARC will conduct an intake and, if appropriate, will provide an approved academic accommodation notification that will be sent to you. At that point, you may contact me to review the letter and discuss these accommodations in relation to your course.

Notice of Non-Discrimination: The University of New Mexico-Gallup, as an equal opportunity/affirmative action employer and educator, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University of New Mexico-Gallup is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race/ethnicity, color, national origin, age, spousal affiliation, sex, sexual orientation, gender identity, medical condition, disability, religion, pregnancy, genetic information, or veteran status in employment, educational programs and activities, and admissions, and provides equal access to the Boy Scouts and other designated youth groups. Inquiries or complaints may be addressed to the Office of Equal Opportunity whose Director serves as the 504/ADA Coordinator and Title IX Coordinator on UNM main campus: 505-277-5251. For referrals to main campus see: UNM Gallup Title IX Coordinator; Director of Student Affairs, SSTC Room 276. Telephone: 505-863-7508. For Referrals to main campus regarding Section 504 compliance; Student Success Specialist, Gurley Hall Room 2205 B. Telephone: 505-863-7527.

Reporting Sexual Harassment

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Updated 08/2016 clg



Name of Division: Name of Program: Semester:	Education, Health and Human Services Medical Laboratory Technology Program Fall 2016
Instructor Name: Office Location Office Hours E-mail Telephone Class Meeting Days/Times Location	Corine Lei Gonzales HCC 131 Tuesday 0800-1100, 1200-1400 or by appointment gonzalesc@unm.edu 505-863-7598 Arranged Clinical laboratory affiliates
Syllabus	
Title of Course:	Directed Clinical Practicum II
Course Number	MLT 281
Course Description	Supervised clinical practice in the clinical pathology department of affiliated hospitals; Field laboratory experience includes rotations through clinical microbiology, immunohematology and serology.
Credit Hours and Contact Hours	Six (6) credit hours; 320 contact hours
Pre-requisite	MLT 111, 211, 214, 216, 219 Student must be concurrently enrolled in MLT 271 and/or 291.
Learning Outcome	At the end of the course, the student will <ul style="list-style-type: none"> • demonstrate the ability to apply classroom theory and student laboratory practice in an actual clinical laboratory setting; • demonstrate the ability to prioritize and organize work in response to volume and emergency demands; • demonstrate the ability to work cooperatively with other members of the health care team; • demonstrate an understanding of professional and ethical standards of practice in interactions with clients and colleagues; • follow the prescribed safety policies and practices of the clinical affiliate; • demonstrate dependability and reliability in meeting all scheduled clinical hours <p>by obtaining a grade of "C" or better in written exams or quizzes and performance evaluation forms in each of the clinical rotation area.</p>
Course Objectives	General Laboratory <ul style="list-style-type: none"> • Student will demonstrate and apply departmental procedures for safety according to Occupational Safety and Health Administration (OSHA) mandates. • Student will demonstrate and explain the safe use and disposal of biohazardous materials. • Student will demonstrate proficiency in the operation of

automated or semi-automated instrumentation.

- Student will summarize and identify the test methods and principles learned during their rotation.
- Student will demonstrate professionalism in appearance and behavior while in the laboratory setting.

Specimen Collection and Processing

- Student will explain and demonstrate the specimen processing and handling, criteria for specimen rejection, and use of laboratory information system (LIS).
- Student will collect samples by venipuncture and capillary puncture.
- Student will correctly and completely label all patient samples.
- Student will maintain records of samples and requested testing.
- Student will confirm patient identification, requisition forms, and specimens, resolving any discrepancies.
- Student will collect and prepare samples for referral to a reference laboratory.

Microbiology

- Student will correctly perform microbiology set-ups.
- Student will properly prepare, stain and read smears from specimens and cultures.
- Student will properly perform and evaluate Gram stains.
- Student will properly perform and evaluate Acid Fast stains.
- Student will correctly perform established protocols for routine cultures.
- Student will correctly perform and interpret microbiology systems.

Immunohematology and Serology

- Student will correctly perform and interpret Abo forward and reverse grouping.
- Student will correctly perform and interpret Rh and Weak D testing.
- Student will correctly perform and interpret other antigen typing.
- Student will correctly perform and interpret antibody screen and identification.
- Student will correctly select, crossmatch and issue appropriate blood units for transfusion purposes
- Student will correctly perform and interpret pre-transfusion testing.
- Student will follow established protocol for emergency transfusions.
- Student will correctly perform and evaluate transfusion reaction workups.
- Student will correctly perform and interpret cord blood studies.
- Student will correctly perform and evaluate testing for Rh

	<p>immunoglobulin administration.</p> <ul style="list-style-type: none"> • Student will follow AABB standards to handle and store blood products.
Affective Objectives	<ul style="list-style-type: none"> • Student will demonstrate professionalism by complying with the attendance policy and submitting assignments by the stated deadline. • Student will demonstrate enthusiasm and interest in the profession of the Clinical Lab profession by asking questions, participating in class discussions and meeting with professor during office hours as needed. • Student will demonstrate initiative by reviewing objectives and completion of reading assignments prior to class. • Student will demonstrate progression in laboratory skills by effective organization, coordination of multiple tasks and insightful evaluation of results obtained. • Student will utilize constructive criticism to correct deficiencies and improve performance. • Student will work cooperatively with professor and fellow students to achieve the goals of each activity assigned.

Course Outline

Teaching Methods:

1. Demonstration of clinical laboratory practice
2. Clinical experience in a hospital laboratory

Evaluation/Grading Methods:

The student's performance will be evaluated by the clinical instructor/preceptor/laboratory supervisor based on accuracy, organization, self-confidence, dependability, initiative and industry, ability to handle stress, attendance and proficiency. A grade of "C" or better per laboratory section is required to pass the course. The cumulative final grade will be computed using the following:

Clinical performance (evaluation grades)	50%
Professional performance evaluation	10%
Quizzes (online modules)	15%
Assignments (clinical journal)	15%
Attendance (time sheets)	10%

The following percentage scale will be used to award final grades:

A+	≥97%	C	73 - 76%
A	93 - 96%	C-	70 - 72%
A-	90 - 92%	D+	67 - 69%
B+	87 - 89%	D	63 - 66%
B	83 - 86%	D-	60 - 62%
B-	80 - 82%	F	<60%
C+	77 - 79%		

A final grade of "C" or better is required to receive credit for the course. A student with a grade of "C-" or "D" will need to repeat the course. If a student receives an "F", he/she will not be allowed to take any

MLT course in the succeeding semesters. (See MLT Student Handbook)

Recommended Textbooks & Supporting Materials

All MLT textbooks and manuals may be used as references.

Lab Notes: Guide to Lab and Diagnostic Tests, 2nd ed., F.A.Davis Company

By Tracey B. Hopkins

ISBN 13:978-0-8036-2138-1, ISBN 10:0-8036-2138-8

Course Content

The clinical laboratory training program will include pre-analytic, analytic and post-analytic skills in clinical microbiology, immunohematology and serology. Clinical skills competency checklists per laboratory area are included in the MLT Clinical Practicum Manual provided to each student prior to the clinical training.

Attendance Policy and Policies on Behavior

Attendance is expected of the student. If the student needs to be absent, prior notice should be given to the laboratory supervisor and MLT faculty. All absences, tardiness or undertime must be made up. Make up days must be arranged with the preceptor and laboratory supervisor.

During clinical training, the student is expected to conduct himself/herself in a professional and responsible manner at all times. He/she must comply with all the policies and procedures of the university and facility where he/she is assigned. Failure to do so will result in termination of the training.

Student ID badges and scrubs with UNM MLT patch must be worn at all times while on rotation at the affiliated laboratories.

UNM Holidays, School Breaks, and School Closure Due to Inclement Weather

The University of New Mexico observes specific holidays and school breaks each year and students are not required to be on clinical training during these days. The following holidays and school breaks are observed by the University:

- Martin Luther King Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Day after Thanksgiving
- Fall, Spring and Winter Breaks

In addition, the students are also expected to observe class cancellation or delay due to inclement weather. UNM Gallup will send out text messages to those who have enrolled in the LoboAlert system (through the UNM website) regarding emergencies such as closings. The LoboAlert system also sends out e-mails to students, faculty and staff who have UNM e-mail accounts.

If conditions are more severe at the student's location than they are on campus or clinical site, the student will need to notify the instructor of that fact and give an estimated time of arrival. A tardy will not be counted against the student if it is due to inclement weather.

Rotation Schedule

The student will be provided a copy of his/her rotation schedule for the whole semester prior to or upon registering for the course. The schedule is subject to change and prior notice will be given.

Academic Dishonesty

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Accommodations

"In keeping with the university's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations is welcome to meet with Corine Gonzales privately.

All conversations will be kept confidential (between student and instructor). Students requesting any accommodations will also need to contact:

STUDENT SERVICES – CAREER & ACCESSIBILITY RESOURCE CENTER (ARC)

By Appointment:

Mary Lou Mraz, MEd, LMSW
UNM Student Success Specialist
Phone: (505) 863-7527
Location: Gurley Hall 2205 B
Email: mloumraz@unm.edu

To contact office:

Administrative Assistant
Phone: (505) 863-7757
Front Desk
Location: Gurley Hall 2205

ARC will conduct an intake and, if appropriate, will provide an approved academic accommodation notification that will be sent to you. At that point, you may contact me to review the letter and discuss these accommodations in relation to your course.

Notice of Non-Discrimination: The University of New Mexico-Gallup, as an equal opportunity/affirmative action employer and educator, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University of New Mexico-Gallup is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race/ethnicity, color, national origin, age, spousal affiliation, sex, sexual orientation, gender identity, medical condition, disability, religion, pregnancy, genetic information, or veteran status in employment, educational programs and activities, and admissions, and provides equal access to the Boy Scouts and other designated youth groups. Inquiries or complaints may be addressed to the Office of Equal Opportunity whose Director serves as the 504/ADA Coordinator and Title IX Coordinator on UNM main campus; 505-277-5251. For referrals to main campus see: UNM Gallup Title IX Coordinator; Director of Student Affairs, SSTC Room 276. Telephone: 505-863-7508. For Referrals to main campus regarding Section 504 compliance; Student Success Specialist, Gurley Hall Room 2205 B. Telephone: 505-863-7527.

Reporting Sexual Harassment

The University is committed to creating and maintaining a community in which students and employees can

learn and work together in an atmosphere that enhances productivity and draws on the diversity of its members and is free from all forms of disrespectful conduct, harassment, exploitation, or intimidation, including sexual harassment and sex-based discrimination. For more information, please see Policy 2730: Sexual Harassment (<http://policy.unm.edu/university-policies/2000/2730.html>). Persons who believe they may have experienced sexual harassment may report the incidents to the Office of Equal Opportunity (oeo.unm.edu).

updated 08/2016 clg



UNM GALLUP

Name of Division: Name of Program: Semester:	Education, Health and Human Services Medical Laboratory Technology Program Fall 2016
Instructor Name: Office Location Office Hours E-mail Telephone Class Meeting Days/Times Location	Corine Lei Gonzales, MS,MT(AMT),MT(ASCP) HCC 131 Tuesday 0800-1100, 1200-1400 or by appointment gonzalesc@unm.edu (505) 863-7598 arranged HCC 133
Syllabus	
Title of Course:	Preparation for MLT Board Examination
Course Number	MLT 291
Course Description	Designed to integrate theory with MLT directed clinical practicum. A comprehensive and current review supplemented by scheduled written examinations, reading assignments and board examination review questions on the following subjects: blood bank, chemistry, hematology, immunology, microbiology, urinalysis and body fluids, and laboratory operations.
Credit Hours	Two (2) credit hours
Pre-requisite	MLT 111, 211, 214, 216, 219 Student must be concurrently enrolled in MLT 271 and/or 281.
Learning Objectives and Outcomes	At the end of the course, the student is expected to: <ol style="list-style-type: none">1. demonstrate a thorough understanding of the theories, principles, and procedures of medical laboratory technology through written examinations and assignments;2. prepare for the appropriate national certification examination.
Course Outline	
Teaching Methods: <ol style="list-style-type: none">1. Written examinations2. Review classes/discussions3. Written assignments	
Evaluation/Grading Methods:	
The student's performance will be evaluated based on the scores in the written examinations, assignments and attendance.	

The cumulative final grade will be computed using the following:

Examinations by content area	50%
Comprehensive Final Exam	30%
Attendance	10%
Professional performance evaluation	10%

The following percentage scale will be used to award final grades:

A+	≥97%	C	73 - 76%
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A final grade of "C" or better is required to receive credit for the course. A student with a grade of "C-" or "D" will need to repeat the course. If a student receives an "F", he/she will not be allowed to take any MLT course in the succeeding semesters. (See MLT Student Handbook)

Required Text(s) & Supporting Materials:

BOC Study Guide, 5th ed, c2009:App and Book Bundle (go to <http://www.ascp.org/Store/Books/BOC-Study-Guide-App-Book-Bundle.html#StoreList>)

By ASCP Press

ISBN : 9780891895879

A Concise Review of Clinical Laboratory Science, 2nd ed, c2010

By Joel D. Hubbard, publisher LWW

ISBN : 9780781782029

Clinical Laboratory Science Review: A Bottom Line Approach, 4th ed, c2011

by Patsy Jarreau

ISBN-13: 978-0967043425, ISBN-10: 0967043425

Quick Review Cards for Medical Laboratory Science, 2nd ed, FA Davis

By Valerie Dietz Polansky

ISBN: 9780803629561

All MLT textbooks and manuals may be used as references.

Course Content

MLT 291 Preparation for MLT Board Examination will include comprehensive examinations (diagnostic, final and exam by content area) and assignments in the following topics: blood bank, chemistry, hematology, immunology, microbiology, urinalysis and body fluids, and laboratory operations.

A schedule of all exams and assignments will be provided at the beginning of the semester.

Attendance Policy and Policies on Behavior:

Attendance is expected of the student. If the student needs to be absent, prior notice should be given to the MLT faculty. Make up for missed examination(s) may be arranged with the instructor for excused absences only.

The student is expected to conduct himself/herself in a professional and responsible manner at all times. He/she must comply with all the policies and procedures of the university and facility where he/she is assigned.

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Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

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