

## COURSE OUTCOME MATRIX COURSE SYLLABUS PART 2 of 3

Course Number and Title	ML 102 Clinical Chemistry
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Credit Hours	5 Credit Hours
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Course Description	A Laboratory Course: 4 hours lecture and 2 hours in the lab each week. This course emphasizes testing of body fluids, beginning with a discussion of the equipment and techniques of quantitative analysis as applied in the medical laboratory. Water, minerals, electrolytes, acid-base balance and gases in body fluids will be studied, as well as nonprotein nitrogen, proteins, globulins, immunoglobulin, and enzymes in abnormal and normal states. Carbohydrates, fats, lipids, hormones of the endocrine system toxicology, and basic molecular techniques are also included.
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Prerequisite(s) and/or Corequisite(s)	Prerequisite: ML 101 Co-requisite: ML 103.
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**Required Textbooks/References/Course Materials:**

Clinical Chemistry: Techniques, Principles, and Correlations - with Access	8th	Bishop, Fody & Schoeff	Lippincott Williams & Wilkins	1496335589
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<b>General Education Outcomes</b>	
1	Utilize written and verbal language to discuss and comprehend information, incorporating a variety of technologies, such as text, data, and images (written language, verbal language, and information technology).
2	Identify and interpret relevant information in order to formulate an opinion or conclusion (critical thinking).
3	Demonstrate and communicate computational methods and mathematical reasoning in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate) (quantitative literacy and fluency).
4	Communicate in appropriate ways with those who are culturally diverse (intercultural competence).

<b>Program/Department Outcomes</b>	
1	Graduates will demonstrate skills, knowledge and proper attitudes to realize a career as entry level Medical Laboratory Technicians in hospitals and other health care environments.
2	Graduates must demonstrate professionalism and conduct that reflects safe, legal, and ethical behavior.
3	Graduates will have the necessary knowledge to be able to pass a national certification examination.
4	Graduates must be able to communicate in a facilitative, purposeful and respectful manner with patients, families, colleagues, and other members of the health care team.
5	Graduates will have knowledge of prospective job information in an effort to achieve 100% placement within 3 months of graduation or for continuing their undergraduate education in medical technology or other field of their choice.
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	Course Outcomes (CO)	Bloom's Domain for CO (C, A, P), Category, and Level	Program/Department Outcome(s)	Written Language	Verbal Language	Information Technology	Critical Thinking	Quantitative Literacy and Fluency	Intercultural Competence
1.	Understand the basic instruments, principles and techniques of clinical chemistry procedures and methodologies.	C-Understanding (2)	1,3	0	0	0	1	0	0
2.	Demonstrate the use of quality control of instruments, reagents, and procedures.	C-Applying (3)	1,3	0	0	0	1	0	0
3.	Demonstrate understanding of various mathematical computations used in clinical chemistry.	C-Analyzing (4)	1,3	0	0	0	1	1	0
4.	Describe how certain diseases, conditions, and behaviors affect various chemical constituents in different body systems.	C-Understanding (2)	1,3,4	1	0	0	1	0	0
5.	Perform proper sample collection and handling for various chemical procedures.	P-Perfecting (3)	1,2	0	0	0	1	0	0
6.	Know the basic information concerning common therapeutic drugs and drugs of abuse.	C-Remembering (1)	1,3	0	0	0	1	0	0
7.	Understand and perform the basics of DNA and DNA procedures.	C-Understanding (2)	1,3	0	0	0	1	0	0
8.	Analyze the use of laboratory results in the diagnosis and treatment of patients using case studies	C- Evaluating (5)	1,3,4	1	0	0	1	1	0
9.	Practice laboratory safety rules to guard against chemical, physical, and biological hazards.	A-Responding to Phenomena (2)	1,2,3	0	0	0	1	0	0
10.	Demonstrate the ability to perform manual and automated chemistry procedures with accuracy.	P-Perfecting (3)	1,3	0	0	0	1	1	0

Bloom's Domain Legend

C = Cognitive  
A = Affective  
P = Psychomotor

General Education Outcome Legend

2 = Included and Measurable  
1 = Introduced and/or Minimally Addressed and Not Measurable  
0 = Not included

Approved: May 2021  
Reviewed: October 29, 2021