

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. MDLT

COURSE NUMBER: 1125

NUMBER OF CREDITS: 3

Lecture: 2 Lab: 1 OJT: 0

Course Title:
Clinical Chemistry I

Catalog Description:
Clinical Chemistry I consists of the students being introduced to methods used in quantitative analysis of chemical constituents of blood and other body fluids. Quality control is emphasized as integral to all aspects of laboratory medicine. Specific testing procedures for various organ systems are discussed and practiced.

Prerequisites or Necessary Entry Skills/Knowledge:
MDLT 1100

FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered
Laboratory mathematic calculations
Instrumentation and analytic techniques
Laboratory safety and quality control
Point of Care Testing
Amino Acids and proteins
Nonprotein Nitrogen Compounds
Enzymes
Carbohydrates
Lipids and Lipoproteins

Student Learning Outcomes

Apply principles of safety, quality assurance and quality control in clinical chemistry.

Evaluate specimen acceptability for chemical analysis.

Compare and contrast human body chemistry levels under normal and abnormal conditions

Explain, perform, and evaluate clinical chemistry procedures for amino acids, proteins, nonprotein nitrogen compounds, enzymes, carbohydrates, lipids, and lipoproteins.

Discuss basic laboratory instrumentation and automation.

Perform laboratory calculations and evaluate quality control data using Levy Jennings rules.

Discuss methodologies for chemistry determinations.

Define terminology associated with clinical chemistry topics.

Correlate test results with patient conditions in regards to amino acids, proteins, nonprotein nitrogen compounds, enzymes, carbohydrates, lipids, and lipoproteins.

Demonstrate the correct use of basic clinical chemistry equipment and automated instrumentation.

Is this course part of a transfer pathway: Yes No

***If yes, please list the competencies below**

Revised Date: 3/29/2022