DEPT.  MDLT  COURSE NUMBER:  1125

NUMBER OF CREDITS:  3

COURSE TITLE: CLINICAL CHEMISTRY I

CATALOG DESCRIPTION: Students are 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.

AUDIENCE: MLT Students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area: ________________ by meeting the following competencies:
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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: MDLT 1100 or phlebotomy skills and General Chemistry college course or discretion of the instructor.

LENGTH OF COURSE: 3 credits/2 lecture/presentation/1 laboratory

THIS COURSE IS USUALLY OFFERED:
Every other year  []  fall  []  spring  X  summer  []  undetermined  []

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT:

2) THINKING SKILLS:

3) COMMUNICATIONS SKILLS:

4) HUMAN DIVERSITY:

TOPICS TO BE COVERED: This course focuses on the first phase of clinical chemistry as it pertains to the human body.

LIST OF EXPECTED COURSE OUTCOMES:
1. List reference ranges for routine chemistry tests
2. Describe chemical safety and follow safety regulations
3. Prepare and use chemical reagents, QC materials and calibrators
4. Understand and perform instrument calibration
5. Establish Levey Jennings charts for QC materials
6. Use Westgard rules pertaining to QC violations
7. Define clinical chemistry terms
8. Explain clinical significance of disease and lab results
9. Perform centrifugation
10. Describe principles utilized in instrumentation
11. Demonstrate lab safety rules
12. Apply quality control
13. Accept responsibility for automated equipment
14. Differentiate enzymes
15. Differentiate clinical isoenzymes
16. Perform enzyme testing
17. Perform glucose testing
18. Perform BUN, Creatinine and Uric Acid testing
19. Describe carbohydrate metabolism
20. Understand protein electrophoresis
21. Describe clinical correlation of protein
22. Describe composition and classification of proteins
23. Perform protein tests and describe the analytical procedures for protein testing
24. Describe function and physiology of proteins
25. Differentiate and perform bilirubin testing methods
26. Describe liver function tests
27. Describe test and use of test for ammonia
28. Explain ammonia analytical methods
29. Perform liver function testing
30. Discuss lipids and lipoproteins
31. Perform Cholesterol and Triglyceride testing

LEARNING/TEACHING TECHNIQUES used in the course are:
☐ Collaborative Learning  ☑ Problem Solving
☑ Student Presentations  ☐ Interactive Lectures
☐ Creative Projects  ☐ Individual Coaching
☑ Lecture  ☑ Films/Videos/Slides
☑ Demonstrations  ☐ Other (describe below)
☑ Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
☑ Reading  ☑ Tests  ☑ Individual Projects
☑ Oral Presentations  ☑ Worksheets  ☐ Collaborative Projects
☑ Textbook Problems  ☐ Papers  ☐ Portfolio
☐ Group Problems  ☐ Term Paper
☐ Other (describe below)

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.
Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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