MLT 1425: Clinical Chemistry 1

A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 2

Lab Hours/Week: *

Prerequisites: None

Clinical Chemistry 1 covers detailed theory and representative laboratory analysis of carbohydrates, lipids and lipoproteins, proteins, clinical enzymology and metabolic analytes including ammonia, bilirubin, blood urea nitrogen, creatinine, and uric acid. Basic quality control concepts are introduced within the context of instrumentation and quality control.

B. COURSE EFFECTIVE DATES: 03/16/1999 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Carbohydrates
2. Lipids and Lipoproteins
3. Proteins
4. Clinical Enzymology V. Metabolic Analytes
5. Instrumentation

D. LEARNING OUTCOMES (General)

1. Students will be able to recall the body’s mechanisms to regulate glucose control and the complications and testing methodologies in diagnosing diabetes according to guidelines set by the American Diabetes Association and testing protocols.
2. Students will be able to explain the importance and functions of various proteins, their structures and functions, and the roles proteins play in disease testing, monitoring and diagnosis.
3. Students will be able to assess the importance of lipids and lipoproteins play in maintaining health and assessing coronary artery disease risk assessment.
4. Students will be able to recognize the significance of various enzyme levels as they relate to injury, illness, or disease states.
5. Students will recognize the importance of monitoring waste products of non-protein nitrogens in correlation with disease states and organ function assessment.
6. Students will be able to recognize, understand, and discuss the various methodologies used in laboratory instrumentation by describing their components, use, method of analysis, and quality control.
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   HCC COMPETENCIES MET:
   Working Productively and Cooperatively
   Thinking Creatively and Critically

   STUDENT CONTRIBUTIONS:
   Students are expected to attend all lectures and labs (as assigned), complete assignments on time, and spend the necessary study time to pass all exams.

   STUDENT ASSESSMENT SHALL TAKE PLACE USING INSTRUMENTS SELECTED/DEVELOPED BY THE COURSE INSTRUCTOR.

   ADDITIONAL INFORMATION:
   Students are expected to purchase a calculator. Powder-free gloves are supplied.

   Curriculum Committee Approval Date: April 3, 2018
   AASC APPROVAL DATE: April 18, 2018
   REVIEW DATE: April 2023