

CLS 453: Clinical Chemistry

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COURSE DESCRIPTION:

CLS 453. Advanced Clinical Studies in Clinical Chemistry – 2 cr

Study of advanced techniques, manual and automated, used in the chemical analysis of blood, urine, cerebrospinal fluid, synovial fluid, and other fluids and tissues; focus on problem solving in the clinical chemistry laboratory. 2 hr lec per wk.

PREREQUISITES:

CLT(NCA) or MLT(ASCP) Certification; admission to the professional program.

LEARNING OUTCOMES

Reviewing prior educational and technical skills, the student will:

1. Analyze and maintain effective quality assurance taking proper corrective action when necessary
2. Assess the economic implications and application of new techniques, equipment and procedures
3. Interpret test results as to clinical significance, correlate to clinical diagnosis and suggest further testing
4. Discuss chemical analysis for a broad range of biological analytes utilizing current traditional and automated methods
5. Discuss the purpose for performing common chemistry tests, appropriately interpreting high and low values as related to corresponding organ function.
6. Correlate laboratory data to disease states.
7. Differentiate and resolve technical, instrument, physiologic causes of problems or unexpected results

COURSE OBJECTIVES

Objectives are provided with each unit.

FORMAT:

100% On-line

ASSIGNMENTS:

Online Case Studies: You will be assigned case studies. You will complete these case studies and post responses using Canvas. Follow the directions provided for each case study. Your grade will be based upon the accuracy and completeness of your responses.

REQUIRED PROFESSIONAL ACTIVITIES: As a professional, continuing education and membership in the professional organization are essential. It is highly recommended that you become a student member of the American Society for Clinical Laboratory Science (ASCLS) and a student member of the American Society for Clinical Pathology (ASCP).

ASCLS-WI State Convention:

Attendance Required for one day of the conference

GRADING SYSTEM:

- A - 90-100%
- B - 80-89%
- C - 70-79%
- D - 60-69%
- F - Less than 60%

DERIVATION OF COURSE GRADES:

- Case Studies = 95%
- ASCLS-WI State Convention = 5%

REQUIRED TEXTS:

Clinical Chemistry: Principles, Procedures, Correlations
Authors: M. L. Bishop, J. L. Dubin-Engelkirk, E. P. Fody

REFERENCE TEXTS:

Clinical Chemistry: Theory, Analysis, Correlation
Authors: L. A. Kaplan, A. J. Pesce, S. C. Kazmierczak

Supplemental texts and journal articles will be used as needed.