South Central College

MDLT 1825 Urinalysis and Body Fluids

Course Outcome Summary

Course Information

Description The lecture component of this course will cover basic theory in urine formation, renal physiology, and metabolic disorders that produce abnormalities in the urine. Complete urinalysis examinations will be performed in the student laboratory. Basic analysis of other body fluids will be discussed with an emphasis on laboratory methods currently in use. (Prerequisite: MDLT 1810 & MDLT 2818 with a grade of C or higher.)

Total Credits 3

Total Hours 64

Types of Instruction

Instruction Type	Credits/Hours
Lecture (online)	2/16
Lab (on campus)	1/32

Pre/Corequisites

MDLT 1810 & MDLT 2818 with a grade of C or higher.

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Define urinalysis and body fluids terminology.

Learning Objectives

Review urinalysis/body fluids terminology.
Study urinalysis/body fluids terminology.
Practice urinalysis/body fluids terminology.

2. Explain renal physiology.

Learning Objectives

Study renal physiology.
Discuss renal physiology.

3. Define urine composition and formation.

Learning Objectives
Outline the development and composition of urine.
Study the terms and processes involved with the development and composition of urine.

4. Discuss the physical examination of urine. Discussion will include, but not be limited to: color, clarity, specific gravity, and clinical correlations.

Learning Objectives
List the common terminology used when discussing normal and abnormal urine color.
Discuss the clinical significance of abnormal urine color.
List the common terminology used when discussing urine clarity.
State the clinical significance of urine clarity.
Define specific gravity and explain why this measurement can be significant in a routine urinalysis.
List the common methods for measuring specific gravity.
Correlate physical examination results with pathologic and non-pathologic conditions.

5. Discuss the chemical examination of urine. Discussion will include, but not be limited to: performance of reagent strip testing; principles of chemical tests performed for routine urinalysis; common confirmatory tests for glucose, ketones, bilirubin and protein; correlate physical and chemical urinalysis results, correlate pathological and non-pathological urinalysis findings with clinical diseases.

Learning Objectives
List the common terminology used when discussing chemical examinations of urine.
Describe the proper technique for performing reagent strip testing.
Discuss the routine chemical tests performed for chemical examinations of urine and their principles.
Discuss the routine chemical tests performed for chemical examinations of urine and their principles.
Discuss the routine confirmatory tests performed for chemical examinations or urine and their principles.
Correlate physical and chemical urinalysis results.
Correlate normal and abnormal chemical examination findings with pathologic and non-pathologic conditions.

6. Discuss the microscopic examination of urine. Discussion will include, but not be limited to: microscopic screening; preparation and examination of urine sediment; sediment examination techniques; normal and abnormal sediment constituents; correlation of microscopic examination and pathologic and non-pathologic conditions.

Learning Objectives
List the common terminology used when discussing microscopic examinations of urine.
Describe and discuss methods for standardizing specimen preparation, examination, and reporting of results.
Differentiate between normal and abnormal sediment constituents.
Correlate physical and chemical urinalysis results with microscopic examination and recognize the discrepancies.
Differentiate between actual sediment constituents and artifact.
Discuss the significance of finding normal and abnormal sediment constituents in a urine.
Correlate the finding of normal and abnormal sediment constituents with pathologic and non-pathologic conditions.

7. Explain cast formation.

Learning Objectives
Discuss how casts are formed.
Identify and name the different types of casts that can be formed.
Explain clinical significance of cast formation.

8. Correlate cast formation with clinical conditions.

Learning Objectives
Identify and name the different types of casts that can be formed.
Explain clinical significance of cast formation.

9. Explain crystal formation.

Learning Objectives
Identify and name the different types of crystals that can be formed.
Explain clinical significance of crystal formation.

10. Correlate crystal formation with clinical conditions.

Learning Objectives
Identify and name the different types of crystals that can be formed.
Explain clinical significance of crystal formation.

11. Differentiate common urine sediment types.

Learning Objectives
List common urine specimen types.
Describe common urine specimen types.
Examine common urine specimen types.

12. Perform quality assurance/quality control.

Learning Objectives
Define quality assurance/quality control measurements.
Discuss quality assurance/quality control measurements.
Apply quality assurance/quality control measurements.
Explain significance of quality assurance/quality control measurements out of established ranges.
Determine corrective measures for quality assurance/quality control out of established ranges.

13. Perform physical/chemical/microscopic examinations of urine specimens.

Learning Objectives
Study how to perform physical/chemical/microscopic examinations of urine specimens.
Practice performing physical/chemical/microscopic examinations of urine specimens.

14. Correlate physical/chemical urine examinations with the microscopic examinations.

Learning Objectives
Study physical/chemical/microscopic examinations of urine specimens.
Practice physical/chemical/microscopic examinations of urine specimens.
Interpret physical/chemical/microscopic examinations of urine specimens.

15. Give the details of the common urine confirmatory tests.

Learning Objectives
List common urine confirmatory tests.
Study details of common urine confirmatory tests.
Correlate which confirmatory tests relate to tests impregnated on commonly used chemical strips.

16. Carry out common urine confirmatory testing.

Learning Objectives
Study procedures for common urine confirmatory tests.
Practice performing common urine confirmatory tests.
Interpret results of common urine confirmatory tests.

17. Distinguish biological sediment components.

Learning Objectives
List biological urine sediment components.
Study biological urine sediment components.
Differentiate biological urine sediment components.
Discuss common urine artifact.
Differentiate common urine artifact.

18. Correlate urinalysis findings with clinical conditions.

Learning Objectives

Differentiate clinically significant urinalysis results from non-pathologic urinalysis results.
Interpret clinically significant urinalysis results from non-pathologic urinalysis results.

19. Discuss commonly collected body fluids and common analyses performed on them.

Learning Objectives

List the types of body fluids that are commonly collected for medical laboratory analyses.
Discuss the types of commonly collected body fluids.
Study the types of analyses performed on commonly collected body fluids.
Interpret laboratory findings performed on commonly collected body fluids.

20. Correlate clinical conditions associated with the laboratory findings performed on commonly collected body fluids.

Learning Objectives

List the types of body fluids that are commonly collected for medical laboratory analyses.
Interpret laboratory findings performed on commonly collected body fluids.
Correlate laboratory findings from commonly collected body fluids with clinical conditions/diseases.

21. Discuss urinalysis automation.

Learning Objectives

Acknowledge the existence of different automated urine analyzers.
Differentiate between commonly used automated urine analyzers.

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

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