

**Berkshire Medical Center
School of Medical Technology**

Course Syllabus

Course No. : MEDT 406

Course Title: Clinical Urinalysis and Body Fluids

Credits: 1

Description:

Introduces the student to the study of body fluids including urine, cerebral spinal fluid, synovial fluid, serous fluids, seminal fluid, and miscellaneous other fluids. Discusses the physiological process of fluid production and abnormalities that may alter this production. Discusses specimen collection and analysis. Describes the controllable and non-controllable pre-analytical, analytical, and post-analytical variables that can affect testing. The student applies this theory in the clinical lab using current diagnostic techniques and instrumentation to correlate lab results with disease processes.

Primary Didactic Instructor: Lori Moore, M.Ed., MT(ASCP)

Clinical Coordinator Program Director
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413-447-2580

Additional Instructors: Chemistry/Urinalysis staff

Require Text:

Urinalysis and Body Fluids, 6th ed. (2014). Susan King Stransinger & Marjorie Schaub DiLorenzo.

The Urinalysis Department Procedure Manual.

Reference text:

Fundamentals of Urine and Body Fluid Analysis, 4th edition, Nancy Brunzel, 2018

Wet Urinalysis, Schumann, Friedman, 2003

Body Fluids, 3rd edition, Carl Kjeldsberg, Joseph Knight, 1993

Lecture: 8 lectures between fall and spring

Laboratory: 4 week clinical rotation in the Urinalysis Department.

 **See individual student schedule for dates

Course Goals and Objectives

Based on the didactic material and clinical instruction students will score an average of 75% or better on evaluation tools (i.e. exams, task lists, evaluations, etc) to demonstrate competency of the following objectives.

Upon completion of the Urinalysis/Body Fluids clinical and didactic course the student will:

1. Explain the anatomy of the kidney and physiology of urine production including its importance in the detection and treatment of disease.
2. Explain the importance of cellular and sediment elements found in urine and various other body fluids.
3. Differentiate the different kinds of epithelial cells and casts found in urine sediment.
4. Discuss each chemical test performed on urine including the reaction components, normal and abnormal results, clinical significance of abnormal results, and interfering substances.
5. Describe the significant renal diseases including physiology and expected laboratory test results.
6. Select best course of action when there is a discrepancy between chemical testing results and microscopic examination.
7. Discuss the basic methodology and principles of each test performed on urine and other body fluids in the clinical lab.
8. Describe the physiological processes of other body fluid production (not urine) and the mechanisms that lead to abnormalities in the various body fluids.
9. Identify cellular elements in body fluids other than urine.
10. Explain the importance of quality control and apply it to the urinalysis laboratory.
11. Determine appropriate specimen collection, processing, and analysis of body fluid specimens by following established procedures and resolve issues as they arise.
12. Perform manual and automated testing on patient urine and other body fluids that result in valid laboratory results in the Urinalysis department.
13. Perform routine maintenance, trouble shooting, quality control, and calibrations on instrumentation in the Urinalysis department following established procedures.
14. Evaluate quality control data and determine course of action when quality control falls outside of range.
15. Interpret laboratory data generated from the urinalysis laboratory regarding test accuracy and abnormal values.
16. Evaluate laboratory data and give possible cause or diagnosis for patient results.
17. Organize workflow for efficiency in lab testing turn-around-times.
18. Practice established confidentiality guidelines.
19. Demonstrate professional and ethical conduct with all healthcare professionals, consumers, patients, and other laboratory students.

Basis for Student Evaluation

Lecture evaluation will consist of exams, assigned exercises, and unknown urine sediment identification. The laboratory evaluation will consist of practicals, written exams, and unknown urine sediment identification. The final grade will be composed of 60% lecture and 40% laboratory.

Affective behaviors

Didactic

Following appropriate training, during didactic instruction the student will:

1. Exhibit professional behavior during didactic instruction.
2. Attend lectures in a timely manner.
3. Respect other students and members of the laboratory.
4. Contribute to a positive learning environment.
5. Demonstrate an interest in the subject matter.
6. Comply with hospital and laboratory dress code and personal appearance policies.
7. Comply with institutional policies concerning safety.
8. Cooperate when situations arise and there is a necessary change in lecture schedule.

Clinical

Following appropriate training, during clinical instruction the student will:

1. Comply with all hospital, laboratory, and school policies.
2. Demonstrate phone etiquette using BMC customer service standards.
3. Maintain a neat, clean, and orderly work area in the Urine department.
4. Value the advice and opinion of others.
5. Accept responsibility for his/her own actions.
6. Be dependable and punctual for the clinical experience.
7. Organize his/her time to complete assignments and daily training.
8. Accept constructive criticism and use it as a tool for improved performance.
9. Establish a good rapport with co-workers and uphold the concept of teamwork.