

SYLLABUS  
PART I  
EDISON COMMUNITY COLLEGE  
MLT 135S URINALYSIS AND BODY FLUIDS  
3 CREDIT HOURS

**COURSE DESCRIPTION**

The study of qualitative and quantitative procedures for the physical, chemical, and microscopic examination of urine. Included are the theory and application of renal function, the analysis of cerebral spinal fluid, serous fluids, synovial fluid, seminal fluid, gastric secretions and feces. Prerequisite: Admission into the MLT Program. Lab fee.

**COURSE GOALS**

The student will:

Bloom's level		Program Outcomes	TAG OHO010
1	1. Identify the components of the urinary system the function of each.	1	1
2	2. Describe the process of urine and body fluid sample collection, storage, and results reporting.	3	4
5	3. Explain the effects of inappropriate collection and storage of specimens and changes that occur in a urine specimen not properly preserved.	3	5
5	4. Describe, perform, and assess the physical, chemical and microscopic examination of urine.	1	6
4	5. Correlate the results of routine urinalysis testing to normal and abnormal renal and non-renal conditions.	2	6
4	6. Compare and contrast the principles of urinalysis methods including sensitivity, specificity, and sources of error.	1,2	7
4	7. Correlate formed elements found in urinalysis to normal and disease states.	1	10
4	8. Correlate physical observations and biochemical tests in urinalysis with microscopic findings.	2	6
3	9. Calculate creatinine clearance and specific gravity adjustments given appropriate laboratory data.	1	6
2	10. Describe the formation, composition, and function of body fluids including: cerebrospinal, seminal, synovial, serous and amniotic fluids.	1	8
2	11. Describe the methods used in routine body fluid analyses.	1	9
4	12. Correlate results of body fluid analyses with normal and disease states.	2	9
1	13. Identify components of a compound microscope for viewing at 10X, 40X and 100X oil immersion.	1	10
2-P	14. Use a compound microscope to identify formed elements in urine.		10
1	15. Identify cellular and non-cellular characteristics of blood and its components.	1,2	10
3-P	16. Master the use a hemacytometer to perform manual cell counts on blood and body fluids.	1	10

Bloom's level		Program Outcomes	TAG OHO010
5	17. Use quality control/quality assurance procedures in the analysis of urine and body fluids to evaluate accuracy and precision of results.	4	2
2	18. Explain the importance of quality assurance in the urinalysis laboratory.	4	2
2-P	19. Use safe and accountable behaviors in the laboratory.	5	3

### CORE VALUES

The Core Values are a set of principles which guide in creating educational programs and environments at Edison. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives, and activities in this course will introduce/reinforce these Core Values whenever appropriate.

### TOPIC OUTLINE

1. Anatomy and physiology of the urinary system
2. Urine collection, storage and processing
3. Routine urinalysis
4. Spinal, serous, synovial, seminal and fecal collection and routine examination
5. Effusions, transudates and exudates
6. Fecal occult blood
7. Synovial fluid examination for gout
8. Seminal fluid examination for fertility and post vasectomy
9. Creatinine clearance
10. Quality control and quality assurance
11. Safety in urine lab
12. Microscopic examination of urine sediment
13. Cells, casts, crystals, contaminants and artifacts in urine sediment
14. Cells in blood
15. Manual cell counts