

**Bossier Parish Community College**  
**Master Syllabus**

**Course Prefix and Number:** ALHT 209L

**Credit Hours:** 1

**Course Title:** Laboratory Testing Lab

**Course Prerequisites:** Permission of the department

**Textbook:** Garrels, M.; Laboratory and Diagnostic Testing for Ambulatory Care-Workbook, 4<sup>th</sup> edition

**Course Description:**

Laboratory instruction to reinforce and enhance concepts and techniques presented in ALHT 209 lecture. Withdrawal from lecture mandates withdrawal from lecture.

**Learning Outcomes:**

At the end of this course, the student will

- A. demonstrate professionalism, standard precautions, and appropriate safety measures in a clinical laboratory setting;
- B. utilize proper techniques in blood collection; and
- C. utilize critical thinking in the performance and interpretation of testing of blood and body fluids using Clinical Laboratory Improvement Act (CLIA) waived or moderately complex laboratory testing methods.

To achieve the learning outcomes, the student will

- 1. identify and use laboratory requisitions and reports with proper documentation and confidentiality. (C)
- 2. interpret common metric system values used in laboratory test reporting. (C)
- 3. identify and apply the CDC's latest Standard Precautions for infection control and its recommendations regarding proper hand hygiene. (A)
- 4. identify waste classified as biohazardous and select appropriate containers for disposal. (A)
- 5. demonstrate proper disposal of biohazardous material in sharps and regulated waste containers. (A)
- 6. describe the proper actions to take after exposure to bloodborne pathogens. (A)
- 7. list and explain the safety rules that must be observed in the laboratory. (A)
- 8. complete a posttest on safety training successfully. (A)
- 9. identify and note the location of safety equipment, safety signs, symbols, labels, apparel, and safety manuals in the classroom laboratory. (A)
- 10. complete a mock exposure incident report in the workbook appendix. (A)
- 11. perform a medical hand wash followed by gloving and proper removal of gloves. (A)
- 12. label the parts of a compound microscope and explain the functions of each. (C)

13. perform a microscopic exercise according to acceptable standards on the Learning Outcome Evaluation in the workbook, including focusing a slide under low, high dry, and oil immersion, and cleaning and maintaining a microscope. (C)
14. identify trends, shifts, random error, or out-of-control values on Levey Jennings charts, and patient panic values. (C)
15. discuss current risk management and HIPAA issues as they apply to the physician's office laboratory. (A)
16. understand the uses and benefits of electronic medical records and bar coding as they relate to medical laboratories. (C)
17. differentiate between normal and abnormal test results.
18. maintain lab results using flow sheets. (C)
19. reassure a patient of the accuracy of the test results. (C)
20. explain the proper method of urine collection for voided urine, clean-catch midstream urine for bacterial studies, and timed urine specimens. (C)
21. properly handle and dispose of urine specimens according to the most current OSHA safety guidelines. (A)
22. educate the patient in the proper method of urine collection. (C)
23. perform a physical assessment of an unknown urine sample according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
24. perform a chemistry Multistix test on an unknown sample according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
25. apply the correct quality control for physical and chemical urinalysis testing. (C)
26. follow the most current OSHA safety guidelines when performing a physical and chemical urinalysis. (A)
27. perform a microscopic urinalysis according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
28. follow the most current OSHA safety guidelines when performing a microscopic urinalysis. (A)
29. correlate the results of a physical, chemical, and microscopic urinalysis. (C)
30. describe the appropriate steps for patient preparation, emphasizing the importance of correctly identifying the patient. (B)
31. explain the proper procedure for capillary puncture, demonstrating an understanding of site selection, equipment, and complications of this procedure. (B)
32. perform a capillary puncture according to to the stated task, conditions, and standards listed on the student lab worksheets.(B)
33. evaluate a patient's venipuncture site availability and determine the correct venipuncture method to perform. (B)
34. describe the proper vacuum tube, syringe, and butterfly venipuncture methods. (B)
35. explain the order of draw for multiple-draw and syringe venipuncture. (B)
36. perform a Vacutainer venipuncture, syringe venipuncture, and butterfly venipuncture according to the stated task, conditions, and standards listed on the student lab worksheets. (B)
37. relate the most current OSHA safety guidelines for capillary puncture and the various venipuncture methods. (A)
38. maintain a safe work environment by following the most current guidelines for disposing of used equipment, and cleaning and disinfecting the working area. (A)

39. perform a blood smear and stain according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
40. identify typical blood cells from a stained blood smear. (C)
41. identify equipment and supplies used in waived hematology and protime tests. (C)
42. follow the most current OSHA safety guidelines when performing hematology and coagulation tests and apply the correct quality control. (A)
43. perform the FDA-approved hemoglobin, hematocrit, erythrocyte sedimentation rate, and prothrombin time waived tests according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
44. perform a white blood cell count differential. (C)
45. perform and discuss the moderately complex QBC method used in ambulatory settings according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
46. follow the most current OSHA safety guidelines when performing chemistry tests. (A)
47. perform FDA-approved glucose, hemoglobin A1c, lipid panel, and fecal occult blood CLIA waived tests according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
48. identify and inform the physician when laboratory reports show chemistry values out of the expected range. (C)
49. perform a CLIA waived pregnancy test, infectious mononucleosis test, influenza test and *Helicobacter pylori* test according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
50. perform a slide test for ABO blood typing for the presence or absence of immunologic agglutination or hemolysis to determine blood type. (C)
51. perform a throat swab specimen collection according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
52. prepare and perform a Gram stain on a bacterial smear according to acceptable standards. (C)
53. recognize gram-positive and gram-negative bacteria and describe their morphological characteristics. (C)
54. perform specimen collection for the cellulose tape procedure for the identifications of pinworms. (C)
55. perform a rapid group A *Streptococcus* test and a rapid influenza A and B test according to the stated task, conditions, and standards listed on the student lab worksheets. (C)
56. perform culture plate streaking methods for colony isolation and colony counting. (C)
57. demonstrate competency in the performance of the following skills: (C)
  - application of a pediatric urine collector
  - collection of a specimen for a newborn screening test
  - provide instructions for a fecal occult blood test
  - use a laboratory directory
  - complete a laboratory request form
  - instruct the patient in advance preparation requirements for a specimen collection
  - collect a specimen
  - properly handle and store a specimen

- review a laboratory report
- instruct a patient in clean-catch midstream urine specimen collection
- instruct a patient in 24-hour urine specimen collection
- assess the color appearance of a urine specimen
- measure the specific gravity of a urine specimen
- obtain a specimen and perform a CLIA waived urinalysis
- prepare a urine specimen for microscopic analysis
- perform a rapid urine culture test
- obtain a specimen and perform a CLIA waived immunology test such as a urine pregnancy test
- perform a venipuncture using the vacuum tube method
- perform a venipuncture using the butterfly method
- perform a venipuncture using the syringe method
- separate serum from whole blood
- obtain a capillary blood specimen
- perform a hemoglobin determination
- obtain a specimen and perform a CLIA waived hematology test such as a hematocrit determination
- prepare a blood smear
- obtain a specimen and perform a CLIA waived chemistry test
- perform a fasting blood sugar using a glucose monitor
- perform a rapid mononucleosis test
- use a microscope
- collect a specimen for throat culture
- obtain a specimen using a collection and transport system
- obtain a specimen and perform a microbiology test such as a rapid strep test
- prepare a wet mount slide
- prepare a microbiologic smear

58. measure and record a venipuncture and capillary puncture. (C)

59. analyze healthcare results as reported in graphs and tables. (C)

**Course Requirements:** To earn a grade of “C” or higher the student must earn 70% of the total points for the course and meet all of the following course requirements.

- minimum 70% on all tests including the comprehensive final exam
- competency on venipuncture skills test (with two attempts maximum)
- competency on skin puncture skills test (with two attempts maximum)
- competency on identified laboratory testing techniques

### **Course Grading Scale**

A- 90% or more of total points on tests including the comprehensive final exam and minimum score of 70% on venipuncture and skin puncture skills tests within two attempts and demonstrated competency on identified testing techniques and a satisfactory course related research paper

- B- 80% or more of total points on tests including the comprehensive final exam and minimum score of 70% on venipuncture and skin puncture skills tests within two attempts and demonstrated competency on identified testing techniques and a satisfactory course related research paper
- C- 70% or more of total points on tests including the comprehensive final exam and minimum score of 70% on venipuncture and skin puncture skills tests within two attempts and demonstrated competency on identified testing techniques and a satisfactory course related research paper
- D- 60% or more of total points on tests including the comprehensive final exam and minimum score of 70% on venipuncture and skin puncture skills tests within two attempts and demonstrated competency on identified testing techniques and a satisfactory course related research paper
- F- less than 60% of total points on tests including the comprehensive final exam or less than 70% on venipuncture and skin puncture skills tests within two attempts or failure to demonstrate competency on identified testing techniques or failure to submit a satisfactory course related research paper

**Attendance Policy:** The college attendance policy is available at <http://www.bpcc.edu/catalog/current/academicpolicies.html>

**Course Fees:** This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, certification exams and/or clinical fees.

### **Nondiscrimination Statement**

Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

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Reviewed by Pam Tully & Melissa Shepherd/ March 2019