



COURSE OUTLINE

Course Number PBT101	Course Title Phlebotomy for Healthcare Professionals	Credits 4
Hours: Lecture/Lab/Other (3 Lec /3 Lab)	Co- or Pre-requisite High School diploma/GED	Implementation Semester & Year Spring 2023

Catalog description:

This course provides theory and skill development for healthcare professionals in the performance of blood collection using proper techniques and infection precautions. Student are provided with hands-on training to perform venipunctures and capillary skin puncture The student is instructed in the anatomy and physiology of the circulatory system, specimen collection, specimen processing and handling, safety and quality control. Upon successful completion of this course, the student will be able to perform phlebotomy in a clinical setting.

General Education Category:
Not GenEd

Course coordinator: Lisa Shave 609-570-3387 shavel@mccc.edu

Required texts & Other materials:

Strasinger, Susan King., & Di Lorenzo, Marjorie Schaub, (2019) The Phlebotomy Textbook 4th Edition, Philadelphia, Pennsylvania: F. A. Davis. ISBN 978-0-8036-68423

Course Student Learning Outcomes (SLO):

Upon successful completion of this course the student will be able to:

1. Describe the duties of a phlebotomist and discuss the qualifications for certification. (ILG1, ILG8, ILG10)
2. Discuss the regulatory, ethical, and legal aspects of phlebotomy. (ILG1, ILG8, ILG9)
3. List and describe the six components of the chain of infections and explain safety precautions that will break the chain. (ILG3)
4. Discuss the phlebotomist's role in complying with Health Insurance Portability and Accountability Act (HIPAA). (ILG1, ILG8 ILG9)
5. Describe the basic clinical laboratory sections and identify the most common tests performed in each section. (ILG11)
6. Describe the appropriate collection and handling of specimens analyzed in each section. (ILG11)
7. Identify the major body systems and recognize laboratory tests that are associated with each system. (ILG 3)
8. Identify basic venipuncture equipment and describe their use in performing phlebotomies. (ILG 4, ILG 10)
9. Demonstrate the correct performance of a routine venipuncture using an evacuated tube system. (ILG4)
10. Recognize and state the appropriate way to handle special venipuncture conditions, i.e. hematoma, burn victims, mastectomy patients, patients with IV's, elderly patients, children and infants, etc. (ILG1, ILG5, ILG8)
11. Describe additional duties performed by phlebotomist. (ILG1, ILG5, ILG9, ILG10, ILG11)
12. Identify variables that affect the quality of the phlebotomy specimen. (ILG3, ILG11)
13. Discuss examples of pre-analytical, analytical, and post-analytical variables related to phlebotomy (ILG11)

Course-specific Institutional Learning Goals (ILG):

Institutional Learning Goal 1. Written and Oral Communication in English. Students will communicate effectively in both speech and writing.

Institutional Learning Goal 3. Science. Students will use the scientific method of inquiry, through the acquisition of scientific knowledge.

Institutional Learning Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

Institutional Learning Goal 5. Social Science. Students will use social science theories and concepts to analyze human behavior and social and political institutions and to act as responsible citizens.

Institutional Learning Goal 8. Diversity and Global Perspective: Students will understand the importance of a global perspective and culturally diverse peoples

Institutional Learning Goal 9. Ethical Reasoning and Action. Students will understand ethical frameworks, issues, and situations.

Institutional Learning Goal 10. Information Literacy: Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.

Institutional Learning Goal 11. Critical Thinking: Students will use critical thinking skills understand, analyze, or apply information or solve problems.

Program Learning Outcomes for Medical Lab Assistant Certificate

1. Apply governmental standards and compliance within the laboratory setting.
2. Demonstrate professional and ethical behaviors along with interpersonal skills when communicating with patients and members of the healthcare team in the workplace.
3. Perform phlebotomy and display safety practices for infection control according to industry standards.
4. Implement quality assurance and quality control principles to specimen transport, specimen processing, and laboratory testing.
5. Prepare reagents, standards, quality control material and human blood/body fluid specimens for analysis according to industry standards.
6. Perform specimen testing using proper procedures, equipment, and techniques.
7. Apply relevant methodologies and techniques including problem solving and troubleshooting for specimen processing and testing.
8. Use a computer to enter and record data into a laboratory information system (LIS).

Units of study in detail – Unit Student Learning Outcomes:

Unit I Phlebotomy, Ethics and Safety [Supports Course SLO #1, 2, 3, 4]

Learning Objectives

The student will be able to:

1. State the traditional and expanding duties of the phlebotomist.
2. Describe the professional characteristics that are important for a phlebotomist to possess
3. Discuss the importance of communication and interpersonal skills for the phlebotomist within the laboratory, with patients, and with personnel in other departments of the hospital.
4. Describe the three components of effective communication.
5. Describe a phlebotomist using correct listening and body language skills.
6. Describe correct listening and body language skills expected of a phlebotomist.
7. Define cultural diversity, and discuss the actions needed by a phlebotomist when encountering an individual from a different culture.
8. Discuss the role of each of the following in the regulation of health care: the Clinical Laboratory Improvement Amendments (CLIA), the Clinical and Laboratory Standards Institute (CLSI), The Joint Commission (TJC), the College of American Pathologists (CAP), and the Commission on Laboratory (CoL).
9. Explain the role of the phlebotomist in complying with patients' rights.
10. Differentiate between ethics and medical law.
11. State the primary role of the phlebotomist in complying with the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health (HITECH) Act.
12. Describe how a phlebotomist could be involved in a malpractice suit.
13. State examples of how informed consent is obtained.
14. Describe how a phlebotomist should respond to a patient who refuses a venipuncture.
15. Describe the appropriate collection and handling of specimens analyzed in the individual sections of the clinical laboratory.
16. Describe the six components of the chain of infection and the safety precautions that will break the chain.
17. Define health-care-associated infections (HAIs).
18. Explain the correct procedure for performing routine hand hygiene.
19. Identify the personal protective equipment (PPE) used by phlebotomists.

20. Define standard precautions (SPs).

Unit II **The Circulatory System [Supports Course SLO 7]**

Learning Objectives

The student will be able to:

1. Briefly describe the functions of the blood vessels, heart, and blood.
2. Differentiate among arteries, veins, and capillaries by structure and function.
3. Locate the femoral, radial, brachial, and ulnar arteries.
4. Locate the basilic, cephalic, median cubital, and radial veins, the superior vena cava, the inferior vena cava, and saphenous veins.
5. Trace the pathway of blood through the heart, and define the function of each chamber.
6. Explain the purpose of the coronary circulation.
7. Describe the cardiac cycle, and explain the function of the sinoatrial (SA) node.
8. Identify the components of blood.
9. State the major function of red blood cells (RBCs), white blood cells (WBCs), and platelets.
10. Briefly explain the coagulation process.
11. Describe the major disorders associated with the circulatory system.
12. State the clinical correlations of laboratory tests associated with the circulatory system.

Unit III **Specimen Collection and Complications [Supports Course SLOs # 6, 8, 9, 10]**

Learning Objectives

The student will be able to:

1. List the required information on a test requisition form.
2. Discuss the appropriate procedure to follow when greeting and reassuring a patient.
3. Describe correct identification procedures for inpatients and outpatients.
4. Describe patient preparation and positioning.
5. Correctly assemble venipuncture equipment and supplies.
6. Identify the three veins used most frequently for venipuncture.
7. Correctly apply a tourniquet and state why the tourniquet can be applied for only 1 minute.
8. Describe vein palpation.
9. Discuss the procedure for cleansing the venipuncture site.
10. State the steps in a venipuncture procedure, and correctly perform a routine venipuncture using an evacuated tube system (ETS).
11. Demonstrate safe disposal of contaminated needles and supplies.
12. List the information required on a specimen tube label.
13. Explain the importance of delivering specimens to the laboratory in a timely manner.
14. State the complications associated with puncture of the deep veins in infants.
15. List the reasons for performing dermal punctures on infants, children, and adults and explain why certain tests cannot be performed on capillary specimens.
16. Describe the composition of capillary blood and name four test results that may differ when obtained with capillary and venous blood.
17. Describe the types of equipment needed for collection of a dermal specimen.

Unit IV **Testing and Additional Duties of the Phlebotomist [Supports Course SLOs #51 11]**

Learning Objectives

The student will be able to:

1. Provide patients with instructions and containers for the collection of random, first morning, clean-catch midstream, and 24-hour urine specimens.
2. Provide patients with instructions and containers for the collection of random and timed fecal specimens.
3. Provide patients with instructions and containers for the collection of semen specimens.
4. Correctly collect a throat culture.
5. Correctly obtain a nasopharyngeal (NP) specimen.
6. Describe the purpose of and the collection procedure for sweat electrolytes, including precautions to protect specimen integrity.
7. Describe the purpose of and the collection procedure for bone marrow specimens.
8. Discuss the major components and concerns of the blood donor selection process.
9. Describe the differences between the blood donor collection process and the routine venipuncture.
10. Describe the purpose of and the tests performed on various nonblood specimens.

11. Discuss the responsibilities of a phlebotomist when accessioning specimens into the laboratory and shipping specimens from the laboratory.
12. Define point-of-care testing (POCT).
13. Discuss the advantages and disadvantages of POCT.
14. Identify critical elements for common point-of-care tests.
15. List the tests and instrumentation commonly used in POCT.
16. Describe the safety precautions associated with specimen processing.
17. State the rules for safe operation of a centrifuge.
18. State routine phlebotomy duties that can involve a phlebotomist in the use of a laboratory information management system.

Unit V Quality Management in Phlebotomy and POCT [Course SLOs # 12, 13]

Learning Objectives

The student will be able to:

1. Explain Clinical Laboratory Improvement Amendments (CLIA) classification, regulatory requirements, and competency testing for POCT.
2. Describe quality management for POCT.
3. Discuss the function and types of quality control (QC) for POCT.
4. Demonstrate understanding of the three phases of laboratory testing.
5. Differentiate between quality control (QC) and quality assessment (QA).
6. Discuss forms of documentation used in the phlebotomy department.
7. List the information contained in a procedure manual.
8. Describe how the procedure manual is used by the phlebotomist.
9. Discuss the role of variables in the development of a quality management program.
10. Differentiate among preexamination, examination, and postexamination variables related to the phlebotomist’s scope of practice.
11. For each step of the phlebotomy collection procedure, state a QC procedure failure that can affect the collection of a quality specimen.
12. Describe a quality management system (QMS).

Evaluation of student learning:

[Describe general guidelines for examinations, required work, course work, assignments, and tests. List all expected course activities. Explain how each activity evaluates student achievement of course student learning outcomes. Multiple measures (quizzes, tests, essays, projects, portfolios, practicums, etc.) are recommended.]

Lecture	Category	Percentage	Lecture score is worth 50% of total grade
	Assignments (HW, Case Studies, etc.)	20%	
	Weekly Quizzes	40%	
	Exams	30%	
	Participation (Attendance)	10%	
	Total Lecture	= ____ / 100%	
Lab (must pass with a 70% or higher)	Category	Percentage	Lab score is worth 50% of total grade.
	Activities (Pre-Labs, HW, etc.)	20%	
	Laboratory Assessments	50%	
	Professional Behaviors	25%	
	Total Lab	= ____ / 100%	

Must pass the course with a total grade of 70% (C) or higher.

PBT Certification Exams

- **American Certification Agency for Healthcare Professionals (ACA) <https://acacert.com/cpt/>
Certified Phlebotomy Technician CPT (ACA)**
 - Successful completion of a formal program (e.g. phlebotomy, laboratory assistant, medical assistant, EMT, nursing, etc.) which includes didactic instruction and a minimum of 100 clinical hours. Must show documentation of at least 100 successful venipunctures and 10 skin punctures.
 - \$100.00
- **American Medical Certification Association (AMCA)
Phlebotomy Technician Certification (PTC)**
 - *The AMCA recommends a minimum of 30 venipunctures and 10 capillaries, upon completion of a clinical program. Louisiana must provide proof of 100 venipuncture/ 25 capillary sticks
 - \$109.00
- **American Medical Technologists <https://www.americanmedtech.org/Phlebotomy-Technician>
(Phlebotomy Technician, RPT (AMT))**
 - Applicant shall have graduated from, or scheduled to graduate from, an approved academic course (or combined courses) of study in phlebotomy that includes a minimum of 120 didactic clock hours (or as required by state law). Documentation of completion of a minimum of 50 successful venipunctures and 10 successful capillary punctures from human sources
 - \$120
- **American Society for Clinical Pathology <https://www.ascp.org/content/board-of-certification/get-credentialed> Phlebotomy Technician, PBT (ASCP)**
 - NAACLS accreditation required or 40 clock hours of classroom training, including anatomy and physiology of the circulatory system, specimen collection (including venipuncture and skin punctures), specimen processing and handling, and laboratory operations (e.g. safety, quality control, etc.) and 100 clock hours of clinical* training and orientation in an acceptable laboratory with a minimum performance of 100 successful unaided venipunctures.
 - \$135
- **American Society of Phlebotomy Technicians <https://www.aspt.org/cert>
Phlebotomy Technician Certificate**
 - Successful completion of an accredited phlebotomy training program; MUST have at least 25 documented successful venipunctures and 5 documented skin punctures and a current ASPT membership
 - \$90.00
- **National Phlebotomy Association https://www.nationalphlebotomy.org/Certified_Phlebotomist
Certified Phlebotomist Technologist (NPA-CPT)**
 - Our program must award 16.0 continuing education units or be offered as a course with at least 160 contact hours of lecture time excluding the phlebotomy practical. The training program must include at least 200 hours of practical experience either with mannequins or clinical practicum or a combination of both.
 - \$160.00
- **National Healthcareer Association <https://www.nhanow.com/certifications/phlebotomy-technician>
Certified Phlebotomy Technician, CPT (NHA)**
 - \$117.00 for the exam
- **[National Center for Competency Testing https://www.ncctinc.com/certifications/pt](https://www.ncctinc.com/certifications/pt)**
 - \$90.00 within 6 months; \$135 after 6 month-5 years
 - Program would need to be approved by NCCT: <https://www.ncctinc.com/schools/testing-sites>