

El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	<u>Medical Laboratory Technology</u>
COURSE RUBRIC AND NUMBER	<u>PLAB 1170</u>
COURSE TITLE	<u>Phlebotomy</u>
COURSE CREDIT HOURS	<u>1 1 : 1</u> Credits Lec Lab

I. Catalog Description

Provides the theory, procedures, and practical application of phlebotomy skills to include professionalism, ethics, legal issues, related anatomy and physiology, Quality Control, Quality Assurance, laboratory safety, blood collection protocols, and phlebotomy equipment and supplies. This course will enable students to apply theory, venipuncture and dermal puncture skills and techniques on geriatric, adult, adolescent, children, and newborn patients. A grade of "C" or better is required in this course to take the next course.
Corequisite: MLAB 1101. (1:1). Lab fee.

II. Course Objectives

A. Unit I. Introduction, Phlebotomy Practice, and Professional Standards

Upon satisfactory completion of this unit, the student will be able to:

1. Define phlebotomy and identify the importance of phlebotomy procedures to the overall care of the patient.
2. Describe the public relations role a phlebotomist plays in a health care facility.
3. Describe various health care settings, both inpatient and ambulatory, where phlebotomy services are routinely performed.
4. Identify medical staff found in hospitals, clinics, and clinical laboratories.
5. Describe the organization of a medical lab and the levels of education for its staff.
6. Identify the two main divisions of a medical lab facility and describe the role a Phlebotomist may be playing in each one.
7. Identify six laboratory departments and describe the type of testing performed on blood and/or other body fluids in each department.
8. List the major duties of a phlebotomist and describe some of the important responsibilities that fall on the phlebotomists, when dealing with patients, and quality blood collection for accurate testing.
9. List six personal qualities that characterize a professional and explain how phlebotomists demonstrate these qualities.
10. Explain CLIA, NAACLS, JCAHO, and HIPAA
11. Explain what a requisition slip is and what type of information must be included in the requisition form.
12. Explain ICD-10 and CPT codes and ABN notification.
13. Explain the word "STAT" in relation to turnout time for sample collection, test performance, and test reporting.

B. Unit II. Laboratory Safety and Infection Control

Upon satisfactory completion of this unit, the student will be able to:

1. Explain what an SOP is, its use, and the different policies and procedures it will contain for the safe operation of a laboratory.
2. Explain PPE and the reason for its use and list PPE equipment a phlebotomist may make use of.
3. Define nosocomial infections and identify the basic program for infection control.
4. Identify the potential routes of infection and methods for preventing transmission of microorganisms through these routes.
5. Explain the proper techniques for hand washing, gowning, gloving, and masking.
6. Explain the proper precautions to be taken by a phlebotomist when dealing with outpatients, inpatients, pediatric wards, nurseries, and intensive care units.
7. Explain the proper precautions to be taken when entering and exiting the various isolation areas and the reason for their use.
8. Discuss safety awareness for health care workers, e.g. biological, physical, electrical, sharps, fire, radioactive, and latex sensitivity.
9. Explain the measures that should be taken for fire, electrical, radiation, mechanical, and chemical safety in a health care facility.
10. Compare and contrast the different blood collection biohazard containers used to dispose of contaminated materials.
11. Discuss OSHA and demonstrate adherence to "standard precautions".
12. Explain MSDS, the information it will contain, and its use.
13. Adhere to HIPAA protocols when communicating via telephone, facsimile, and/or interpersonally.

C. Unit III. Medical Terminology and Overview of Human Anatomy and Physiology

Upon satisfactory completion of this unit, the student will be able to:

1. Use appropriate medical terminology correctly pertaining to phlebotomy practice.
2. Define the following: sagittal plane, transverse plane, and frontal plane.
3. Identify internal organelles/structures of a living cell.
4. Identify the basic function of each of the following systems: skeletal, muscular, nervous, respiratory, digestive, endocrine, reproductive, lymphatic, circulatory, integumentary, and urinary.
5. List examples of disorders and common diagnostic tests associated with each organ system.
6. List the components of the blood, including each type of cellular component, and where each is produced.
7. Trace the pathway of blood circulation through the heart and the circulatory system.
8. List the three phases of blood coagulation: platelet aggregation, fibrinogen formation, and fibrinolysis.
9. Explain the basic role tissue thromboplastin, platelets, fibrin, and fibrinolysin play in clot formation.
10. Explain the difference between whole blood, serum, and plasma.
11. Identify the blood vessels in the arm, hands, legs, and feet and their structures where blood collection may be performed.
12. Explain the advantages and disadvantages of drawing blood from the median cubital, the basilic, and the cephalic veins of the arm.
13. Identify artery locations in the arm, wrist, and thigh.
14. Differentiate between venous blood and arterial blood.
15. Explain how a phlebotomist would deal with lymphedema, an occluded or sclerosed vein, syncope, seizures, and emesis.

D. Unit IV. Venipuncture Procedure, Equipment, and Supplies

Upon satisfactory completion of this unit, the student will be able to:

1. Describe the latest phlebotomy safety devices, supplies, and equipment and evaluate their effectiveness in blood collection.
2. Identify the various supplies that should be carried on a specimen collection tray when a venipuncture is to be performed.
3. Explain the use of the Evacuated Tube System, Syringe System, and Winged Infusion Set.
4. Compare and contrast the evacuated tube system, the syringe system, and the winged infusion system (butterfly) system.
5. Describe the order of draw for multiple collection tubes when using the evacuated tube, syringe, and winged infusion systems.
6. List the various types of anticoagulants, coagulation enhancers, preservatives, and/or facilitators in the separation of serum or plasma used in blood collection tubes.
7. Explain the significance of the color-coded tube stoppers.
8. Discuss the use of a tourniquet, the length of time it should be left on an arm, and the possible consequences of its improper use.
9. Identify different types of skin disinfectants and explain the difference between an antiseptic and a disinfectant.
10. List the necessary equipment and supplies needed when drawing a blood culture blood sample.
11. Demonstrate the ability to determine the location, depth, width, and the direction of a vein using the sensitivity of the pointer finger so as to find the best venipuncture site.
12. Describe the venipuncture procedure when incorporating the evacuated tube system, the syringe system, and the winged infusion set.
13. Define: hematoma, bruise, petechiae, hemoconcentration, hemolysis, and glycolysis.
14. Explain how a phlebotomist could prevent the occurrence of a hematoma, bruise, hemoconcentration, hemolysis and glycolysis.
15. List some factors to consider when selecting a site for a venipuncture.
16. Explain the use of vascular access devices.
17. Explain what an ABG is.
18. Describe the techniques used to prepare the best venipuncture site for needle entry.
19. Demonstrate knowledge, skills, and ability to perform basic venous blood collection procedures.

E. Unit V. Dermal Puncture Procedure, Equipment, and Supplies

Upon satisfactory completion of this unit, the student will be able to:

1. Explain what capillary blood consists of.
2. Identify acceptable puncture sites for a heel stick on an infant
3. List four types of lancets acceptable for use during a skin puncture.
4. List the steps in a skin puncture procedure.
5. Explain what heparinized and non-heparinized capillary tubes and a micro collection tube are and the blood collection method used with them.
6. List the five newborn screening tests required by the state of Texas.
7. Explain the importance of drawing a pre-natal screen and the importance to the wellness of the newborn child.
8. Explain the medical complication that could develop if the wrong size lancet is used and the infant's heel bone is penetrated.
9. Describe fears or concerns that children in different development stages might have toward the blood collection process.
10. Demonstrate knowledge, skills, and ability to perform basic dermal blood collection procedures, Bleeding Times, and Sweat Chloride Studies.

F. Unit VI. Quality Blood Specimens and the Legalities of Blood Collection.

Upon satisfactory completion of this unit, the student will be able to:

1. Explain the avoidance of pre-analytical blood collection errors.
2. Explain the importance of proper patient identification and describe what information is verified, how to handle discrepancies, and what do if a patient's ID band is missing.
3. Explain Specimen Rejection criteria.
4. Describe the special handling procedures for specimens that are light- or temperature-sensitive.
5. Identify at least three ways of avoiding hemolysis in venipuncture samples.
6. Explain how to prevent incorrect vein incision complications in blood collection and how to handle the complications that do occur.
7. Define basal state and list factors influencing this state and possible effects if a patient is not in compliance.
8. Determine the tube order of draw in which a patient must be drawn.
9. Define informed consent, malpractice, negligence, confidentiality, and implied consent.
10. Explain "Standard of Care" as it relates to phlebotomy practices.
11. Identify key elements regarding HIPAA.
12. List Standard of Care phlebotomy practices that a professional Phlebotomist should adhere to.

III. Evaluation

A. Preassessment

1. Students should have successfully completed the Specialized Admissions process to enter the Medical Laboratory Technology Program.
2. Corequisite, MLAB 1260 Clinical-Clinical/Medical Laboratory Technician I

B. Postassessment

1. Quizzes, lecture exams, and a final comprehensive written examination will be used to assess students' competency in didactic objectives.
2. Lab competency exams and lab practical exams are used to assess students' achievement of psychomotor objectives.
3. Lab practical exams require students to demonstrate a particular skill learned in the lab component of the class.
4. Written unit exams will consist of the following question types: multiple-choice, completion, essay, matching, spelling, analysis, and definition or any combination of these.

C. Final Examination

A comprehensive final exam will be administered at the end of the course.

D. Evaluation

To evaluate students' achievement of course objectives, student grades are tabulated using a final grade break down sheet. To successfully complete PLAB 1170 Phlebotomy, the student must achieve at least a 70% in course components. The students overall grade must be no less than a "C," to be allowed to progress to the next program level.

E. Remediation

If a student scores less than 70% on quizzes, a lab practical, a competency exams, and/or lecture exam, the instructor will consult with the student to discuss alternate ways of studying, comprehending course material, and learning techniques. If needed, tutoring will be recommended as an additional means of encouragement. No retake exams will be offered. Make-up exams may be offered depending on the situation and at the discretion of the instructor.

F. Grading

Grading Scale used in calculating students' final grade for PLAB 1170, Phlebotomy.

<u>Evaluation Tools</u>	<u>% Value</u>	<u>Grading Scale</u>
Quizzes	10%	A = 90 -100%
Lecture Exam I	20%	B = 80 - 89%
Lecture Exam II	20%	C = 70 - 79%
Lecture Exam III	20%	D = 60 - 69%
Comprehensive Final	30%	F = 59% and below

(PLAB 1170 Phlebotomy Lab is on a Pass/Fail basis. Laboratories will be graded on a Pass/Fail system based on the competency limits set by the program for each individual procedure. An average of 80% is required to pass the laboratory portion of PLAB 1170 Phlebotomy.)

Each grade will initially be determined in decimals to the tenths. The final grade, however, will only be recorded as a whole number. The guide used will be to round 0.1 through 0.4 to the lower whole number and 0.5 through 0.9 are raised to next whole number. Example: If at the end of the course a student earns 87.4, the grade will be reflected as 87%. If the student earns 87.6 the grade is rounded to 88%. No decimals will be shown on the final grade scanners.

IV. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

V. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.