

Advanced Phlebotomy

for Working Phlebotomists

WELCOME!



“Advanced Phlebotomy: An on-line Course for Working Phlebotomists”

MORE QUESTIONS? – Send questions to phlebotomy@losrios.edu

This course is designed for whom?

This course is specifically designed for experienced phlebotomists, who have a minimum of 1040 hours (6 months full-time) experience. It contains 21 modules, which will each take you approximately one hour each to complete.

When is it offered and how?

It's online. Anytime, anywhere, at your convenience, no travel costs!

Computer / Software needs?

- Windows 98 SE or above
- Internet Explorer 5.5 min. -- Recommended Internet Explorer 6.x
- Flash 5.0 -- Recommended Flash 6.0 or above
- Acrobat Reader

Note: This course may not work on the AOL browser

How do you take the course?

Finding and taking the course couldn't be easier. Go to the LRCCD Government Training Academy Course Server on the web at:

www.losrios-training.org/courseserver/atutor

Instructions for signing up and paying for the course are there! NOTE: Discounts available for hospitals or laboratories with multiple enrollments. Email or call Christian Bagby for group discounts below:

bagbyc@losrios.edu or phone 916-563-3230

Price per enrollment:

1-10	\$189 per enrollment	/	11-50	\$169 per enrollment
50-100	\$149 per enrollment	/	Over 100	\$139 per enrollment

Note: Course price does not include required text **“Phlebotomy Essentials”, McCall & Tankersley approximately \$45.00.** Book is available via link as you sign up for the course, online at Amazon.com or may simply be borrowed from a colleague. (You are not required to purchase the book, but you will need it in order to complete the course successfully.)

This course was funded in part by the Los Rios Community College District and the Chancellors Office of the California Community Colleges via two entities: The Sacramento Regional Workplace Learning Resource Center and the Regional Health Occupations Resource Centers

What are the course goals?

The course provides an overall review of the most current phlebotomy products, practices and procedures with an emphasis on the most important competencies. A large variety of application exercises, quizzes, and exams give plenty of practice taking tests and will ensure successful completion of a California DHS approved National Phlebotomy Exam.

21 Course Modules (See detail on pages 3-8)

You may do the modules in any order, but the modules have been intentionally designed with a suggested order for specific reasons:

Module components:

- Reading AssignmentSee pages 3-8
- ObjectivesSee pages 3-8
- Overview.....See below
- Notes and Exercises.....See below
- Resources.....See below
- Module Exam.....See below

Overview. Read the course overview, which provides an engaging discussion about each module's topic, the practical application of each topic, and the most difficult topics in the module.

Notes and Exercises. The notes and exercises are the core of each module. They provide essential information; summarize the information from the readings; and reinforce what you have learned via interactive exercises, illustrations, examples, quizzes and more.

Resources. The resources section provides Internet links to current information on phlebotomy regulations, cutting edge medical data, safety facts, and information on virtually every topic in every module in the phlebotomy course.

Module Exam. Your last assignment in each module is to take the timed module exam. Each module exam consists of 20 questions, from a pool of module questions, randomly chosen by the computer for each learner.

Course Final Exam. You must pass the Final Exam with a 75% before being issued a training certificate for completion of the online Phlebotomy Course.

Course completion certificate

Once you complete the course and the final exam with a 75% or higher, a certificate of completion will be generated for you. This will be your proof of successful course completion, and must be included in your application to the California DHS for CPT Certification.

Course approved by CA DHS

Course meets all requirements of the California Department of Health Services (DHS), Laboratory Field Services for Certified Phlebotomy Technician 1 / 20-Hour Advanced Class (Approved December 2003)

1) Historical Perspective & Roles of Phlebotomists

Reading Assignment:

 Chapter 1: 3 - 11




2) Health Care Settings

Reading Assignment:

 Chapter 1: 18 - 38
 Appendix C: A12 - 22

3) Clerical Duties

Reading Assignment:

 Chapter 1: 19
 Chapter 8: 256 - 271
 Chapter 14: 498 - 508

4) Customer Service

Reading Assignment:

 Chapter 1: 13 - 19

Objectives:

1. Define the term phlebotomy.
2. List the reasons for blood collection.
3. List the duties and responsibilities of a phlebotomist.
4. Describe personal characteristics that are important in a phlebotomist.
5. List the professional agencies that provide phlebotomy certification.
6. Discuss the case that led to the California State Certification Requirements for phlebotomy.
7. Define the key terms related to the ability to obtain California State Certification.
8. Differentiate the requirements for a Limited Phlebotomy Technician, for a Certified Phlebotomy Technician I, and for a Certified Phlebotomy Technician II.
9. Discuss what continuing education is required of a phlebotomist in California.

Objectives:







1. Demonstrate knowledge of the health care delivery system and associated medical terminology.
2. Identify the health care providers in hospitals and clinics and their major functions in which the phlebotomist may interact.
3. Describe the organizational structure and functions of the clinical & anatomical laboratory department.
4. Discuss the roles of the clinical laboratory personnel and their qualifications for these professional positions.
5. List the types of laboratory procedures performed in the various sections of the laboratory.












Objectives:









1. Define basic terms associated with computerization in Health Care.
2. List the different types of information management systems and computer functions used by the Laboratory to obtain and report patient related information.
3. List the typical reasons for telephone use by laboratory staff and the characteristics of good telephone techniques.
4. Describe the test request process, identify the types of requisitions, and list the information required on a requisition.
5. List the different types of test collection and testing priorities as it relates to patient status and organize a work load according to these priorities.
6. Describe how to verify fasting and other patient status requirements, and what to do when these requirements have not been met.
7. List the methods used to confirm the patient's identity for a variety of situations and patient age groups.
8. Explain how the phlebotomist should handle ID discrepancies and the procedure for a "missing" ID band.
9. List the items required on specimen collection containers and requisitions.









Objectives:

1. Identify the unique factors in healthcare and the laboratory environment which present customer service challenges.
2. Describe the behaviors and characteristics of professionalism as it applies to phlebotomy.
3. Apply basic concepts of communication, interpersonal relations, and stress management to phlebotomy.
4. Discuss effective verbal and nonverbal communication appropriate in the workplace.
5. List the characteristics of active listening.
6. List the types of diversity present among laboratory customers.
7. List the methods used to confirm the patient's identity for a variety of situations and patient age groups.
8. Differentiate between internal and external laboratory customers.
9. List appropriate ways to resolve conflict situations.

<p>5) Medical Terminology</p> <p>Reading Assignment:</p> <p> Chapter 4:125 - 136 (all)</p> <p> Chapter 5:137 - 144</p>	<p>6) Venipuncture Equipment</p> <p>Reading Assignment:</p> <p> Chapter 7: 217 - 247</p> <p> Monograph Tube Guide, book's last 2 pgs</p>	<p>7) Body Systems</p> <p>Reading Assignment:</p> <p> Chapter 5: 144 - 176</p>	<p>8) The Circulatory System</p> <p>Reading Assignment:</p> <p> Chapter 6: 177 - 198</p>
<p>Objectives:</p> <ol style="list-style-type: none"> 1. List the common medical word roots, prefixes, and suffixes, and state their definition. 2. List the abbreviations commonly associated with laboratory tests. 3. Relate body positions, directional terms, and planes of the body to phlebotomy. 4. List the body cavities and the organs associated with each cavity. 5. Define homeostasis and the two different types of metabolism. 6. Describe the organization of cells in the human body to form body systems 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. List and describe the use of various types of equipment needed for venipuncture blood collection. 2. Describe when to wear gloves and when they should be changed. 3. Compare and contrast the various types of antiseptics and disinfectants and describe their uses. 4. Discuss the various types of wastes generated by phlebotomy and list their proper waste containers. 5. Identify and describe the various types of tourniquets, the reason for their use, proper placement and maximum time allowed. 6. Describe the various types of needles, their parts, sizing by gauge and length, common use, and safety features. 7. List the three types of systems use for venipuncture and explain the advantages and disadvantages of each system. 8. Describe the color coding used to quickly identify the presence or absence of additives 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. List the eleven major body systems 2. Understand the function of the different body systems 3. Be able to identify the major organs in each system 4. Demonstrate awareness of disorders common to the body systems. 5. Know which laboratory tests are associated with the different body systems 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Identify the layers and primary structures of the heart. 2. Demonstrate a basic knowledge of the function of the circulatory system and related terms. 3. Identify the two main divisions of the vascular structures / system, the pulmonary and systemic circulations, and describe the flow of blood through these systems. 4. Differentiate the physical characteristics of veins, arteries and tendons. 5. Identify the veins of the arms, hands, legs, and feet on which phlebotomy is performed and describe the suitability of each for venipuncture. 6. List common disorders of the Circulatory System. 7. List tests commonly used to diagnose patients experiencing chest pain.

<p>9) Blood Components</p> <p>Reading Assignment:</p> <p> Chapter 1: 27 - 32  Chapter 6: 198 - 214  Chapter 7: 242 - 252,  Chapter 11: 429 - 433  Appendix C: A12 - 22</p>	<p>10) Venipuncture</p> <p>Reading Assignment:</p> <p> Chapter 7: 237 - 241, & 248 - 252  Chapter 8: 256 - 323 (all)  Chapter 9: 324 - 334, & 352 - 356</p>	<p>11) Skin Puncture</p> <p>Reading Assignment:</p> <p> Chapter 10: 360 - 398 (all)</p>	<p>12) Infection Control</p> <p>Reading Assignment:</p> <p> Chapter 3: 70 - 101  Chapter 8: 271, & 279 - 280</p>
<p>Objectives:</p> <ol style="list-style-type: none"> 1. List the major components of blood and describe the function of the three cells in blood. 2. List the 5 types of white blood cells reported on a WBC differential. 3. Differentiate between serum and plasma. 4. Describe the categories of tube additives used in blood collection, list the various additives in each category, and describe how each additive works 5. List the most common laboratory tests and testing sections commonly associated with the different tube additives. 6. List the most common Hematology tests and the required specimen tube. 7. List the tests / parameters which are reported on a Complete Blood Count. 8. Define hemostasis and describe basic coagulation and fibrinolysis processes. 9. List the most common Coagulation tests and the required specimen tube. 10. Describe the type of additional patient information needed for Coagulation tests. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Describe how to prepare patients for testing, how to answer inquiries concerning tests, and what to do if a patient objects to a test. 2. Describe the basal state and list the physiologic patient variables which influence test results. 3. List methods used to locate veins that are not prominent. 4. List the effects of tourniquet, pumping fist, and heating on venipuncture. 5. Describe proper needle insertion and withdrawal techniques including direction, angle, depth and aspiration for venipuncture. 6. List the correct order of steps for performing the venipuncture procedure with an evacuated tube system, the syringe system, and the butterfly system. 7. List common causes for the failure to obtain blood. 8. Describe the principle behind, and list the order of draw for the evacuated tube system and the syringe system. 9. Describe post puncture care of the patient. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Describe the various features needed on skin puncture lancets and micro collection devices. 2. Discuss the purpose and methodology for puncture site warming. 3. List the indications / advantages for performing Skin Punctures in pediatric and adult populations 4. Identify laboratory tests that have a different reference values when collected by skin puncture. 5. Identify tests that cannot be performed by skin puncture. 6. List acceptable and unacceptable sites for Skin Puncture on adult and pediatric patients. 7. Describe the correct order of steps in the performance of a Skin Puncture. 8. Describe the proper lancet insertion depth for Skin Punctures, and list possible complications if the punctures are done deeper than recommended. 9. Describe the labeling of micro collection specimens. 10. List the order of draw for skin puncture specimens. 11. List the tests most commonly done on skin puncture specimens. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. List the components of the chain of infection and the safety precautions that break the chain. 2. Identify and discuss the modes of transmission for infectious diseases and the methods for prevention. 3. Define and discuss the term "nosocomial infection." 4. Identify and properly label Biohazardous specimens. 5. Discuss key points of the Bloodborne Pathogens Standard, including changes required by the Needlestick Safety and Prevention Act. 6. List the personal protective equipment required for phlebotomists and describe their function. 7. List the procedural order for proper infection control techniques, such as hand-washing, gowning, gloving, masking, and double-bagging. 8. List the situational uses for the OSHA Standard & Transmission Precautions. 9. List other inpatient informational signage. 10. Differentiate between sterile and aseptic techniques.

<p>13) Lab Safety</p> <p>Reading Assignment:</p> <p> Chapter 3: 101 - 122</p>	<p>14) Complications</p> <p>Reading Assignment:</p> <p> Chapter 9: 324 - 359 (all)</p> <p> Chapter 8: 308 - 319</p> <p> Chapter 3: 111, & 114 - 115</p> <p> Appendix D: A29 - 30</p>	<p>15) Tests & Requirements</p> <p>Reading Assignment:</p> <p> Chapter 11: 401 - 452 (all)</p> <p> Chapter 6: 204 - 206</p>	<p>16) Arterial Specimens</p> <p>Reading Assignment:</p> <p> Chapter 12: 453 - 477 (all)</p>
<p>Objectives:</p> <ol style="list-style-type: none"> 1. Discuss the biohazard, sharps, chemical, fire, electrical and radiation hazards that a phlebotomist might encounter, and identify the safety procedures associated with each hazard. 2. Identify the symbols for: Radiation Hazard, Sharps Hazard, Chemical Hazard, Biohazard, Fire Hazard, Electrical Hazard, Radiation Hazard, and Physical Hazard. 3. Discuss the purpose of a Chemical Hygiene Plan. 4. Discuss the purpose and use of Material Safety Data Sheets. 5. Correlate the classifications of fires to the types of fire extinguishers. 6. List the common work related injuries in the laboratory setting, including latex allergies, and their prevention techniques. 7. List the causes of stress in the work environment and discuss the coping skills and techniques used to deal with stress in the work environment. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Describe how to answer inquiries concerning tests, and the protocol for handling a patient's refusal to have a blood sample collected. 2. Identify and describe the procedural errors that lead to the inability to obtain a blood specimen, and explain how to handle them. 3. Describe measures used to ensure patient safety in various patient settings, i.e., inpatient, outpatient, pediatrics, emergency situations, etc. 4. List the site selection areas to avoid. 5. Identify vascular access devices managed by nurses. 6. Describe signs and symptoms of physical problems (syncope, nausea, vomiting, convulsions, allergic reaction, hematoma, cardiac arrest, etc.) in the patient that may occur during phlebotomy and the appropriate phlebotomist response. 7. Describe the basal state and list the physiologic variables of the patient that influence this state. 8. Describe unique requirements associated with drawing special populations including geriatric, pediatric, and long-term care patients. 9. List the symptoms of shock, cardiac arrest, and external hemorrhage and their appropriate first aid procedures. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Identify the most common tests performed in the chemistry section of the laboratory and the most common reasons for performing these tests. 2. State the requirements for fasting specimens and name three tests that require fasting specimens. 3. Explain the procedure for a 2 hour postprandial glucose test and glucose tolerance tests. 4. List the different reasons for performing Toxicology tests and differentiate between trough and peak drug levels. 5. Describe "chain of custody" requirements for legal specimens and list the tests frequently requested for forensic studies. 6. Describe the additional identification procedures required for Transfusion testing specimens and identify medical consequences if patients receive the wrong unit of blood. 7. Discuss the aseptic techniques and timing sequence for the collection of blood cultures, and the reasons for multiple collections. 8. List the most common point-of-care tests (POCT) and the reasons for performing these tests. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. State the primary reason for performing an arterial puncture procedure. 2. Identify the sites that can be used for arterial puncture, the criteria used for the selection of the site, and the advantages and disadvantages of each site. 3. List the additional equipment and supplies needed for arterial puncture. 4. Describe patient assessment and preparation procedures. 5. Explain the performance of the Allen test, its purpose, define what constitutes a positive or negative result, and give the procedure to follow for either result. 6. List the correct order of steps in performing arterial blood gas collection on both an artery and a capillary site. 7. List complications associated with arterial puncture, identify factors that may affect the integrity of the blood gas sample, and describe the criteria for sample rejection. 8. Identify how heparin prevents blood from clotting. 9. Evaluate the advantages and disadvantages of using liquid and lyophilized heparin for blood gas testing.

<p>17) Specimen Processing</p> <p>Reading Assignment:</p> <p> Chapter 14: 508 - 525  Appendix D: A23 - 29</p>	<p>18) Non-Blood Requirements</p> <p>Reading Assignment:</p> <p> Chapter 13: 478 - 497</p>	<p>19) Federal Regulations</p> <p>Reading Assignment:</p> <p> Chapter 1: 10 - 13  Chapter 2: 42 - 45</p>	<p>20) Quality Assurance</p> <p>Reading Assignment:</p> <p> Chapter 2: 46 - 58  Chapter 9: 347 - 352  Chapter 14: 514 - 518</p>
<p>Objectives:</p> <ol style="list-style-type: none"> 1. Describe the phlebotomist's role in collecting and/or transporting specimens to the laboratory. 2. List the general criteria for suitability of a specimen for analysis, and the reasons for specimen rejection or recollection. 3. List common tests that must be chilled immediately after collection. 4. List common tests that are affected by exposure to light. 5. Describe the potential clerical and technical errors that may occur during specimen processing. 6. Discuss safety rules for specimen processing and the safe operation of a centrifuge. 7. Discuss DOT regulations for the transport of blood and blood containing body fluids. 8. Identify basic metric units and prefixes used in the laboratory. 9. Read both Fahrenheit and Celsius temperature charts. 10. Define military time and convert from traditional 12-hour clock to 24-hour clock. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Match the different types of non blood body fluids with their description. 2. List the appropriate instructions for patients in the proper collection and preservation for various samples, including, urine, sputum, and stools. 3. Select correct patient collection containers for the various non blood samples. 4. Contrast the different types of urine specimen collections. 5. List the most common tests performed on urine, stool, semen, CSF, and other body fluids. 6. Differentiate between tests done on the Physical Exam, Chemical Exam, Microscopic Exam, and Microbiology Examination of Urine. 7. List common reasons for performing a Urine Drug Test. 8. List the common problems associated with Urine Pregnancy testing. 9. Contrast the different types of semen collections. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Describe the CLIA '88 Regulations and describe their impact on laboratories. 2. Discuss the role of JCAHO, CAP, NCCLS, AABB, DHS, and NAACLS in the regulation and accreditation of laboratories. 3. Identify the different types of Lab testing complexity as defined by CLIA. 4. Describe the sanctions or penalties imposed for non-compliance with CLIA regulations. 5. Describe the personnel standards for laboratory testing personnel as defined by CLIA. 6. Identify the different categories of laboratory documentation. 7. Identify common deficiencies found in the phlebotomy area during laboratory inspections. 	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Define the terms and abbreviations associated with quality assurance in phlebotomy. 2. List the types of records that can be used to monitor the quality of specimen ordering, collection, testing and turn-around-time. 3. List the general criteria for suitability of a specimen for analysis, and reasons for specimen rejection or recollection. 4. Recognize and describe corrective actions to take, with problems in test requisitions, specimen transport and processing. 5. Identify potential pre-analytical errors that may occur during specimen collection, labeling, transporting, and processing. 6. State possible errors that may occur through the use of outdated or defective vacuum tubes. 7. List the tests affected by prolonged tourniquet application. 8. List tests that can be affected by improper site cleansing.

21) Legal & Ethical Issues

Reading Assignment:

 Chapter 1: 11 - 13

 Chapter 2: 59 - 69

Objectives:

1. Define the different terms used in the medicolegal aspect for phlebotomy.
 2. Describe the various types of patient consent.
 3. List policies and protocol designed to avoid medicolegal problems.
 4. Discuss the major points of the American Hospital Association's Patient's Bill of Rights and Health Insurance Portability Act (HIPPA) and the phlebotomist's responsibility for maintaining confidentiality of privileged information on individuals.
 5. Describe when and how to complete Incident reports.
 6. Give examples of how phlebotomists could be involved in medical malpractice law suits.
 7. List ways to avoid lawsuits.
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