**FLORIDA VOCATIONAL INSTITUTE**

**SYLLABUS / LESSON PLAN**

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| **Daily/Weekly Lesson Plan Outline – 3 weeks / 30 Clock Hrs. / 30 Lab Hrs.** | | | | | |
| **COURSE TITLE** | | | | **Review Date:** | |
| **Patient Care Technician** | | | | **01/04/2016** | |
| **CODE** | **SUBJECT** |  |  | **LEC HRS** | **LAB HRS** |
| **MAS 114** | **Specialized Medical Exam II. Phlebotomy** | | | **30** | **30** |
| In this course students will learn the basic concepts behind laboratory testing. Students will learn phlebotomy skills, use of Vacutainer, proper techniques involved in collecting biological specimens and material, appropriate storage and processing. Students will also learn how to perform urinalysis, hematology testing, immunology testing, and other labs performed in the medical office and laboratories.  **Prerequisite: None**  **Required Resources:**  **Text Books*:*** Phlebotomy. Worktext and Procedures Manual. Robin S. Warekois, Richard Robinson. 3rd Edition. Elsevier  **Learning Resources Center materials are available**  **Instructional Methods:**  Lecture/Discussion  Audiovisual  **Mode of Delivery:**  Residential  **Equipment/Technology/Software**  Utilization of power point presentations, media center websites, reference materials, and other technology as available  **Course objectives/Competencies:** At the end of the course, students will be able to:   * Identify Blood Cells in a microscope * Balance a Centrifuge machine * Perform a Venipuncture procedure * Perform Skin Puncture * List the major blood disorders and their causes * Follow infection control policies and procedures * Describe the proper method to transport blood samples * Take action in case of complications during the collection of blood sample * Perform blood collection in special population | | | | | |
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|  | **Objectives to be covered** | **Lecture/ Labs** | **Method of Assessment** | |
| **Week 1** |  |  |  | |
| **Day 1** | Anatomy: Blood  Composition  Plasma  Red Blood Cells | **Lecture:**   1. Defining Blood 2. Describing the functions of the blood. Main components of the blood. 3. Explaining the Plasma. Characteristics of the plasma including color and appearance. Abnormal colors of the plasma and their cause 4. Explaining the definition of Serum. 5. Explaining the Red Blood Cells: Site of origin, function, name of the mature and immature cell. RBC’s life span. Composition of a RBC. Normal Amount of BBCs 6. Describing common disorders of the RBCs. Anemia. Kinds of anemia and their causes. 7. Describing other disorders including Poikilocytosis, Anisocytosis, and Erythrocytosis 8. Explaining the definition of Hematopoiesis. 9. Explaining Blood Type. Blood antigens. Rhesus Factor. | Questions | |
| **Day 2** | White Blood Cells | **Lecture:**   1. Explaining the characteristics of White Blood Cells. Site of origin and general function 2. Describing the classification of White Blood Cells in Granulocytes and Agranulocytes 3. Explaining the normal Amount of WBCs 4. Describing the characteristics of Neutrophils, Eosinophils and Basophils as well as the characteristics of Lymphocytes and Monocytes. Disorders of the WBCs such as Leukemia. | Book Exercise |
| **Day 3** | Blood Cells: Thrombocytes  Cardiovascular System | **Lecture:**   1. Explaining the Characteristics of Thrombocytes: Function and site of origin 2. Describing the process of Hemostasis: The coagulation process. Coagulation factors 3. Explaining Disorders of the Platelets. Hemophilia 4. Describing the characteristics of Arteries, Veins and Capillaries. 5. Describing the common tests used to study the blood cells: 6. Describing the components of a CBC with and without differential. Normal test results. ESR. Importance of the test 7. Describing how to prepare a blood smear to identify blood cells   **Laboratory:** Cells observation | Book Exercise  Laboratory | |
| **Day 4** | Infection Control  Safety in the Medical Laboratory | **Lecture:**   1. Explaining infection Control in the clinical laboratory. Microorganisms. 2. Explaining the elements of the Chain of Contamination. 3. Describing how to wear and remove gloves properly. Safety in the Medical Lab. OSHA regulations. Chemical hazards, sharps hazards, 4. Explaining the definition of Physical hazards. Blood borne pathogens. Blood contact precautions. How to disinfect the laboratory work area. Accidental puncture. Reporting the incident. 5. Explaining The Medical terminology concerning Phlebotomy: Common terms used in clinical laboratory. Common abbreviations used in clinical laboratory   **Laboratory**:   1. Routine maintenance of clinical equipment Hand washing | Book Exercise  Quiz | |
| **Week 2** |  |  |  | |
| **Day 1** | Clinical Laboratory | **Lecture:**  Explaining:   1. Health Care Structure Phlebotomy job skills. 2. Personal characteristics of the phlebotomist Introduction to the Clinical Laboratory: Clinical Pathology Area. 3. Describing The Clinical Departments in a typical laboratory: Blood banking, Chemistry, Coagulation, Hematology, Microbiology, Molecular diagnosis, Serology, Urinalysis. Blood Bank department. Common tests. Chemistry Department: Test performed and purpose. Typical specimen collected 4. Explaining common Chemistry tests. Examples of common chemistry tests and panels 5. Describing The Coagulation Department and the tests included and general purpose. 6. Describing Hematology department: Characteristics of the Hematology lab. Tests performed and the purpose of each one. 7. Describing Microbiology Lab: Characteristics of the department   **Laboratory:**  Presentation | Questions  Presentation about a blood disorder | |
| **Day 2** | Venipuncture Procedure | **Lecture:**   1. Assisting with phlebotomy 2. Listing the equipment and supplies needed for venipuncture. 3. Explaining Safety during venipuncture 4. Describing the components of the blood collection tray 5. Explaining the different methods of collection: Syringe, evacuated tubes 6. Describing Winged infusion set. Reason for using this set. 7. Mentioning and Explaining common complications during a venipuncture: Hematoma, Petechiae. 8. Explaining and Demonstrating the steps in doing a proper venipuncture: Selection of the tube stopper color according to the laboratory requisition. Additives 9. Describing the procedure for Centrifugation of samples. Clotting   **Activity:**  Demonstration of Phlebotomy procedure | Book Exercise  Lab. Activity:  Venipuncture  Hand Washing  Sharps Disposal | |
| **Day 3** | Laboratory | **Laboratory:**   1. Understanding a Laboratory requisition form Performing venipuncture procedure using the regular needle 2. Practicing the steps in doing a proper venipuncture 3. Centrifugation. Removing stoppers. Preparing Aliquots | Performance during venipuncture procedure.  Centrifugation of samples | |
| **Day 4** | Dermal Puncture | **Lecture:**   1. Explaining the steps of Dermal Puncture: Reason for performing Dermal Puncture 2. Describing the difference between venous and capillary blood 3. Listing Skin puncture devices such as Micro-sample containers 4. Describing and demonstrating the steps in doing a capillary puncture: Puncture depth and width, general considerations, selection of the proper site 5. Use of Dermal puncture: 6. Laboratory procedures for Bleeding time test   Laboratory procedure to prepare a blood smear.(Wright Stain)  Performing ABO/Rh test  **Laboratory:**  Performing Venipuncture and Dermal puncture | Laboratory activity  Book Exercise  ABO/RH test  Quiz | |
| **Week 3** |  |  |  | |
| **Day 1** | Blood collection in special population | **Lecture**:   1. Explaining blood collection in special populations: Pediatric patients, Geriatric patients 2. Describing how to collect blood from vascular access devices 3. Describing the criteria for specimen rejection and specimen recollection 4. Describing other complications during collection of blood samples: Fainting, seizure, emesis, prolonged bleeding, inadvertent puncture of an artery, collapsed veins. | Book Exercise  Laboratory: Venipuncture using the winged-Infusion set | |
| **Day 2** | ABG  Special Collection &Techniques | **Lecture:**   1. Describing Arterial Blood Collection: ABG test 2. Describing Equipment and material Reference values for arterial blood gas samples 3. Explaining the site selection 4. Mentioning the common arteries used for ABG 5. Explaining the Arterial puncture complications 6. Describing Fasting specimens and basal state. Timed specimen. Glucose tolerance test 7. Explaining other tolerance tests 8. Explaining the term Diurnal Variation 9. Explaining the definition Therapeutic Drug Monitoring 10. Describing the purpose of Blood Cultures 11. Explaining the characteristics of Blood Donor Collection Unit | Book Exercise  Dermal Puncture  Laboratory activity. | |
| **Day 3** | Special Collection & Techniques  Non-Blood samples | **Lecture:**   1. Explaining the definition Therapeutic Phlebotomy 2. Explaining Special Specimen Handling. Cold Agglutinins, Cryofibrinogen and Cryoglobulins 3. Describing the Chilled Specimens. Temperature consideration 4. Explaining the purpose of the collection of Urine samples, collection of Semen and CSF samples, collection of Stool samples   **Laboratory:**  Study Guide | Study Guide  Laboratory Activity | |
| **Day 4** | Final Test  Practical  Written | **Laboratory:**   1. Practical test: Demonstration of Venipuncture Procedures 2. Written Test 3. Analyzing Results |  | |

**Qualitative Measure of Satisfactory Academic Progress (SAP)**

The qualitative element used to communicate Satisfactory Academic progress is the institutions published grading scale. Theory is evaluated after each unit of study. Students must maintain a cumulative theory grade average of at least 70% (C) at the end of each progress report period. Students must make up failed or missed tests and incomplete assignments. Practical skills performances are counted toward course completion. If performance does not meet satisfactory academic requirements, demonstration of the skills must be repeated until a satisfactory level of performance is achieved.

The school’s satisfactory academic progress policies must contain a Pace (quantitative) measure. The policy defines the pace at which our students must progress to ensure educational program completion within the maximum timeframe of 150%. For Florida Vocational Institute the maximum time frame is no longer than 150% of the published length of the educational programs as measured in the cumulative number of clock hours the student is required to complete.

The school uses the following grading scale:

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| **Letter** | **Number** | **Grade Point** |
| **A** | 100 - 90% | 4.0 |
| **B** | 89 - 80% | 3.0 |
| **C** | 79 - 70% | 2.0 |
| **D** | 69 - 60% | 1.0 |
| **F** | Below 60% | 0.0 |
| **I** | Incomplete | Withdraw / No Grade |

*Not Used in GPA computation: I = Incomplete; W = Withdraw; P = Pass; NP = Not Pass*

Pass - Satisfactory completion of non-graded Externship.

Fail - Unsatisfactory completion of non-graded Externship.

The students who have failed to meet the Qualitative standards are placed first on Financial Aid Warning; if no improvement over the next payment period, the student will be placed on academic suspension, with a loss of Title IV, HEA fund and they appeal the decision. Please review the appeal and probation requirements state in this policy for guidance on this process. The Director of Financial Aid in coordination with the Office of Academic Affairs monitors qualitative progress.

**Final grade calculation criteria**

Q= 20 %

CA= 10%

MT= 30%

F= 40%

FG= 100%

**Evaluation Record Code**

Q= Quizzes

CA=Class Activity

MT= Mid Term

F= Final

R= Retest

FG= Final Grade

**Attendance**

Regular attendance is required of all students. Promptness and dependability are qualities important in all occupations. Students should begin to develop these qualities and habits the day the students begin their training.

Attendance is taken daily in class by the instructor and submitted to the Registrar before the end of each class day. Students are expected to attend all scheduled class meetings and to arrive on time.  Attendance records will be maintained by the Registrar and will be part of the student’s permanent academic record.

Students with chronic absences in excess of 20% of the scheduled hours for a course will receive a failing grade for the course. Early departures and tardies will be calculated in quarter hour increments. A student will be withdrawn from any course or program if he/she does not attend within a 14 consecutive calendar day period (excluding school holidays or breaks, no longer than 5 consecutive days).  All students must complete a 100% of all externship or clinical hours within the assigned grading period.

Students are responsible for making up assignments and work missed as a result of absence at the discretion of the instructor. The instructor may assign additional outside make-up work to be completed for each absence. Students enrolled in clock hour programs will be required to attend make up classes for any missed hours scheduled by the instructor if the students has missed more than **10%** of scheduled hours.  Students enrolled in a clock hour program must attend a minimum of **85 %** of the scheduled program hours in order to graduate.

Attendance is reviewed by the instructors, program directors and the Director of Education on a weekly basis with a focus on those who have been absent for **10%** of the scheduled course hours. Students will be notified by phone, text or e-mail if their attendance is danger of violating attendance requirements.

Students may appeal the school’s actions related to the attendance policy if the absence was due to extenuating or mitigating circumstances, for example illness, military duty, death of a family member, court appearances or jury duty. The student should first discuss the issue with his or her instructor. Appeals must be received within **seven (7)** calendar days of the student being notified of the decision that he or she wishes to appeal.

Students are expected to inform faculty in advance of any pending dates where a student may be absent and should make every effort to attend the alternate class in the morning or evening. Students are only allowed to miss up to 15% of their entire program hours, anything in excess of the 15% needs to be made up and could impact the student final course grade. It is the responsibility of the student to make up work or time missed.

**MAKE –UP HOURS/TIME**

Students enrolled in clock hour programs will be required to attend make up classes for any missed clock hours scheduled if the students has missed more than 15% of scheduled hours.  Students enrolled in a clock hour program must attend a minimum of 85 % of the scheduled program hours in order to graduate. Make-up hours for class must be made up during alternative schedules, including daytime, evening or a Friday schedule. Special circumstances will be managed by the Program Director with approval from Campus Vice President.

If absence at any time during the program exceeds **more than 10%,** the student will be placed on a mandatory prescribed school schedule which may include attending Friday scheduled sessions.

**MAKE-UP CLASS WORK**

Arrangements to make-up assignments, project, test, and homework missed as a result of absence must be made with the approval of the instructor. Make-up work must be completed within ten (10) calendar days after the end of the module

**DRESS CODE**

1. While on campus and in lectures, students must wear uniform and footwear appropriate for the college learning environment. The student should demonstrate appropriate hygiene to avoid offensive odor.
2. In the student laboratory, appropriate clothing must be worn at all designated times as per the specific course syllabus. Close-toed shoes must be worn in the lab at all times.
3. During clinical rotation, the student must adhere to the dress code of the facility to which he/she is assigned. In addition to the facility’s dress code, or if the dress code is optional, the following rules apply:
   1. Students must comply with number 2 above. If the facility requires the student to wear a scrub uniform, it must be school’s uniform. The student is responsible for purchasing the correct scrub uniform. The student must wear their Student ID batch at all times.
   2. Students must not wear clothing made of denim material of any color. (No jeans or JEAN skirts, etc.)
   3. Students must not wear under t-shirts, unless they are of one color with no words, letters, slogans, graphics, etc., of any kind
   4. Students must wear closed-toe shoes (no sandals or canvas shoes) with socks or hosiery.
   5. While attending practicum rotations, student’s hair must be clean, neat and of a normal hair color. Male students must either shave regularly, or if they choose to wear a mustache and/or beard, they must keep them clean and well groomed.
   6. Before attending practicum rotation, students must bathe regularly to avoid offensive odor. In addition, students must refrain from use of cologne/perfume/aftershave lotion, or makeup.
   7. Keep fingernails clean and at a reasonable length.
   8. Students not conforming to the dress code of the facility or the program may be sent home from the practicum site at the preceptor’s or course instructor’s discretion and attendance won’t be granted.

**Cell Phones and Pagers**

No student will be called out of class for a telephone call, except in case of an emergency. It is suggested that family friends be informed of this rule. Phones will not be in used inclass.