



**COURSE NAME:** Clinical Laboratory Procedures & Practices

**COURSE NUMBER: MED 245**

**CREDITS:** 4 Credit Hours

**CATALOG DESCRIPTION:** This course provides an introduction to clinical laboratory procedures and equipment. The course focuses on medical and surgical asepsis, sterilization techniques, basic diagnostic ambulatory tests, evaluations, treatments and nutrition. Theory and practice of the clinical skills used by medical assistants to perform various diagnostic tests including specimen collection, hematology, blood chemistry, routine urinalysis, and electrocardiograms are emphasized.

Students are required to purchase a lab coat or scrubs to be worn in class. A physical examination and proof of immunization is also required.

**PREREQUISITES:** MED\* 125 BIO\* 105

**CO-REQUISITE:** MED\* 133

**HCC General Education Requirement Designated Competency Attribute Code(s):**

None

**Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:**

None

**Embedded Competency(ies):**

None

**Discipline-Specific Attribute Code(s):**

SCI Science elective

**Course objectives:**

**General Education Goals and Outcomes:**

None

### **Course Specific Objectives:**

- To prepare competent entry-level medical assistants in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.
- To develop the clinical laboratory competencies necessary to be a competent medical assistant.
- To examine the roles and responsibilities of a clinical medical assistant in healthcare.
- To apply logical, critical and analytical processes in identifying problems, alternative solutions and making informed decisions related to the clinical healthcare environment
- To analyze, research and apply disease prevention information
- To develop verbal and nonverbal communication skills necessary in the healthcare setting
- To promote a positive image as a Medical Assistant

### **Outcomes:**

With the satisfactory completion of this course, the student will be able to perform entry level competencies as a Medical Assistant. This course includes the following competencies:

### **Anatomy & Physiology**

- I.C4** List major organs in each body system
- I.C5** Describe the normal function of each body system
- I.C6** Identify common pathology related to each body system
- I.C7** Analyze pathology as it relates to the interaction of body systems
- I.C8** Discuss implications for disease and disability when homeostasis is not maintained
- I.C9** Describe implications for treatment related to pathology
- I.C10** Compare body structure and function of the human body across the life span

### **Applied Microbiology/Infection Control**

- III.C8** Differentiate between medical and surgical asepsis used in ambulatory care settings,  
identifying when each is appropriate
- III.C9** Discuss quality control issues related to handling microbiological specimens
- III. C10** Identify disease processes that are indications for CLIA waived tests
- III.C11** Describe Standard Precautions, including:
  - a. Transmission based precautions
  - b. Purpose

- c. Activities regulated
- III.C12** Discuss the application of Standard Precautions with regard to:
  - a. All body fluids, secretions and excretions
  - b. Blood
  - c. Non intact skin
  - d. Mucous membranes

### **Protective Practices**

**XI.C2** Identify safety techniques that can be used to prevent accidents and maintain a

safe work environment

**XI.C4** Identify safety signs, symbols and labels

### **Other**

- List major types of infectious agents and the corresponding treatments
- Discuss and compare different methods of infection control
- Differentiate between medical and surgical asepsis
- Discuss quality control issues related to handling microbiological specimens
- Document and report patients (students) communications, data and clinical treatments accurately using correct medical terminology
- Identify the instruments used in minor surgery and describe their functions
- Prepare, inventory and maintain equipment, examination and treatment areas
- Complete quality control checks and document in appropriate log book.
- Obtain specimens and perform CLIA waived microbiological testing
- Perform accurate pulmonary function testing
- Perform accurate electrocardiography
- Perform CLIA waived urinalysis, hematology, chemistry and immunology testing Review and record test result using flow sheets, identify abnormal results and report appropriately
- Instruct patients (students) in disease prevention.
- Identify community resources for health maintenance and disease prevention to meet individual patient needs.
- Identify the roles and responsibilities of the medical assistant.
- Identify and utilize the principles and procedures for physical therapy, radiology, radiation-therapy and nuclear medicine

Psychomotor and affective competencies covered in this course may be found on a separate sheet at the end of the syllabus.

Taken from the 2008 *Standards and Guidelines for the Medical Assisting Educational Programs*

**Types of Assessments meeting Core Competencies**

- Demonstration of skills/competencies
- Online interactive adaptive activities using McGraw Hill LearnSmart
- Online interactive McGraw Hill ActivSim Patient interaction simulations
- Online interactive McGraw Hill ActivSim Skill simulations
- Online electronic medical record and practice management software using Medisoft
- Online Quizzes
- Discussion Board
- Unit tests, Midterm and Final exams

Practical Final A “live” comprehensive simulation to pull it all together. The final practical will include the Cognitive, Psychomotor and Affective content covered in this course. A non-student patient volunteer will role play various common scenarios with the student. The student brings the patient from the waiting room through the intake process, performs vital signs and measurements, urinalysis, ekg and capillary puncture with CLIA waived test, correctly documents findings and sets up the exam room so that the “patient” is ready to see the physician.

**“Students must pass ALL (100%) of the psychomotor and affective domain competencies taught in this course prior to the date of the final exam. These competencies must EACH INDIVIDUALLY be passed with a grade of 80% or better in order to pass the course, complete the program and graduate. If this standard is not met the student will not pass the course and will have to repeat the entire course to graduate.” CAAHEP accreditation requires 100% of all Medical Assisting graduates pass 100% of all competencies.**

**MEDICAL ASSISTING STUDENTS - 74% is an estimated figure which is considered a minimum level of achievement. Any student who receives a final grade score below 74% WILL NOT PASS the course. Failure to receive a grade of ‘C’ or better will necessitate this course being repeated and passed successfully.**

**COURSE CONTENT:**

- Unit 1**                    Review  
                                 Orientation to the Lab  
                                 Assisting with Minor Surgery
- Unit 2**                    Microbiology and Disease  
                                 Processing/Testing Urine & Stool Specimens  
                                 The Urinary System
- Unit 3**                    Electrocardiography/Pulmonary Function  
                                 The Cardiovascular System  
                                 The Respiratory System
- Unit 4**                    Collecting/Processing Blood Specimens  
                                 Chapter 48  
                                 The Blood
- Unit 5**                    Diagnostic Imaging  
                                 Physical Therapy and Rehabilitation  
                                 The Skeletal System  
                                 The Muscular System  
                                 Chapter 25
- Unit 6**                    Nutrition and Health  
                                 Digestive System

*With permission of Jane O'Grady at NWCC.*

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