MA A289: CLINICAL MEDICAL ASSISTING II SPECIALTY PROCEDURES

Item	Value
Curriculum Committee Approval Date	12/04/2024
Top Code	120810 - Clinical Medical Assisting
Units	.5 Total Units
Hours	9 Total Hours (Lecture Hours 9)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	Yes
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

Basic concepts of preparing patients for special diagnostic tests and techniques in the medical office including pulmonary function, and electrocardiography. PREREQUISITE: ALH A111 and MA A181. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Competently record a 12 lead electrocardiogram and a valid basic pulmonary function test on a given patient.

Course Objectives

- I Module #1: Electrocardiography Goal: The student will perform standard electrocardiogram technique and recognize basic cardiac arrhythmias.
- I. 1. Understand basic anatomy and physiology of the heart. a. Identify basic heart anatomy. b. Describe the path of blood flow through the heart.
- I. 2. Understand the electrical theory of the ECG. a. Trace the electrical conduction path of the heart. b. Define: Polarization, depolarization and repolarization. c. Label P-Q-R-S-T voltage on ECG. d. Define: PR interval, QRS complex, S-T segment, P wave, R wave, T wave.
- I. 3. Demonstrate knowledge of the ECG machine. a. Define: Electrodes, patient cable, lead, lead wires, amplifier, galvanometer. b. Define the Eintoven triangle and the electrical path for each lead. c. Define: Bipolar leads, unipolar leads. d. Identify proper placement of chest leads. e. Identify the function of amp-off, amp-on, Run 25, Run 50, Standard (Sensitivity) 1, 2, 2.
- I. 4. Properly prepare the patient for an ECG. a. Explain the procedure to the patient. b. Reassure the patient as needed. c. Properly position the patient. d. Properly apply electrodes. e. Modify technique as necessary to deal with patient limitations, i.e., amputations, mastectomy scars, etc.
- I. 5. Demonstrate proper recording technique and appropriate measures to avoid or correct artifacts. a. List the types of ECG artifacts. b. Explain how each artifact occurs. c. Identify specific corrective measures to take when each type of artifact is encountered. d. Run appropriate lengths of tracing for each lead. e. Center all ECG tracings on paper. f. Show proper care and maintenance of equipment.
- I. 6. Identify basic cardiac arrhythmias. a. Identify normal ECG pattern. b. Identify ventricular and supra-ventricular activity. c. Calculate heart rate. d. Identify: Tachycardia, bradycardia, premature ventricular contractions. e. Define: Myocardial Infarction, Bundle Branch Block, fibrillation, flutter.
- I. 7. Identify additional ECG tests. a. Ambulatory ECG (Holter monitoring.) b. Stress testing. c. Computerized testing and interpretation.
- II Module #2: Pulmonary Function Testing. Goal: The student will become knowledgeable of standard pulmonary function testing as part of a general physical examination.
- II. 1. Understanding basic vocabulary and abbreviations used in basic pulmonary functions. a. Define: tidal volume, inspiratory reserve volume, expiratory reserve volume, residual volume, minimal volume. b. Define: inspiratory capacity, functional residual capacity, vital capacity, total lung capacity.
- II. 2. List the tests that make up a complete pulmonary function study.
- II. 3. Describe the difference between restrictive and obstructive pulmonary disease. a. Give examples of each type of disease.
- II. 4. Understand contraindications and pulmonary function testing.
- II. 5. Properly prepare a patient for testing. a. Determine the patient? s smoking history. b. Determine vital statistics necessary for a computation of results. c. Explain procedure to the patient.
- II. 6. Produce a valid pulmonary function test.
- II. 7. Calculate the results of the test.
- II. 8. Show proper care and maintenance of pulmonary function equipment.

Lecture Content

Module 1 Electrocardiography Basic anatomy and physiology of the heart. Purpose of the electrocardiogram. Mechanical analysis of the electrocardiograph. Electrocardiographic leads and machine operation. Preparation of a patient for an ECG. Techniques for recording and mounting an ECG. Identification of artifacts. Basic arrhythmia recognition. Module 2 Basic Pulmonary Function Testing Purpose of Pulmonary Function Testing. Terms and abbreviation related to PFT. Obstructive and restrictive pulmonary diseases. Preparation of the patient PFT. Techniques for performing PFT. Calculation of results. Care and maintenance of equipment. The students will A. Identify anatomical landmarks required for ECG tracing B. Apply electrodes for 12 lead-ECG C. Obtain accurate ECG on adult D. Obtain accurate Peak flow meter E. Practice adherence to asthma care plans.

Lab Content

Lecture only course

Method(s) of Instruction

- Lecture (02)

Instructional Techniques

Lecture and discussion; video presentation; reading assignments from handouts; demonstration of required skills.

Reading Assignments

Assigned textbook reading=2 hours PowerPoint Review= 2 hours

Writing Assignments

Completion of study guides=2 hours Definition of vocabulary terms+ 1 hour

Out-of-class Assignments

Practice of elecctrode placement=1 hour

Demonstration of Critical Thinking

Written examination; skills performance.

Required Writing, Problem Solving, Skills Demonstration

Competent return demonstration of required skills.

Eligible Disciplines

Health care ancillaries (medical assisting, hospice worker, home care aide...: Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Niedwiecki, B.. Kinn's The Medical Assistant, 14th Ed., 14th ed. St. Louis: Elsevier, 2020