South Central College

MA 2000 Pharmacology for Medical Assistants

Course Outcome Summary

Course Information

Description
In this course students will learn topics essential for the Medical Assistant to thoroughly understand drug sources, herbs and supplements, legislation relating to drugs, drug references and drug classifications. Students will also gain knowledge in basic principles for administering different types of medications and the universal precautions and standards related to the role of a Medical Assistant. Prerequisites HC 1001 and 1914 and MA 2010/MDLT 1810

Total Credits 3
Total Hours 64

Types of Instruction

Instruction Type Credits/Hours
Lecture
Lab

Pre/Corequisites

HC1001 Advanced Medical Terminology
HC1914 Anatomy and Physiology/Disease Conditions I
MA2010 Medical Assisting Lab Skills

Institutional Core Competencies

Civic Engagement and Social Responsibility - Students will be able to demonstrate the ability to engage in the social responsibilities expected of a community member.

Course Competencies

1. Learn the different classifications to medications

Learning Objectives
Describe the relationship between anatomy and physiology of all body systems and medications used for treatment in each
Define drug, therapeutic effect, and side effects
Identify the classification of medications, including desired effects, side effects and adverse reactions
Use drug references to prepare a drug card
List the federal agencies that enforce drug laws
2. **List principles of drug action**
   Learning Objectives
   - Summarize the difference between the therapeutic effect and side effects
   - Explain the difference between psychological and physical drug dependence
   - Apply local, state and federal healthcare legislation and regulation appropriate to the Medical Assisting practice setting
   - Explain why drug standards are necessary
   - Identify five commonly abused drugs
   - Describe a Medical Assistant's responsibility in regards to adverse reactions, drug, dependence, and drug abuse

3. **Demonstrate knowledge of basic math computations**
   Learning Objectives
   - Define basic units of measurements in metric apothecary and household systems
   - Summarize the abbreviations for units of measurement in the metric, apothecary and household systems
   - Convert among measurement systems
   - Apply mathematical computations to solve equations
   - Calculate doses using a different procedure for converting between different units of measurement
   - Calculate an adult's dose of medication
   - Identify abbreviations, symbols and measurement systems used in calculating medication dosages

4. **Demonstrate the administering of parenteral medications**
   Learning Objectives
   - Administer parenteral (excluding IV) medications
   - Prepare proper dosages of medication for administration
   - Identify the parts of a needle and syringe and list appropriate sizes for different types and sites of injection
   - Identify dosage in calibrated syringes
   - Dispose of injection equipment safely
   - Illustrate reconstituting and storing parenteral medications
   - Identify the most common injection sites for intradermal, subcutaneous, and intramuscular administration and describe the follow proper procedure for carrying out injections
   - Verify order doses/dosage prior to administration
   - Illustrate proper administration of subcutaneous, intradermal and intramuscular injections

5. **Describe the concept of medication therapy**
   Learning Objectives
   - Describe the various forms of medication, ranging from liquids to solids
   - Describe the routes for administering medications
   - Define the abbreviations for medications forms, routes, administration times, and general medical terms
   - Identify the parts of a medication order
   - Identify single-dose and multiple-dose packaging of drugs
   - Demonstrate recognition of the patient's level of understanding in communications
   - Explain the rules for giving medications
   - Identify the parts of a medication label
   - Demonstrate accurate, complete, and organized charting

6. **Describe vitamins, minerals, and herbs**
   Learning Objectives
   - Explain the food groupings according to MyPyramid
   - Distinguish between fat-soluble and water-soluble vitamins
   - List the various vitamins and minerals and their functions
   - State the recommended daily allowance of the major vitamins and minerals and recognize deficiency symptoms of each
   - Explain the importance of patient education in the appropriate use of vitamins and minerals

7. **Identify drugs for the eye and ear**
   Learning Objectives
   - Identify the external parts of the eye and ear
Describe the major disorders of the eye and ear for which medications are given
Describe the actions and give example of drug groups relating to the eye and ear
Illustrate administering medications to the eye and ear
Summarize the importance of patient education with eye and ear medications

8. Identify drugs for the skin
Learning Objectives
Summarize the main functions of the integumentary system
Define and describe common symptoms of skin disorders and major skin disorders which medications are given
State the actions and give examples of topical medications
Explain the importance of patient education with skin medications
Illustrate administering topical medications to the skin

9. Identify the classification of drugs for the cardiovascular system
Learning Objectives
Identify parts of the cardiovascular system and state their functions
Identify proper medical terms for common symptoms of cardiovascular disorders
Explain the major disorders for which cardiovascular medication is given
Describe the actions and give examples of the cardiovascular drug groups
State the difference between an initial and a maintenance dose
Administer oral and sublingual medications
State special procedures for administering cardiovascular medications

10. Identify the classification of drugs for the respiratory system
Learning Objectives
Describe the parts of the respiratory system
Describe major respiratory disorders which medications are given
Describe common symptoms of respiratory disorders using correct medical terminology
Describe nicotine dependency and methods for smoking cessation
Understand the principles and how to operate a pulse oximeter
Administer inhalants as ordered

11. Identify the classification of drugs for the gastrointestinal system
Learning Objectives
Describe the five main functions of the gastrointestinal system
Describe symptoms of gastrointestinal disorders and the major disorders for which medications are given
Describe the actions and give examples of medications for the gastrointestinal system
Identify important conditions to be aware of when giving medications for the gastrointestinal system
Describe proper procedure for administering rectal suppositories

12. Identify the classification of drugs for the urinary system
Learning Objectives
Describe the major disorders of the urinary system for which medications are given
Describe three functions of the urinary system
Describe the actions and give examples of the urinary system drug groups
Describe the patient care and education that go with giving diuretics
Describe the purpose of a urinary catheter

13. Identify the classification drugs for the reproductive system
Learning Objectives
Identify the main parts of the male and female internal and external genitalia
Identify the main parts and functions of the reproductive system using correct medical terminology
Recall the hormones produced by the male and female gonads and describe their functions
Describe major disorders that affect the reproductive system which medications are given
Summarize the importance of patient education with reproductive system medications

14. Identify the classification of drugs for the endocrine system
Learning Objectives
List the hormones produced by the seven major glands, and state the actions of hormone or hormone like drugs
State which hormones are lacking in the conditions of diabetes mellitus, diabetes insipidus, Addison's disease, and hypothyroidism, and give examples of drugs used for replacement in each case

State the correct medical terms used for the parts of the endocrine system

State what factors affect the insulin needs of a patient with diabetes mellitus, and describe the procedure for administering regular and immediate-acting insulin in one syringe

Recognize the symptoms of hyperglycemia and hypoglycemia and explain how they are treated

15. **Identify the classification of drugs for the skeletal system**

   **Learning Objectives**
   - List correct medical terms used to describe major parts, functions, and disorders of the musculoskeletal system
   - Recognize descriptions of major disorders that affect the musculoskeletal system
   - Describe the major disorders of the skeletal system for which medications are given
   - Describe the side of the various drug categories used in the musculoskeletal system

16. **Identify the classification of drugs for the nervous and sensory system**

   **Learning Objectives**
   - List the two main divisions of the nervous system and their parts
   - State the basic function of the autonomic nervous system
   - Recall the correct medical terms for symptoms of nervous system disorders
   - Recognize descriptions of the major nervous system disorders for which medications are given
   - Describe the actions and give examples of drugs groups associated with the nervous and sensory system
   - Demonstrate administering medications for pain and emergency drugs

17. **Define psychotropic drugs**

   **Learning Objectives**
   - Describe biochemical mechanisms of the central nervous system that affect emotions
   - Define the correct medical terms for symptoms of mental disorders
   - Recognize descriptions of the major mental disorders
   - Describe the actions and give examples of drugs groups associated with mental disorders
   - Identify drugs that are often involved in drug abuse
   - Calculate formulas for psychotropic drugs

18. **Identify the classification of drugs for the nervous and sensory system**

   **Learning Objectives**
   - List the two main divisions of the nervous system and their parts
   - State the basic function of the autonomic nervous system
   - Recall the correct medical terms for symptoms of nervous system disorders
   - Recognize descriptions of the major nervous system disorders for which medications are given
   - Describe the actions and give examples of drugs groups associated with the nervous and sensory system
   - Demonstrate administering medications for pain, emergency drugs, stimulants, and effects of caffeine
   - Calculate drugs for the nervous and sensory system

19. **Define neoplastic drugs**

   **Learning Objectives**
   - Identify cells, tissues, organs, and body systems
   - Recall the four types of body cells
   - State the three characteristics of cancer
   - Explain how chemotherapy works
   - List common antineoplastic drugs and their effects on the cell cycle
   - List common side effects for patients receiving chemotherapy and identify appropriate care for patients
   - List at least three groups of antineoplastic drugs and give examples
   - Calculate formulas for antineoplastic drugs

20. **Describe the appropriate drugs for the geriatric patient**

   **Learning Objectives**
   - Describe the major changes that take place in the various body systems during aging
   - Demonstrate how individualized treatment of older adults must be established according to each person's needs
   - Explain how medication orders are usually adjusted to account for the pharmacokinetics of older adults and describe the effects of aging on absorption, distribution, metabolism, and excretion
Explain why the presence of multiple diseases in older adults makes drug therapy more complicated
Explain how older adults are affected by the attitudes and actions of healthcare workers
Describe safe medication administration practices and the principles that are specific for the older adult patient
List ways that patients can take an active part in their own medication therapy
Calculate drugs for the geriatric patient

SCC Accessibility Statement
South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.

Student Contributions
Each student is expected to attend class and participate in classroom activities. Each student must be punctual for each class. All assignments must be completed and turned in on time. If the student will be absent, he/she must contact the instructor in person, by telephone, or e-mail. If the student is not able to turn in an assignment or take a test, the instructor must be notified prior to class time for make-up consideration. Contact information for the instructor is provided in the syllabus. Any inappropriate behavior such as cheating will not be tolerated and the student will not receive credit for the test/assignment. Please see SCC’s e-catalog under Student Policies/Academic Dishonesty.

Classroom Policies
Electronic Devices within the Classroom:
Cellular phones, pagers and other electronic devices must be turned off or set on silent along with be out of sight within the lab or classroom

Eating and Drinking in the Classroom/Lab:
Food is not recommended for the lab or classroom setting. Beverages may be brought into the lab and classroom setting only if there is a screw lid or resalable lid. NO open containers

Classroom Computers and Printers:
Classroom computers and printers are designated for classroom work only. You may not use either the computer or printer for work that is outside the scope of this course. All printing done within the lab must be approved by the instructor

Dress Code
Students are expected to attend class/lab well groomed, wearing clean-stain free, rip free medical scrubs. Medical scrubs are required to be worn during lab due to the clinical/laboratory activities involved in the class. The Medical Assisting Program Instructors have the right to address any dress code issues as he/she deems appropriate. Other dress code policies may be implemented, and will be communicated to the student as changes occur

Late Assignment Policy
Late assignments will not be accepted over 5 days late, there will be a 20% penalty for each day it is late.
**There will not be a make-up for the Final Exam**

**Student Responsibilities**
Students are required to attend all lectures and labs
Students must be an active participate in lecture discussions and lab activities
Students are responsible for all course materials (syllabus, text, workbook)
Students are required to turn in all assignments and projects
Students are responsible to check South Central College's website or alert system for weather notices
Students are responsible to discuss any extenuating circumstances with the instructor. All extenuating circumstances will be evaluated on a case-by-case basis and it is up to the instructor's discretion to determine the action that will be taken.

**Instructor Responsibilities**
The instructor will respond to all correspondence within 2 business days (note: this does not include weekends and holidays)
The instructor will return graded assignments/competencies within a week to the student
The instructor will be an active participate within the classroom and lab
The instructor reserves the right to modify the course at any point in the semester
The instructor will communicate any and all modifications to the students in a timely manner

**Tutoring Services**
Tutoring services are available to students within the Academic Support Center at South Central College. Students also have access to on-line tutoring services through SmartThinking. All South Central College students receive 10 free hours of SmartThinking tutoring services per semester. Some textbooks are bundled with SmartThinking hours also. Students can access a link within their D2L homepage to access their personal SmartThinking account.

If you have already set up a SmartThinking account and have forgotten your username or password, please contact Susan Mucha at 507-389-7453 or susan.mucha@southcentral.edu. This email address is being protected from spambots. You need JavaScript enabled to view it.

**Accessability Statement**
If you have a disability and need accommodations to participate in the course activities, please contact your instructor as soon as possible. This information will be made available in an alternate form, such as Braille, large print, or cassette tape, upon request

**MAERB/CAAHEP Competencies**
Each course required within the Medical Assistant Program was created or selected to meet academic standards and fulfill accreditation requirements. Curriculum in the program will be structured to be in compliance with the latest available standards by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the Medical Assisting Education Review Board (MAEB). All of the following areas will be addressed once if not more within your required courses with the Medical Assisting Program. All competencies cognitive (knowledge), psychomotor (skills), and affective (behavior) must be passed with a grade of 74% or higher. The student must successfully pass all competencies within the MA2000 course in order to pass the course

_____ Demonstrate knowledge of basic math computations

_____ Apply mathematical computations to solve equations

_____ Identify measurement systems

_____ Define basic units of measurements in metric apothecary and household systems
_____ Convert amount measurement systems

_____ Identify both abbreviations and symbols used in calculating medication dosages

_____ Identify the classification of medications, including desired effects, side effects and adverse reactions

_____ Describe the relationship between anatomy and physiology of all body systems and medications used for treatment in each

_____ Select proper sites for administering parenteral medications

_____ Administer oral medications

_____ Administer parenteral (excluding IV) medications

_____ Demonstrate sensitivity appropriate to the message being delivered

_____ Demonstrate recognition of the patient’s level of understanding in communications

_____ Prepare proper dosages of medication for administration

_____ Verify ordered doses/dosages prior to administration

_____ Apply local, state and federal health care legislation and regulation appropriate to the Medical Assisting practice setting

_____ Report illegal and/or unsafe activities and behaviors that affect health, safety and welfare of others to proper authorities

_____ Maintain a current list of community resources for emergency preparedness

_____ Develop and maintain a current list of community resources related to patients’ healthcare needs.

_____ Differentiate between legal, ethical, and moral issues affecting healthcare

_____ Apply both managed care policies and procedures

**Grading Scale**

It is expected that each student will successfully demonstrate competency in classroom work along with laboratory and clinical skills. Because this is a competency-based program, students must pass all
competencies cognitive (knowledge), psychomotor (skill), and affective (behavior)

- A = 90 – 100%
- B = 80 – 89%
- C = 74 – 79%
- F = 73% and below

An overall grade of “C” or above is required to pass all Medical Assisting core courses.

If a student scores lower than 74% in any Medical Assisting core course but wishes to continue in the Program, the student must notify the Medical Assisting Program Director of their intention. The student may be allowed to continue the program and repeat the failed course, the student and the Medical Assisting Program Director will determine the course of action required. The student will be placed on probation until such time the failed course has been successfully completed. If a student wishes to re-enter after more than one year has lapsed, the student may be required audit or retake all Medical Assisting core courses previously taken.