



Course Syllabus

Course Title

ESSENTIALS OF MEDICATION ADMINISTRATION

Course Rubric

VNSG 1227

Course Description:

General principles of medication administration including determination of dosage, preparation, safe administration and documentation of multiple forms of drugs. Instruction includes various systems of measurement.

Semester Hours Credit: 2

Lecture/Lab Hours: 1/4

Prerequisite: Admission to the Vocational Nursing Program

Textbook(s):

Dosage Calculation, current Edition Author: Gloria D. Pickar

Student Learning Outcomes:

Chapter 3 Objectives

- a. Interpret and properly express metric, apothecary, and household notations.
- b. Recall metric, apothecary, and household equivalents.
- c. Explain the use of milliequivalent (mEq), international unit, unit, and milliunit in dosage calculations.

Chapter 4 Objectives

- a. Recall from memory the metric, apothecary, and household approximate equivalents.
- b. Convert among units of measurement within the same system.
- c. Convert units of measurement from one system to another.

Chapter 5 Objectives

- a. Convert between traditional and international time.
- b. Convert between Celsius and Fahrenheit temperatures.

Chapter 6 Objectives

- a. Recognize and select the appropriate equipment for the medication, dosage, and method of administration ordered.

b. Read and interpret the calibrations of each utensil presented.

Chapter 7 Objective

a. Read and write correct medical notation.

b. Write the standard medical abbreviation from a list of common terminology.

c. Classify the notation that specifies the dosage, route, and frequency of the medication to be administered.

d. Interpret physician and other prescribing practitioner orders and medication administration records.

Chapter 8 Objectives

a. Find and differentiate the brand and generic names of the drug.

b. Determine the dosage strength.

c. Determine the form in which the drug is supplied.

d. Determine the supply dosage or concentration.

e. Identify the total volume of the drug container.

f. Differentiate the total volume of the container from the supply dosage.

g. Find the directions for mixing or preparing the supply dosage of drugs, as needed.

h. Recognize and follow drug alerts.

i. Identify the administration route

j. Check the expiration date.

k. Identify the lot or control number, National Drug Code, bar code symbols, and controlled substance classifications.

l. Recognize the manufacturer's name.

m. Differentiate labels for multidose and unit dose containers.

n. Identify combination drugs.

o. Describe supply dosage expressed as a ratio or percent.

Chapter 9 Objectives

a. Describe the consequences and costs of medication errors.

b. Cite incidence of hospital injuries and deaths attributable to medication errors.

c. Explore evidence and rationale for underreporting of medication errors.

d. Name the steps involved in medication administration.

e. Identify six common causes of medication errors.

f. Identify the role of the nurse in preventing medication errors.

g. Describe the role of the technology and health care administration in medication error prevention.

h. Recognize examples of prescription, transcription, and recording notation errors.

i. Correct medical notation errors.

j. Describe the requirements of the The Joint Commission to prevent medication errors.

k. Provide a sound rationale for the critical nature of medication administration and the importance of accurate and safe dosage calculations and medication administration.

Chapter 10 Objectives

a. Convert all units to measurement to the same system and same size units.

b. Estimate the reasonable amount of the drug to be administered.

c. Use the formula $D \times Q = X$ to calculate drug dosage.

H

d. Calculate the number of tablets or capsules that are contained in prescribed dosages.

e. Calculate the volume of liquid per dose when the prescribed dosage is in solution form.

Chapter 11 Objectives

a. Apply the steps for dosage calculations: convert, think, and calculate.

b. Use the formula $D \times Q = X$ to calculate the amount to give.

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c. Measure insulin in a matching insulin syringe.

d. Compare the calibration of U-100 insulin syringe units to milliliters (100 units/mL).

Chapter 12 Objectives

a. Define and apply the terms solvent (diluent), solute, and solution.

b. Reconstitute and label medications supplied in powder or dry form.

c. Differentiate between varying directions for reconstitution and select the correct set to prepare the dosage ordered.

d. Calculate the amount of solute and solvent needed to prepare a desired strength and quantity of an irrigating solution or enteral feeding.

Chapter 14 Objectives

a. Convert pounds to kilograms.

b. Consult a reputable drug resource to calculate the recommended safe dosage per kilogram of body weight.

c. Compare the ordered dosage with the recommended safe dosage.

d. Determine whether the ordered dosage is safe to administer.

e. Apply body weight dosage calculations to patients across life span.

Chapter 15 Objectives

a. Identify common IV solutions and equipment.

b. Calculate the amount of specific components in common IV fluids.

c. Define the following terms: IV, peripheral line, central line, primary IV, secondary IV, saline/heparin locks, IV piggyback (IVPB), IV push.

d. Calculate milliliters per hour: mL/h

e. Recognize the calibration or drop factor in gtt/mL as stated on the IV tubing package.

f. Apply the formula method to calculate IV flow rate in gtt/min:

V (volume) \times C (drop factor calibration) = R (rate of flow)

T (time in minutes)

g. Apply the shortcut method to calculate IV flow rate in gtt/min:

$\text{mL/h} = \text{gtt/min}$

drop factor constant

h. Recalculate the flow rate when the IV is off schedule.

i. Calculate small volume IVPB.

j. Calculate rate for IV push medications.

k. Calculate IV infusion time.

l. Calculate IV infusion volume.

Evaluation Methods:

PERFORMANCE OBJECTIVES:

The student will demonstrate accurate dosage calculation; discuss safe medication administration; and accurately document medication administration.

1. Recall types of drug legislation.
2. Identify factors that influence drug action and the rationale for their influence.
3. Define drugs, drug actions, names, sources and official/nonofficial drug standards.
4. Utilize various systems of measurement to calculate drug dosages.
5. Utilize principles of safe drug administration.
6. Demonstrate competency in drug calculations and conversions.
7. Compare and contrast solid and liquid dosage forms.

TEACHING METHODS

1. Lecture
2. Multi media
3. Group discussions
4. Tutorial assistance
5. Quizzes

EVALUATION METHODS: (GRADING CRITERIA)

1. Written Examination(s)
2. The Final examination
3. Participation Grade
4. A final grade of 75 or better is required at end of semester
5. Grades will not be rounded until at the end of the semester with the final grade. If your final average ends up being 74.5 the grade will be rounded to a 75. If the final grade is at 74.4 the final grade will be a 74.

Grading Scale

- A =90-100
- B =80-89
- C =75-79
- D =70-74
- F =Below 70

STUDENT RESPONSIBILITY:

Special note: Please inform if you have a disability and need accommodations for this class.

Expectations for students and instructor conduct: The students and instructor will adhere to all policies and procedures of Coastal Bend College.

Professional behavior is expected of all employees entering the work field. Students will be expected to demonstrate professional behavior by being respectful of others in the course,



attending all classes, and actively participating in this learning opportunity.

Students are responsible for all assignments and material covered in their absence.

Assignments: See course schedule of individual instructor

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See at: [GL \(Legal\)](#)

Special Needs Services: Students with special needs, including physical and learning disabilities, who wish to request accommodations in this course should contact the Student Development Office as soon as possible to make arrangements; this should occur no later than the second week of class or as soon as the student has the documentation on the disability and requested accommodation per a certified medical or psychological professional. In accordance with federal law, a student requesting accommodations must provide documentation of disability to the Student Development Advisor.

For more information, contact: in Alice at sdalice@coastalbend.edu; Beeville at sdbeeville@coastalbend.edu; Kingsville at sdkingsville@coastalbend.edu; and Pleasanton at sdpleasanton@coastalbend.edu.

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See at: [FLB \(Local\)](#) and [FM \(Local\)](#).

See the [Student Handbook](#) for further explanation of Scholastic Dishonesty.

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Coastal Bend College



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NOTE: The College website (www.coastalbend.edu) serves as the main source with the most current version of the Coastal Bend College Board Policies and the Coastal Bend College Catalog.