

COURSE OUTLINE: PHARMACOLOGY

INSTRUCTOR: Joyce Gagnon f^t^ I CM

COURSE PHILOSOPHY:

This course is based on the belief that every person who is responsible for administering drugs to others must be a safe administrator of these drugs. Safety, in this context, includes a knowledge of the drugs as well as freedom from error in their administration.

COURSE GOALS:

1. To provide the student with knowledge about the physiological action, reasons for use, adverse reactions and nursing implications for selected drug groups.
2. To provide the student with knowledge about the safe administration of drugs by various routes (ie. oral, parenteral, rectal, topical, eye, ear, nose). This includes skill in dosage calculations.
3. To impress upon the student the importance of knowing and researching drugs that are being given.

TERMINAL OBJECTIVES:

Upon completion of this course the student will:

1. Explain and use correctly the words in a vocabulary list related to the administration of therapeutic agents.
2. Know government regulations which affect the production and distribution of drugs- in Canada
  - (a) Describe how the government regulates and controls the manufacture and marketing of drugs in Canada
  - (b) Describe how the manufacture and distribution of narcotics is controlled.
3. Describe the following routes of administration for drugs:

(a) oral	(e) eye
(b) rectal	(f) ear
(c) topical	(g) nose
(d) vaginal	(h) parenteral - intramuscular
	" subcutaneous
	- intravenous
4. Know ways in which drugs can be metabolized and excreted by the body.
  - (a) Explain how drugs are absorbed and distributed in the body,
  - (b) Describe the role of the liver in detoxification of drugs
  - (c) Describe how drugs are eliminated from the body

5. Understand factors that may influence the effect of drugs.
  - (a) Explain how the following factors influence the effect of drugs on the body:
    - i) dosage
    - ii) age
    - iii) weight
    - iv) sex
    - v) combined effect of drugs
  - (b) Explain how the following factors may influence an individual's response to therapeutic agents;
    - i) age
    - ii) attitude
    - iii) undesirable physical reactions
    - iv) past experience
    - v) health status
    - vi) fears
6. Explain the physiological action, reasons for use, adverse reactions and nursing implications for the following drug groups:
  - (a) **Anti-infectants**
  - (b) Drugs affecting the Nervous System
  - (c) Drugs affecting the Circulatory System
  - (d) Drugs affecting the Gastro-Intestinal System
  - (e) Drugs affecting the Urinary System
  - (f) Drugs affecting the Respiratory System
  - (g) Drugs affecting the Endocrine System
  - (h) Vitamins and Minerals
- ?• Understand the use of usual reference sources available to members of the health team.
8. Know format and use of individual and group drug studies.
- 9» Demonstrate the ability to interpret commonly used terminology **and** abbreviations related to the administration of therapeutic agents
- 10« Demonstrate the ability to calculate drug dosages.
  - (a) Identify the units of measurement used for the English, Metric and Apothecaries' systems.
  - (b) State the conversion table of equivalents between the above 3 systems.
  - (c) Demonstrate the ability to convert dosages, weights and measures from:
    - i) Apothecaries' units to their equivalent in Metric units
    - ii) Metric units to their equivalent in apothecaries' units

(d) Identify and explain the formula used to prepare solutions from crystals^ powders, liquids, other solutions or tablets.

i) Demonstrate the ability to prepare a certain amount of solution from a pure drug, a stock solution or tablets

(e) Identify and explain the formula used to calculate how to give a certain dosage from a prepared solution.

i) Demonstrate the ability to calculate the amount of solution to administer from a prepared drug solution in order to give the required dosage.

(f) Identify and explain the formula used to calculate the number of tablets needed to give the required dosage.

i) Demonstrate the ability to calculate the fraction of a tablet or number of tablets to be given orally.

(g) State and explain the following formulae used to compute infants\* and childrens\* dosages,

- i)- Fried's Law
- ii) Young's Rule
- iii) Clark's Rule '

(h) Demonstrate the ability to determine the correct infant's **and** child's dosage from the adult dosage of a drug

11.' Know the responsibilities associated with the safe administration of therapeutic agents by various routes to patients of all ages.

(a) Know the principles of  $\frac{D}{S} \times P$  used during the procedures **for** administering therapeutic agents.

(b) Know the safety precautions the drug administrator observes **in** the preparation and administration of medications.

(c) Observe demonstrations of the procedures used for administering therapeutic agents by various routes.

(d) Practise carrying out the procedures used for the administration of therapeutic agents.

(e) Know the factors involved in recording the administration **of** therapeutic agents.

