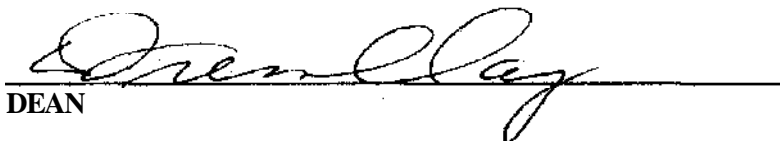


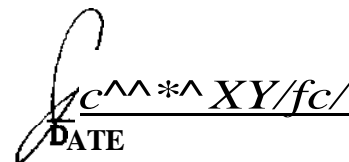
SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: MATHEMATICS FOR ADMINISTRATION OF MEDICATIONS
CODE NO: NUR 109 **SEMESTER:** ONE
PROGRAMME: NURSING
DATE: SEPTEMBER, 1994 **PREVIOUS OUTLINE DATED:** SEPT/93
AUTHOR: MARGARET HURTUBISE

APPROVED:


DEAN


DATE

MATHEMATICS FOR ADMINISTRATION OF MEDICATIONS

NUR 109

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TOTAL CREDIT HOURS: 15 hours

PREREQUISITE(S): Grade 12 Mathematics (minimum general level)

I. PHILOSOPHY/GOALS;

This course is designed to assist beginning nursing students to learn the mathematical skills required for the administration of medications. Emphasis is placed on mastery of skills, since this is essential for client safety in nursing practice. This course will include: abbreviations, metric system, conversions, 24 hour time, oral and parenteral medications, I.V. flow rates, solutions.

II. STUDENT PERFORMANCE OBJECTIVES;

Upon successful completion of this course the student will:

1. recognize the common abbreviations used in medication orders and interpret medication orders accurately.
2. demonstrate the ability to write 24-hour time and dates in metric system accurately.
3. demonstrate knowledge of the specified units of the S.I. system of measurement and be able to convert selected units to other selected systems of measurement.
4. accurately calculate dosages of oral and parenteral medications.
5. accurately calculate dosages of medications based on body weight.
6. accurately calculate percent and ratio strengths of solutions.
7. accurately calculate the rate of flow of intravenous infusions or length of time it will run.

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III. TOPICS TO BE COVERED;

1. Base and subunits of the S.I. system of measurement.
2. Conversion of selected units of S.I. system to other systems of measurement.
3. Times in 24-hour time and dates in metric system.
4. Abbreviations used in administration of medications.
5. Calculating dosages of oral and parenteral medications.
6. Calculating dosages using body weights.
7. Calculating percent or ratio strengths of solutions.
8. Calculating the rate of flow of intravenous infusions and the length of time the IV will run.

IV. OBJECTIVES

LEARNING ACTIVITIES

1. will recognize the common abbreviations used in medication orders and interpret medication orders accurately

Review abbreviations handout and Appendix K pp. 174-178 in text

Complete exercises on abbreviations and medication orders in class.

will demonstrate knowledge of the specified units of the S.I. system of measurement and be able to convert selected units to other systems of measurement.

Complete exercises on systems of measurement. pp 40-51 in text Review if necessary

3. will demonstrate the ability to write 24-hour time and dates in the metric system accurately.

Complete exercises on 24-hour time and dates in metric, pp 51-56 in text

Complete Post-Test Questions #57-80 pp 140-141

Test #1 - on Metric, Conversions, Abbreviations, Time and Dates.

IV. OBJECTIVES

LEARNING ACTIVITIES

4. will accurately calculate dosages of oral and parenteral medications.

a) calculate oral solids

b) calculate oral liquids

c) calculate parenteral medications

Read text pp 57-66, 72, 82-85, 91, 96

Complete exercises on oral and parenteral medications.

Read text pp 71-72, 77-78, 90-91, 97

Questions #1-20 and #1-15

Familiarize yourself with specified syringes and medicine containers.

Review if necessary.

5. will accurately calculate dosages of medications based on body weight

Read and complete exercises on dosages of medications based on body weight, pp. 78-81, 99 in text

Review if necessary

Read and complete exercises on Insulin, Heparin & I.V. additives on pp 100-116.

Complete Post Test Questions #81-155 (pp 141-148)

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V. EVALUATION METHODS; (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS, ETC.)

1. If you have difficulty with math, it is advisable that you complete the pretest (chapter 1) and the Arithmetic Review (chapter 2) sections in the textbook as soon as possible. As well there are computer programmes, group tutoring and peer tutoring sessions available in the L.A.C.
2. A passing grade must be obtained in this course. A passing grade is at least an "A" (80-89%); a mark below 80% is an "R" (repeat).
3. You must receive at least 80% on Test #2 or Test #3. If your total mark equals 80/100 without passing one or the other, you will be required to write the supplemental test.
4. One supplemental exam will be offered in Section B of the course.
5. Calculators are not allowed in tests.
6. Failure to achieve a passing grade in this course will affect your progress in the program. If you do not pass NUR 109, you are unable to administer medications clinically and, therefore, do not complete the objectives of the clinical course in Semester 2.
7. This course will NOT be repeated in Semester 2. You will not be able to continue on in the programme without this course.

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V. EVALUATION METHODS CONTINUED

8. Absence from Tests

If you are unable to attend class for a test, you must contact the teacher's office (759-2554-extension of teacher will be given to you at the beginning of the course) BEFORE the test. ^ you fail to do so, you will not be allowed to write and will receive a mark of zero. You must make individual arrangements with the teacher on the first day back to school. If you fail to do so, you will not be allowed to write and will receive a mark of zero.

A doctor's certificate may be requested by the teacher.

Those students who are given the opportunity to write the test at a later date may have a change in format and/or questions.

(TENTATIVE SCHEDULE - SUBJECT TO CHANGE)

TEST #	<u>DATE</u>	<u>UNIT</u>	MARKS	YOUR MARK
Test #1	Week of Oct.3/94	Units of S.I., Conversion, Abbreviations, Times & Dates	10	
Test #2	Week of Nov. 14/94	Oral & Parenteral Meds, Percent & Ratio Strength of Solutions	40	
Test #3	Week of Dec.12/94	All Topics (includes I.V. rates)	50	
		TOTAL	Too"	

**You must receive 80 marks out of 100 to pass this course.
You must pass this course to be able to administer
medications in the clinical area.**

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VI. REQUIRED STUDENT RESOURCES;

Duff, Deborah, L., A Metric Guide for Health Professionals on Dosages and Solutions, 3rd edition, W. B, Saunders Company, Toronto, Ontario, 1992

VII. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY BOOK SECTION:

Handouts and further resources are given to the students as the need arises.

VIII, SPECIAL NOTES:

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the teacher.

Your teacher reserves the right to modify the course as he/she deems necessary to meet the needs of students.