



School of Health Education and Human Services

NURS 1301

Mathematical Principles of Medication Administration

Term: Fall 2021

Number of Credits: 3



Course Outline

INSTRUCTOR: TBA

E-MAIL:

COURSE DESCRIPTION

The ability to perform dosage calculations correctly is essential to safe nursing practice. This course provides an overview of mathematical concepts and operations foundational to medication administration. The course includes a review of basic mathematics followed by an examination of measurement systems; document use and medication orders; oral and parenteral medication calculations; and calculations regarding solutions and intravenous infusions. Proficiency in this course underpins safe nursing practice.

COURSE REQUIREMENTS

Prerequisite(s): None

Corequisite(s): None

EQUIVALENCY OR TRANSFERABILITY

See Bow Valley College transferability information @ <https://bowvalleycollege.ca/student-resources/academic-services/transfer-credits>.

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

- Perform and evaluate dosage calculations
- Perform calculations related to intravenous solutions
- Use documents related to medication administration
- Evaluate and discuss medication related issues that affect safety
- Use correct terms and notation regarding medication administration
- Evaluate and discuss medication related issues that affect safety

COURSE FORMAT

This course will include a total of 45 hours of on-line learning, videoconference classes, face-to-face on-campus sessions, and quizzes/exams. A combination of synchronous (virtual real-time class meetings through Zoom)

asynchronous (web-based via Moodle) and in-person learning activities may be provided. Learning activities may include but are not limited to facilitator-led learning, projects, in-class, and on-line exercises.

ASSESSMENTS:

COURSE LEARNING OUTCOME(S)	ASSESSMENT	WEIGHT
1, 2, 3, 4	Learning activities	30%
1, 2, 3, 4	Exam 1	35%
1, 2, 3, 4	Exam 2	35%

Important: For details on each assignment and exam, please see your Course Offering Information.

A minimum grade of D is required to pass this course. However, your program may require a higher grade in this course for you to progress in the program or to meet your specific program completion requirements. **An overall minimum final mark for this course must be 80%, letter grade B+, grade point value of 3.33 to pass this course.** Please consult with your program area or contact your program chair for further details.

A minimum Grade Point Average of 2.0 is required for graduation.

GRADE	PERCENTAGE	GRADE POINT	DESCRIPTION
A+	95-100	4.0	Exceptional: superior knowledge of subject matter
A	90-94	4.0	Excellent: outstanding knowledge of subject matter
A-	85-89	3.67	
B+	80-84	3.33	
B	75-79	3.0	Very Good: knowledge of subject matter generally mastered
B-	70-74	2.67	
C+	67-69	2.33	
C	64-66	2.0	Satisfactory/Acceptable: knowledge of subject matter adequately mastered
C-	60-63	1.67	
D+	57-59	1.33	
D	50-56	1.0	Minimal Pass
F	Less than 50	0.0	Fail: an unsatisfactory performance

COURSE WITHDRAWAL INFORMATION

Refer to the YukonU website for important dates.

TEXTBOOKS & LEARNING MATERIALS

Pickar, G. D., Abernathy, A. P., & Swart, B. (2021). *Dosage calculations* (5th Canadian ed.). Nelson.

RELATED COURSE REQUIREMENTS

It is highly recommended that all students have access to a computer or other device and Internet to do their studies. The minimum specifications for a student device are as follows:

Requirement	Windows-based PC	Apple Mac/macOS-based PC
Operating System	Windows 10	macOS X
Web Browser	Firefox, Edge, or Google Chrome	Firefox, Edge, or Google Chrome
RAM/Memory	4 GB	4 GB
Storage	5 GB of available space	5 GB of available space

ACADEMIC INTEGRITY

Students are expected to contribute toward a positive and supportive environment and are required to conduct themselves in a responsible manner. Academic misconduct includes all forms of academic dishonesty such as cheating, plagiarism, fabrication, fraud, deceit, using the work of others without their permission, aiding other students in committing academic offences, misrepresenting academic assignments prepared by others as one's own, or any other forms of academic dishonesty including falsification of any information on any Yukon University document.

Please refer to Academic Regulations & Procedures for further details about academic standing and student rights and responsibilities.

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon University Academic Regulations (available on the Yukon University website). It is the student's responsibility to seek these accommodations by contacting the Learning Assistance Centre (LAC): LearningAssistanceCentre@yukonu.ca.

TOPIC OUTLINE

Basic mathematics

Systems of measurement and conversions

Calculation methods for determining drug dosages

Dosage measurement equipment

Use of documents in medication administration

Medication orders and administration records

Medication labels

Calculating oral medication dosages

Calculating parenteral medication dosages

Reconstitution of solutions

Dosages based on weight

Intravenous solutions, equipment, and calculations

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