



INSTRUCTIONAL PACKAGE

AHS-126

Health Calculations

201810
Fall/2018

INSTRUCTIONAL PACKAGE

PART I: COURSE INFORMATION

Effective Term: 201810

COURSE PREFIX: AHS 126

COURSE TITLE: Health Calculations

CONTACT HOURS: 1.0

CREDIT HOURS: 1.0

RATIONALE FOR THE COURSE:

This course is designed to introduce the student to the application of dimensional analysis to the health care setting. This course is the foundation to future health care courses and clinical experiences in which the student will participate in medication administration.

COURSE DESCRIPTION:

This course is a study of the mathematical concepts needed in health sciences studies. Emphasis is on the calculation of drug dosages and solutions.

PREREQUISITES/CO-REQUISITES:

MAT 155 or higher

REQUIRED MATERIALS:

Please visit the Bookstore online site for most current textbook information. Use the direct link below to find textbooks.

[BOOKSTORE](#).

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

ADDITIONAL REQUIREMENTS:

Calculator* (scientific) ****Graphing calculators and cell phone calculators are not permitted***

TECHNICAL REQUIREMENTS:

Internet access/WaveNet/D2L

Access to Desire2Learn (D2L), HGTC's student portal for course materials.

WaveNet and D2L email access.

PART II: STUDENT LEARNING OUTCOMES

Upon successful completion of this course, the student will:

- 1. Safety**
 - a. Apply basic concepts of safety when performing medication calculations.
 - b. Identify proper labeling of medication calculations to decrease errors in dosage calculations.
- 2. Clinical decision making**
 - a. Apply basic concepts of clinical decision making when performing medication calculations in health care environments
 - b. Demonstrate appropriate clinical decision making by identifying appropriate dose of medications.
 - c. Perform necessary calculations to demonstrate ordered infusion rate.
- 3. Teamwork and collaboration**
 - a. Apply basic concepts of teamwork and collaboration when performing medication calculations in health care environments.
 - b. Identify medications that require verification of dose by another medical professional.
- 4. Professional behaviors**
 - a. Apply basic concepts of professional behavior when performing medication calculations in health care environments.
- 5. Patient centered care**
 - a. Apply basic concepts of patient centered care when performing medication calculations in health care environments.
 - b. Demonstrate appropriate conversion of household measurements to metric measurements.

COURSE LEARNING OUTCOMES and ASSESSMENTS*

Module 1: Dosage calculations

Materials covered: Chapters 4, 5, 6, 7, 8, 9, 10, 11, and 12

Assessment(s): Class drop box assignment, discussion board posting, Unit Test

Learning Outcomes:

1. Demonstrate the dimensional analysis form of dosage calculation
2. Correctly calculate drug dosages utilizing the dimensional analysis method
3. Convert numbers within the metric system
4. Convert numbers within the international system (SI)
5. Convert numbers from the international system to metric
6. Convert numbers from metric to the international system
7. Discuss medications manufactured with International units
8. Demonstrate percentage measurements
9. Explain the measurement of milliequivalent in relation to medications
10. Convert common apothecary measures to metric
11. Correctly read and interpret oral medication labels

12. Correctly calculate dosages for oral medications including tablets, capsules and solutions.
13. Identify times using military time
14. Identify common mathematical errors that can lead to medication errors
15. Correctly read the measurements on hypodermic syringes
16. Correctly identify specified dosage amounts on the syringe barrel
17. Correctly read and interpret Parenteral Medication Labels
18. Successfully identify the unit of measurement on the label
19. Successfully identify information necessary to reconstitute powdered medications
20. Correctly recognize the differences between single and multiple strength reconstituted medications
21. Properly identify insulin dosage measurements using insulin syringes
22. Demonstrate the dimensional analysis form of dosage calculation
23. Correctly calculate drug dosages utilizing the dimensional analysis method

Module 2: Dosage calculation from body weight and body surface area

Materials covered: Chapters 13, 14, 15 & 16

Assessment(s): Class drop box assignment, discussion board posting, Unit Test

Learning outcomes:

1. Calculate adult and pediatric dosages based on weight
2. Convert pounds to kilograms; kilograms to pounds
3. Calculate drug dosages, based on weight, from information found on the drug label
4. Calculate BSA from metric and standard measurement of height and weight
5. Calculate adult and pediatric dosages based on body surface area
6. Interpret medication orders based on BSA
7. Calculate BSA from metric measurements

Module 3: Intravenous Calculations

Materials covered: Chapters 17, 18, 19 & 20

Assessment(s): Class drop box assignment, discussion board posting, Unit Test

Learning outcomes:

1. Apply IV tubing calibration (drops per mL) to IV infusion calculations
2. Calculate infusion rates from drops/minute flow rate
3. Accurately calculate IV infusion and completion times
4. Calculate infusion time when ordered in volume/hours
5. State infusion times in military time

****Students – please refer to the Instructor’s Course Calendar for specific information on assessments and due dates.***

PART III: GRADING AND ASSESSMENT

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*

Students' performance will be assessed and the weight associated with the various measures/artifacts are listed below.

EVALUATION*

Assignments	5%
Unit Tests	70%
<u>Final Exam</u>	<u>25%</u>
Total	100%

****Students – please refer to the Instructor's Course Calendar for specific information on assessments and due dates.***

GRADING SYSTEM:

A = 100 – 90, B = 89- 80, C = 79 – 77, D = 76 – 60, F = 59 and below.

Scores on individual weighted components are NOT rounded but calculated to the 100th place. Calculation of the final score is NOT rounded. As an example, 76.99 will NOT be rounded to 77. This includes test and assignment grades.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the academic calendar for deadlines for add/drop ([ACADEMIC CALENDAR](#)). You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

PART IV: ATTENDANCE

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of eighty percent (80%) of his or her classes in order to be eligible to receive credit for any course. However, due to the varied nature of courses taught at the College, a more rigid attendance policy may be required by individual instructors. At a minimum, a student may be withdrawn from a course(s) after he or she has been absent in excess of ten percent (10%) of the total contact hours for a course. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

Part V: Student Resources

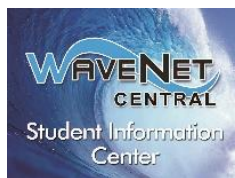


The Student Success and Tutoring Center (SSTC)

The SSTC offers to all students the following **free** resources:

1. **Academic coaches** for most subject areas, **Writing Center Support**, and **college success skills**.
2. **On-line student success and academic support resources**.

Visit the SSTC website: [Student Success & Tutoring Center](#) and visit the student services tab in your WaveNet account to schedule appointments using TutorTrac. For more information, call: SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455. Room locations and Live Chat is available on the SSTC website.



Student Information Center: WaveNet Central (WNC)

WNC offers to all students the following **free** resources:

1. **Getting around HGTC:** General information and guidance for enrollment!
2. Use the [Online Resource Center \(ORC\)](#) for COMPASS support, technology education, and online tools.
3. **Drop-in technology support or scheduled training** in the Center or in class.
4. **In-person workshops, online tutorials and more services** are available.

Visit the WNC website: [Wavenet Central](#). Live Chat and Center locations are posted on the website. Or please call one of the following locations: WNC Conway, 349-5182; WNC Grand Strand, 477-2076; and WNC Georgetown, 520-1473.

Student Testing: (If course is offered in multiple format include this section, delete if only F2F sections are offered.)

Testing in an **online/hybrid** course may be accomplished in a variety of ways:

- Test administered within D2L
- Test administered in writing on paper
- Test administered through Publisher Platforms

Further more tests may have time limits and/or require a proctor.

Proctoring can be accomplished either face-to-face at an approved site or online through RPNOW, our online proctoring service. To find out more about proctoring services, please visit the [Online Testing](#) section of the HGTC's Testing Center webpage.

The **Instructor Information Sheet** will have more details on test requirements for your course.

Disability Services

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to Jocelyn Williams, Director of Student Development on the Conway Campus Jaime Davis, Counselor/Advisor on the Georgetown Campus or Kristin Griffin, Counselor on the Grand Strand Campus. These individuals will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided.

Statement of Equal Opportunity/Non-Discrimination Statement

Horry Georgetown Technical College prohibits discrimination and harassment, including sexual harassment and abuse, on the basis of race, color, gender, national or ethnic origin, age, religion, disability, marital status, veteran status, sexual orientation, gender identity, or pregnancy in educational programs and/or activities.

Title IX Requirements

Horry Georgetown Technical College prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking. Any student who believe he or she has experienced or witnessed discrimination including sexual harassment, domestic violence, dating violence, sexual assault or stalking is encouraged to report such incidents to one of the College's Title IX Coordinators.

*Faculty and Staff are required to report incidents to the Title IX Coordinators when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

Inquiries regarding the non-discrimination policies:	
Student and prospective student inquiries concerning Section 504, Title II, and Title IX and their application to the College or any student decision may be directed to the Associate Vice President for Student Affairs.	Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Associate Vice President for Human Resources.
Dr. Melissa Batten, AVP Student Affairs <i>Title IX Coordinator</i> Building 1100, Room 107A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5228 Melissa.Batten@hgtc.edu	Jacquelyne Snyder, AVP Human Resources <i>Section 504, Title II, and Title IX Coordinator</i> Building 200, Room 212A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5212 Jacquelyne.Snyder@hgtc.edu