



Math 1020

Mathematics for the Health Disciplines

Syllabus Spring 2013

Instructor:

E-mail:

Phone:

Office:

Office Hours:

SLCC is committed to fostering and assessing the following student learning outcomes in its programs and courses:

- Acquiring substantive knowledge in the field of their choice
- Developing quantitative literacy
- Developing the knowledge and skills to be civically engaged
- Thinking critically
- Communicating effectively

GENERAL EDUCATION STATEMENT: This course fulfills the Quantitative Studies (QS) requirement for the General Education Program for AAS at Salt Lake Community College. It is designed not only to teach the information and skills required by the discipline, but also to develop vital workplace skills and to teach strategies and skills that can be used for life-long learning. General Education courses teach basic skills as well as broaden a student's knowledge of a wide range of subjects. Education is much more than the acquisition of facts; it is being able to use information in meaningful ways in order to enrich one's life. While the subject of each course is important and useful, we become truly educated through making connections of such varied information with the different methods of organizing human experience that are practiced by different disciplines. Therefore, this course, when combined with other General Education courses, will enable you to develop broader perspectives and deeper understandings of your community and the world, as well as challenge previously held assumptions about the world and its inhabitants.

COURSE OBJECTIVE: This course is designed to provide a review of general mathematics, introductory algebra, and an opportunity to learn systems of measurement and methods of solving problems related to drug dosage and intravenous fluid administration and related topics. This course does not satisfy the general education requirements for transfer students. It is intended for students in the Health Disciplines and required for those students receiving an A.A.S. degree in Nursing from Salt Lake Community College.

PREREQUISITE: Either (1) a grade of "C" or higher in Math 0920 or 0950 or (2) CPT placement into Math 0990 or higher. Please contact the testing center for information on the CPT placement test.

TOPICS TO BE COVERED: Medical Terminology, Systems of measurement including Metric, Household and Apothecaries' Units, Methods of solving problems related to drug dosage and intravenous fluid administration, Exponential and Logarithmic expressions, rounding numbers, significance of numbers, scientific notations, significant digits, pH computations and acid-base balance, the use of calculators, and related topics.

General Education ePortfolio—Each student in General Education courses at SLCC maintains a General Education ePortfolio. Instructors in every Gen Ed course will ask you to put at least one assignment from the course into your ePortfolio, and accompany it with reflective writing. **It is a requirement in this class for you to add to your ePortfolio**, and this syllabus details the assignments and reflections you are to include. Your ePortfolio will allow you to include your educational goals, describe your extracurricular activities, and post your resume. When you finish your time at SLCC, your ePortfolio will then be a multi-media showcase of your educational experience. For detailed information visit <http://www.slcc.edu/gened/eportfolio>.

After you have picked an ePortfolio platform, go to the corresponding help site to watch the tutorials and look at the examples so you can get started on your own:

<https://sites.google.com/site/slccport>

<http://slccportfolio.wordpress.com>

<http://slccportfolio.weebly.com>

If you would like to start your ePortfolio in a computer lab with a person there to help you, sign up online for one of the **free workshops** at the Taylorsville-Redwood library:

<http://libweb.slcc.edu/services/forms/eportfolio>. You may also visit an **ePortfolio Lab** (in the Taylorsville-Redwood Library LIB 047 as well as in HTC 102a on the Jordan Campus) during business hours, and staff will help you without an appointment. Finally, questions regarding the ePortfolio can be directed to eportfolio@slcc.edu

COURSE OBJECTIVES/STUDENT OUTCOMES:

At the conclusion of the course, successful students will be able to:

1. Define terminology used in general mathematics as related to health sciences.
2. Perform basic arithmetic operations on decimals and fractions.
3. Solve problems related to ratio and proportions.
4. Memorize properties of exponents and logarithms and use these properties to solve problems related to them.
5. Round numbers correctly.
6. Find the range of numbers each rounded number represents or state that the range is ambiguous.
7. Convert numbers from decimal notation to scientific notation and vice versa and solve problems related to them.
8. Find the number of significant digits or state that it is ambiguous.
9. Solve problems related to significant digits.
10. Solve problems related to acid-base balance and pH computations.
11. Memorize conversions in time, length, and weight and solve problems related to these systems.
12. Memorize conversions in and between apothecaries, metric, and household systems of measurement and solve problems related to these systems.
13. State the meanings of the commonly used abbreviations in the administration of medications.
14. Solve word problems related to dosages of oral and injectable medications, including concentration problems.
15. Solve problems related to intravenous flow rates delivered by manual and electronic means and problems related to delivery time of intravenous fluid administration.
16. Approximate Body Surface Area by formula, adult nomogram, and pediatric nomogram.
17. Correctly use calculators.
18. Develop the knowledge and skills to be civically engaged, and/or work with others in a professional and constructive manner.

REQUIRED MATERIALS:

1. TEXT: *Medical Math, Accurate and Efficient, Second Edition*, by Shane Tang, Acute Publishing LLC, ISBN: 978-0-9833705-1-2.
2. A scientific calculator. Note that the following calculators may give wrong answers when computing certain numbers in scientific notations and pH values: Scenario SC 440, Sharp EL 501 V, Sharp 501 W, Sharp EL 506 L, TI 30 X, TI 30 X II B, TI 30 XA, TI 34, TI 36 X. The list is not inclusive. It is students' responsibility to purchase/borrow a scientific calculator for the course work. In addition, it is students' responsibility to learn to use their calculators. Your instructor will provide as much assistance as appropriate. Videos on how to use certain calculators can be found at <http://rwdacad01.slcc.edu/academics/dept/math/stang/>.

CALCULATORS: No calculators will be allowed on Test 1 and limited use on the remaining tests. The use of a calculator is not permitted on the first part of the final examination. A scientific calculator is needed for the second part of the final examination. Smart phones, iPods, iPads, or similar tablets or any device that is able to send/receive data may not be used on exams as calculators. Furthermore, headphones may not be worn during exams.

POLICIES AND PROCEDURES:

Attendance is expected. It will be your responsibility to learn any information you miss due to your absence. You will be held responsible for announcements made in class. No extra time will be given for late students. **You will not be allowed to make up in-class worksheets, projects, group exercise, or extra credit assignments.**

Students are expected to give necessary steps and correct answers to each question. Not much credit or no credit will be given when answers and/or steps are wrong. A grade, C+ or above, will only be awarded when a student earns a score of 78% or higher on the final exam **and** earns a score of 78% or higher on the overall percentage.

Students may choose to do an extra credit service-learning project in which they provide service in the medical facility for 15 hours in order to practice the medical abbreviations and math they learn in class. More information can be found at <http://rwdacad01.slcc.edu/academics/dept/math/stang/>.

ADDITIONAL INFORMATION

Academic Dishonesty Policy

Students may be subject to disciplinary proceedings resulting in an academic penalty or disciplinary penalty for academic dishonesty. Academic Dishonesty includes, but is not limited to, cheating on a test, plagiarism and collusion. For additional information refer to the "Things You Should Know" in the Salt Lake Community College Catalog.

CLASSROOM DEPARTMENT

Each student is responsible for her/his own behavior. Any student who shows a pattern of disrespect for others, or who at any time displays flagrant disrespect for others, will be subject to penalties as per the student code of conduct. All students are expected to follow the SLCC Student Code of Conduct found at:

<http://www.slcc.edu/policies/docs/stdtcode.pdf>.

Students Requiring Special Accommodations

"Students with medical, psychological, learning or other disabilities desiring accommodations or services under ADA, should contact the Disability Resource Center (DRC). The DRC determines eligibility for and authorizes the provision of these accommodations and services for the college." Please contact the DRC at the Student Center, Suite 244, Redwood Campus, 4600 So. Redwood Rd, 84123. Phone: 801-957-4659, TTY: 801-957-4646, Fax: 801-957-4947 or by email: linda.bennett@slcc.edu"

HOMEWORK: You are expected to work homework assignments from each section that we will cover by the next class period. Keep current on your homework and I encourage you to ask questions about the homework in class. Attached is a listing of exercises assigned for home study. Homework problems are similar to the problems which will appear on course examinations and the final exam. **Regular practice is essential for success in mathematics.**

WITHDRAWAL POLICY: Last day to drop classes with 100% refund is **February 4**. Last day to withdraw from classes with no refund is **March 26**. **No** withdrawals will be approved after that date.

EXTRA HELP: Medical math can be a challenging course, but the methods for success are simple: read the text, participate in class, and keep up on assignments. Many students find that forming study groups with other students is a very effective way for them to master mathematics. If you need extra help, free tutoring is available in the Math Lab (LIB 042C), the Learning Centers (phone 957-4172) at Redwood TB213, and South N308. A list of private tutors who may be hired is available in the Learning Centers. **You may also come to me for help.**

TIPS FOR STUDENT SUCCESS: Please visit the math department web site at <http://www.slcc.edu/math>. On the left of the screen, click on Tips for Student Success.

This course prepares students to become nurses. Their ability to math is crucial. Grades are designed to reflect students' ability to do math according to the syllabus during the semester. Students who desire good grades should work, study, and perform accordingly. Grades are between the student and the instructor. The department chair's role and responsibility is to uphold the policies and standards of the department. The nursing department also has some benchmark scores for their students to meet:

If the student does not meet the minimum score of a 60% on the final, then they cannot get better than a D in the course, regardless of how well they were doing prior to the final.

If the student earns a grade between 60% and 77% on the final, then they cannot get better than a C in the course, regardless of how well they were doing prior to the final.

If the student earns a grade better than or equal to 78% on the final, then they can earn a grade better than a C+ depending on how the grade is computed according to the weights below and final percent according to the following table:

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
Minimum overall percentage required	93	90	87	83	80	78	73	70	67	63	60	<59

If the benchmark grade on the final exam is met, then the following will be used in computing the final grade:

Students missing exams, homework or quizzes may not be able to make up any of the material. Check your calendar and with your instructor to be aware of due dates and exam dates.

1. Homework/Worksheet/Quizzes (20%)

We will have occasional quizzes and/ or worksheets. The worksheets and quizzes will be done in class they will be **unannounced** and **no make-up** possible for them. Keep your homework in a separate folder as the **homework may be collected periodically**.

2. e-Portfolio/Projects (5%)

The general education requirement and any other group projects will count 5% of the total grade.

3. Test Average (45%)

The test scores will be computed as a weighted average counting 45% of the final grade.

4. Final Exam (30%)

All Students Must Take The Departmental Comprehensive Final Exam. A student absent without excuse from the final exam receives an E in the course. The final exam will count 30% of the final grade. It is Departmental policy that students attaining a score of less than 60% on the final examination shall not receive a "D" or better for the overall grade. The Nursing Department requires a grade of at least C in order for this class to count towards their program of study.

Finally, read and be aware of the regulations set forth in the Spring Schedule 2013 and the SLCC college catalog. Please see me ASAP about any problems that are affecting your work in this class.