

Applied Mathematics for the Sciences--CHEM 070

Fall 2019
MWF 2:40-3:50
202 Guion

Instructor: Teresa A. Garrett

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Office hours: By appointment AND

Monday, August 26th 11:00-1:00

Wednesday, August 28th 3:00-5:00

Tuesday, September 3rd 1:00-3:00

Wednesday, September 4th 3:00-5:00

Thursday, September 5th 12:00-2:00

Tuesday, September 10th 1:00-3:00

Wednesday, September 11th 3:00-5:00

Thursday, September 12th 12:00-2:00

Goals and Objectives: Many scientific fields require the application of mathematical approaches. This course will give students practice in those mathematical concepts in a chemical and biological context. Mathematical concepts covered will include application of percentages, unit conversions, proportions, scientific notation, exponents, logarithms, graphing, and basic algebra to chemical and biological problems. This course is open to any student, particularly those interested in taking CHEM 131.

By the end of this course, students will:

- Gain confidence in their mathematical skills
- Be able to manipulate exponents and logarithms in a scientifically applicable context.
- Be able to convert between units given the appropriate conversion factor
- Be able to perform basic algebraic manipulation to solve scientific word problems
- Be able to generate graphs with appropriate dependent and independent on paper and using a graphing program such as excel.

Text: None

Calculator: You will need a scientific calculator - graphing calculator is not required. Please bring your calculator to every class.

Attendance and Participation: Attendance and participation in class are required. Being in class is important as we will do a lot of problem solving and learning together. Please participate answer questions posed in class and ask questions about material that is confusing. This will help everyone succeed!

Canvas: We will use a web-based course management system called Canvas. I will post class handouts, homework assignments and answer keys, announcements, etc. You should all have access to Canvas. Direct your browser to <http://sweetbriar.instructure.edu> and login using your

Sweet Briar ID and password. If there are any problems accessing this course with Canvas please let me know immediately.

Problem sets: A problem set will be assigned each day and due in the following class period. These problem sets are designed to give you practice on problems you may encounter in your time as a Sweet Briar student in science courses, especially Chemistry. You may discuss these problems with your classmates but what you turn in **MUST BE YOUR OWN WORK**. A late assignment will receive half credit. Additional problems will be assigned which you can do on your own for extra practice.

Quizzes: Four 15-minute quizzes will be given in class as indicated on the course schedule. These quizzes are given to monitor your progress between exams.

Exams: One 45-minute exam will be given during the last day of class. If you don't pass that exam, you will be given the opportunity to redo questions that you missed during the exam period at the end of the 3-week term. The exams will consist of a mixture of problems, short answer, matching and definitions.

Grading: This course is un-graded. You will either earn an unsatisfactory (U) or satisfactory (S) in this course. To receive a (S) you will need to attend class, participate, and earnestly attempt all problem sets, and pass the final exam with a score of 65 or higher and have an overall average of 65 as calculated below.

Quizzes	30%
Problem sets	60%
Exam	10%

Accessibility statement: Sweet Briar College is committed to upholding and maintaining all aspects of the federal Americans with Disabilities Act of 1990 (ADA), as amended in 2008, and Section 504 of the Rehabilitation Act of 1973. If you are a student with a disability and wish to request accommodations, please contact the Office of Accessibility Services accessibility@sbc.edu for an appointment. Because many accommodations require early planning, requests for accommodations should be made as soon as possible.

Academic Resource Center: The Academic Resource Center (ARC) is a great resource for students. The peer tutors there will help you to learn concepts and develop solid study skills to set the stage for learning. Peer Academic Mentors (PAMs) are now part of the ARC team. They live in the residence halls and are available to meet with you as a first-stop when you need help on how to approach faculty, read a syllabus, schedule appointments with writing and/or subject tutors, time management, taking notes, study skills, test taking skills, etc. Please use these services early and often.

Course Schedule

	Date		Topic	Assignments	Quizzes
F	Aug	23	Introduction, Percentages, Scientific Notation		
M		26	Units conversion	PS#1	
W		28	Proportions and concentrations	PS#2	
F		30	<i>To be determined</i>	PS#3	Quiz #1
M	Sept	2	Exponents and Logarithms	PS#4	
W		4	Algebra	PS#5	Quiz #2
F		6	<i>To be determined</i>	PS#6	
M		9	Graphing	PS#7	Quiz #3
W		11	Exam – In class		
R		12	Final Exam		