

Academic Integrity

Students are expected to adhere to the Academic Integrity policies of Roanoke College. All work submitted for a grade is to be your own work! No collaboration is allowed on quizzes or tests. Unless otherwise stated, you may work together on the homework, but should write up your solutions separately.

Cell phones must be turned off prior to entering the classroom. Laptops may be used for note-taking during regular class sessions, if this seems useful to you, but you may not log on to the internet or to an email server unless specifically told to do so. The use of laptops and other electronic devices during an exam is strictly prohibited. This includes tablets, smart phones, and iPods. Any use of such devices during a quiz or exam will be considered a breach of academic integrity. Note that looking at or using your cell phone during a test or quiz is considered a violation of Academic Integrity regardless of your purpose or intent in doing so.

Attendance & Make-Up Work

Attendance is critical to the understanding of the material in the course; it is both required and expected. Any absence that is not discussed with the instructor prior to the missed class is considered unexcused. I will assume that if you accumulate 4 unexcused absences you are not interested in completing the course. After the 3rd unexcused absence, you, your advisor, and the registrar will be warned that another absence will result in your removal from the class (DF).

When absent, excused or unexcused, you are responsible for all material covered in class. You will not be allowed to make up any work missed due to an unexcused absence.

Recitations

You must be enrolled in the recitation portion (MATH 121R) in addition to the current course. MATH 121R will review important concepts needed for calculus (such as trigonometry, exponential and logarithmic functions, and graphing) as well as provide time to practice with new concepts encountered in MATH 121. MATH 121R operates as a separate course, but it counts as 10% of the course grade for MATH 121. Please consult the recitation course syllabus for additional information on policies and grading.

Problem Sets

A problem set will be due each Wednesday. These will be assigned on the previous Wednesday and each are worth a total of 25 points. There are three parts to each problem set. The first part is worth 10 points and will be graded based on effort and completeness. This part consists of the daily homework assignments for the previous three class periods. Daily homework will include roughly 10 problems and you are welcome to ask questions about them at the beginning of class. The second part of each problem set is worth 12 points and will be graded based on correctness. Each week you will complete 4 problems which will be carefully graded, with each problem worth 3 points. The final portion of the problem set is based on presentation, and worth 3 points.

When you turn in your problem set on Wednesday, make sure the four problems graded for correctness are on top and then below are your three daily assignments. Your homework should be neat, organized, and stapled. Solutions will be posted on the following Friday. You can collaborate on problem sets but you must write up your own solution. If you are looking at another person's work when you are writing up your problem set, then you are in violation of the academic integrity policy of Roanoke College.

If you will be absent, turn in your homework before the class period it is due, or have a friend turn it in for you. Late homework will only be accepted within 2 days of the original due date and will automatically lose the completion points.

Reflections

As part of the homework grade, there will be 2 reflections assigned during the semester. You can find the prompts on Inquire and upload your responses there as well. They are worth 10 points each and will be graded on how thoughtful and complete you are.

Quizzes	There may also be written quizzes in this class. They may either be in-class quizzes or take-home quizzes. I may occasionally warn you about an upcoming quiz but you should be prepared to take a quiz on any given day.
Technology	In addition to the weekly problems sets, we will occasionally have questions and assignments based in Mathematica. Mathematica is a powerful software package that we will use throughout class to help emphasize calculus concepts over needing to compute, say, derivatives and integrals by hand every time we need them. This software will let us spend more time on the “how and why” of calculus and what it can potentially be used for in the future. As part of this class, we will spend a few full days using this technology, done as a combination class discussion, work with a partner, and homework.
Tests and Final	<p>Six tests will be given throughout the semester according to the schedule on the last page of this syllabus (any changes from this schedule will be announced well in advance). Each test will focus on the material learned since the last test, but as with most mathematics classes, the exam will necessarily require you to understand and remember things from the past.</p> <p>The final exam will be comprehensive and given during the scheduled time for block 2: Wednesday December 11, 8:30 – 11:30 AM.</p>
Co-Curricular Engagement	<p>The MCSP Department offers a series of talks (MCSP Conversation Series) that appeal to a broad range of interests related to these fields of study. These co-curricular sessions engage the community to think about ongoing research, novel applications and other issues that face our discipline.</p> <p>Members of this class are invited be involved with all of these meetings. After attending, submit a one page paper reflecting on the discussion through Inquire. This should not simply be a regurgitation of the content, but rather a personal contemplation of the experience. These reflection papers earn extra credit, with .5% added to your course average for each attended, up to 2% total. In addition, individually you may request that other appropriate events count.</p>
Study Room	The MCSP Study Room, Trexler 271, can be used by you and your friends to meet up so that you can work on homework together or prepare for tests. It is open virtually 24 hours a day, 7 days a week (very occasionally there are meetings in that room). Your student ID card should grant you access to Trexler Hall any time of day if the doors happen to be locked (use the card access point located by the first floor entrance facing the parking lot). Take advantage of this area and time, especially during weekdays when I and the other faculty teaching calculus are around!
Community	<p>Please feel free to become an active member of our department’s community. Each of the three disciplines in our department has a student club and you should join! The Roanoke College Student Chapter of the Mathematical Association of America (or “Math Club” for short) meets periodically, plays and learns about games and hosts evening events and the annual Pi-Day celebration! Membership in our Math Club also grants membership into the MAA itself, one of the premiere professional mathematical organizations in the world.</p> <p>In addition, our department offers a weekly tea time for students and faculty; feel free to stop by the MCSP Study Lounge (Trexler 271) for tea and cookies on Thursdays from 2:15 PM to 3:15 PM. Come meet other students as well as chat with the MCSP faculty members in a casual setting!</p>

Subject Tutoring Subject Tutoring, located on the lower level of Fintel Library (Room 5), is open 4 pm – 9 pm, Sunday – Thursday. Tutoring sessions are available in 15, 30, or 45-minute appointments. Feel free to drop by for a quick question or make an appointment at www.roanoke.edu/tutoring for a longer one-on-one appointment. For questions or concerns, please contact us at 540-375-2590 or subject_tutoring@roanoke.edu.

Accessible Education Services (AES) is located in the Goode-Pasfield Center for Learning and Teaching in Fintel Library. AES provides reasonable accommodations to students with documented disabilities. To register for services, students must self-identify to AES, complete the registration process, and provide current documentation of a disability along with recommendations from the qualified specialist. Please contact Laura Leonard, Assistant Director of Academic Services for Accessible Education, at 540-375-2247 or by e-mail at aes@roanoke.edu to schedule an appointment. If you have registered with AES in the past and would like to receive academic accommodations for this semester, please contact Laura Leonard at your earliest convenience to schedule an appointment.

	Date	Section	Topic	Items Due
Wed	Aug 28		Preview; Small Group Discussion	
Fri	Aug 30	1.2	The Concept of Limits	
Mon	Sept 2	1.3	Computation of Limits	
Wed	Sept 4		Introduction to Mathematica	PS 1
Fri	Sept 6	1.4	Continuity and its Consequences	
Mon	Sept 9	1.5	Limits Involving Infinity	
Wed	Sept 11	2.1	Tangent Lines and Velocity	PS 2
Fri	Sept 13		Test 1	
Mon	Sept 16	2.2	The Derivative	
Wed	Sept 18	2.3, 2.4	Derivative Rules Day #1	PS 3
Fri	Sept 20	2.5	Derivative Rules Day #2	
Mon	Sept 23	2.6, 2.7	Derivative Rules Day #3	
Wed	Sept 25		Derivative Recap	PS 4
Fri	Sept 27		Test 2	
Mon	Sept 30		Derivatives in Mathematica	Reflection 1
Wed	Oct 2	3.2	L'Hôpital's Rule, Indeterminate Forms	PS 5
Fri	Oct 4	3.3	Maximums/Minimums	
Mon	Oct 7	3.4	Increasing and Decreasing Functions	
Wed	Oct 9	3.5, 3.6	Concavity and Curve Sketching	PS 6
Fri	Oct 11		Test 3	
Fall Break!				
Mon	Oct 21	3.1	Linear Approximation, Newton's Method	
Wed	Oct 23	2.8	Implicit Differentiation	PS 7
Fri	Oct 25	3.8	Related Rates	
Mon	Oct 28	3.7	Optimization Day #1	
Wed	Oct 30	3.7	Optimization Day #2, Applications Recap	PS 8
Fri	Nov 1		Test 4	
Mon	Nov 4	4.1	Antiderivatives	
Wed	Nov 6	4.2	Sums	PS 9
Fri	Nov 8	4.3	Area	
Mon	Nov 11	4.4	The Definite Integral	
Wed	Nov 13		Integration in Mathematica	PS 10
Fri	Nov 15		Test 5	
Mon	Nov 18	4.5	The Fundamental Theorem of Calculus	

Tentative
Course
Schedule

Wed	Nov 20	4.6	Integration by Substitution	PS 11
Fri	Nov 22		Integration Recap	
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Mon	Nov 25	7.1	Modeling with Differential Equations	
Thanksgiving Break				
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Mon	Dec 2	7.2	Separable Differential Equations	PS 12
Wed	Dec 4		Test 6	
Fri	Dec 6		Review	Reflection 2
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Wed	Dec 11		Final Exam: 8:30 AM - 11:30 AM	
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