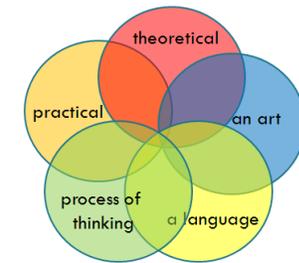# Welcome to our math community!

Mathematics is …

Instructor: Cheryl Vallejo

Office: MILLER 022

Email: vallejo@roanoke.edu

Class: MWF 10:50 – 11:50 AM   **Room**: MILLER 012

Office Hours:
MWF 9:00 – 9:30 AM, 12:00 – 12:30 PM *AND*
TTh 9:00 AM – 2:00 PM
If these don't work, we can schedule over
Zoom/Microsoft Teams

1   My Educational Philosophy: As a veteran college mathematics instructor, I am interested in the schooling and education my students receive before entering my classroom. Their lived PreK-12 (and college) experiences affect how they see themselves as a learner, their perception of themselves as a professional, and how they perceive themselves as a member of society. Therefore, my philosophy of education focuses on care for my students. Furthermore, my mathematics classroom is a place of community, where I witness a diverse group of human beings helping and support each other through their fears and anxiety about a complicated discipline. For this reason, community is another focus of my philosophy of education. How do we transform a math classroom into a community of learning? We learn by speaking to each other and we teach by listening actively and purposefully.

2   My Teaching Philosophy: Teaching is a way for me to serve the communities I live in. I care about students, their learning environment, and their educational goals. Through low-stakes collaboration, one-on-one student attention, and a learner-centered classroom, I guide students to become critical thinkers, thoughtful learners, and community members.

3   Diversity and Community in Our Classroom: As your instructor, it is my belief that hate, racism, sexism, and other forms of discrimination are immoral and have no place on our campus or in our society. Our class is one community. We learn together. We work together. And we will respect one another. I teach all students, regardless of background or beliefs. All students are equally welcome and valued. No one is being asked to leave the table. Everyone is being asked to make room at the table, so that everyone has a seat and a fair chance.

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Each of you is vital to the success of our shared classroom community, which is why it is important that we all respect each other, carefully consider one another's ideas, and value each other's contributions. I will do my best to foster a culture of mutual aid and respect in this class, and I ask you to promise to do your best to do the same. ***By joining this classroom community, you are committing to taking a growth mindset to this work, which requires all of us to "pitch in" and means we will work together to learn from each other and become more compassionate***.

Diverse languages, dialects, and identities are welcome in our classroom. As we communicate with one another, keep in mind that the reader/listener should work as hard as the writer/speaker in the communication process. This means that we will listen patiently, work to understand one another, seek out clarification when necessary, and avoid finishing each other's sentences or correcting grammatical errors unless invited to do so. By "working hard to listen" to others, you are "teaching them." Remember, we learn by speaking and teach by listening.

4   Statement of Artificial Intelligence and Online Math Solvers: The use of A.I. or online math solver programs is not effective for your (or anyone's) learning of mathematics. They are not allowed for work in this course; this is partially due to the way that I teach and assess (I will explain more of this in person during our first week of meetings). The use of A.I. or online math solvers constitutes an academic integrity violation for this course. I will be able to tell when if you have used such services on your work. The only instances I've seen students attempt the use A.I. or online math solvers my courses have yielded results which aren't relevant to the problem/task, and have furthermore led only to student confusion about the topics. If I find that you are using A.I. or online math solvers, your participation component of the final grade will be affected in addition to any possible academic integrity actions taken. I have never had a student whose use of A.I. or online math solvers has helped them learn mathematical material; rather, thinking that such programs will be useful to one's mathematical learning is the same as thinking that having Google Translate on one's phone makes them a polyglot.

5   Required Materials (please have access to everything in class each day):

- *MyOpenMath*: Weekly homework problem sets will be here (beginning Week 2) https://www.myopenmath.com/

- *Textbook* (optional): I will provide a downloadable pdf of the textbook, which is <u>free</u>. However, if you want a hardcopy and have the funds, you can purchase it [*Mathematical Applications for the Management, Life, and Social Sciences*, (11th edition), by Ronald Harshbarger and James J. Reynolds.]

- *YouTube* (optional): Optional lecture videos created by Dr. Michael Weselcouch are posted on this YouTube playlist https://www.youtube.com/playlist?list=PLscpLh9rN1ReUob-5zXXvCROcNIkoGLz2

- *Calculator*: A scientific calculator is required for this course (doesn't have to be fancy; **not a smartphone**). A graphing calculator is a limiting tool for what we are exploring in this course. We will use free versions in class: Desmos Scientific Calculator (calculating) and Desmos Graphing Calculator (graphing). We will use Desmos to explore graphs and more Apple or Android calculators are not allowed. They do not allow you to see your calculations or use solutions in the next line. *Our classroom is a cell phone free zone.*

- *Laptop or Tablet*: Bring your laptop or tablet (connected to WiFi) to class every day for use in activities

- *Pencil and large eraser* (preferred) – pen scratch out marks make a mess (white out tape accepted) – a tablet stylus

- *Paper* to record your thinking (Loose-leaf notebook paper or blank paper or spiral binder of paper). You may use a full-featured notetaking app on your tablet instead of paper to record your thinking.

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However, some activity work will be collected. I will let you know during class at the beginning of the activity if I will be collecting work.

- *Graph paper* (keep some with you – about 5 pages – you may choose to get a graph paper journal and use that for everything except for the journaling exercises)

- *Journal* for reflection exercises (lined, graphing, or artist; **for your privacy this should not be used for notes or math activities**)

- *Straight edge* (ruler – **please do not use your ID, debit, or credit card as your straight edge for your safety and privacy**)

- Colored pens or pencils (optional, but highly recommended)

6   (Optional) Dr. Michael Weselcouch Lecture Video Access on YouTube:

- Link: https://www.youtube.com/playlist?list=PLscpLh9rN1ReUob-5zXXvCROcNIkoGLz2

- Channel Name: Dr. Weselcouch

- Playlists are all under MATH 111

7   How to get help:
Needing help is normal and OK.
If you need help in this class there are several resources available:
1. Your instructor is always happy to help 😊 . You can see me during open door hours or we can set up an appointment. The best way to contact me is via email and let me know that you are struggling.
2. Your classmates are a great resource. It is a proven fact that students who are part of a study group are more successful that students who are not so get to know your fellow students early in the semester and plan some study sessions.
3. The Dr. Sandee McGlaun Writing Center and Subject Tutoring, located in the lower level of the Fintel Library (Room 5), offers free one-on-one support in writing, oral presentations, and course content such as Business, Economics, Mathematics, INQ 240, Modern Languages, Lab Sciences, and Social Sciences. Open Sunday–Thursday from 4–9 PM, students can stop by or schedule through Navigate by selecting "Schedule an Appointment" → "Writing Center and Subject Tutoring" → "Writing Support" or "Course Tutoring" → preferred date and tutor. Contact subject_tutoring@roanoke.edu or 540-375-2590 for more information.

8   Accommodation Based on Disabilities: I am here to help you with the accommodation needed to aid in your success in this class. If you need adaptations or accommodations because of a disability (learning disability, attention deficit disorder, psychological, physical, etc.), if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible.

From my many years of experience working with students, choosing not to use your accommodation may result in unnecessary struggles. Even if you feel you do not need your accommodation for other classes, it has been shown to be extremely useful to my past math students and was a turning point in their success. Academic accommodations are available for students with disabilities.

Accessible Education Services (AES) is located on the first floor of the **Bank Building**. 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 Dustin Persinger, Assistant Director of Academic Services for Accessible Education, at 540-375-2248 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 Dustin Persinger at your earliest convenience to schedule an appointment and/or obtain your accommodation letter for the current semester. The testing center, also located on the first floor of the Bank Building, can be reached at 540-375-2247.

9   Attendance: Attendance at every class session is critical to the understanding of the material in the course; it is both required and expected. Each absence above 3 absences will reduce your final grade (no questions asked, choose wisely, I do not distinguish between excused and unexcused absences except for official university functions). Please come talk to me if you have special circumstances so we can prepare adequately.

The following is clarity on the part of the attendance policy that mentions "except for official university functions". Any student acting in a representative capacity for the university would be considered an official university function.

> *Students who are absent from class to participate in a college-sponsored activity or to officially represent the college (e.g., intercollegiate athletic competitions, fine arts performances, scholarly presentations, etc.) shall be excused from class without penalty with the following provisions:*
>
> - *Students must discuss the absence with the faculty member and provide documentation from the coach(es) or sponsor(s) as far in advance as possible; ideally, as soon as a student knows about the absence.*
> - *Students are responsible for making up coursework and should discuss make-up procedures with the faculty member.*
> - *The faculty member will devise appropriate ways to address missed work and/or exams. Extended deadlines, substitute assignments, or make-up exams are some options to consider. If an exam is to be made up, it will be done so at a mutually agreed-upon time.*
> - *The student, faculty member(s), and coach(es)/sponsor(s) will collaborate to ensure that absences do not accumulate to the extent that student learning in a course is compromised (with absences typically limited to no more than 20% of class meetings, across all activities or absences for other reasons).*

Practices or meetings related to the college-sponsored activities are not included as official participation or representation.

10   Religious Observances: Should a class meeting or assignment conflict with a student's religious observances, please contact me to discuss alternatives.

11   Course Grades: Grades will be recorded using the Inquire (Moogle) Gradebook, which is accessible in the course Inquire (Moogle) website. The table below lists the weights for the various forms of assessment for this class.

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Grade Weights

Attendance	20%
In-Class Graded Activities (randomly collected)	20%
In-Class Quizzes (group and individual)	20%
Homework Problem Sets in MyOpenMath	20%
Projects	10%
Final Exam	10%

Letter Grade	Percent
A	93.0-100%
A-	90.0-92.9%
B+	87.0-89.9%
B	83.0-86.9%
B-	80.0-82.9%
C+	77.0-79.9%
C	73.0-76.9%
C-	70.0-72.9%
D	67.0-69.9%
F	0-66.9%

I do __NOT__ round up grades. For example, an 89.9% is a B+ not an A-.

To exceed in the class I expect you to engage in all of the following: attend class every day; engage positively and productively in mathematical exploration; participate meaningfully in your group; freely offer your thoughts and reflections in whole class discussions; be reflective and independently adjust your thinking; do not become discouraged with the concepts are difficult; and, *revise all of your MyOpenMath homework to be a score of at least 85%.*

12   Course Objective
The objective of this course is to provide the background in the quantitative techniques necessary to better understand advanced courses in Business and Economics.

Note. This course may not be taken for credit if credit has been received for Mathematics 112 or higher. If you have questions concerning this, please contact your advisor immediately. Also, you need to earn a C or better in this course or in INQ 240 to declare a major in Business Administration. Once again, please contact your advisor if you have questions regarding the necessary grades/courses.

13   Learning Outcomes
By the end of this course, students will be able to:
• Solve linear equations in one or more variables
• Solve applied problems using linear equations
• Solve systems of linear equations using graphing, substitution, elimination, or matrix methods
• Solve quadratic functions and use them in applications
• Solve systems of linear inequalities in two variables
• Use graphical methods to solve linear programming problems
• Find the derivatives of functions
• Use derivatives in business applications

14   Course Structure: The classroom environment will focus on activity and discussion-based cooperative learning, including working on the blackboards/whiteboards in groups. This class is about exploring mathematics,

not being told about mathematics. The framework that we will use for the class is a semi-flipped classroom with Inquiry-Based-Learning (IBL) or Guided-Discovery-Learning. This means that you will, through many guided questions, work to discover (or rediscover) concepts and ideas and relationships related to the material of the course. Class time will be overwhelmingly devoted to cooperative learning (you helping each other, me helping you, you helping me). Learning is not hearing. Learning is doing. We will collaborate in groups and help each other to make sense of the material. Most of the time in class will be collaborative work on in-class investigation activities we do. Your at-home task is to review notes, watch videos, read textbook resources, work on the online problem sets, and complete one or two projects. If there is time in class, independent work will be assigned where you will work on your online problem sets. This will allow me to see your progress in real time and help you as needed. I understand that everyone comes to this course with a variety of mathematics experiences.

15 MyOpenMath

To assist with your learning, we will use MyOpenMath as one assessment tool and to deepen your mathematical content knowledge through online problem sets. You may not use AI programs like ChatGPT or apps to help you with your homework.

- Beginning Week 2, homework is due EVERY SUNDAY by 11:59 pm.
- As building knowledge is the most important, you have *unlimited* attempts at each homework set. *However*, **if the subsequent attempts are submitted after the original due date, the maximum score you can earn is 89%**.
- The last day to submit revisions to your homework is April 21, 2026.
- MyOpenMath problem set scores will be transferred manually into Inquire (Moogle) the week following their due date. The target day for enter these scores is Tuesdays of each week.
- The lowest problem set grade will be dropped at the end of the semester.

16 In-Class Quizzes & The Final Exam:

In-Class Quizzes. Every Wednesday, students will be given questions to gauge their understanding. Generally, 1-3 questions. Sometimes this will be done in groups of 2-3 students and sometimes there will be individual assessments. These assessments will constitute a graded portion of the class. You may not use AI programs like ChatGPT. You may not use your cell phone during quizzes.

Final Exam. **Friday, April 24, 2026 from 8:30 – 11:30 am**. The final exam will be a comprehensive (cumulative) individual exam. The final exam is in person, will be a paper and pencil exam. You may not use AI programs like ChatGPT. You may not use your cell phone during the Final Exam.

Make-up work. Due to the nature of the learning in this course, primarily in the classroom, there is no make-up work in this course other than quizzes and the final exam (in special circumstances). All make-up quizzes must be arranged with the instructor within one week of the original quiz date. In-class activities collected (randomly) for grading cannot be made up unless you are absent due to an official university function. *Note: All students on absent due to official university functions (see section 9) will receive an excused absence and an opportunity to make up anything in class that is graded.*

17 Journal Reflection & Self-Regulating Activities:
Your journal (a dedicated book or binder) is part of your success in this course. Although I will not be grading it, it is a vital part of your learning process. Cognition and learning are directly linked to self-regulating exercises (I encourage you to do your own research on this). Written or artistic reflection is just one of the ways we will be learning tools of self-regulation that are designed to bring more ease in retrieving prior knowledge during math tasks and retaining the learning that takes place. These tools are *free* and can be taken with you anywhere, into other classes, your personal life, and your career. You may not use AI programs like ChatGPT. You may not use your cell phone during Journaling or self-reflective activities. *Note: These are not graded activities, therefore, students with excused or unexcused absences do not need to make up missed journal reflections or self-regulating activities.*

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18   Attendance: Attendance is required. Given the way the course is taught, attendance is crucial. The activities and discussion from class cannot be recreated. Thus, missing class greatly diminishes your experience in the course.

19   Class Etiquette: Our classroom community meets for an 1-hour, 3 times per week. All of us bear responsibility for being professional and respectful of everyone's time when we come together for class. Being inattentive to what is going on (i.e., sleeping, sending/reading messages, browsing social media, working on something not related to class, etc.) will not be tolerated. Because of the social/active nature of my teaching philosophy, each of you has a responsibility to be a member of the classroom community, which means all of us have to "pitch in" to make the classroom time successful. Laptops, tablets, and other pieces of technology are allowed in class for the purpose of supporting your learning and participation in the course; e.g., if you have specific documented accommodations that necessitate technology. Our classroom is a cell phone free environment. If you have a young child or elder person in your care and need your mobile phone with you please come talk with me immediately to discuss options. If you would like to discuss particular situations, come to my Office Hours.

We Are All Diverse. Remember that everyone is coming from their own background and unique perspective. You are required to respect your classmates' opinions and thinking, even if they are different than your own. Disrespectful behavior of any kind will not be tolerated. One of the best things about being in college is learning from so many diverse people. You are part of that milieu. In class, we learn together and from each other (including me!).

> ***No Cell Phones – Lose Attendance Points (1.5 points each day):*** All cell phones must either be turned off or put on silent during class time. *They are not allowed on desks during class at all.* There are many studies now that link cell phones in the classroom to significant cognitive deficits. I know may not seem fair but it is my classroom and I am responsible for the quality of the learning environment. So… if I have to tell you to put your cell phone away more than once, you will earn deductions of half of your attendance points for that class (1.5 out of 3). This adds up.

20   What is Academic Integrity?
By accepting admission to Roanoke College, each student makes a commitment to understand, support, and abide by the academic integrity policies without compromise or exception. Violations of academic integrity will not be tolerated. This class will be conducted in strict observance of the academic integrity policies. Refer to your Student Handbook for details. Academic integrity includes, but is not limited to:
- Copying or allowing someone else to copy answers on individual assignments. *Working together does not mean blatantly copying another person's work*.
- Stealing or telling someone questions/answers on assessments.
- Using any resources not authorized for the given assignment. Most often, this means when you use another person or AI to help you complete a test or the final, you are breaking the Honor Code.

21   Additional University Services:
Student Health & Counseling Services.
> Student Health and Counseling Services supports students through in-person health appointments, in-person counseling, 24/7 telehealth (TimelyCare), Therapy Assistance Online, as well as resources related to general wellness, LGBTQ+, sexual assault, substance abuse, and suicide prevention. Unmet health needs can negatively impact your performance in this course. Student Health & Counseling Services can help. Please see https://www.roanoke.edu/shcs for more information and to access services.

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