



Course Syllabus Details

Topic	Detailed Information
Course Name	Calculus I (Remote)
Course - Section and Term	MAT 2410 – ZS01
GT Pathways Category	GT-MA1
Credits and Delivery Method	5 Credits, Remote
Time Expectation	5 credits times 3 hours per credit = 15 hours per week
Location of Class	Remote via ZOOM: https://us02web.zoom.us/j/83345608219?pwd=IZYmAWgR23aRpeXOJftYVJAHVJwNk.1
Meeting Dates and Time	MTWR 8:15 AM - 9:20 AM Mountain Time (-07:00 GMT), via ZOOM:
Instructor	Harry S. (Steve) Mills
E-mail	hmills1@online.aims.edu
Office Location	Remote via same ZOOM Invitation: https://us02web.zoom.us/j/83345608219?pwd=IZYmAWgR23aRpeXOJftYVJAHVJwNk.1
Phone Number	970-290-0550



Topic	Detailed Information
Office Hours	Door is open. Call 970-290-0550 and we can be in ZOOM in 5 minutes. ZOOM Link: https://us02web.zoom.us/j/83345608219?pwd=IZYmAWgR23aRpeXOJftYVJAHVJjwNk.1
Drop Deadline Date	Monday, February 2nd
Course Withdrawal Date	Wednesday, April 8th
Other Important Dates	https://www.aims.edu/resource-library/academic-calendars
Student Services	https://www.aims.edu/student-life/student-services
Mental Wellness	If you are experiencing an immediate mental health concern the following resources are available: *Call or text 988 or visit 988 LIFELINE *Colorado Crisis Services @ 1-844-493-8255 or Text "Talk" to 38255 Select Academic Policies to access more mental wellness and success resources. (https://www.aims.edu/academic-policies)

Course Requirements

Topic	Detailed Information
Prerequisite(s)	Completion of MAT 1420 with a 'C' or better.
Co-requisite(s)	None
Academic Policies – These Standards of Behavior statements apply to every course at Aims Community College and are	Closely review these Academic Policies . (https://www.aims.edu/academic-policies)



 COMMUNITY COLLEGE
 COURSE SYLLABUS

Topic	Detailed Information
hereby incorporated into this document.	
Materials	<p>Register for WebAssign in D2L Course Shell: Login to https://online.aims.edu/d2l/login</p> <p>Navigate to this course from the available thumbnails. Go to “Content > Course Information > WebAssign Portal” This is where all online homework and testing will take place.</p>
Other Necessary Items	<p>Scientific Calculator required on tests. Graphing calculator or online grapher can be helpful for homework, but may not be used on tests.</p>
Other Necessary Items (cnt'd)	<p>If you want a physical textbook for the course, I recommend any edition of Stewart's <u>Calculus</u>. I think the WebAssign assignments are pulled from the 9th Edition, but I think any edition will suffice. Thriftbooks, eBay, Amazon, ... All can beat the price of a new book by a mile. The 9th Edition is pictured on the left. The picture on the cover is pretty much the same, but different colors for different editions.</p> <p>Make Good Scans: For the transmission of your handwritten work, you will need to make high-quality PDFs of your well-written work.</p> <p>I think the <i>easiest</i> way to make good PDFs of written work is with a suitable application on a pen tablet or other device. Some students get professional-looking scans using a phone app, like CamScanner. I recommend getting a decent printer-scanner, but you can also use a commercial copy center (like Kinko's or FedEx) near you, or use the services available at the Learning Commons..</p> <p>Just taking pictures with your phone camera is not good enough, unless you get a good app like CamScanner and learn to use it.</p> <p>Here is a handy link for scanning and other technology resources available at our Learning Commons: https://www.aims.edu/departments/learning-commons/computer-and-technology-assistance</p>



Course Information

Course Description: Introduces single variable calculus and analytic geometry.

Includes limits, continuity, derivatives, and applications of derivatives as well as indefinite and definite integrals. Trigonometric functions are included. Prerequisite: "C" or better in MAT 121 and MAT 122, 80 or above on Accuplacer College Math Test, or 28 on the math portion of the ACT test, or 740 on the math portion of the SAT test. Five credits.

The following boilerplate makes education people happy, but isn't much help to the student while taking the course. It'll be handy if you want some other institution to accept your Aims credit, because we cover what it says we do.

But for *your* purposes, I'd say go to the table of contents in Stewart's Calculus or see the eBook on WebAssign, and see what the table of contents says for Chapters 1-4 and Sections 5.1, 5.2 and 6.1 – 6.4. That's all you need to know.

BEGIN BOILERPLATE. BOILERPLATE ENDS AROUND THE MIDDLE OF PAGE 6. YOU DON'T NEED ANY OF IT.

Course Learning Outcomes – According to the Colorado Community College Common Course Database, upon completion of this course, the student/learner should be able to:

1. Evaluate limits using appropriate analytical, numerical or graphical techniques.
2. Analyze the continuity of functions.
3. Apply the definition and techniques of differentiation to find derivatives, including derivatives of transcendental functions.
4. Analyze functions represented by an equation or a graph using derivatives and limits.
5. Create graphs of functions using properties of derivatives and limits.
6. Apply techniques of integration to find the antiderivative of a function.
7. Evaluate definite integrals using Riemann Sums and the Fundamental Theorem of Calculus.
8. Utilize Calculus techniques to solve application problems.

Topical Outline – These topics will be covered in class, but not necessarily in this order:

- I. Limits using appropriate analytical, numerical or graphical techniques
 - a. Limits computation
 - b. Properties of limits
 - c. Limits at infinity
 - d. Infinite limits
- II. Continuity of functions
 - a. Definition of continuity
 - b. Discontinuities with respect to type (removable or non-removable)

c. Intermediate Value Theorem

III. Definition of derivative and techniques of differentiation

a. The limit definition of a derivative

b. Basic rules of derivatives

c. Product Rule

d. Quotient Rule

e. Chain Rule

f. Higher order derivatives

g. Implicit differentiation

h. Introduction of differentials

i. Derivatives of trigonometric functions

j. Derivatives of inverse trigonometric functions

k. Derivatives of exponential and logarithmic functions

IV. Functions represented by an equation or a graph using derivatives and limits

a. Critical values

b. Absolute extrema on an interval

c. Increasing and decreasing intervals

d. First and Second Derivative Tests for relative extrema

e. Inflection points

f. Intervals of concavity

g. Graphical connection between f and f'

h. Asymptotic behavior with limits

V. Graphs of functions using properties of derivatives and limits

a. Graphing techniques without technology

b. Graphing techniques with appropriate technology

VI. Techniques of integration to find the antiderivative of a function

a. Indefinite integrals

b. Integration by substitution

c. Integration of trigonometric functions

d. Integration involving inverse trigonometric functions

e. Integration involving exponential and logarithmic functions

VII. Definite integrals using Riemann Sums and the Fundamental Theorem of Calculus.

a. Riemann's Sums

b. Definite integrals

c. Fundamental Theorem of Calculus

d. Integration techniques with appropriate technology

VIII. Calculus techniques to solve application problems

a. Mean Value Theorem

b. Equations of tangent lines

c. Related rates

d. Rates of change

e. Optimization



- f. Net signed area
- g. Area between two curves

State General Education and Common Learning Outcomes: (for GT Pathways Courses)

Competency: Quantitative Literacy:

Students should be able to:

1. Interpret Information

- a. Explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).

2. Represent Information

- a. Convert information into and between various mathematical forms (e.g., equations, graphs, diagrams, tables, words).

3. Perform Calculations

- a. Solve problems or equations at the appropriate course level.
- b. Use appropriate mathematical notation.
- c. Solve a variety of different problem types that involve a multi-step solution and address the validity of the results.

4. Apply and Analyze Information

- a. Make use of graphical objects (such as graphs of equations in two or three variables, histograms, scatterplots of bivariate data, geometrical figures, etc.) to supplement a solution to a typical problem at the appropriate level.
- b. Formulate, organize, and articulate solutions to theoretical and application problems at the appropriate course level.
- c. Make judgments based on mathematical analysis appropriate to the course level.

5. Communicate Using Mathematical Forms

- a. Express mathematical analysis symbolically, graphically, and in written language that clarifies/justifies/summarizes reasoning (may also include oral communication).

Aims Common Learning Outcomes – These outcomes define the expectations of an Aims Community College education and provide the benchmarks against which the college holds itself accountable. Find the outcomes at

<https://www.aims.edu/departments/institutional-research/assessment>

Scroll Down to Common Learning Outcomes

END BOILERPLATE

Course Delivery Method

1. Scheduled Class Meeting in ZOOM:

<https://us02web.zoom.us/j/83345608219?pwd=IZYmAWgR23aRpeXOJftYVJAHVJwNk.1>



2. WebAssign math learning system.
3. Videos, notes, and other resources on <https://harryzaims.com/>

Code of Conduct

To keep our college community safe, students are expected to comply with health guidelines as directed by the College, public health officials, and/or ordinance of a municipality, county, Governor of the State of Colorado, or any Executive Order of the President of the United States. Download the complete copy of the [Student Code of Conduct](#).

That's from the school. What I say is:

“Exercise common sense and common courtesy in your interactions. Don’t cheat.”

Reuse of Instructional Materials

Reuse or distribution of instructional materials (e.g., PowerPoints, videos, class recordings, assessments, etc.) or student created content (e.g., online discussion posts, presentations, etc.) without approval is prohibited.

Communication and Feedback

Good thing about feedback: It's instant.

Bad thing about feedback: It's online.

This course, being designated “remote,” will use WebAssign at webassign.net and Videos and Notes posted on harryzaims.com for the greater part of content delivery; however, there will be Writing Homework Assignments, that you will upload to the Assignments Tool on D2L. There will also be a Written Midterm and Written Final. You will come in to Horizon Hall (or other location, as needed) for a 2-hour test for Midterm and Final.

Use hmills1@online.aims.edu to contact me by e-mail. This is *best* accomplished by clicking on “Classlist” tab in the Course Shell and clicking on “Mills, Steve” in the listing. It is best to use your online.aims.edu e-mail when communicating with me in e-mail. Otherwise, I might not have your information at my fingertips. If you use Classlist, I will know what class you’re in and what you’re talking about!

Call or text me at 970-290-0550 if you have something urgent, or wish for a 1-on-1. I mean for this to be a 24-hour service, for your convenience, so don’t be shy!



As I have posted videos and notes on virtually all of the homework, I may not be giving a full-blown formal lecture on any given day. I will always come ready to give a speech, although I'm generally skeptical of teacher speeches after decades of delivering them.

Grading

E-mail Settings: 5%

Attendance: 5%

WebAssign Homework: 30% - Where you show you have the idea.

Written Homework: 30% - Where you show you can demonstrate the ideas in writing.

Written Midterm and Final Tests: 30% - These are in-person affairs. Open dates for the Midterm are March 11th and 12th and open dates for the Final are May 11th and 12th. Students who are too far remote to make it to Greeley can arrange alternate test locations, at branch campuses or 3rd-party testing centers widely available at schools, everywhere. Just let me know that you have a need.

Test locations are to be determined at a future date. I'll pass on the word as soon as arrangements are made.

Your percent grade will therefore be calculated as follows:

$0.05*\text{E-Mail Settings} + 0.05*\text{Attendance} + 0.3*\text{WebAssign Homework} + 0.3*\text{Written Homework} + 0.3*\text{Written Midterm and Final}$

Attendance Policy

Make an appearance at the appointed hour, or send me an e-mail with an explanation and a brief summary of your progress in the WebAssign and Written Work. If I get a heads-up in timely fashion, I can mark you "present," as you are proving engagement and participation, regularly.

Grading Scale

Percentage	Grade	Details
90% - 100%	A	(Superior and excellent)
80% - 89%	B	(Above average)
70% - 79%	C	(Average)
60% - 69%	D	(Below average level of achievement)
Below 60%	F	(Not acceptable)

Course Schedule:

[Course Schedule, Spring, 2026](#)

Universal Syllabus

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For WebAssign Homework, see WebAssign, where you do the homework. That is the best source for what we're covering, when.

For Written Work, see "Assignments" on D2L.

For Written Tests:

Written Midterm: Wednesday, March 11th.

Written Final: Monday, May 11th.