MATH 1131Q – 331 **Calculus I** **Fall 2026**

08/31/2026 to 12/18/2026

Instructor: Dr. Vindya Pathirana

Let me introduce myself to you:

I earned my Ph.D. in Mathematics from the University of South Florida in August 2015, a year before joining UConn Waterbury. My research interests include Mathematical Finance, Probability and Statistics, Data Analysis, Pattern Recognition through Machine Learning, Statistical Learning, and Decision-Making.

I have had a passion for helping my younger siblings, friends, and peers with their math struggles since I was young. When I look back, I can now understand why I am a MATH professor today. I realize that my love for Mathematics stems from my ability to find beauty in things that are not visible to the naked eye. That might also be the reason for my fondness towards music.

I hold honor, honesty, and integrity in high regard. I strongly believe that every strength has a corresponding weakness, and every weakness presents an opportunity for growth. Achieving balance in life requires managing both.

How can you contact me?	**How can you meet me for extra help?**		**When and where does the class meet?**
Dr. Vindya Pathirana (Dr. V) vindya.pathirana@uconn.edu	**In person** **Tuesdays** **11:00 AM – 2:30 PM** In **WTBY 312**	**Thursday** **9:30 AM – 12:30 PM** **(via Microsoft Team)** Use Nexus to make 20 minutes appointments.	**Monday/Wednesday** **1:25 PM – 3:05 PM** In **WTBY 327**

Important

- *Please note that you **cannot** schedule an appointment for online office hours on the same day.*
- *All times for in-person classes, due dates, and office hours (online and in-person) in this course are given in **US Eastern/Daylight Saving Time.***
- *Success on this course depends upon the amount of time and effort spent working through the homework to understand the material not the time and effort spent memorizing and imitating examples.*

Inclusion Statement

My goal is to foster an inclusive learning environment where all students are equipped with the tools they need to succeed and grow intellectually. To support students with diverse ways of thinking and learning, I have implemented innovative teaching methods that cater to various learning styles, encourage engagement, and allow for different forms of assessment. Together, we will create a cohesive community of learners where we can showcase our strengths, support one another, and appreciate the beauty and utility of mathematics.

What will You Learn in This Course?

This course is an introduction to differential and integral calculus, which is the mathematical language used in any science concerned with dynamically changing quantities. The main topics are limits, derivatives, integrals, the Fundamental Theorem of Calculus, and various applications of these ideas.

What is the Prerequisite?

A qualifying score of 22 on the Mathematics Placement Exam (MPE). Students who fail to achieve this minimum score are required to spend time on the preparatory and learning modules before re-taking the MPE or registering for a lower-level Mathematics course. Not open for credit to students who have passed MATH 1132Q or 1152Q.

- *It is assumed that the students have a working knowledge of all material covered in the prerequisite courses. Students are strongly encouraged to ask questions during class, instructor office hours, using Campuswire discussion board, and via e-mail.*
- *Regardless of the passing score on the MPE, students may need to periodically review essential Algebra topics throughout the semester to succeed in this course. This is especially beneficial for those who may not have a strong foundation in algebra skills.*

What is the Expected Weekly Time Commitment?

You should expect to dedicate 12 to 15 hours a week to this course. This expectation is based on the various course activities, assignments, and assessments and the University of Connecticut's policy regarding credit hours. (More information related to hours per week per credit can be accessed at the Online Student website).

Can I Use a Calculator?

Calculators are not allowed for exams and quizzes. However, scientific and/or Models TI-82, 83, 84, 84-plus may be used on Worksheets if needed. Calculators that can perform symbolic computations, such as models TI-89 and above (including TI-Nspire), are NOT permitted.

What are the Required Materials?

Do I Need to Buy the Textbook with WebAssign Access?

The optional course textbook is **Calculus: Early Transcendentals**, 9th Edition, by James Stewart or Single Variable Calculus: Early Transcendentals, 9th Edition, by James Stewart), which is almost identical to any recent edition of Stewart's textbook. However, you are *not required* to buy any course materials including WebAssign access for this course. The lecture notes will be provided in HuskyCT. However, it is strongly recommended that you read some calculus books in order to see additional examples and explanations. Here are two great options.

- Any recent edition of Calculus Early Transcendentals, Single Variable by James Stewart. The sections we will cover are the same for the 7th, 8th, and 9th editions, so any used copy will work.
- OpenStax Calculus found at https://openstax.org/details/books/calculus-volume-1 is a free online textbook covering the same topics.

What Topics will be Covered?

The course is divided into 3 Modules. Below is the list of topics for each unit as well as the schedule for the course:

Module 1: Limits and Derivatives.

Dates: August 31st → September 23rd

Sections covered:

- *The Tangent Line and Velocity Problem* (Stewart 2.1; OpenStax 2.1)
- *The Limit of a Function* (Stewart 2.2; OpenStax 2.2)
- *Calculating Limits using the Limit Laws* (Stewart 2.3; OpenStax 2.3)
- *The Precise Definition of a Limit* (Stewart 2.4; OpenStax 2.5)
- *Continuity* (Stewart 2.5; OpenStax 2.4)
- *Limits at Infinity; Horizontal Asymptotes* (Stewart 2.6; OpenStax 4.6)
- *Derivatives and Rates of Change* (Stewart 2.7; OpenStax 3.1)
- *The Derivative as a Function* (Stewart 2.8; OpenStax 3.2)

Exam 1: Wednesday, September 23rd

Module 2: Differentiation Rules.

Dates: September 24th → October 28th

Sections covered:

- *Derivatives of Polynomials and Exponential Functions* (Stewart 3.1; OpenStax 3.3)
- *The Products and Quotient Rules* (Stewart 3.2; OpenStax 3.4)
- *Derivatives of Trigonometric Functions* (Stewart 3.3; OpenStax 3.5)
- *The Chain Rule* (Stewart 3.4; OpenStax 3.6)

- *Implicit Differentiation* (Stewart 3.5; OpenStax 3.8)
- *Derivatives of Logarithmic and Inverse Trigonometric Functions* (Stewart 3.6; OpenStax 3.9)
- *Exponential Growth and Decay* (Stewart 3.8)
- *Related Rates* (Stewart 3.9; OpenStax 4.1)
- *Linear approximations and Differentials* (Stewart 3.10; OpenStax 4.2)

Exam 2: Wednesday, October 28th

Module 3: Applications of Differentiation, Antiderivatives and Integrals.

Dates: October 29th → December 7th

Sections covered:

- Maximum and Minimum Values (Stewart 4.1; OpenStax 4.3)
- The Mean Value Theorem (Stewart 4.2; OpenStax 4.4)
- What Derivatives Tell Us About the Shape of a Graph (Stewart ;4.3 OpenStax 4.5)
- Indeterminate Forms and l'Hospital's Rule (Stewart 4.4; OpenStax 4.8)
- Optimization Problems (Stewart 4.7; OpenStax 4.7)
- Antiderivatives (Stewart 4.9; OpenStax 4.10)
- The Area and Distance Problems (Stewart 5.1; OpenStax 5.1)
- The Definite Integral (Stewart 5.2; OpenStax 5.2)
- The Fundamental Theorem of Calculus (Stewart 5.3;OpenStax 5.3)
- Indefinite Integrals and the Net Change Theorem (Stewart 5.4; OpenStax 5.4)
- The Substitution Rule (Stewart 5.5; OpenStax 5.5)
- Area between Curves (Stewart 6.1; OpenStax 6.1)

Exam 3: Monday, December 7th

Dates to Remember:

Monday, August 31	Fall semester begins
Monday, September 7	Labor Day – No classes
Monday, September 14	Last day to add or drop a course without additional signature. Courses dropped after this date will have a "W" for withdrawal recorded on the academic record.
Monday, November 16	Last day to withdraw from a course.
Sunday, Nov 22 - Sunday, Nov 29	Thanksgiving Recess – No classes.
Friday, December 11	Last day of Fall semester classes.
Saturday, Dec 12 – Sunday, Dec 13	Reading Day.
Monday, Dec 14 - Sunday, Dec 20	Final Examinations.
Wednesday, December 23	Semester grades are due at 4:00 PM

Can I Use a Calculator?

Calculators are *not* allowed for quizzes or exams. However, scientific and/or Models TI-82, 83, 84, 84-plus may be used on WebAssign Homework and Worksheets. Calculators that can perform symbolic computations, such as models TI-89 and above (including TI-Nspire), are NOT permitted.

Can I use my Cell Phone?

Cell phones cannot be used as calculators. All cell phones must always be turned off and kept out of sight during the class, including exams.

What digital technology tools and equipment will you need for this course?

Some of the course assessments (Online worksheets) will require you to upload a pdf of your work. For this, you will need access to a device that will allow you to scan and save your work as a pdf document, such as a scanner or scanner app on a smartphone.

Zero Tolerance Policy

If a student is caught cheating on any of the assessment components whether it is a single homework, quiz, or exams regardless of the weight of the assessment towards the final grade, the student shall receive a **F** for the entire course and will be reported to the community standards office. **No exceptions.**

How will I be assessed on this course?

****** For all handwritten assessments, please note that all work must be shown ******

NO WORK = NO CREDIT

Final grades in the course will be computed via one of the following grading breakdowns (whichever yields a higher grade):

Grading Breakdown:

Option 1	Weight		Option 2	Weight	
Exam 1	15%		**Exam 1**	18%	
Exam 2	15%		**Exam 2**	18%	
Exam 3	15%		**Exam 3**	18%	
Final Exam	20%		**Final Exam**	26%	
Weekly In-Class Quizzes	15%		**AI-Supported Mini Projects**	10%	
AI-Supported Mini Projects	10%		**Online Worksheets**	10%	
Online Worksheets	10%				

Midterm Exams:

There will be *3-midterm exams* given during the semester

Exam 1 – Sections 2.1 – 2.3 and 2.5 – 2.8 **- Wednesday, September 23**
Exam 2 – Sections 3.1 – 3.6 and 3.8 – 3.10 **- Wednesday, October 28**
Exam 3 – Sections 4.1 – 4.4, 4.7, 4.9, 5.1 - 5.5 **- Monday, December 07**

Please Note: *Exam dates are tentative and subject to change depending on the progress of the course.*

Final Exam:

The final exam will be cumulative and contain written answer questions. The date and time for this will be announced later during the semester once the UCONN-Waterbury campus final exam schedule is available. More information can be found here.

Final Exam Policy — In accordance with UConn policy, students are required to be available for their final exam and/or complete any assessment during the time stated. If you have a conflict with this time, you must obtain official permission to schedule a makeup exam with the Office of Student Services at the Waterbury Campus. More information can be found here. If permission is granted, the student services office will notify the instructor. Please note that vacations, previously purchased tickets or reservations, graduations, social events, misreading the assessment schedule, and oversleeping are not viable reasons for rescheduling a final.

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In-class Quizzes:

There will be a 30-minute quiz at the beginning of each Wednesday's class (except on exam days), which includes topics discussed in the previous week (with exceptions). Each quiz will have two questions that require open-ended responses and will be graded out of 10. Each quiz will be offered during two consecutive weeks (with different questions), so there will be no makeup quizzes. If you miss it during first time, you have an opportunity to take it in the next week. Students can repeat a quiz. However, the maximum score you can obtain during your second attempt is 6 points (60%). The lowest quiz grade will be dropped when calculating the quiz average.

- ✓ *Please see the quiz information document for more details.*
- ✓ *If you choose to take two quizzes on the same day, you will receive the second quiz 15 minutes after the first quiz. I will collect the first quiz before handing out the second.*
- ✓ *Please see the course calendar for dates & sections for quizzes.*
- ✓ *Quiz dates are tentative and subject to change depending on the progress of the course.*

Online Worksheets:

For all sections covered (with few exceptions), there will be an associated worksheet given online via Gradescope, which is linked with the HuskyCT section. You are allowed to use your notes and textbook and also allowed to discuss with each other when completing an online (accessed through HuskyCT) worksheet. During a worksheet, using any other technology (search online, etc.) will be considered academic misconduct. The 3-lowest grades will drop, so there's no need for make-up worksheets. If you miss a worksheet for some reason, you can consider it as one of the dropped ones.

- ✓ *Please see the course calendar for due dates & sections for worksheets.*

AI-Supported Mini Projects:

Throughout the semester, you will be assigned approximately 4-6 AI-related mini projects. You must work on these with a partner. No exceptions. The objectives of these projects include, but are not limited to:

- Reviewing essential algebra skills for Calculus topics.
- Helping students' study efficiently for each exam.
- Connecting Calculus concepts with your area of study and real-world applications.
- Enhancing your ability to find necessary information, thereby improving your critical thinking skills and performance in the course.
- Creating a more customized, inclusive learning environment for you to learn the material and succeed in the course.

During the semester, we will use class time to discuss your ideas and the outcomes of these projects. For more details, please read the "AI-Supported Mini Project" document.

Grading Policy:

The plus/minus grading system will be used. If your overall percentage of total points falls into the following range, you will receive the corresponding grade:

GRADING SCALE			
$\geq 93\%$	**A**	[73%, 77%)	**C**
[90%, 93%)	**A-**	[70%, 73%)	**C-**
[87%, 90%)	**B+**	[67, 70%)	**D+**
[83%, 87%)	**B**	[63%, 67%)	**D**
[80%, 83%)	**B-**	[60%, 63%)	**D-**
[77%, 80%)	**C+**	$< 60\%$	**F**

Success in this course depends on the amount of time and effort spent working through the homework to understand the material, not the time and effort spent memorizing and imitating examples.

Will There be Any Extra Credit Opportunities?

Some extra credit opportunities will be available during the semester. All extra credit opportunities will be offered to the entire class. Extra credit assignments will not be available for individual students at any time.

Exam and Quiz Makeup Policies

What Happens If I Miss Final Exam?

In accordance with university policy, all requests to reschedule or makeup Final Exam must be submitted to the Dean of Students for approval. You may use this form to submit a request to reschedule a final exam. Please visit Waterbury Academic Resources and Student Services website for more information.

Please note that employment schedules, vacations, previously purchased tickets or reservations, graduations, social events (family reunions, etc.), misreading the assessment schedule, and oversleeping are not viable reasons for rescheduling the final exam.

What Happens If I Miss a Midterm Exam?

Missing an exam is serious. If you miss any mid-semester exams due to an **excused absence**, a makeup exam will be scheduled for **Wednesday, December 9** (the final Wednesday of the class).

Reasons that qualify for an excused absence include illness, the death of an immediate family member, other documented crises, military duty, court-imposed obligations (such as jury duty or subpoenas), religious observances, special requirements of other courses, and university-sponsored events (such as performances, games, judging trips, or field trips), as well as severe weather conditions.

Students must inform their instructor of any anticipated absences (for approved reasons mentioned above) at the beginning of the academic term or at least one week before the scheduled absence. This notification should specify any conflicts with scheduled exams or other assignments.

- *If you miss an exam, please get in touch with your instructor via UConn email as soon as you know about your absence, but no later than 24 hours after the exam.*
- *If you miss an exam due to a family emergency, such as a death in the family, or a health issue—whether physical or mental—it is essential to communicate with Student Services. They will notify all your instructors about your situation and ensure you receive the necessary support during this difficult time. Please note that if you do not reach out to your instructor and Student Services in such cases, the missed exam cannot be made up and will be recorded as a zero.*

- *Except in cases of medical absences, students must provide documentation to support their absence. All communications regarding absences must be conducted via UConn email.*
- *Please note that employment schedules, vacations, previously purchased tickets or reservations, graduations, social events (such as family reunions), misreading the exam schedule, and oversleeping do not qualify as valid reasons for a makeup exam.*
- *A student cannot make up more than one midterm exam during the semester.*
- *In rare cases, if a student misses two midterm exams due to excused absences, a temporary grade will be assigned. The date and time for making up the second missed exam will be agreed upon between the student and the instructor, based on their mutual availability. All communications regarding this must also be conducted via UConn email. More information on temporary grades is available here.*
- *Any other situations will be addressed on a case-by-case basis.*

What Happens If I Miss an In-class Quiz?

Each quiz will be available for two consecutive weeks, and no makeup options will be provided. If you miss the quiz during the first time it's offered, you will have the opportunity to take it in the following week. Exceptions may be made for extreme circumstances. In exceptional circumstances, such as a long-term health issue or family emergency that causes you to miss classes for two weeks—and therefore both attempts—you must contact Student Services and your academic advisor and notify me as well.

RESOURCES AND POLICIES

AAC Learning Labs

For extra help in this class, please be sure to visit the AAC learning labs.

HuskyCT and UCONN Email:

All students are provided with an official UCONN email address that is the primary means of communication between the students and the instructor outside of the class. All the class announcements and class notes will be posted on HuskyCT. Students should check HuskyCT regularly for class announcements and course materials. Additionally, students can view and track grades through HuskyCT.

Email policy:

Any email you send to your instructor must have the subject heading: "**MATH 1131Q-331**". In the body of the e-mail, you must identify yourself (first and last names).

Devices in the Classroom:
You are allowed to use an iPad, or a tablet (including surface pro) to take notes during the class. However, you are not authorized to use any other digital devices including cell phones, laptop computers, etc. in class. *You may be asked to leave the room in a situation if you were caught using one.*

Late Assignments: No late assignments will be accepted.

Request for Accommodations:
Student Disability Policy: The Center for Students with Disabilities (CSD) at UConn provides accommodation and services for qualified students with disabilities. If you have a documented disability for which you wish to request academic accommodation and have not contacted the CSD, please do so as soon as possible. Detailed information regarding the accommodations process is also available on their website or at www.csd.uconn.edu.

Academic Integrity and Disruption of Academic Process:
We expect the highest standard of academic integrity from our students. Any cheating will result in a failing grade for the assignment, quiz, or the exam, and possibly for the course. This course expects all students to act in accordance with the Guidelines for Academic Integrity at the University of Connecticut. Because questions of intellectual property are important to the field of this course, we will discuss academic honesty as a topic and not just a policy. If you have questions about academic integrity or intellectual property, you should consult your instructor. Additionally, consult UConn's guidelines for academic integrity.

Miscellaneous Policies:
- Please do not hold conversations, either with your classmates or your cell phones, during the lecture sessions. (Cell phones must always be turned off).
- State common law and federal copyright law protect my lectures, notes, handouts, assessments, and displays. Students are authorized to take notes in our class; however, this authorization extends only to making one set of notes for your own personal use and no other use. You must obtain permission from us if you wish to audio record or video record my lecture. If you are authorized to record my lectures, you may not copy this recording or any other material, provide copies of either to anyone else, or make a commercial use of them without prior permission from me. Posting any of my assessments, including but not limited to exams, quizzes, and solutions to recommended problems to any website or social media site violates this policy.
- Please refer to the References for Syllabi Links for more information regarding important university policies. For other issues not addressed in this syllabus see the UCONN Undergraduate Student Catalog.

Temporary Grades – I, N, or X: Please refer to office of the registrar/grades.
S-U Grade Policy: Please refer to office of the registrar/grades

The Courses with a Q Designation:
This course is a Q course, meaning that it has been approved as meeting the General Education requirements for Quantitative competency. It is a university requirement that Courses with a Q designation should have the following attributes:

- Mathematics and/or statistics at or above the basic algebra level must be an integral part and used throughout the course.
- Courses must include use of basic algebraic concepts such as formulas and functions, linear and quadratic equations and their graphs, systems of equations, polynomials, fractional expressions, exponents, powers and roots, problem solving and word problems. Formal abstract structures used in symbolic logic and other algebraic analyses are acceptable.
- Courses should require the student to understand and carry out actual mathematical and/or statistical manipulations and relate them to whatever data might be provided in order to draw conclusions. Merely feeding numerical data into a program on a computer or a calculator to obtain a numerical result does not satisfy this requirement. Technology should be viewed as a tool to aid understanding and not as a driver of content.

Your instructor reserves the right to make changes to the course syllabus and/or calendar for clarification, to correct any errors, or to adjust to the needs of the class (e.g. addressing learning pace, responding to student feedback, coping with unforeseen circumstances)

Last updated: 9/05/2026