MATH 1071Q – 331 **Calculus for Business and Economics** **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?		When and where does the class meet?
Dr. Vindya Pathirana (Dr. V) vindya.pathirana@uconn.edu	**In person** **Tuesday:** **11:00 AM – 2:30 PM** In **WTBY 312**	**Online** **Thursday** **9:30 AM – 12:30 PM** **(via Microsoft Team)** Use Nexus to make 20 minutes appointments.	****Monday** **9:30 AM – 10:45 AM** In **WTBY 201** **** (limited in-person meetings on Wednesdays)**

** *Wednesday Meeting Schedule:*

- Wednesday, September 30 **(Exam 1)**
- Wednesday, October 28 **(Exam 2)**
- Wednesday, December 02 **(Exam 3 Review)**
- Wednesday, April 09 **(Makeup Exam Day)**

***Please note that in-person meetings will take place every Monday. Although these meetings are optional, you can earn participation points by attending the in-person meetings on Mondays.*

Important!

- *As this course is offered in the **Hybrid Limited (HL)** format, there will be **limited in-person meetings** during the scheduled class times/days.*
- *You will have access to the course materials, including lecture notes, lecture recordings, and workout example recordings online in **HuskyCT**.*
- *Optional in-person meetings will be held every Monday for participation points.*
- *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.

How will the Lectures be Delivered?

All course instructions will be delivered remotely and asynchronously. You will have access to the course materials, including lecture notes, lecture recordings, and workout example recordings online on HuskyCT. The online videos can be watched anytime convenient, but I strongly urge you to watch them during the week they are listed on the Course Schedule.

The scheduled in-person meetings will be used for exam reviews and exams. All exams, including the final exam, will be conducted in person.

What will You Learn in This Course?

This course is an introduction to calculus and applications designed primarily for students majoring in business, economics, or the life and social sciences. We will cover essential concepts of differential and integral calculus.

What is the Recommended Prerequisite?

MATH 1011Q or the equivalent, and MATH 1070Q, and a qualifying score on the math placement assessment. Not open to students who have passed MATH 1110Q. Only one credit for students who have passed MATH 1121Q, 1131Q, or 1151Q. (Undergraduate Catalog). *It is assumed that the students have*

a working knowledge of the recommended preparation materials. Students are strongly encouraged to ask questions during instructor office hours, using HuskyCT discussion board, and via e-mail.

What is the Expected Weekly Time Commitment?

You should expect to dedicate 9 to 12 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).

What are the Required Materials?

Textbook:

OpenStax Calculus Volume 1: UConn Custom Business Calculus Edition. Available here:
https://www2.math.uconn.edu/ClassHomePages/Math1071/Textbook2

- Note that this book is a custom edition based on OpenStax Calculus Volume 1.
- You can download the original for free at https://openstax.org/details/books/calculus-volume-1.

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: Functions – A Review of Algebra and Introduction to Limits.

Dates: August 31st → September 30th

Sections covered:

- 1.1 – Exponents.
- 1.2 – Review of Functions: Part A.
- 1.3 – Review of Functions: Part B.
- 1.4 – Basic Classes of Functions: Part A, Lines.
- 1.5 – Basic Classes of Functions: Part B, Polynomials and Rational Functions.
- 1.6 – Mathematical Modeling.
- 1.7 – Exponential Functions.
- 1.8 – Logarithmic Functions.
- 2.1 – A Preview of Calculus.
- 2.2 – The Limit of a Function.

***Exam 1:** Wednesday, September 30th*

<u>Module 2</u>: Limits and Derivatives.

Dates: October 1st → October 28th

Sections covered:

- 2.3 – The Limit Laws.
- 2.4 – Continuity.
- 4.6 – Limits at Infinity and Asymptotes.
- 3.1 – Defining the Derivative.
- 3.2 – The Derivative as a Function.
- 3.3 – Differentiation Rules.
- 3.4 – Derivatives as Rates of Change.
- 3.6 – The Chain Rule.
- 3.9 – Derivatives of Exponential and Logarithmic Functions.

Exam 2: *Wednesday, October 28thh*

<u>Module 3</u>: Applications of Differentiation and Antiderivatives.

Dates: October 29th → December 7th

Sections covered:

- 4.1 – Elasticity of Demand.
- 4.2 – Linear Approximations.
- 4.3 – Maxima and Minima.
- 4.5 – Derivatives and the Shape of a Graph.
- 4.7 – Applied Optimization Problems.
- 4.8 – Antiderivatives.
- 5.1 – Approximating Areas.
- 5.2 – The Definite Integral.
- 5.3 – The Fundamental Theorem of Calculus.
- 5.5 – Substitution.

Exam 3: *Monday, December 7th*

Final Exam (CUMULATIVE): *During the final exam week (December 14 – December 18)*

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

Some of the course assessments (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. The software/technical requirements for this course include:

- HuskyCT/Blackboard access.
- Dedicated access to high-speed internet with a minimum speed of 1.5 Mbps (4 Mbps or higher is recommended).

Minimum Technical Skills -

- Save files in commonly used word processing program formats.

- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files and videos.

It is recommended (not mandatory) that you take Student Technology Training - a video training for students available on HuskyCT Institution page under "Useful Links for Students".

Can I Use a Calculator?

Scientific and/or certain graphing calculators will be allowed on worksheets, quizzes, exams, and the final.

- The TI-82, 83, 84, 84 plus, 85 or 86 models are recommended but not required.
- Calculators that can perform symbolic computations, such as models TI-89 and above, including TI-Nspire will not be permitted on exams or quizzes.

Although calculators are allowed, you must show all work on any written assignments or exams.

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.

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

How will I be assessed on this course?

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

NO WORK = NO CREDIT

Midterm Exams (53%):

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

Exam 1 –	**Sections 1.1 – 1.8, 2.1, 2.2**	**– Wednesday, September 30**
Exam 2 –	**Sections 2.3, 2.4, 4.6, 3.1 – 3.4, 3.6, 3.9**	**– Wednesday, October 28**
Exam 3 –	**Sections 4.1 – 4.3, 4.5, 4.7, 4.8, 5.1 – 5.3, 5.5**	**– Monday, December 07**

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

Final Exam (22%):

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 the 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.

Participation (12%):

As part of your participation grade, you are required to

(i) complete daily check-in quizzes posted on Campuswire.
(ii) interact with your peers through an online discussion board
(iii) attend in-person and/or virtual office hours to ask questions.
(iv) participate in Monday in-person discussion sessions.

You must earn 150 participation points during the semester to receive full credit for participation. Points can be earned in the following ways:

- ***Daily Check-in Quizzes:***
  A brief quiz will be posted on Campuswire daily after the assigned content. Each quiz will consist of 1-2 questions, each worth 4 points, and may include formats such as multiple-choice, true/false, or short answer. You are not required to show your work. The highest possible score

from these quizzes is 100 points, which will contribute to your participation score. Please note that makeup quizzes will not be permitted for any reason.

- ***Campuswire Class Feed, Office Hour Attendance, and Monday in-Person Meetings:***
  You can earn the remaining points by participating in person on Mondays, attending office hours, and engaging on the Campuswire discussion board by asking and answering questions. Each class participation and office hour attendance will earn you 4 points per session, with a weekly cap of 10 interaction points.

Online Worksheets (13%):

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 be dropped, 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.*
- ✓ *Completing worksheets without your notes/textbook can be beneficial for you during exams.*

Grading Breakdown:

EVENT	PERCENTAGE
Exam 1	15%
Exam 2	19%
Exam 3	19%
Final Exam	22%
Weekly Worksheets	13%
Participation	12%
Total	**100%**

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			
≥ 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**

Exam and Worksheet 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.*
- *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.*
- *Except in cases of medical absences, students must provide documentation to support their absence. All communications regarding absences must be conducted via UConn email.*
- *If you miss an exam because of a family emergency including a death in the family or a health issue (whether physical or mental)—it is essential to communicate with student services. They will inform all your instructors about your situation and ensure you receive the support you need during this challenging time. Without proper communication with student services, your request for a makeup exam may be denied. I will reach out to Student Services and your advisor to confirm this.*
- *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 Online Worksheet?

I will be dropping the 3-lowest worksheet grades, so if you miss a worksheet for any reason, you can consider that as one of your lowest grades. If you miss more than 3 worksheets and if you have valid/acceptable reasons for all of them (unless it is a medical reason and must provide documentation proof within 72 hours), the first 3 missing worksheets will be dropped, and you will be given a chance to make up the rest (maximum up to 3) during the final exam week. These makeup worksheets will be given in person, and you are allowed to use your notes/textbook.

What Happens If I Miss a Campuswire Quiz?

Quizzes are administered online, and you will have at least 24 hours to complete each. As a result, no makeup quizzes will be offered under any circumstances. It's important to note that you don't need to complete every quiz to earn the maximum participation points through Campuswire quizzes.

Will There be Any Extra Credit Opportunities?

Some extra credit questions may be available on each exam. All extra credit opportunities will be offered to the entire class. Extra credit assignments will not be available for individual students at any time.

RESOURCES AND POLICIES

HuskyCT and UCONN Email:

All students are issued an official UCONN email address, which serves as the primary means of communication between students and instructors outside of class. Communication with the instructor can also occur through the HuskyCT messaging system. Class announcements and notes will be posted on HuskyCT, so students should check the platform regularly for updates and course materials. Additionally, students can view and track their grades through HuskyCT.

Email policy:

Any email you send to your instructor must have the subject heading: "**MATH 1071Q**". 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.***

Zero Tolerance Policy

If a student is caught cheating on any of the assessment components whether it is a single worksheet, or an exam regardless of the weight of the assessment towards the final grade, the student shall receive an **F** for the entire course and will be reported to the community standards office.

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.

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
Late Assignments: No late assignments will be accepted.

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.
- For information about class cancellations or delays due to weather conditions, please visit alert.uconn.edu.

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 the 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)

Syllabus last updated: 8/28/2026