Math 1131Q – UCONN at Stamford – Spring Semester 2026 – Calculus I – Room DTWN 108 from January 21, 2026, to April 29, 2026, Mondays and Wednesdays 3:30 pm – 5:15 pm. *Comprehensive Final Exam on a date TBA in March 2026*

Instructor: Cristiano Husu E-mail: cristianohusu@sbcglobal.net, 203 329 0489 (do call between 9 am to 9 pm), cristiano.husu@uconn.edu, 203 251 9537.

OFFICE HOURS in person in room 108 or 334

Mondays, from 5:15 pm to 6:00 pm,

Tuesdays, from 4:45 pm to 5:30 pm,

Wednesdays, from 5:15 pm to 6:00 pm,

Thursdays, from 4:45 pm to 5:30 pm,

and additionally by appointment emailing cristianohusu@sbcglobal.net.

Lecture Notes: Detailed lecture notes will be available before each class. *(Recordings of the actual in person classes will be available via* webex.uconn.edu *.)*

Textbook: Calculus, Early Transcendentals, by J. Stewart, Chapters 1, 2, 3, 4, 5 and 6 (recommended but not required).

Course Description: The Tangent Line to the graph of a curve and the Velocity of a moving object, Limits, Rates of Change, Derivatives (a.k.a. Differentiation), Applications of Differentiation, Indefinite Integrals (a.k.a. Antiderivatives) and Definite Integrals using verbal (spoken, read and well written), geometric and visual, numerical and analytic methods.

Prerequisites: A passing score on the calculus readiness test.

Classwork and Homework: A written sample of each student work will be assigned every two weeks (and collected seven days after the assignment) to make sure that each students makes progress toward the objectives of the course.

Extra credit projects will be available during the semester for students who wish to understand further ramifications of Calculus that are not fully developed in our textbook nor in class.

Grading Procedure: The course grade will be the result of the sum of the following four numbers:

1) Classwork (active class participation, *asking questions before during and after class*, algebra and number skills, visual and geometry skills) and homework, 20 points (and 20% of the course grade),

2) The first examination on February 25, another 20 points (and 20% of the course grade),

3) The second examination on April 15, another 20 points (and 20% of the course grade),

4) The comprehensive final examination, on a date TBA, 40 points (and 40%. of the course grade),

5) *Additional points (an additional 1 through 5 points) via the extra credit work.*

A total of 90 points (or more) will correspond to the letter A grade for the course.

A total of 80 points (up to 89 points) will correspond to the letter B grade (or slightly higher, B+ or A-) for the course.

A total of 70 points (up to 79 points) will correspond to the letter C grade (or slightly higher, C+ or B-) for the course.

A total of 60 points (up to 69 points) will correspond to the letter D grade (or slightly higher, D+ or D-) for the course.

A total of 0 points (up to 59 points) will correspond to the letter F grade.

A day-by-day description of the course (with Stewart's book sections) follows below:

Weeks	Dates	*Sections*	Topics
1	1/21/26	2.1 and 2.2	*Four ways to learn Calculus: In English (reading and carefully writing), visually, as a number person and via algebra (and number) patterns*. The first two insights of calculus: the tangent line to the graph of a curve and the velocity of a moving object. *Introduction to differentiation.* The intuitive definitions of the limit of a function
	1/26/26	2.3 and 2.4	The limit laws and the precise definitions of limits
2	1/28/26	2.5	Continuity. The intermediate value theorem
3	2/2/26	2.7	*Differentiation, Part I.* Derivatives as *rates of change*
	2/4/26	2.8	*Differentiation, Part II.* The derivative function
4	2/9/26	3.1 and 3.2	*Differentiation, Part III.* Shortcuts to the derivative functions. Derivatives of polynomial functions. Derivatives of power functions (with a constant exponent), the power rule. Derivatives of products, quotients and of the natural exponential function
	2/11/26	3.3	*Differentiation, Part IV.* Derivatives of trigonometric functions
5	2/16/26	3.4	*Differentiation, Part V.* The Chain Rule (Derivatives of Composite Functions)
	2/18/26	3.5 and 3.6	Implicit Differentiation. Derivatives of Logarithmic Functions. *Review for the first examination on Velocities, Tangent Lines, Rates of Change and Derivatives*
6	2/23/26	3-9 and 3.10	Problem solving procedures for related rates problems. Linear approximations. Differentials
	2/25/26		*First Exam on Velocities, Tangent Lines, Rates of Change and Derivatives*
7	3/2/26	4.1	Maxima and minima (optima), Increasing and decreasing intervals. Critical values
	3/4/26	4.2 and 4.3	The mean value theorem. Graphing functions using the first derivatives. The first derivative test
8	3/9/26	4.4	Second derivatives, and higher order derivative functions. Graphing functions using the second derivatives. The second derivative test

	3/11/26	4.7	Problem solving procedures for 2-D, 3-D and business optimization problems. Maximizing and/or minimizing 2-D, 3-D and business problems
9	3/16/26		*Spring break*
	3/18/26		*Spring break*
10	3/23/26	2.6 and 4.4	Limits at infinity. Horizontal asymptotes. Indeterminate forms of limits
	3/25/26	4.9	*Antidifferentiation, Part I.* Antiderivatives (the indefinite integral). The "*stretched s notation with the enclosed differential symbol dx*". Introductory Examples. *Thinking backward about the rules of differentiation*
11	3/30/26	4.9	*Antidifferentiation, Part II.* Antiderivatives (the indefinite integral) as *reverse functional operators*. Comparing the Shortcuts to Differentiation (Sect. 3.1 and 3.2) with the similar shortcuts for indefinite integrals and a warning about the substantial difficulties of the indefinite integrals
	4/1/26	5.1 and 5.2	*Antidifferentiation, Part III.* Areas. Distances. Riemann sums. The definite integral as a limit of Riemann sums
12	4/6/26	5.3 and 6.1	*Antidifferentiation, Part IV.* The definite integral as a limit of Riemann sums, with an introduction to the Fundamental Theorem of Calculus *(the stunning link between measuring areas and computing antiderivatives of functions)*
	4/8/26	5.4	*Antidifferentiation, Part V.* Introduction to the table of integrals (the reference pages 6 through 10 in the textbook). The Fundamental Theorem of Calculus as the net change theorem (the definite integral of a derivative function). *Review for the second examination on Critical Inputs, Maxima, Minima, Business Optimization, 2-D, 3-D Optimizations and Antiderivatives*
13	4/13/26	5.5	The *u*-substitution (also known just as the substitution rule). Antiderivatives of composite functions (the Chain Rule for Antiderivatives. Thinking backward about the chain rule for derivatives
	4/15/26		*Second examination on Maxima, Minima, Optimization and Antiderivatives (just the Indefinite Integrals)*
14	4/20/26	6.1	Areas between curves.
	4/22/26	6.2	Introduction to volumes. Slicing and shelling

15	4/27/26		*Comprehensive Review for the Final Exam*
	4/29/26		Introduction to Calculus II techniques of integration, sequences and series
	May 4, 2026		*Comprehensive Final Exam (Rates of Change, Derivatives, Maxima and Minima of Differentiable Functions, Indefinite and Definite Integrals, Areas, Chain Rule and u-substitutions, FTC)*