

HNRS 2413 – Calculus I
Fall 2023

Professor: Dr. David Milan

Office: RBN 4006

Office Hours: 1:15-2:15pm MWF, or by appointment.

Email: dmilan@uttyler.edu

Office Phone: (903)565-5839 (email is best)

Web: class page on Canvas

Class Meeting Time: 10:30-11:55 MWF

Required Text:

Calculus Volume 1, by OpenStax. This is an open educational resource textbook. The online edition is available for free at <https://openstax.org/details/books/calculus-volume-1>. (There are print copies for about \$25. See the order link on the book's website.)

Prerequisites: Satisfy any of the following:

- C or better in a college trigonometry class (Math 1316 or equivalent),
- C or better in a department-approved college level precalculus course,

Course Description: A study of functions, limits, continuity, differentiation, applications of the derivative, the definite and indefinite integral, and applications of integration.

Student Learning Outcomes: Upon completion of this course, students should be able to do the following:

- Discuss the solution to the tangent and area problems involving limits, derivatives, and integrals.
- Use graphs of functions to determine limits, continuity, and differentiability at a point.
- Determine whether a function is continuous/differentiable at a point using limits.
- Differentiate combinations of common functions.
- Choose appropriate calculus concepts and techniques to model real-world situations and solve applied problems.
- Recognize and discuss the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.

Course Evaluation: Your grade will be based on:

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|-------------------------------|-----|
| Participation, and Attendance | 10% |
| Quizzes | 20% |
| Three Exams | 50% |
| Final Exam | 20% |

The grading scale will be no harsher than 90% = A, 80% = B, 70% = C, 60% = D

Important Dates:

September 1: Census date: date to withdraw without penalty, grade replacement deadline.

October 30: Last day to drop course with a W.

Wednesday, December 6: Final Exam from 10:15am to 12:15pm

Approximate Daily Schedule

| | | Monday | Wednesday | Friday |
|-----------|-------------------|----------------------|------------------|---------------|
| 1 | Aug. 21 – Aug. 25 | Intro. | 2.1 | 2.2 |
| 2 | Aug. 28 – Sep. 1 | 2.3 | 2.4 | 2.5 |
| 3 | Sep. 4 – Sep. 8 | Labor Day | 2.5 | 3.1 |
| 4 | Sep. 11 – Sep. 15 | 3.1 | Review | Test 1 |
| 5 | Sep. 18 – Sep. 22 | 3.2 | 3.3 | 3.3 |
| 6 | Sep. 25 – Sep. 29 | 3.4 | 3.5 | 3.6 |
| 7 | Oct. 2 – Oct. 6 | 3.6 | 3.7 | 3.7 / 3.8 |
| 8 | Oct. 9 – Oct. 13 | 3.8 | Review | Test 2 |
| 9 | Oct. 16 – Oct. 20 | 3.9 | 3.9 | 4.1 |
| 10 | Oct. 23 – Oct. 27 | 4.3 | 4.4 | 4.4 |
| 11 | Oct. 30 – Nov. 3 | 4.5 | 4.7 | 4.8 |
| 12 | Nov. 6 – Nov. 10 | Review | Test 3 | 5.1 |
| 13 | Nov. 13 – Nov. 17 | 5.2 | 5.2 | 5.3 |
| 14 | Nov. 20 – Nov. 24 | Thanksgiving Holiday | | |
| 15 | Nov. 27 – Dec. 1 | 5.4 | 5.5 | Review |
| F | Dec. 4 – Dec. 8 | | Final | |

Participation and Attendance: Daily attendance and participation will be recorded and will factor into your course grade. Students will present their work at the beginning of class on days when there is not a quiz or test.

I will keep a tally of the number of times students present *high quality* work and the number of times they make *useful* comments during other students' presentations. I will also note absences from class in this portion of the grade. In order to do well, students should make an effort to attend all classes and to finish assigned problems before the next class meeting.

Homework: Homework will be assigned each day. Completing the assigned homework on time is crucial to student success in this course. Though I will not collect homework for a grade, students will present their answers in class. The weekly quiz will be based on the assigned homework.

Tests and Final Exams: There will be 3 tests and a comprehensive final exam. A preliminary list of the test dates is given above. At least one week advanced notice of any change in test dates will be given.

Quizzes: There will be a quiz each week unless a test is scheduled for that week. The material will be very similar to the daily homework that is assigned the week before the quiz.

Make-ups: Make-ups for **documented** absences that are **required** as part of a UT Tyler obligation (e.g. athletes participating in an event, participating in a debate contest, etc.) or for religious observation will be granted. For all make-ups of this type, prior notification of at least one week and documentation are required. Other make-ups are granted only in extreme cases and at the sole discretion of the instructor.

Calculator Policy: No calculators will be allowed on quizzes or tests. Occasionally, you might want to use Mathematica or a calculator on the homework.

Policies: See <https://www.uttyler.edu/academic-affairs/files/syllabuspolicy.pdf> for these important University policies: UT Tyler Honor code, student rights and responsibilities, campus carry, UT Tyler a tobacco-free university, grade replacement and forgiveness, state-mandated course drop policy, student accessibility and resources, student absence for university-sponsored events, social security and FERPA, emergency exits and evacuation, and student standards of academic conduct.