Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: https://catalog.uvu.edu/

Semester: Spring
Year: 2025
Course Prefix: MATH
Course and Section #: MATH 1210 07
Course Title: Calculus I
Credits: 4

Course Description

Prerequisite(s): One of the following within the past two years: (MATH 1050 or MATH 1055) and MATH 1060, each with a grade of C or higher; OR MATH 1080 with a grade of C or higher; OR appropriate placement by math placement test.
Covers limits, continuity, differentiation, applications of differentiation, integration, and applications of integration, including derivatives and integrals of polynomial functions, rational functions, exponential functions, logarithmic functions, trigonometric functions, inverse trigonometric functions, and hyperbolic functions. Is a prerequisite for calculus-based sciences.

Course Attributes

This course has the following attributes:
☒ General Education Requirements
☐ Global/Intercultural Graduation Requirements
☐ Writing Enriched Graduation Requirements
☒ Discipline Core Requirements in Program
☐ Elective Core Requirements in Program
☐ Open Elective
Other: *Click here to enter text.*

Instructor Information

Instructor Name: Matthew Potter

Student Learning Outcomes

Covers limits, continuity, differentiation, applications of differentiation, integration, and applications of integration, including derivatives and integrals of polynomial functions, rational functions, exponential functions, logarithmic functions, trigonometric functions, inverse trigonometric functions, and hyperbolic functions. Is a prerequisite for calculus-based sciences.

Course Materials and Texts

Open Stacks Calculus Volume 1
Gilbert Strang, Massachusetts Institute of Technology
Edwin “Jed” Herman, University of Wisconsin-Stevens Point

Course Requirements

Course Assignments, Assessments, and Grading Policy

Procedures

Homework

Homework is the personal responsibility of the student. It is necessary to complete all homework assignments to master the concepts of this course. To ensure your success in this class and future math classes, it is to your benefit to complete all assignments. Homework assignments are due weekly and before relevant tests. Homework assignments will be completed online through Lumen or Canvas. Keep in mind that working the assigned problems only once may not be enough for you to master the concepts covered. To enhance your chances of making a good grade, you should consider working all the assigned problems several times in full written and explained form.

Quizzes

These will be hand written responses to online posted PDF (printable) before the relevant tests. There will be helpful questions but not required.

Attendance

Suggested in person, but online reviewable the Course Media by date as recording allows.

Exams

There will be 3 or 4 midterm exams and a comprehensive final exam. No notes or textbooks are allowed on exams. Exams will be taken in class on the dates indicated below. Exam problems are similar to problems from the homework or problems discussed in class. No midterm scores will be dropped. However, the lowest midterm score will be replaced by the final exam score (based on sections of the final) if it improves the student's grade. All midterm exams have a 50-minute time limit. The final exam has a time limit of 1 hour and 50 minutes. Scientific calculators allowed at the discretion of the instructor. No algebra or graphing tools allowed.

The dates for the exams will be as follows:

- Midterm 1: Around Jan 22nd Module 1 Limits
- Midterm 2: Around Feb 26th covering Module 2 Derivatives
- Midterm 3: Around April 3rd covering Module 3 f ' and f " (Derivatives as functions)
- Midterm 4: (if offered) Around April 22nd cover integration intro.

Final Exam: Wednesday 30-Apr 1pm-2:50pm Comprehensive

It is University policy to have final exams as scheduled by the University. Extenuating circumstances may allow for a modification of this date, but these should be approved with the instructor in advance. **Note that a scheduled flight before your final exam is itself not an acceptable reason for rescheduling your exam!** Failure to take the final exam will result in a grade of UW or E (based on last date of attendance/participation) for the course regardless of other grades. Final exam dates and times can be found by going to https://www.uvu.edu/academicscheduling/exam_schedule/Links to an external site.

Links to an external site. and filling in the information related to your course. For block courses and Summer courses, the final exam is given the last day of the course.

If you are aware in advance of a circumstance that will cause you to miss a scheduled exam, including a University-excused absence, notify your instructor immediately to make arrangements for an alternative exam. In the event of one of the following extenuating circumstances that cannot be foreseen, predicted, or averted, your instructor will work with you in arranging another exam time.

- Immediate family death,
- Accident or serious injury,
- Pregnancy complications, including but not limited to unexpected delivery,

- Military obligations.

Your instructor may ask for documentation, such as a doctor's note or an obituary or funeral program, to verify your circumstances. Other items are left to the instructor's discretion.

Grading of Exams

Your work will be graded for clarity of presentation, neatness, and accuracy. Correct answers without justification earn no credit, unless otherwise indicated. All work required to solve a problem must be shown. Partial credit will be given when substantive progress towards the solution is detected. If you feel your paper was graded incorrectly, point it out to the instructor the day your exam is returned to you.

Calculator Policy

A scientific (non-graphing) calculator is allowed on all homework and exams. No phone-based calculators or other smart device calculators are allowed.

Grading

Grade Scale

A = 100-93	B - = 82-80	D+ = 69-67
A - = 92-90	C+ = 79-77	D = 66-63
B+ = 89-87	C = 76-73	D - = 62-60
B = 86-83	C - = 72-70	F = 59-0

Grade Breakdown

Your grade for this class will be computed as follows:

- Homework: 20%
- Midterms (4 total): 60%
- Final Exam: 20%

Required or Recommended Reading Assignments

Open Stacks Calculus Volume 1
Gilbert Strang, Massachusetts Institute of Technology
Edwin "Jed" Herman, University of Wisconsin-Stevens Point
Chapters 1 through 5

General Description of the Subject Matter of Each Lecture or Discussion

Chapter 2 Limits

2.1 A Preview of Calculus
2.2 The Limit of a Function
2.3 The Limit Laws
2.4 Continuity
2.5 The Precise Definition of a Limit

Chapter 3 Derivatives

Introduction
3.1 Defining the Derivative
3.2 The Derivative as a Function
3.3 Differentiation Rules
3.4 Derivatives as Rates of Change
3.5 Derivatives of Trigonometric Functions

3.6 The Chain Rule
3.7 Derivatives of Inverse Functions
3.8 Implicit Differentiation
3.9 Derivatives of Exponential and Logarithmic Functions

Chapter 4 Applications of Derivatives

Introduction
4.1 Related Rates
4.2 Linear Approximations and Differentials
4.3 Maxima and Minima
4.4 The Mean Value Theorem
4.5 Derivatives and the Shape of a Graph
4.6 Limits at Infinity and Asymptotes
4.7 Applied Optimization Problems
4.8 L'Hôpital's Rule
4.9 Newton's Method
4.10 Antiderivatives

Chapter 5 Integration

Introduction
5.1 Approximating Areas
5.2 The Definite Integral
5.3 The Fundamental Theorem of Calculus
5.4 Integration Formulas and the Net Change Theorem
5.5 Substitution

Required Course Syllabus Statements

Generative AI
Students are allowed to use AI for out of class support but are reminded AI is not perfect, nor always correct. No AI is allowed on testing, homework is at your own risk.

Using Remote Testing Software
☒ This course does not use remote testing software.

☐ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities
Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU Accessibility Services at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity
At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in UVU Policy 541: *Student Code of Conduct*.

Equity and Title IX
Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation
UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a specially dedicated space for meditation, prayer, reflection, or other forms of religious expression.