Essential Information

Website	uaf-math251.github.io
Prerequisite	MATH F151X and MATH F152X; or MATH F156X; or placement.
Required Text	*Calculus: Early Transcendentals 8th Edition*, James Stewart, ISBN-13: 978-1285741550
Required Material	WebAssign Access Code (discussed below)

Class Time

In the synchronous sections, there are **five** hours of class meetings every week, one hour daily. Tuesday is a recitation hour with a Teaching Assistant, while the remaining days are a lecture with your instructor. Classes will meet over Zoom. Classes will include traditional lectures as well as group work.

Tentative Schedule

The course website contains a schedule for the semester listing the topics to be covered each class, the dates each assignment is due, the topics of every quiz, and so forth. You should consult this schedule routinely. Any minor adjustments to the schedule will be announced in advance.

Office Hours and Communication

Instructors will schedule formal office hours, which will be listed the main course webpage.

Class announcements will be made using Blackboard. Instructors will contact students via their UAF email address so it will be important to check this account regularly.

We will use Discord for text-based questions, answers, and calculus-based chat. Information for how to access this is available on the Calculus I Website.

Online Course Materials

Most course materials (e.g., this syllabus, quiz/exam solutions, study materials, etc.) will be posted on the course webpage. Certain course materials, namely **grades** and **solutions to the written homework**, are available on Blackboard, which you can access via the main course website.

Description, Course Goals & Student Learning Outcomes

Calculus collects many of the best tools in mathematics. It has applications in all the sciences, in engineering, and it is part of the UAF core curriculum.

The two main tools in calculus are **differentiation** and **integration**, both of which are **limits**. Differentiation concerns how changes in one variable affect another. (How does a population of bacteria change as time changes? How does the temperature of the ocean change as depth increases?) Integration is the process of adding many small parts. Surprisingly, it reverses differentiation.

Students completing the course will have the mathematical foundation to be successful in Calculus II and other courses requiring this background. Specifically, students will be able to

- understand the role of limits in the definitions of continuity and derivatives,
- compute elementary derivatives from the definition,
- develop the skills to compute standard derivatives,
- be able to apply derivatives to common types of applied problems,

- understand the definition of the the definite integral,
- be able to apply the Fundamental Theorem of Calculus to compute definite integrals,
- be able to apply integration to common types of applied problems.

Evaluation and Grades

Grades are determined as follows. (Each component of the grade is discussed below.)

Webassign Homework	5%
Written Homework	5%
Quizzes	8%
Notes/Worksheets	2%
Midterm 1	17.5%
Derivative Proficiency	10%
Midterm 2	17.5%
Integral Proficiency	10%
Final Exam	25%
total	100%

Letter grades will be assigned according to the following scale. This scale is a guarantee; the instructors reserve the right to lower the thresholds.

A+	97–100%	C+	77–79%	F	< 60%
A	93–96%	C	70–76%		
A-	90–92%	C-	not given		
B+	87–89%	D+	67–69%		
B	83–86%	D	63–66%		
B-	80-82%	D-	60–62%		

Homework

Homework in this class comes in two varieties: online homework via WebAssign, and daily homework on paper.

Daily Homework

You should write careful, neat answers to each of the $2-3$ daily homework problems for each day with DH listed on the schedule. These problems should be scanned (using your smartphone and an app such as GeniusScan) and uploaded to Gradescope by **8 AM** the day of your class. Each class day, your instructor will select a solution for each problem from those posted to Gradescope, and these solutions will be discussed at the beginning of each class. You should work to present the clearest solutions you can, and your classmates will suggest revisions to make the solution better.

Presentation matters. You must show all relevant work, your writing should be legibile, and it should be easy for your classmates to follow your reasoning. Remember, your work will (anonymously) be displayed to your classmates!

The goal of the Daily Homework is to allow you to practice presenting a solution suitable for reading by another human being. You are encouraged to work with others to solve these problems, and you have access to the Math Lab to get help. However, when you write up your final solutions, you should do so on your own.

Daily Homework problems are graded on completion: each problem will be graded on a 0 / 1 / 2 rubric, where 0 means nothing was uploaded, 1 means the problem statement was uploaded, and 2 means there was a reasonable approach to solving the problem. We will drop the lowest **five** DH scores.

WebAssign

WebAssign homework will be assigned multiple times each week and is graded by the computer. These problems consist of more routine exercises and and allow you to receive immediate feedback on correctness. You are welcome to use your textbook and a calculator to help solve these

problems, but the use of more sophisticated tools (e.g., Wolfram Alpha) will undermine the benefit to you of the homework, and may leave you unprepared for the quizzes and exams.

Logistics:

- You will need a WebAssign code. Texts purchased from the UAF bookstore include one; otherwise, a code can be purchased from WebAssign directly. WebAssign can be used for two weeks in a "trial" period, which you can take advantage of if you are uncertain about your placement in this class.
- Instructions for logging in to WebAssign can be found on the course website.
- You (usually) get 5 chances to get a problem correct.
- Each assignment is due at 11 pm.
- You may request an automatic 3-day extension.
- Each WebAssign assignment is equally weighted.
- Your lowest assignment is dropped.

Recitation and Quizzes

The recitation time is focused on reviewing material from the previous week, asking questions related to this material, preparing for quizzes and exams, and taking the weekly quiz.

For synchronous recitations, there will be a half-hour of question and answer time and/or working on targeted problems. During the second part of the recitation time, you are encouraged to take the quiz (but this is not required; see below).

The quiz will cover the material taught in the classes held since the previous quiz; specific topics can be found in the schedule on the course website.

Logistics:

- Quizzes are equally weighted.
- Quizzes will be available until 11 PM on Tuesday. During the time the quizzes are available, you need to identify a convenient 40 minute time period during which you can download the quiz from Gradescope, print the quiz, take the quiz, (photo)scan the quiz, and upload the quiz back to Gradescope.
- If you have technical issues during any part of this process, you need to **immediately** contact your instructor.
- Make up quizzes are at the discretion of the instructor.
- You should not use calculators, notes, or books; quizzes are intended to let you practice for exams.
- Your lowest quiz grade will be dropped.

Solutions to quizzes will be posted on the course webpage after the quizzes have been graded.

Midterms

There are two midterm exams this semester, to be held on the dates in the schedule on the course website. The midterms are the same for all sections; they are prepared and approved by all instructors teaching the course.

Make-up midterms will be given only in negotiation with your instructor.

Proficiencies

A proficiency is an exam covering a routine skill. In this course we have two of these, one for derivatives and one for integrals, on the dates listed in the online schedule. Proficiencies consist of 12 problems and will be graded on a binary scale for each problem (no partial credit). Students who score 10, 11, or 12 on the first attempt are awarded their score. Students who score strictly less than 10 points on the proficiency are offered one opportunity to retake the proficiency; if they score 10, 11, or 12 on the second attempt, they are awarded a score of 10/12 (83%) for the proficiency; otherwise, they are awarded the average of their two scores.

Final Exam

The cumulative final exam will be held at the day/time listed in the online schedule. A make-up or early final exam will be given only in extenuating circumstances, for documented reasons and at the discretion of the instructors.

Tutoring and Resources

- If you have questions, you are encouraged to ask your instructor and classmates on the course Discord. (Someone else might have the same question as you! And it's more fun doing math with other people.)

- You also are definitely encouraged to ask questions during office hours, or just email your instructor to set up a Zoom appointment if you have a conflict during office hours.

- The Math and Stat Lab, Chapman Building Room 305, offers online tutoring by appointment. You must schedule an appointment at `www.uaf.edu/dms/mathlab`.

- Student Support Services offers free tutoring in many subjects to students who qualify for their program.

- ASUAF offers private tutoring for a small fee (based on student income).

Rules and Policies

Participation and Attendance

Class and recitation attendance is mandatory. Students who stop participating in the course may be withdrawn. Examples of inadequate participation include, but are not limited to:

- missing class five times

- not completing or not turning in multiple daily homework assignments

- failing to participate in classroom activities

- repeatedly failing tests and quizzes with no attempt at remediation

Disability Services

The Office of Disability Services implements the Americans with Disabilities Act (ADA), and ensures that UAF students have equal access to the campus and course materials. The instructors will work with the Office of Disability Services (208 Whitaker, 474-5655) to provide reasonable accommodations to students with disabilities.

Student Protections and Services

Every qualified student is welcome in our classes. As needed, we are happy to work with you, Disability Services, Military and Veteran Services, Rural Student Services, etc. to find reasonable accommodations. Students at this university are protected against sexual harassment and discrimination (Title IX), and minors have additional protections. *As required,* if we notice or are informed

of *certain types* of misconduct, then we are required to report it to the appropriate authorities. For more information on your rights as a student and the resources available to you, please go to the following site: www.uaf.edu/handbook.

COVID-19
Students should keep up-to-date on the university's policies, practices, and mandates related to COVID-19 by regularly checking this website:

https://sites.google.com/alaska.edu/coronavirus/uaf/uaf-students.

Further, students are expected to *adhere* to the university's policies, practices, and mandates and are subject to disciplinary actions if they do not comply.

Incomplete Grade
Incomplete (I) will only be given in DMS courses in cases where the student has completed the majority (normally all but the last three weeks) of a course with a grade of C or better, but for personal reasons beyond his/her control has been unable to complete the course during the regular term. Negligence or indifference are not acceptable reasons for the granting of an incomplete grade. If you have issues (e.g., with COVID), please communicate early and often with your instructor.

Late Withdrawals
A withdrawal after the deadline (currently 9 weeks into the semester) from a DMS course will normally be granted only in cases where the student is performing satisfactorily (i.e., C or better) in a course, but has exceptional reasons, beyond his/her control, for being unable to complete the course. These exceptional reasons should be detailed in writing to the instructor, department head and dean.

No Early Final Examinations
Final examinations for DMS courses shall not be held earlier than the date and time published in the official term schedule. Normally, a student will not be allowed to take a final exam early. Exceptions can be made by individual instructors, but should only be allowed in exceptional circumstances and in a manner which doesn't endanger the security of the exam.

Academic Dishonesty
Academic dishonesty, including cheating and plagiarism, will not be tolerated. It is a violation of the Student Code of Conduct and will be punished according to UAF procedures.

Habits that Increase Success
The items listed below are things a student can do to increase the amount of material learned and his/her chances of ending the semester with a passing grade. The items are based on a combination of internal and nation-wide studies.

1. Attend and participate in **every** class.

2. Make a weekly schedule that includes at least 10 hours set aside for Calculus I **in addition** to class attendance. **

3. Work every problem on every homework assignment (written or online) **independently**. Check your answer and get help quickly when you have questions.

4. Take quizzes seriously. Prepare for them and rework **all** missed problems on a blank copy of the quiz. Note that "rework" is not the same is "looking over" missed problems.

** A student who attends every class and has solid prerequisite knowledge should expect to spend roughly 10 hours outside of class working homework, preparing for quizzes, and going over notes/worksheets/videos from class. If a student skips class and/or has weak prerequisite knowledge, this course will require more. **Schedule** these Calculus Study Hours the same way you schedule class meetings or work hours.