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 (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 some traditional lectures as well as group work, along with videos to watch outside of class.

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 on 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 daily 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 meets General Education Requirements, in particular **Learning Outcome 1**:

> Build knowledge of human institutions, sociocultural processes, and the physical and natural world through the study of the natural and social sciences, technologies, **mathematics**, humanities, histories, languages and the arts. Competence will be demonstrated for the foundational information in each subject area, its context and significance, and the methods used in advancing each.

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.

Learning in the time of COVID

We recognize that this semester is unlike any semester in the last 100 years. Frequent bi-directional communication will be the key to our joint success.

- If some way the class is set up isn't working for you, please let your instructor know!
- If something goes sideways for you, please email or call your instructor and we can sort out how to help.
- If you get sick and can't finish something, let your instructor know as soon as possible and we'll see what we can work out.
- If you need someone to talk to about non-mathematical questions, Student Mental Health Services offers folks to talk to, with free options. In particular, they offer **Telehealth check-ins** "for times when you feel you could use a little support, want to learn about skills you can use to maintain or improve your mental health, or you aren't sure if you?re coping well and could use a professional perspective". Call 907-474-7043 to schedule.

Evaluation and Grades

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

Webassign Homework	5%
Daily 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 something was written down as work for the problem, 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.

You can request an automatic extension in WebAssign up to 7 days after the due date. Your extension will be for 5 days, and you will be assessed a 10% penalty on all problems submitted **after** the due date.

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.
- Log in to WebAssign from Blackboard (link on sidebar on left-hand side)
- You (usually) get 5 chances to get a problem correct.
- Each assignment is due at 11 pm.
- You may request an automatic 5-day extension on each WebAssign assignment.
- Each WebAssign assignment will be equally weighted in the final grade computation.
- 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 on a quiz day (except for 8/25/2020) 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 you are not required to take it during this specific time; 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 or download it to a device, 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. Include screenshots if possible.
- 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.

Blank quizzes and 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.

Proctoring assessments

We hope to be able to proctor midterms, proficiencies, and the final exam in person for students who can attend and who feel comfortable taking their assessments in person; other arrangements will be made for other students. Details are still being worked out for this.

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. Schedule an appointment at www.uaf.edu/dms/mathlab. We're trying to sort out the technological challenges of drop-in tutoring; details TBD.
- 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

Zoom Classtime

Classtime for the synchronous sections, and recitations for both synchronous and asynchronous sections, will be held via Zoom.

- Please mute your audio when you are not speaking so that background noise does not disrupt the class.
- You may choose to turn off your video when you are not speaking (especially if it slows down the connection).
- If possible, please turn on your video when you are speaking.
- Please post a clear headshot of yourself to your Zoom profile, so that your instructor and classmates can see who they're interacting with.
- Please use the Zoom "raise hand" feature to ask questions.
- Please use Zoom reactions as quick check-ins. Note that upgrading to the latest version of Zoom gives a wider variety of possible reactions!
- I will stop for questions regularly. Politely interrupt me if necessary.
- I will call on students by name to answer questions in class. You can always say "pass" if you don't want to answer.
- I don't mind chit-chat in the chat window, but keep it focused on class, and please ask questions out loud.
- Please try to participate and pay attention in class and don't multitask by checking email or twitter or whatever.
- Everyone should participate in the small group discussions.

Participation and Attendance

Class and recitation attendance is expected. Students who stop participating in the course may be withdrawn. If you have technological limitations to participating in class you need to email/call your instructor to sort things out as soon as you can. Examples of inadequate participation include, but are not limited to:

- 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

Recordings

Our zoom sessions will be recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. Recordings will only be made available on Blackboard to other students in the class and will be deleted at the end of the semester.

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.