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)
Optional Material	*Student Solutions Manual for Stewart's Single Variable Calculus: Early Transcendentals, 8th Edition* ISBN-13: 978-1305272422 (Solutions to odd-numbered exercises; available on Amazon)

Class Time

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. Times and locations are available on the course website. 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.

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.

Weeks 1 & 2 Logistics

The first week of the course is devoted to prerequisite review. The homework and quiz mechanics for the first two weeks are different from the remainder of the semester.

Instead of the usual homework, you will be working with a program called ALEKS PPL to refresh past skills, and the first quiz will be an ALEKS-based test.

Evaluation and Grades

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

Webassign Homework	5%
Written Homework	5%
Quizzes	15%
Midterm 1	15%
Derivative Proficiency	10%
Midterm 2	15%
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 written homework on paper. For both types of homework, answers to all of the problems are available in advance. Thus, the purpose of homework is for you to practice on your own. It should be clear that we are providing you with answers so that you can check your work. Merely copying the solutions is not an effective way to learn mathematics.

Written Homework

Written homework is due approximately weekly according to the schedule found on the main course website, typically every Monday. Solutions are posted on Blackboard; thus, homework is graded base on completion. Late homework is not accepted. No homework grades are dropped. All written homework assignments are equally weighted.

The written homework is **due at the start of your lecture** on the day it is due.

WebAssign

WebAssign homework will be assigned multiple times each week. These problems consist of more routine exercises and and allow you to receive immediate feedback on correctness. Answers will appear in WebAssign after a first attempt at a problem.

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.
- Each assignment is due at 11 pm.
- You may request an automatic 3-day extension though you will only be allowed to earn back half the remaining points.
- Each WebAssign assignment is equally weighted. No scores are dropped.

Recitation and Quizzes

The recitation hour 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.

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. Quizzes are equally weighted, and are given under testing conditions; books, notes, and calculators are not allowed. **Performance on the quizzes is a better indicator of exam performance and how well you are learning the course material than homework which may be done with the input of tutors/friends/internet/etc.**

Quizzes cannot be made up except with a documented excused absence. No quiz grade will be dropped. Solutions to quizzes will be posted on the course webpage.

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 for documented excused absences.

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 will be graded on a binary scale for each problem (no partial credit). Students who do not pass a proficiency are **required** to retake it. A student who does not pass a proficiency and does not attempt a retake will earn a grade of 0 for that proficiency. There are three opportunities to take the Derivative Proficiency and two opportunities to take the Integral Proficiency. Details will be announced prior to each proficiency.

Final Exam

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

Tutoring and Resources

- The Math and Stat Lab, Chapman Building Room 305, offers walk-in tutoring, with no appointment needed. See www.uaf.edu/dms/mathlab for schedules and availability.

- Free one-on-one (or small group) tutoring is available in Chapman 210. 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 will be withdrawn. Examples of inadequate participation include, but are not limited to:

- missing class five times
- not completing or not turning in **three** written 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.

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.

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. 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 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.