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` (Contains 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 TA, and 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. We may make minor adjustments to the schedule, which will be announced in advance.

Office Hours and Communication

Individual instructors will schedule formal office hours, which will be listed on web sites accessible from the main course webpage.

We will use the Piazza social media site for announcements and after-class questions and discussions. See the course web page for instructions on how to sign up.

Additionally, we may use your `@alaska.edu` e-mail to contact you. If you do not check email at that address regularly, you need to forward email from it to an account that you do.

Online Course Materials

Most course materials (e.g., this syllabus, quiz/exam solutions, study materials, etc.) will be posted on the course webpage. In addition, some course materials (grades, written homework solutions) will be available on BlackBoard, which you can access via the main course website.

Description, Course Goals & Student Learning Outcomes

Calculus is one of mathematics' premiere computational tools. It has pervasive applications in all the sciences and is part of the UAF core curriculum. The two principal tools of calculus are differentiation and integration. 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, on the other hand, is a kind of reverse process to 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

- understand the role of limits in the definition of a derivative and be able to compute elementary derivatives from this definition,
- understand the definition of a continuous function and identify continuous/discontinuous functions,
- 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 appply 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 subsequently in the syllabus.

Webassign Homework	7.5%
Written Homework	7.5%
Quizes	15%
Midterm 1	15%
Derivative Proficiency	7.5%
Midterm 2	15%
Integral Proficiency	7.5%
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%	

Weeks 1 & 2 Logistics

The first week of the course is devoted to prerequisite review, and 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 working with a program called ALEKS PPL to refresh past skills, and the first quiz will be an ALEKS-based test. During the first weeks you will:

- enroll in the Fall 2018 Calculus I Cohort of ALEKS PPL,
- complete an initial placement test (approx 1-2 hours) by Wednesday August 29 at 11:59pm,
- complete 90% of the ALEKS pie OR spend 10 hours in Learning Mode by Monday, September 3 at 11:59pm which will count as your first homework grade,
- complete a proctored ALEKS PPL test (approx 1-2 hours) on Tuesday, September 4, which will count as your first **two** quiz grades.

There will not be a standard recitation on September 4. Rather, you will schedule a time slot to take your PPL test at the UAF library.

Homework

Homework in this class comes in two varieties: online homework via WebAssign, and written homework.

Written Homework

Written homework is due approximately weekly according to the schedule found on the main

course website, typically every Monday. Homework is **due at the start of your lecture** on the day it is due, and late homework is not accepted. No homework grades are dropped. All written homework assignments are equally weighted. Solutions will appear on Blackboard.

The written homework problems typically consist of more challenging or interesting exercises, and 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 need to do so on your own.

Presentation matters. You must show all relevant work, your writing should be legibile, and it should be easy for the grader to follow your reasoning. At the discretion of the grader, points will be deducted for poor presentation. To aid in presentation, you should expect to first prepare a draft of your solutions, and then a final edition to be graded

WebAssign

Starting week 2, online 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. You are welcome to use your text 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 you 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 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, and preparing for 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. More so than the homework, performance on the quizzes is your best regular indicator of how well you are learning the course material.

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. Midterms are given in the evenings in one of two time slots: (A) 5pm-6pm or (B) 6pm-7pm. Note that students choosing time slot A will be required to stay in the classroom until 6pm.

A student who cannot attend either time slot **must notify his/her instructor at least one week in advance** in order to make other arrangments.

Make-up midterms will be given only for documented excused absences.

Proficiencies

A proficiency is an exam covering a routine mechanical 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 must earn a minimum score to earn credit for a proficiency, otherwise a 0 score will be awarded. Multiple attempts (no more than three) will be allowed to earn this credit. 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 discression of the instructors.

Tutoring and Resources

- The Math and Stat Lab, Chapman Building Room 305, offers tutors. See `http://www.uaf.edu/dms/mathlab/` for schedules and availablility.
- Free one-on-one (or small group) tutoring is available in Eielson Building Room 302. You must schedule an appointment; see `http://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.

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.