COLORADO MESA UNIVERSITY

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MATH 151 CALCULUS I
SPRING 2019

MEETING: SECTION 002: MTWTHF 10- 10:50 A.M.; WS 117 (CRN: 44751)
Dr. Tracii Friedman
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OFFICE HOURS: M 11:00-11:50; W 11:00-12:30; Th 11:00-11:30

REQUIRED MATERIALS:
1. Text: Calculus, 7th Ed., Stewart, Cengage Publishing, 2012 with WebAssign access.
2. A graphing calculator will be used regularly throughout the course as an aid to studying and understanding concepts presented. A TI-82, 83, or 84 graphing calculator is strongly recommended for this course. I will typically use the TI-84 for class demonstrations.

   Note: Calculators performing symbolic manipulations, such as the TI-89 and TI-92, and calculators that include word processing capability, such as the TI-Nspire CX, are *not* permitted for use during any testing. If you have any calculator other than the TI-82, 83, or 84, please check with me to determine if your calculator will be permitted during testing.

COURSE DESCRIPTION: Math 151 is an introduction to higher mathematics. This first course in calculus includes study of differentiation and anti-differentiation of algebraic, exponential, logarithmic, and trigonometric functions and their applications. We will cover material found in Stewart chapters 1-5 and some topics in Chapter 6, time permitting. A tentative timeline for topic coverage follows:

Limits—2 weeks
Derivatives and Curve Sketching—3 weeks
Applications of the Derivative—1 week
Antiderivatives, Sigma Notation, and the Definite Integral—1.5 weeks
Fundamental Theorem of Calculus, Indefinite Integral and U-substitution—1.5 week
Applications of the Integral—1.5 weeks
Late transcendental development of Natural Log, Exponential and Logarithmic Functions—0.5 week

Prerequisite: A grade of C or better in Math 119 or appropriate mathematics placement test score.

COURSE GOALS: A primary objective for successful completion of the course is to develop mastery of the mathematical content described above and to learn how to use it to solve practical applications. Another central goal is the continued development of reasoning and problem solving skills. Additional goals include the development of writing skills, particularly in the communication of mathematical results, and your ability to work together with colleagues. These goals may be achieved by preparing for and participating in daily lectures and discussion, by working together on homework problems, and by successful completion of assignments and projects.

COLORADO MESA UNIVERSITY CREDIT HOURS POLICY: An undergraduate student should expect to spend on this course a minimum of two hours outside of the classroom for every hour in the classroom. The outside hours may vary depending on the number of credit hours or type of course. More details are available from the faculty member or the department office and in CMU's *Curriculum Policies and Procedures Manual.* **For Math 151, this policy translates to a minimum of 10 hours per week outside of class.**

METHOD OF EVALUATION: Grades will be determined from total points.

Citizenship:	25
Homework assignments:	50
Homework checks:	35
Quizzes:	90
Tests:	300 (total)
Final exam:	150
Maximum score:	650

The following conversion will be used: 90% earns an A, 80% a B, 70% a C, and 60% a D. If you have any questions regarding the evaluation process, it is your responsibility to ask me for further clarification.

Citizenship: We are a community of scholars seeking to advance our knowledge. If you choose to advance your knowledge of Calculus in the venue of this course, you are expected to contribute to and respect our community. In particular, you must arrive to class on-time each day, prepared to participate in discussion and activities and to ask questions when you have them. You should also seek help outside of class when appropriate, making sure that you are prepared with specific questions along with the work that you have attempted. If you are frequently absent (more than 5 classes) or late for class, are not prepared, or your participation detracts from the class*, your grade will be adversely affected.

> *Inappropriate, unprofessional behavior (for example, text messaging) is disrespectful and distracting to your instructor and peers. Any student engaging in such a behavior during class may be asked to leave. More than one such instance may result in your being dropped or withdrawn from the course.

Homework

Homework will be assigned almost every class, both from text and online; **to succeed in this course, you must master these homework problems**. Your homework grade is broken into two parts: homework and homework checks, as described in detail below.

Homework assignments (50 pts): Online homework assignments (WebAssign) for all sections completed by Wednesday will typically be due on Thursday by midnight. You can continue to work on assignments after the deadline, but all problems completed late will be subject to a late penalty: see WA handout for details. The purpose of these assignments is to give you a resource with quick feedback and help features. Typically, there will be 10 or fewer online problems assigned per section and some types of problems are not even available for me to include in the online problem set! Therefore, doing the online assignments alone will not adequately prepare you for quizzes and tests.

There may also be group work or other assignments that you hand in for "Homework assignment" credit.

Homework Checks (35 pts): Paper homework assignments usually will not be collected, but will be "checked" by quizzes given in the first five minutes of class. The question will be the same as or very similar to problem from a homework section assignment already discussed in class. No make-ups permitted.

You are encouraged to work together in solving homework problems; however, be sure that you can work them from beginning to end **on your own with all work shown** before a quiz or test.

Quizzes: These announced quizzes will be longer than the homework quizzes and will generally consist of problems similar to those in the homework. You are expected to attend class daily, so there will be no make-up quizzes. For the case in which an unexpected emergency or illness arises, you may miss one quiz without penalty. If you will miss a quiz due to a university-sanctioned intercollegiate activity, please discuss this with me in advance of the quiz date.

Exams: There will be three in-class tests and a cumulative final examination tentatively scheduled as follows:

Test 1:	Thursday, February 21
Test 2:	Thursday, April 4
Test 3:	Thursday, May 2
Final exam:	Monday, May 13; 10-11:50 p.m.; WS 117

ATTENDANCE: Given the cumulative nature of this course, it is imperative that students attend all classes. In order to be respectful of both the instructor and your classmates, it is expected that you arrive *on time* to each class. If it becomes necessary for you to be absent, please try to let me know prior to the missed class. It is your responsibility to make up the work you miss. Attendance at all exams, of course, is mandatory. Make-up privileges for exams may be extended only for unusual circumstances, such as documented illness or for university-sanctioned intercollegiate activities. Except in an emergency, such privileges must be arranged with me in advance. **No exams will be rescheduled for personal reasons such as flight plans or vacations.** Note that the instructor may drop students who are excessively absent.

ACADEMIC HONESTY POLICY: Any student observed cheating during an examination will receive a grade of zero on that exam. Duplicated or plagiarized assignments will receive grades of zero. All electronic devices (cell phone, PDA, etc…except your approved calculator) must be inaccessible during all quizzes and tests. Any student found with such a device during a quiz or test will receive a grade of zero on that examination and this will constitute an instance of cheating. A second offense of cheating will result in a failing grade for the course. Cheating on the final exam will also result in a failing grade for the course. Additional actions may be taken as outlined in your Student Handbook.

NOTES:

1. The Tutorial Learning Center is a FREE academic service for all CMU students. Peer tutors are available on a walk-in basis for many courses. Please check out their website for more information: http://www.coloradomesa.edu/tutoring/ .
2. If you are a student with a documented physical or learning disability and need an accommodation for this class, you must contact the Educational Access Services Office (http://www.coloradomesa.edu/educational-access/index.html), (970)248-1801, at the start of the semester.
3. The last day to drop this course is February 6. The last day to withdraw with a grade of W is March 27. If you withdraw from this course after March 27, you will earn an F, even if you are passing. Watch these deadlines!

STUDENT LEARNING OUTCOMES

STUDENT LEARNING OUTCOMES FOR ESSENTIAL LEARNING: Math 151 (Calculus I) is a part of CMU's Essential Learning Curriculum, making it an important element in your pursuit of a CMU degree. In addition to improving your knowledge of the course's content, this class will be helpful in improving your ability in Mathematics to: *Demonstrate Quantitative Literacy*

Competency in quantitative literacy represents a student's ability to use quantifiable information and mathematical analysis to make connections and draw conclusions. Students with strong quantitative literacy skills understand and can create sophisticated arguments supported by quantitative evidence and can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc.).

STUDENT LEARNING OUTCOMES FOR MATH 151:

- Develop independent learning skills, in particular, reading skills
- Develop problem-solving skills
- Develop mathematical language skills
- Develop logical and critical thinking skills
- Develop skills to implement and use technology, and to understand its limitations
- Acquire the mathematics background relevant to other subjects
- Develop an understanding of the nature of proof
- Develop a broad general understand of mathematics
- Develop persistence and skill in exploration, conjecture and generalization
- Develop an understanding of the logical and historical development of mathematics
- Appreciate the necessity for rigor and precision in mathematics

The Colorado Commission on Higher Education has approved MATH 151 Calculus I for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-MA-1 category. For transferring students, successful completion with a minimum C- grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to
http://highered.colorado.gov/Academics/Transfers/gtPathways/curriculum.html.

STUDENT LEARNING OUTCOMES FOR GT PATHWAYS (FOR GUARANTEED TRANSFER): As a GT Pathways MA-1 course, this course should provide students with the opportunity to / Students should be able to:

a) Demonstrate good problem-solving habits, including:
- Estimating solutions and recognizing unreasonable results.
- Considering a variety of approaches to a given problem, and selecting one that is appropriate.
- Interpreting solutions correctly.

b) Generate and interpret symbolic, graphical, numerical, and verbal (written or oral) representations of mathematical ideas.

c) Communicate mathematical ideas in written and/or oral form using appropriate mathematical language, notation, and style.

d) Apply mathematical concepts, procedures, and techniques appropriate to the course.

e) Recognize and apply patterns or mathematical structure.

f) Utilize and integrate appropriate technology.