General Information
Instructor: Tim Chartier
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Office Hours: Tuesday and Thursday – 1:00-2:30

Textbook and Calculators
The textbook for this course is *Calculus, Early Transcendentals (11e)* by H. Anton, I. Bivens and S. Davis. We will also be using graphics calculators in the course. The course standard will be TI-89 or TI-Nspire CAS graphics calculators, which are manufactured by Texas Instruments.

Course Description
An introduction to techniques and applications of integration; infinite series including convergence tests and Taylor series; calculus on parametric and polar curves; and concepts in 3-space including vectors, lines, planes, and vector-valued functions. Satisfies a major requirement in Mathematics. *Prerequisite: Mathematics 111 or 112 or one year of high school calculus.*

Learning outcomes
Student competencies developed through this course include the ability to:

- Identify and employ appropriate techniques to evaluate indefinite and definite integrals;
- Use the foundation of Riemann sums to develop definite integral expressions corresponding to areas of regions in the plane, lengths of curves, volumes of regions in 3-space, or the work performed by a variable force;
- Develop appropriate bounds on the error of a numeric approximation to the value of a definite integral or the sum of a series;
- Identify and employ an appropriate series test to determine convergence or divergence of a series;
- Determine a Maclaurin or Taylor series for a function, and connect aspects of a Taylor series to properties of a function it represents;
- Apply vector operations to resolve questions about lines and planes in 3-space.
Grading

You will be given 3 timed take-home reviews and a self-scheduled final exam. You may not study from past MAT 113 reviews in preparation for a review this semester. Your final grade will be determined as follows:

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<tbody>
<tr>
<td><strong>Final</strong></td>
<td>25%</td>
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<tr>
<td><strong>Review 1</strong></td>
<td>20% (Friday, September 23)</td>
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<tr>
<td><strong>Review 2</strong></td>
<td>20% (Friday, October 21)</td>
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<tr>
<td><strong>Review 3</strong></td>
<td>20% (Wednesday, November 30)</td>
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<tr>
<td><strong>Homework</strong></td>
<td>15%</td>
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Homework

Homework will be assigned almost every day of class. An assigned homework is due at the beginning of the next class period. Homeworks should be placed on my desk at the beginning of class.

Collaboration on homework is encouraged, though anything you present or turn in must represent your understanding of the material. Homework is a learning opportunity and verbally discussing math is an important part of learning. Therefore, you can work with or get help from any person. However, you may not copy from a previously completed paper.

Selected problems from each assignment will be graded. Late homework will be not be accepted. Your three (3) lowest homework scores will be dropped in the calculation of your final homework grade. Note that you will need to study more than the problem sets for the reviews.

Math & Science Center

The Math & Science Center (MSC) offers free assistance to students in all areas of math and science, with a focus on the introductory courses. Trained and highly qualified peers hold one-on-one and small-group tutoring sessions on a drop-in basis or by appointment, as well as timely recap sessions ahead of scheduled reviews. Emphasis is placed on thinking critically, understanding concepts, making connections, and communicating effectively, not just getting correct answers. In addition, students can start or join a study group and use the MSC as a group or individual study space. Located in the Center for Teaching & Learning (CTL) on the first floor of the College Library, drop-in hours are Sunday through Thursday, 8-11 PM, and Sunday, Tuesday, Thursday, 4-6 PM, beginning Sunday, August 28. Appointments are available at other times. For more information, visit [http://www.davidson.edu/offices/ctl/students/math-science-and-economics-center](http://www.davidson.edu/offices/ctl/students/math-science-and-economics-center), or contact Dr. Mark Barsoum (mabarsoum or ext. 2796).
Attend class and engage in the material. This will have an impact on your success in the course. Attendance will be taken almost every class period. You are responsible for all material discussed in class, whether you are present or absent. Absences in excess of six (6) classes will qualify you for a failing grade in this course.

Accommodations for Students

*Religion:* Please look carefully at the syllabus during the first week of class. If any of the assignments conflict with a major religious holiday for your faith, then please let me know. I will make every effort to make the necessary accommodations.

Maximizing your grade

What a joy it would be if a formula could be given for maximizing your grade. Alas, your work, effort and commitment to the topic generally correlate to your grade. Yet, an important aspect of your work to keep in mind is the communication of your ideas. Remember, you are assessed on what you communicate rather than simply what you understand as it is only through communication that we share ideas. Therefore, communicate your understanding of the material clearly.

Write legibly. Use equal signs to connect things that are equal. Use mathematical symbols according to the correct rules of mathematical grammar. Use English sentences to explain your work when the ideas contained in the mathematics alone are insufficient. You must understand the mathematics and be able to communicate that understanding to others. Concentrate on writing clearly, succinctly, and unambiguously. Remember communicate clearly and the grader can assess what you understand.