

Math 1120 Calculus I

Vital Information

Dr. Mark R. Snavely

Office Phone: 551-5714

Course Website: <http://www.marksnavelly.us>

Office: DSC 292

e-mail: msnavely@carthage.edu



Office Hours (In-Person and Zoom):

Monday, Wednesday, Friday: 10:30-11:30; Tuesday, Thursday: 12:30-1:30

or just stop by! I don't mind drop-ins!

WELCOME TO CALCULUS! Calculus is not just another algebra course. The subjects are as far apart as the finite and the infinite - literally! While algebra deals with finite operations, calculus represents one of the human mind's first successful encounters with the infinite.

The Text

The text we be using is HawkesLearning for *Calculus: Early Transcendentals* by Sisson and Szarvas, second edition. From now on, I will refer to the textbook with the letters **SS**. We will cover Chapters 1-5 and part of Chapter 6. Much of Chapter 1 will be done through review exercises. **HawkesLearning includes an eBook copy of the text! If you want a print copy of the text, you can purchase one online from many outlets. You must have access to HawkesLearning - a copy of the physical textbook is optional!** How and where you purchased your text affects your access to this important online tool.

If you received your textbook through the Textbooks for All program or purchased an access code through the bookstore, you should have an access code for HawkesLearning. If you are unable to purchase access right away, there is a temporary access option that you can use immediately. Instructions on how to register are provided on the website. The temporary trial option WILL run out in a few weeks, so do not think that you can string together a series of temporary access codes!

AI, Chegg, and Any Other Online Tool

You will *not* have access to any online information during exams or quizzes. While these utilities can be helpful when *learning* material, you must do your homework and study for exams and quizzes without using any online tools. Using any online utilities on exams or quizzes is academic dishonesty and will be treated as such. I recommend that you read Carthage's Academic Honesty policy thoroughly; it is *very* strict.

Course Goals

By the end of the course, students should be able to do the following.

- Compute or recall derivatives and antiderivatives involving polynomials, trigonometric functions, exponential functions, and logarithmic functions.
- Use the sum rule, product rule, quotient rule, and chain rule to compute derivatives; use substitution to find antiderivatives.
- Interpret and identify differential calculus material in graphs; use calculus material in applications.
- Write calculus material using correct notation and appropriate form.
- Demonstrate sufficient knowledge of the course content.

Topics Covered

This course will cover the following topics.

- A brief review of algebra, trigonometry, logarithms, and exponential functions.
- Graphing with and without calculus.
- Analytic Geometry.
- Differentiation, including implicit differentiation.
- Techniques of differentiation.
- Applications of differentiation.
- Antiderivatives and definite integrals, including Riemann sums.
- The Fundamental Theorem of Calculus.
- Some applications of definite integrals, including area, volume, volume of solids of revolution, arc length, and surface area of surfaces of revolution.

Skills

In this course we will spend a significant amount of time developing these skills.

- Writing mathematics using *complete sentences, correct notation, proper organization, and clear explanations.*
- Using technology as computational and communication tools.
- Deciding whether to use technology or hand computation in a given situation.
- Problem solving using quantitative reasoning.

Grades

Your grade in this class will be based on the following items.

HawkesLearning Homework	10%
Written Homework	10%
Online Quizzes/In-Class Work	10%
Formal Quizzes	10%
Three Exams	45%
Cumulative Final Exam	15%
	100%

If you ever have any questions or concerns about your grade please come and talk to me. We may not be able to iron out every problem but at least we can talk about the situation and understand each other's concerns. I post all grades to Schoology as soon as I they are available.

My grading scale for a score of x is given below.

$92 \leq x \leq 100$	A
$90 \leq x < 92$	A-
$88 \leq x < 90$	B+
$82 \leq x < 88$	B
$80 \leq x < 82$	B-
$78 \leq x < 80$	C+
$72 \leq x < 78$	C
$70 \leq x < 72$	C-
$68 \leq x < 70$	D+
$62 \leq x < 68$	D
$60 \leq x < 62$	D-
$0 \leq x < 60$	F

Homework Assignments

I maintain a web page containing the homework assignments for this course, together with other information. The main page is at the following address.

<http://www.marksnavelly.us>

You can go directly to the course website, or use the link in the Schoology site. Homework assignments will be collected as specified on the web page and on HawkesLearning, usually at the beginning of every class meeting except review days and exam days. Check the web page for specific assignments and due dates. I provide homework solutions as requested on the Help Page on the course website. The user name is **student** and the password is **mathhelp**. This is the user name and password that you will use everywhere on my website!

Homework is due at the beginning of class. Online homework is set to be due at the start of class. Place any written assignments on the pile at the front

of the room or scan the assignment or email it to me as a single pdf document before class begins. I will not accept late homework (written, online quizzes, etc.) unless there are exceptional circumstances, which will be determined on a case-by-case basis. I will be collecting the homework as indicated on the course website. I strongly encourage you to work in pairs or trios on these assignments, but everyone must turn in their own work. I recommend working together to figure out the problems but writing by yourself.

I will not answer questions over homework on the day it is due, and I ask that you not stop by my office right before class with questions. I also will not “pre-grade” your work (“Would you look at this and tell me if it’s right?”). If you think your work is correct, turn it in. If you don’t think it’s correct, why don’t you think it’s correct? I *love* to answer questions you have about the problems you’re working on, but “Tell me if this is right” isn’t a question.

Schoology

Carthage uses a course management system called Schoology. You’ve probably been introduced to this package elsewhere. I will post grades there as often as I can, and I have included a link to the course website.

Quizzes

We will have a quiz most Thursdays, and other quizzes when needed. You should view these as a learning experience. You have the chance to see how much of the material you understand when the books and notes are put away, and to get a feel for what types of questions I will be asking on the exams. If you have trouble with a quiz question, you should review your notes and homework *before the next class period!*

Office Hours

During office hours, I promise to be in my office and ready to help you in any way I can. I realize that you may have another class during my office hours, so I welcome appointments and drop-ins. If you stop by and the blind is up, tap on the door and I’ll let you know if I can help you at that time! If I’m on the phone, after I see you, please go to the chairs in the hallway and wait. I’ll come to you when I get off the phone. If the blind is down or the light is off in my office, there is a reason. You don’t need to bother to knock - if I’m not in, I won’t answer; if I’m in but the blind is down, it is down for a reason.

Computers and Calculators

We use a computer program called *Mathematica* in this course, and may also use a website called Desmos. *Mathematica* is available in the MathLab next door, and you can download and install the entire package on your computer for free. If you do not want to install *Mathematica* on your computer, there is an online version available through user.wolfram.com that runs through a web browser. More information is on the course website. While this is not a course in *Mathematica*, the mathematics department at Carthage teaches the computer program as a tool, and a very important tool. We may also use *Microsoft Excel* from time to time.

Questions always arise about graphing calculators. Any calculator that has trigonometric functions, exponential functions and logarithms will do just fine. The TI-30 IIS is a great calculator at a very reasonable price. On tests and quizzes, I may ask those of you who have graphing calculators not to use the calculator's graphing or equation solving capabilities.

Four Important Items

- **If you're working online, whether taking a quiz or working homework, the same rules apply as if you were working in person.** For homework, I encourage you to work together, but you should be working on problems together, not just sharing answers. If you're taking a quiz or exam online, you should do your own work, with no assistance from any other person, website, book, text, notes, or anything that you would not be permitted to use in class. You should not use the graphing capabilities of your calculator, nor should you use your calculator to compute any derivatives.
- **Please turn off all cell phones, music players, and other electronic devices before class, including exam days.** If you need to have your communication equipment on during class, please talk to me before class starts. Texting during class is rude and not appropriate behavior. **Headphones and earbuds are not permitted during exams or quizzes.**
- **Carthage College strives to make all learning experiences as accessible as possible.** If you anticipate or experience academic barriers due to your disability (including mental health, learning disorders, and chronic medical conditions), please let me know immediately so we can discuss options privately. To establish reasonable accommodations, you must register with Warren Wolchuk in Learning Accessibility Services (wwolchuk@carthage.edu).
- **We do have class the day before break, and we may have quizzes those days.** Rides leaving early and airline reservations are **not** valid excuses. If you have three final exams in one day during the final exam period, please let me know so that arrangements can be made.