Calculus I, Fall 2021

Queens College, Math 141

Prof. Christopher Hanusa

http://qcpages.qc.cuny.edu/~chanusa/courses/141/21/

What is calculus?

Calculus is the study of how things change.

In Math 141 (Differential Calculus)

- 1. How to find the instantaneous change of various functions.
- 2. Use derivatives to solve various kinds of problems. (Optimization!)
- 3. Important concepts: Limits, Continuity, Tangents, Sketching

Then in Math 142 (Integral Calculus):

- 1. Go back! Learn methods to integrate various functions.
- 2. Key ideas: Areas, Volumes

Why calculus?

- A challenge to conquer!
- Learn how to think critically about mathematics.
 - Discuss and have conversations about mathematical concepts.
 - Explain in writing, using complete sentences and paragraphs.

We're back in person! How does that work?!?

(Do a little dance.) (Breathe.)

Following CUNY & QC Safety Guidelines

- ▶ Everyone wears masks on campus, indoors and outdoors.
- Everyone is vaccinated (or is being tested every week and must maintain distance)
- > You uploaded your vaxx info to CUNYFirst and it's verified.

Accessing campus (QC link)

- ► Four entrances to campus.
- ▶ At the entrance you tap your QCard. (Cross verified with info)
- ► Class is in Powdermaker Hall Room 113.
- Use the library to study or for online classes before or after. (You also need to use your QCard to access the Library)

We will appeal to Flexibility and Humanity.

Don't come to class if you're sick!

The book and homework:

Our Book: Essential Calculus (2nd Edition)

Link: https://www.cengage.com/c/essential-calculus-2e-stewart/

It is **not required** to buy the book from this link.

If you do (or already did), you will have access to WebAssign, which has extra online resources & problems that many find helpful.

http://www.webassign.net/ Class Key: qc 0268 8238.

Our Homework: WebWork (FREE!)

- On webwork.qc.cuny.edu find 21-9_Math141_18_Hanusa.
- Login w/your QC CAMS account information. (Your username must be lower case, like jsmith100.)
- ▶ Homework expectations are posted on course webpage.
- First homework (w/Webwork Orientation) due Monday!

Your Grade

Philosophical Question: What does a grade represent? My philosophy: It should represent how well you know the material.

Other classes: Points on midterms and final exam. Average the grades. Problem: High stakes! Does your grade represent what you know?

This class: Grade is based on how well you know 20-25 course standards.

Throughout the semester we will assess your knowledge:

- ▶ Group explanations of content learned in class.
- ▶ In-class assessments of new standards. (Every 1–2 weeks)
- Reassessments to improve your scores. (Two per week.)

Key idea: Your grade is linked to your understanding.

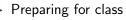
You have multiple opportunities to show that you understand.

Outside class

In class

Outside class

A normal day in this class



- Complete homework, Prepare questions, Read sections for the day.
- Arrive on time & Be ready to participate!
- ▶ Get into groups at individual stations, work on thought exercises.
- Discussion, recap, synthesizing, note taking.
 - My philosophy: More the why than the how
 - Key concepts
 - Some examples
 - Take notes! (Bring paper, pen(cil), colors)
 - Debrief.
- Learning after class
 - ▶ Review notes, Work through book details, Complete homework

To do well in this class:

Form good study groups.

- Discuss homework and classwork. Study for exams.
- Bounce around ideas, topics, questions.
- You will depend on this group.

Put in the time.

- ▶ Three credits = (at least) nine hours / week out of class.
- Homework stresses key concepts from class; learning takes time.

Come to class prepared.

- Review previous day's sections, notes.
- Do the homework & prepare questions.
- Preview the new day's sections.

Stay in contact.

- ▶ If you are confused, ask questions (in class and out).
- Don't fall behind in coursework or homework.
- ▶ I need to understand your concerns.

Creating a community

It's important to get to know each other.

► Jamboard? Jamboard! A collaborative whiteboard.