## 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.

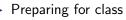
You have multiple opportunities to show that you understand.

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.