Mathematical Computing, Fall 2020

Queens College, Math 250

Prof. Christopher Hanusa

`http://qcpages.qc.cuny.edu/~chanusa/courses/250/20/`

What you can expect in Mathematical Computing

Goal: Learn and Apply Mathematica.

- Good programming practices
- Fluency with basics the language
- Go deeper: Apply in a variety of situations
- Gain an ability to learn on your own

Style: Tutorial- and Project-based.

- Tutorials to gain knowledge (Go at your own pace)
- Projects to apply your knowledge
- Make Your Own: • Tutorial, • 3D sculpture, • App
- I provide the structure; you provide the subject.
- Cross-pollination is encouraged and expected!

So we're online ... what does that mean?

A different feel from in-person.

"Flipped classroom" for "content".

- Video tutorials will be outside class time.
- Comprehension questions for practice on concepts.
- In class: Breakout rooms for challenge questions.

Time management is important.

- It's HARD! Set aside time every day to make progress.
- Follow the guidance to keep track of projects
- Study groups can keep you honest. Stick to a schedule. "We're going to work every Tuesday at 3pm. Join the Zoom.

Use Campuswire to ask and answer questions!

We will appeal to Flexibility and Humanity.

A normal day "in class"

In class

- Arrive on time & Be ready to participate! (Designated Audience)
- Discussing sticking points from Campuswire
Challenge Questions	or	**Project Work**
More advanced problem-solving questions		Dedicated time to make progress and ask questions on project
Group w/rotating driver		Groups with similar interests

Outside class

- Learning outside class
  - Watch and work through tutorial, take notes
  - Ask and answer questions on Campuswire including Daily Question
  - Progress on your projects

To do well in this class:

- **Form good study groups.**
  - Discuss tutorials and classwork.
  - Bounce around ideas, topics, questions.
  - It helps to have people to talk through things with.
- **Put in the time.**
  - Three credits = 6–9 hours/week out of class.
  - Project work is expected outside class too.
  - You only get out what you put in.
- **Come to class prepared.**
  - Review previous day's concepts.
  - Do the homework & work on your projects.
- **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.

Everything posted online; Another homework Monday (many parts).

Creating a community

It's important to get to know each other.

Breakout rooms!

- **5 minutes to chat** - introduce yourselves, what you're expecting from this semester, how life has been affected, anything.
- **3 minutes to play** / collaborate with a new technology.
- Jamboard? Jamboard! A collaborative whiteboard.
  Everyone will open the link for their group's Jamboard in another window and play/explore.
  One person should share their screen to the breakout room.
- **5 minutes to discuss** the experience.
  (I'll send a list of questions at that time.)
- We'll gather together to debrief.
- Back in the breakout room, we'll start exploring Mathematica.