NSC-204: “Introduction to Computational Modeling”

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Overview

- Overall goal: teach you to work with data and make computational models, in lots of domain areas
- Teaching with ‘flipped’ instructional model
  - Before class: watch videos, do reading, answer questions/write some code
  - In class: discuss, work on problems, ask/answer questions

Expectations

- Active participation
- Do pre-class activities
- Bring laptop to class
- Engage with your group!

Grading

- Based heavily on in-class participation and pre-class assignments.
- Groups: important to be a good group member and active participant
- No exams!
- Course personnel and office hours in syllabus - you can come to anybody's office hours
- Can get help via course discussion board

Getting to know you

- In pairs: introduce yourselves, tell each other a bit about yourself.
- After that: we'll go around the room and introduce each other + 2 or 3 things you thought were interesting.

- What do you want to get out of this class?
- What are you concerned about?

My goals for the course

1. Gain insight into physical, biological, and social systems through the use of computational algorithms and tools.

2. Write programs to solve common problems in a variety of disciplines.

3. Identify salient features of a system that can be codified into a model.

4. Manipulate, analyze, and visualize datasets and use this data to evaluate models.

5. Have an understanding of basic numerical methods (e.g., numerical integration, differential equations, Monte Carlo) and be able to use them to solve problems.

6. Be able to take results from a scientific computing problem and present it both verbally and in writing.