

Class by Class - Math 448 - Scientific Computing - Spring 2014

Week 1 - Class 1 Intro to Mathematica

In Class:

- (1) (10 minutes) Have students come in, get a computer, open up mathematica, log into bb and open the syllabus, talk about exploratory nature of class, and how curiosity, creativity, and quality of work are the criterion, leave and how that will affect the course
- (2) (30 minutes) Classroom expectations exercise: expectations for the course, for classmates, and me
- (3) (20 Minutes) Course evaluation structure and how students want to be graded activity:
- (4) (15 Minues) Open Mathematica show first assignment template, show first assignment

Out of Class:

- (1) Read Shifrin page 26-33
- (2) Start Assignment 1 (Due Thursday 1/23)
- (3) Email me 3 specific goals for Thursdays workshop (Due by start of class on Thursday 1/23)

Week 1 - Class 2 Starting to work with Mathematica

In Class:

- (1) (10 minutes) Briefly go over what makes good goals: specific, can be shown to be completed, achievable in a class period
- (2) (60 min) Work on finishing Assignment 1 or work on challenges
- (3) (5 min) Introduce assignment 2

Out of Class:

- (1) read Hazrat 1-34 (Intro, functions, lists)
- (2) read Wagon 1-19 (Intro, special attention to comprehensive data sets in Mathematica)
- (3) read Borwein 1-13 (Intro)
- (4) Start work on Assignment 2 (Due Tuesday 1/28)
- (5) email 3 specific questions you have from the readings (Due Monday 1/27)

Week 2 - Class 1 Functions and Lists

In Class:

- (1) (5 min) go over what makes a good question
- (2) (10 min) answer questions
- (3) (35) Topic TBD
- (4) (20 minutes) Found, Function, Creation
- (5) (5 min) Introduce assignment 3

Out of Class:

- (1) work on assignment 3 (Due Friday 1/31)
- (2) Email me 3 specific goals for Thursdays workshop (Due by start of class on Thursday 1/30)

Week 2 - Class 2: More Functions and Lists

In Class:

- (1) (75 min) work on assignment 3 or work on in class challenges

Out of Class:

- (1) read Wagon 23-48 (Plotting)
- (2) read Borwein 15-43 (Putting it together)
- (3) read Shifrin 58-91 (Lists)
- (4) email 3 specific questions you have from the reading (Due Monday 2/3)

Week 3 - Class 1: Importing Data and Data visualization

In Class:

- (1) (15 min) answer questions
- (2) (35 min) Topic TBD
- (3) (20 minutes) Found, Function, Creation
- (4) (5 min) Introduce assignment 4

Out of Class:

- (1) work on assignment 4 (Due 2/7)
- (2) Email me 3 specific goals for Thursdays workshop (Due by start of class on Thursday 2/6)

Week 3 - Class 2: More Importing data and data visualization

In Class:

- (1) work on assignment 4 or challenges

Out of Class:

- (1) Read Shifrin 92-122 (Rules and Patterns)
- (2) Read Hazrat 96-112 (Rules and Patterns)
- (3) email 3 specific questions you have from the reading (Due Monday 3/10)

Week 4 - Class 1: Rules and Patterns

In Class:

- (1) (15 minutes) Answer selected questions
- (2) (35 minutes) Topic TDB
- (3) (20 minutes) Found, Function, Creation
- (4) (5 min) Introduce assignment 5

Out of Class:

- (1) work on assignment 5 (Due 2/14)

Week 4 - Class 2: More Rules and Patterns In Class:

- (1) work on assignment 5 or in class challenges

Out of Class:

- (1)

Week 5 - Class 1: In Class:

- (1) (15 minutes) Answer selected questions
- (2)
- (3) (20 minutes) Found, Function, Creation

Out of Class:

- (1)

Week 5 - Class 2: In Class:

- (1)

Out of Class:

- (1)

Week 6 - Class 1: In Class:

- (1)
- (2) (20 minutes) Found, Function, Creation

Out of Class:

- (1)

Week 6 - Class 2: In Class:

- (1)

Out of Class:

- (1)

Week 8 - Class 1: In Class:

- (1)

(2) (20 minutes) Found, Function, Creation

Out of Class:

(1)

Week 8 - Class 2: In Class:

(1)

Out of Class:

(1)

Week 9 - Class 1: In Class:

(1)

(2) (20 minutes) Found, Function, Creation

Out of Class:

(1)

Week 9 - Class 2: In Class:

(1)

Out of Class:

(1)

Week 10 - Class 1: In Class:

(1)

(2) (20 minutes) Found, Function, Creation

Out of Class:

(1)

Week 10 - Class 2: In Class:

(1)

Out of Class:

(1)

Week 11 - Class 1:

In Class:

(1)

(2) (20 minutes) Found, Function, Creation

Out of Class:

(1)

Week 11 - Class 2: In Class:

(1)

Out of Class:

(1)

Week 12 - Class 1: In Class:

(1)

(2) (20 minutes) Found, Function, Creation

Out of Class:

(1)

Week 12 - Class 2: In Class:

(1)

Out of Class:

(1)

Week 13 - Class 1: In Class:

(1)

Out of Class:

(1)

Week 13 - Class 2: In Class:

- (1)
- (2) (20 minutes) Found, Function, Creation

Out of Class:

- (1)

Week 14 - Class 1: In Class:

- (1) Conference on Project
- (2)

Out of Class:

- (1)

Week 14 - Class 2: In Class:

- (1) Work on Project

Out of Class:

- (1)

Week 15 - Class 1: In Class:

- (1) (75 minutes) Project Presentations

Out of Class:

- (1)

Week 15 - Class 2: In Class:

- (1) (75 minutes) Project Presentations

Out of Class:

- (1)