

# Syllabus

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## 1 Classroom expectations

### 1.1 What you can expect from Casey and Manbir

- We will stay home if we are feeling sick and make arrangements to deliver the course material
- We will work with you to arrange accommodations when you need them
- We will respect your time by starting and ending class on time
- We will answer your questions thoughtfully, and if we don't know the answer, we will follow up in a timely manner
- We will embrace who you are as whole people
- We will model respect, openness, and engagement, and foster a supportive and inclusive environment

- We will be honest when we make mistakes, because failure is part of growing

## 1.2 What Casey and Manbir expect from you

- That you will stay home if you are sick and contact us via email to arrange accommodations
- That you genuinely attempt to engage with the course
- That you ask questions if you are confused (you may do this privately – there is no obligation to ask during class hours)
- That you communicate with us when you have problems that interfere with your ability to engage with the coursework
- That you treat your peers with respect and openness, and that you participate in creating an inclusive, supportive, and engaged classroom

## 1.3 What is not expected

- Perfection. Ever. It’s a myth.
- That you will ‘sit still’ or ask for permission to leave the classroom to go to the bathroom or if you just need a minute.
- That everyone will learn in the same way. You do not have to match some “model student” to do well in this class

# 2 Assignments and Grading

Assignments fall into “bundles,” which each make up a percent of the grade. Each assignment within a bundle is equally weighted, and individual assignments will all be graded with a rubric that includes the learning objectives, so that you can see very clearly what you missed.

## 2.1 Letter grade table

Grades will be determined from percentages using the following table:

Table 1: Letter grades

Letter grade	Percent range
A	92.5 ≤ x < 100
A-	90 ≤ x < 92.5
B+	87.5 ≤ x < 90
B	82.5 ≤ x < 87.5
B-	80 ≤ x < 82.5

Letter grade	Percent range
C+	77.5 x < 80
C	72.5 x < 77.5
C-	70 x < 72.5
D+	67.5 x < 70
D	62.5 x < 67.5
D-	60 x < 62.5
F	0 x < 60

## 2.2 Grading bundles

### 2.2.1 Growth Mindset (10%)

An important element of being a scientist is seeing opportunities to improve from mistakes and failures. This is emphasized in this class in multiple ways, through homework and test re-dos as well as through the goal-setting assignment, which spans the entire semester. Please note that some of the deadlines are more rigid in this bundle in order to make it a useful activity.

- Course pre-test (1 hr, graded on completion, not content)
- Course post-test (1 hr, graded on completion, not content)
- Math Assessment (with two chances to re-take)
- Growth Mindset Reflection
- SMART goal setting
- SMART goal mid-semester check-in
- SMART goal final reflection

Given the purpose of these activities, we will not offer extensions beyond one week on the deadlines for the Growth Mindset bundle, except in case of a major medical or family emergency.

### 2.2.2 Practice (30%)

Good note-taking and regular problem-solving are very important to developing confidence and skill in this content, so every week you will have to turn in your Cornell Notes for the class and a short weekly problem set. More details below:

- Weekly Cornell Notes
  - This will include one initial assignment to demonstrate how to do Cornell Notes
  - You turn in a picture or scan of these in Moodle
  - To learn more about Cornell Notes, there is a detailed walkthrough in the [FAQ](#)

- Cornell Notes assignments are graded with a **rubric**
- Weekly Problem Sets
  - The first question on the weekly problem set is a reflection on the previous problem set
  - You may either turn these in on paper during class on the due date or by midnight that night by scanning and uploading as a PDF to Moodle
  - The weekly problem set are graded using a **rubric**

**You can drop any 4 items in the “Practice” bundle with no penalty**

### **2.2.3 Labs and Lab Reports (25%)**

Lab activities will be integrated into many classes, and completing the labs is an important part of your learning in the course, so you may not use another student’s data for your homework problem or lab report. If you are unable to attend a class you may contact the instructor (in advance if possible) about finding a time to make up the lab work.

There will be two labs you can write a report on during the semester. These reports are more than just a short write-up of what you did. These are an exercise in synthesizing the concepts you learned in class with the activities you did in the laboratory.

The lab reports must include:

- a short introductory paragraph putting into context the activity
- a clear statement of the question you were trying to answer with the activity
- an explanation of the methods you used (what did you measure, how did you do it, how did you account for error, etc)
- a visualization of your results (using plots and figures)
- a discussion of what your results mean.

These reports are graded using **this rubric**.

Note: We don’t ever expect you to have perfect data, so use the discussion as an opportunity to explain the problems that arose and what you might have done differently if you’d had more time.

You may revise and resubmit each lab report one time.

### 2.2.4 Jigsaw (25%)

There will be three jigsaw activities during the semester, **but you only need to turn in two of them**. In these activities, you will be given a challenging problem to solve in small groups. Together your group must write up a “lesson plan” that demonstrates how to approach and solve that problem. In the next class period, you will be split into different groups in which each member of the group solved a different problem, and you will have to teach your problem to that group.

To get credit for these jigsaws, you must:

- participate in both days of activity
- submit your “lesson plan” write-up for the question you were assigned
- submit a second write-up for **one** of the problems you learned on the second day

These jigsaws are graded using [this rubric](#).

You may revise and resubmit each jigsaw write-up one time.

### 2.2.5 The Problem Project (10%)

The student becomes the teacher... your final project for this class is to write a physics problem similar to the jigsaw problems. You must:

- select at least one key idea from three of the five different [groups](#)
- write a physics problem that tests understanding those three key ideas
- write up a detailed solution to that problem using the [four-step problem solving method](#)
- explain how your problem tests understanding for the three key ideas you selected

This will be graded using [this rubric](#).

**Because this is due on the last day of class, there will not be an opportunity to revise and resubmit this**

## 3 Deadlines and Extensions

If you need an extension, you may request one using [this form](#). We recognize that things come up and you may require some flexibility at some point in the semester. Please feel free to reach out to your instructor if you are struggling to meet a deadline. We want to support you and make sure you have the best possible chance for success in this class!

In general, we are happy to be flexible. Please note, however, that some assignments will have harder deadlines. These assignments include the first Cornell Notes assignment, the math assessment, and all the Growth Mindset assignments. The reason for these hard deadlines is

due to the nature of the assignments – for example, it is not helpful for you to put off taking the math assessment and discover in the last week of class that you really should review trig.

You can see which assignments have deadline restrictions by looking at the [grading template](#).