

This year we will be taking a hands-on approach to learning the central concepts in Physics. The learning will be centered on a series of group challenges that will expose students to a set of concepts through shared investigation and inquiry. The format of the course will be somewhat experimental and the schedule of events will be flexible to allow for deeper investigation when needed. Students are expected to be active participants in the design, flow and documentation of the semester under my guidance.

For each challenge, students will be guided by a list of key concepts that they are to gain mastery of through the group collaborative process. Students are expected to pursue an aggressive and motivated quest to gain this conceptual mastery.

The central learning goal is to be able to *use equations to guide thinking* to gain an understanding of the natural world.

Here are the specific expectations for credit:

1. Be on time for class, with laptops charged. You will need a notebook, preferably with graph paper ruling.
2. Be considerate of, and courteous to fellow learners. Help foster an environment that is safe for inquiry and learning. *Evaluation will be based on courtesy towards fellow classmates, preparation both mentally and physically for class, and seriousness of intent to learn during class.*
3. Participate **enthusiastically** in class discussions and activities. Leave your reticence or lack of enthusiasm at the door. Be an active and responsible team member. Eschew the improper use of the word “like” in class. *Evaluation will be based on enthusiasm, frequency of participation, infrequency of the improper use of “like” and thoughtfulness of discussion. Each team member will be required to demonstrate mastery of all aspects of a group project through a variety of assessment methods including oral quizzes, written assignments and practical demonstrations.*
4. Complete all assignments on time. These may consist of, but is not limited to: questions, essays, experiment planning and write-up, readings, reading notes, blog comments and internet research. Students are allowed to miss two assignment deadlines per semester, but all work must be turned in by the following class to receive credit for the course. *Evaluation will be based on neatness, completeness, and thoughtfulness of assignments. Larger projects will have rubrics and be evaluated per the rubric.*

Foundational Skills addressed:

2. *Writing*: students will write a number of scientific papers that report on their investigations.
5. *Scientific Practices/Empiricism*: students have to design and carry out experimentation.
9. *Digital Tool Use and Literacy*: Students use a variety of digital tools to gather, process, and visualize data.