Phys 131 2024

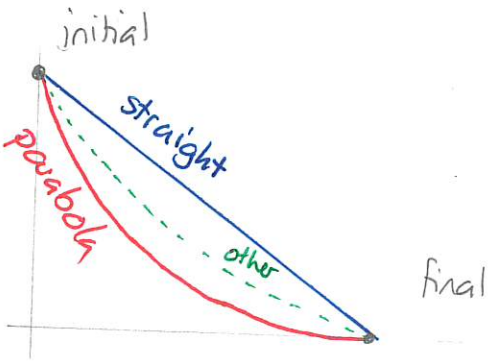
Lecture 1

Handouts: * Syllabus
* Survey - return by Wednesday
* Attendance Sheet.

LABS - These will meet this week.

Physics Situation

Consider an object that can roll down a track. It has to start at one particular initial point and end at a different particular final point. Which path between those two points will result in the least time taken?



Exercise: * Introduce yourself to neighbor
* Describe which you think gives shortest time
* Describe why you chose your answer? What reasons/evidence can you provide to support your answer? What are the competing aspects/features needed to address the question?
* How can you evaluate your neighbors answer?

This is a classical physics question - here dealing with the motion of an object. Physics provides a single framework (Classical mechanics) for addressing such questions systematically. This is the subject of Phys 131

DEMO: 1 Brachistochrone Demo.
2 Brachistochrone video?

Phys 131 aims to:

1) introduce you to the phenomena of classical mechanics
2) show you how to use the laws and techniques of classical mechanics to describe physical situations.
3) develop your abilities to use mathematics to describe physical situations.
4) develop your abilities to describe a wide range of phenomena using a few basic principles.

The course assumes:

1) mathematics: algebra, trigonometry, geometry (vectors + calculus later)
2) no physics knowledge - everyday mechanics experience

Examples of situations described by classical physics are:

1) falling objects
2) rolling sliding objects
3) rotating objects
4) oscillating objects
5) orbital motion
6) fluid motion.

Course details

1) syllabus contact
2) website / course materials page
3) D2L page contains link to text.
4) exam dates.

This week

1) Tues regular lecture - reading.
2) Wednesday - Group exercise - do Phys 131 Ex 4, 10, 12, 13, 17, 18, 21, 23
   - will explain Tues.
3) Today - FCI - DOES NOT count for grade.
   - will retake later....