

Motivation

Scott N. Walck

October 13, 2023

Bad news

1. Physics is difficult.
2. Difficult things can be unpleasant.
3. We don't do unpleasant things without a reason.

You can't learn a subject you dislike.

- ▶ Why? You won't put the time and effort in.
- ▶ Most people cannot put serious effort into something they dislike.
- ▶ It's a very rare person who has a level of self control that will allow them to put in the time and effort.

Three ways to learn physics:

- (a) Start to like physics.
 - ▶ Be on the lookout for things in physics that strike you as cool, or understandable, or neat, or useful.
- (b) Find a purpose for learning physics.
 - ▶ Why do you do it?
- (c) Attain a high level of discipline, so that you can do the work required to learn a subject you don't like.
 - ▶ Practice mindfulness meditation.

Why would we do an unpleasant thing?

- ▶ Fear
- ▶ I want the results. I have a reason. I see a purpose.

Reasons

Bad reasons to be here:

- ▶ Somebody else wants me to be here.
- ▶ This course is required for my major.

Good reasons to be here:

- ▶ I believe I need to know some physics to do well with my major.
- ▶ I believe I need to know some physics for my career.
- ▶ I just want to learn a little about physics.
- ▶ I'm curious about physics.

If somebody else wants you to do something,

but you judge it waste of time, and you do it anyway,

- ▶ resentment
- ▶ blaming yourself and/or others
- ▶ not a good mental environment for learning

Why do you do it?



<https://www.youtube.com/watch?v=cxFD5kSqzUw>

Why do people choose to learn physics?

1. They somehow fall in love with it. If you fall in love, you don't need a reason.
2. Physics is useful for other activities. We could make a list.
3. Physics is a beautiful application of mathematics. If you find mathematics beautiful, you need to check out physics.
4. Physics raises interesting philosophical questions. Some are really basic; some are nuanced. What is the world made of?
5. Physics connects to other knowledge. Mathematics, philosophy, chemistry, biology, geology.
6. Physics is the most basic science. Anyone who wants to claim some knowledge of science must study some physics.
7. People are curious about the world around them. How are stars formed? Why is the sky blue? Is it possible to travel without using energy?