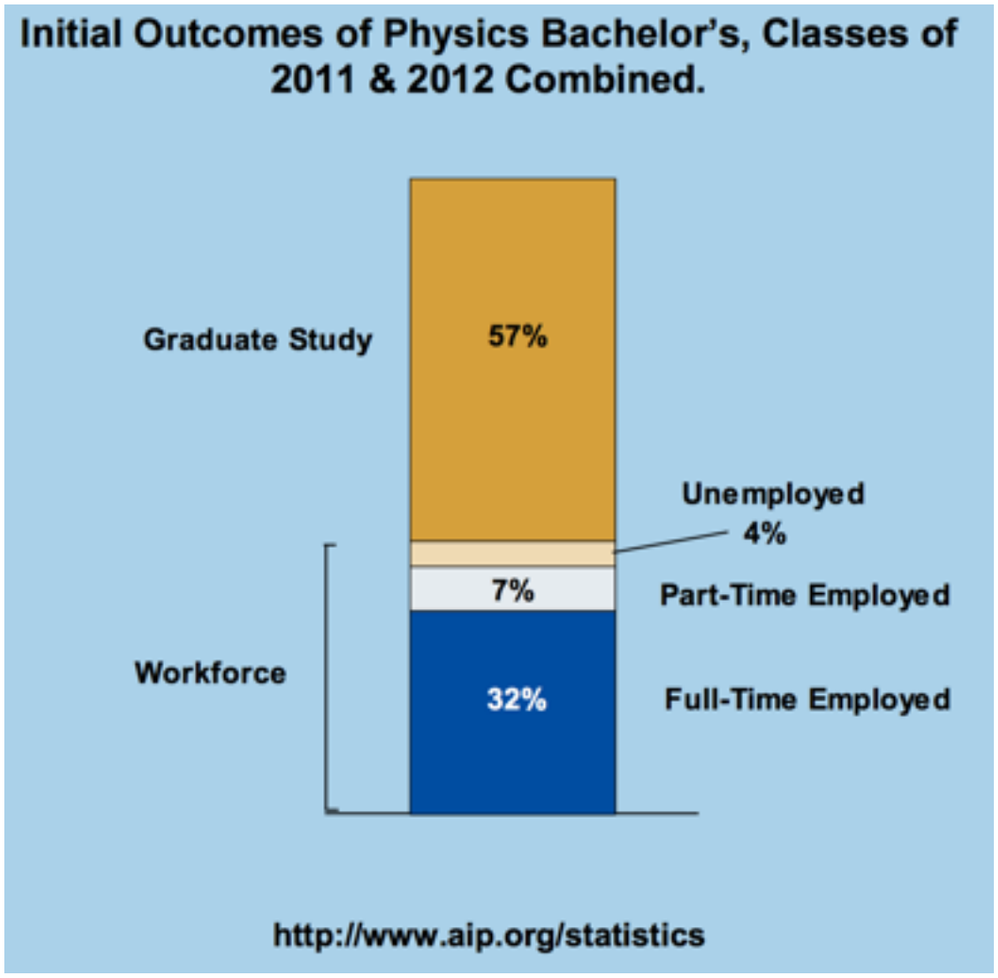
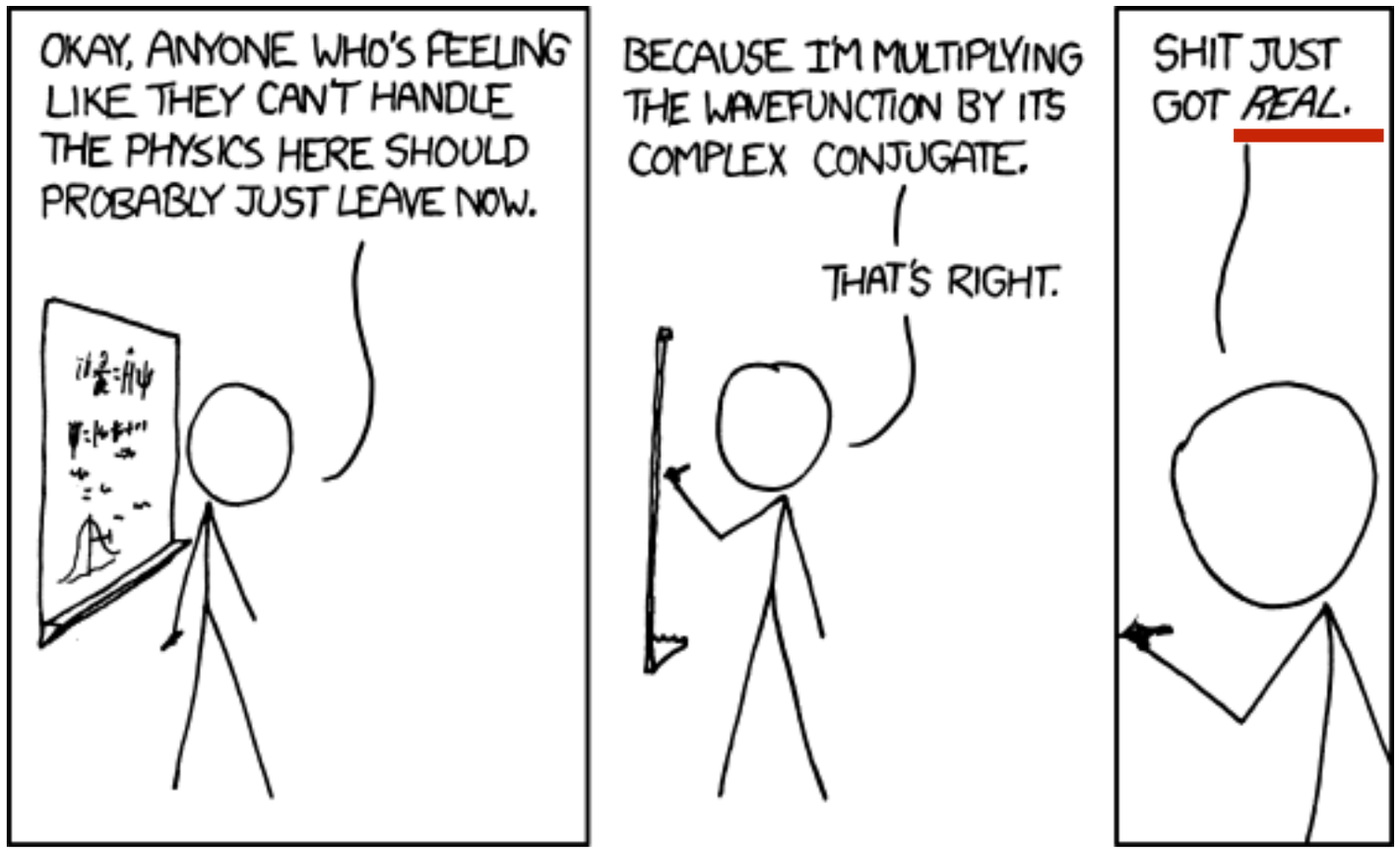
Physics 4601

Senior Seminar I





James C. (JC) Gumbart

http://simbac.gatech.edu/phys4601/

School of Physics | Georgia Tech | Spring 2018

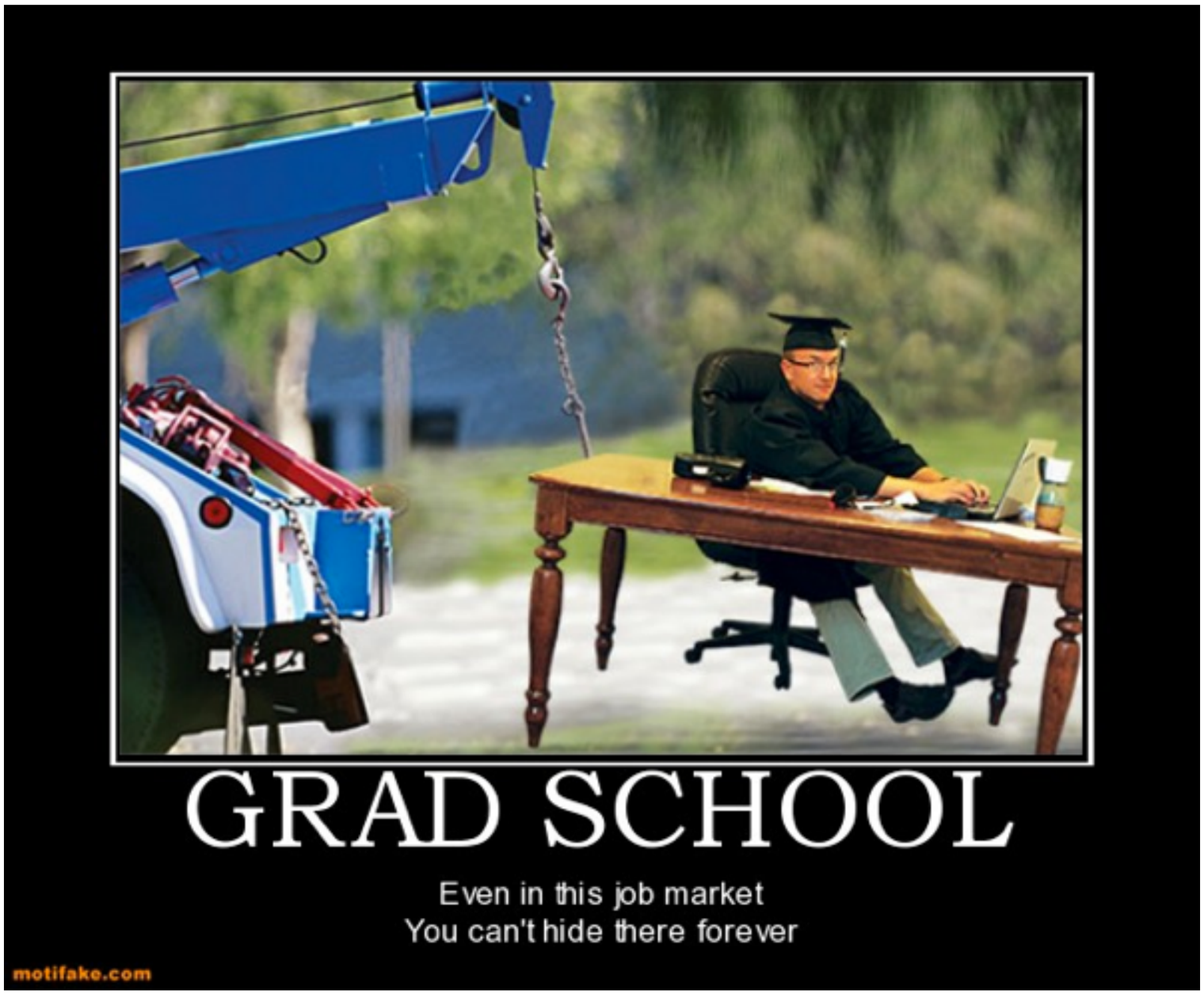
What senior seminar **is**:

Exploring career options…

What senior seminar **is**:

and avoid unemployment!

What senior seminar **is**:



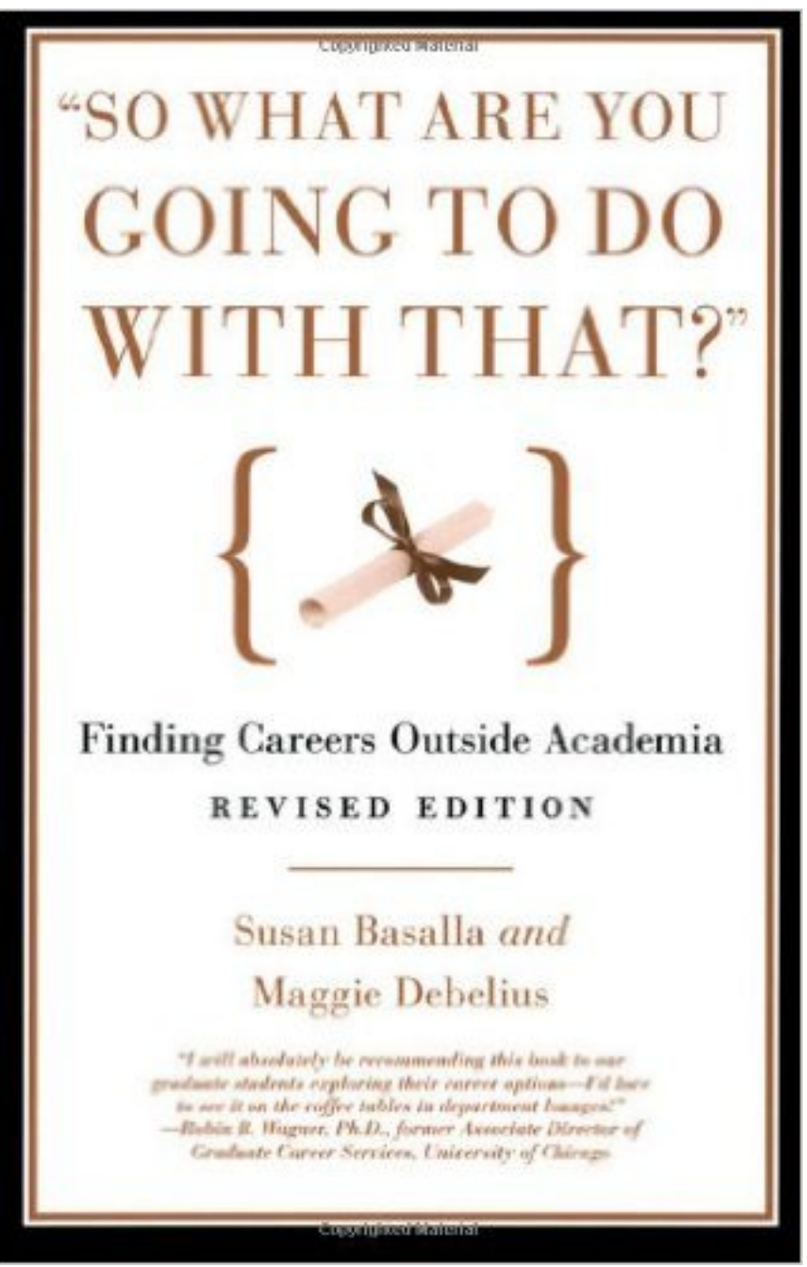
Even if you are going to grad school, you are not immune!

What senior seminar **is**:

Nonetheless, I'll help you get there too!

Think carefully about your choice…

Every fall about 2,500 students start physics PhD programs at US universities.



Roughly 1,500 of those students earn a PhD an average of 6.3 years later.

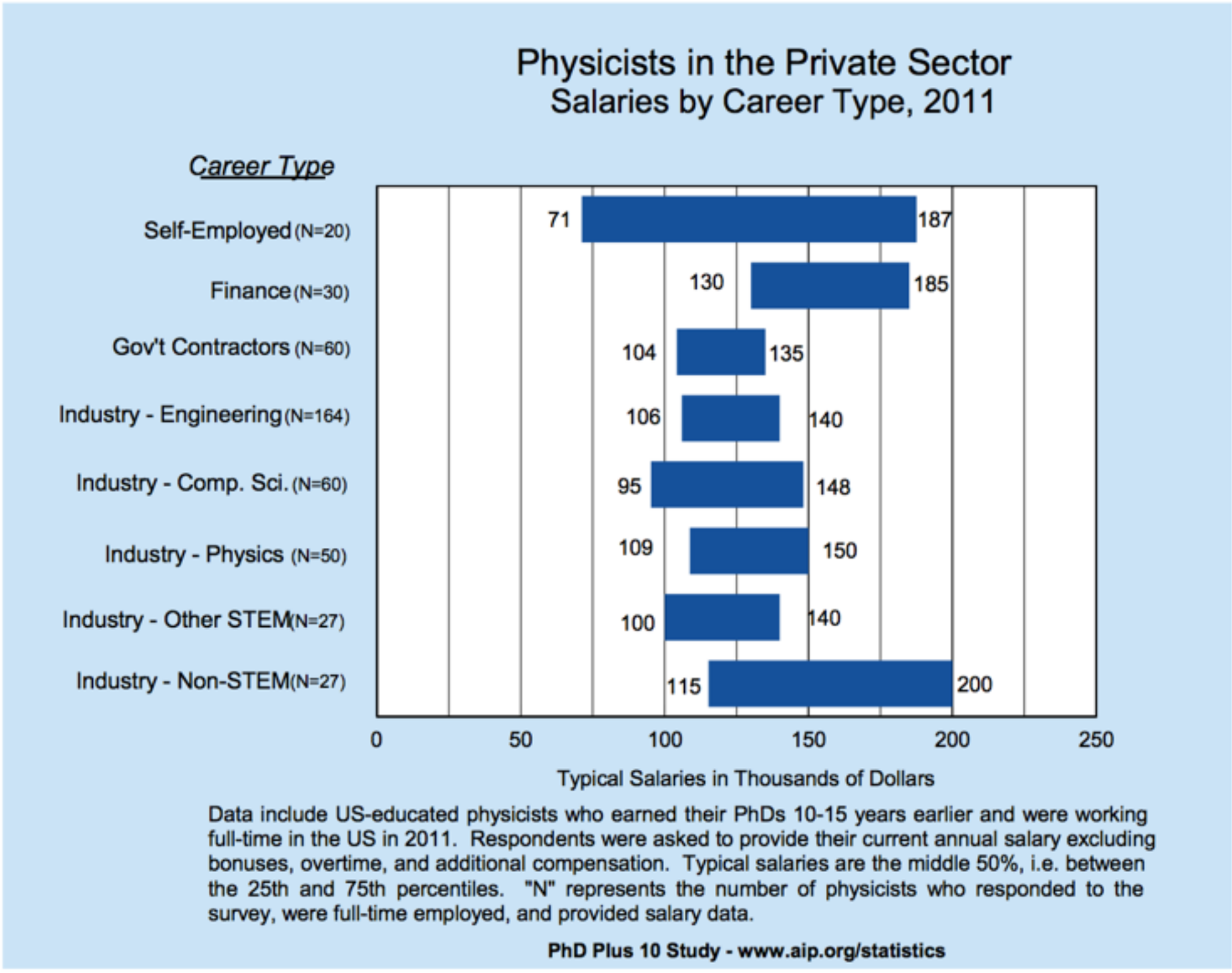
Every year US research universities hire about 200 new tenure-track physics faculty across all sub-disciplines.

That means you have ~10% of a becoming a professor!

Academia is the ***alternative*** career!

http://www.prosperousphysicist.com/know-the-odds-of-becoming-a-research-university-professor/

But it’s not all bad news!



https://www.aip.org/statistics

“PhD Plus 10” study

Learning Goals for the Course

learn how to write a résumé (or CV) and apply to jobs

prepare for the GRE Physics test

know how to explore and apply to graduate schools

learn how to write a proposal

Syllabus and other important resources can be found here:

Schedule http://simbac.gatech.edu/phys4601/

Jan. 12: Intro; proposals

Jan. 19: guest lecture on résumés and cover letters

Jan. 26: résumé cross-reading and 1-minute pitch; more on NSF GRFP (see "Fellowship Info" on the right for more)

Feb. 2: Guest talk from Robert Leonard (GT grad) about U. Oregon's Professional Master's Program

Feb. 9: applying to grad schools; personal statements Personal statement tips

Feb. 16: Cover letter tips; careers and internships

Feb. 23: Lagrangian/Hamiltonian

Mar. 2: Stat Mech

Mar. 9: Thermodynamics

Mar. 16: Thermodynamics (cont.)

Mar. 23: Spring Break!

Mar. 30: Optics

Apr. 6: Physics GRE sample test

Apr. 13: proposal cross reading

Apr. 20: go over GRE; turn in final proposals

consider this merely one possible timeline

GT Spring All Majors Career Fair

http://career.gatech.edu/

https://career.gatech.edu/spring-all-majors-career-fair

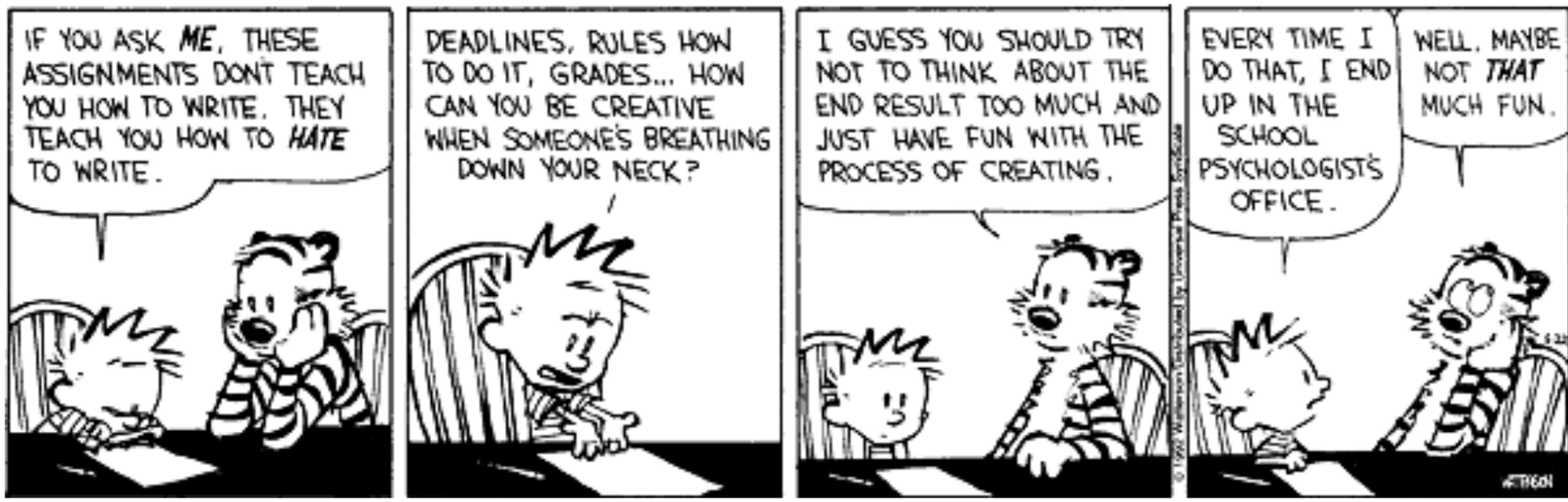
McCamish Pavilion

Thurs. Jan. 25, 9:30am until 4:00pm

Attendance is **optional** for this class, but I will give you extra credit!
(take a selfie of yourself there in appropriate attire and email it to me)

Okay, what else do you have to do?

- write a **résumé**
- attend two (science) seminars and write a half-page **review** (spread throughout the semester)



One of the following:

- write a cover letter for a job
- write a personal statement for graduate school

Proposal:

- a research proposal suitable for the NSF graduate fellowship (two pages, including references, in Latex)

GRE preparation

- a **survey** of graduating seniors in 2015 revealed inadequate preparation for the GRE as a contributor to some low scores

- GRE Physics score is one of the two most important factors in getting into a graduate school! (*unfortunately*)

One of the most useful comments received:

"I don't feel like there is any specific guidance about how to apply to grad schools or what the GRE will be like built into the curriculum. Maybe some kind of 1-2 hour course telling you all about how to transition to grad… would be a cool class. Of course it could also address how to enter the other areas, like industry or a national lab. It could talk about the GRE and how it works and how to study for it, etc. A course like this would do a lot to help students decide what they want to do after grad school."

A few career resources

among many others

http://www.prosperousphysicist.com/

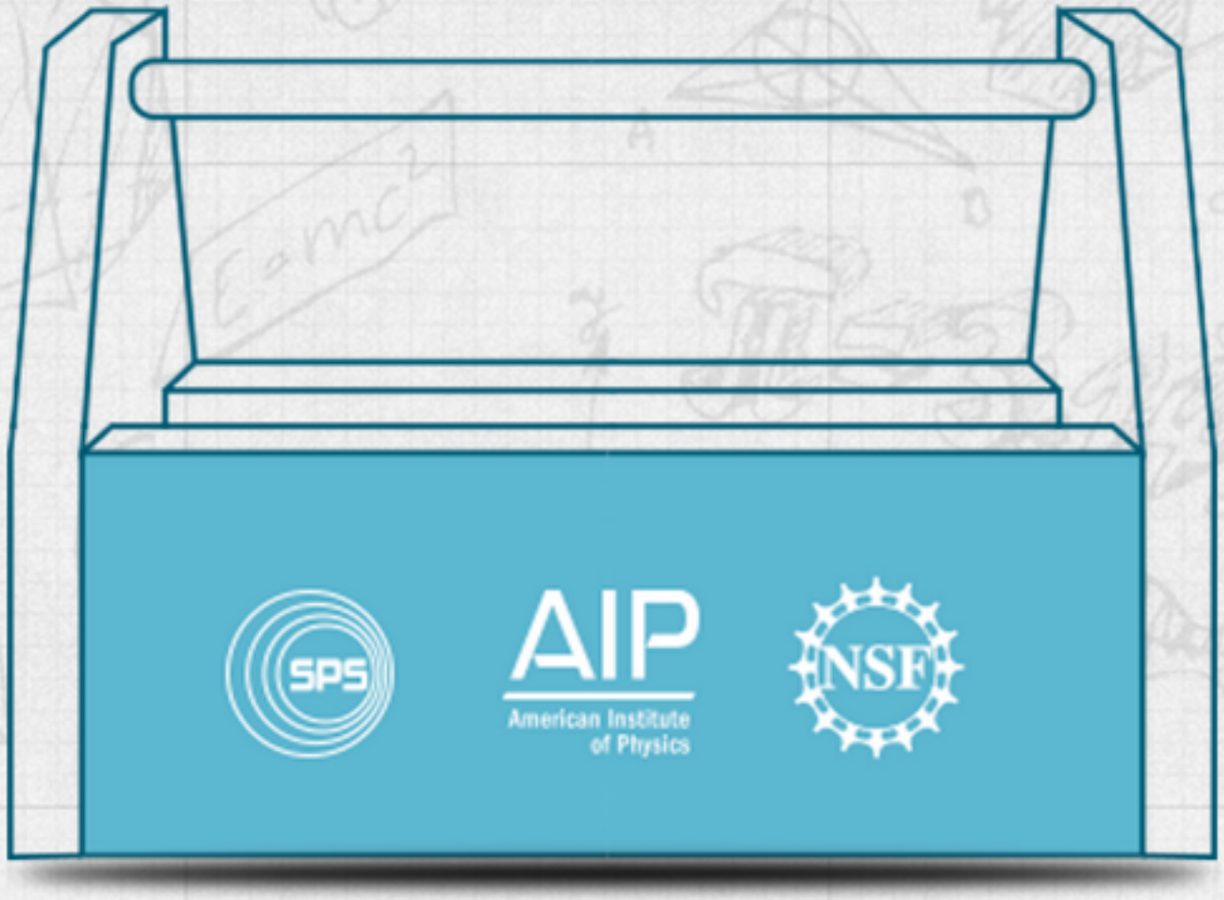
PROSPEROUS PHYSICIST

Accept No Career Limitations

http://www.physics.org/careers.asp?contentid=381

http://www.aps.org/careers/guidance/development/index.cfm

http://www.spsnational.org/careerstoolbox/



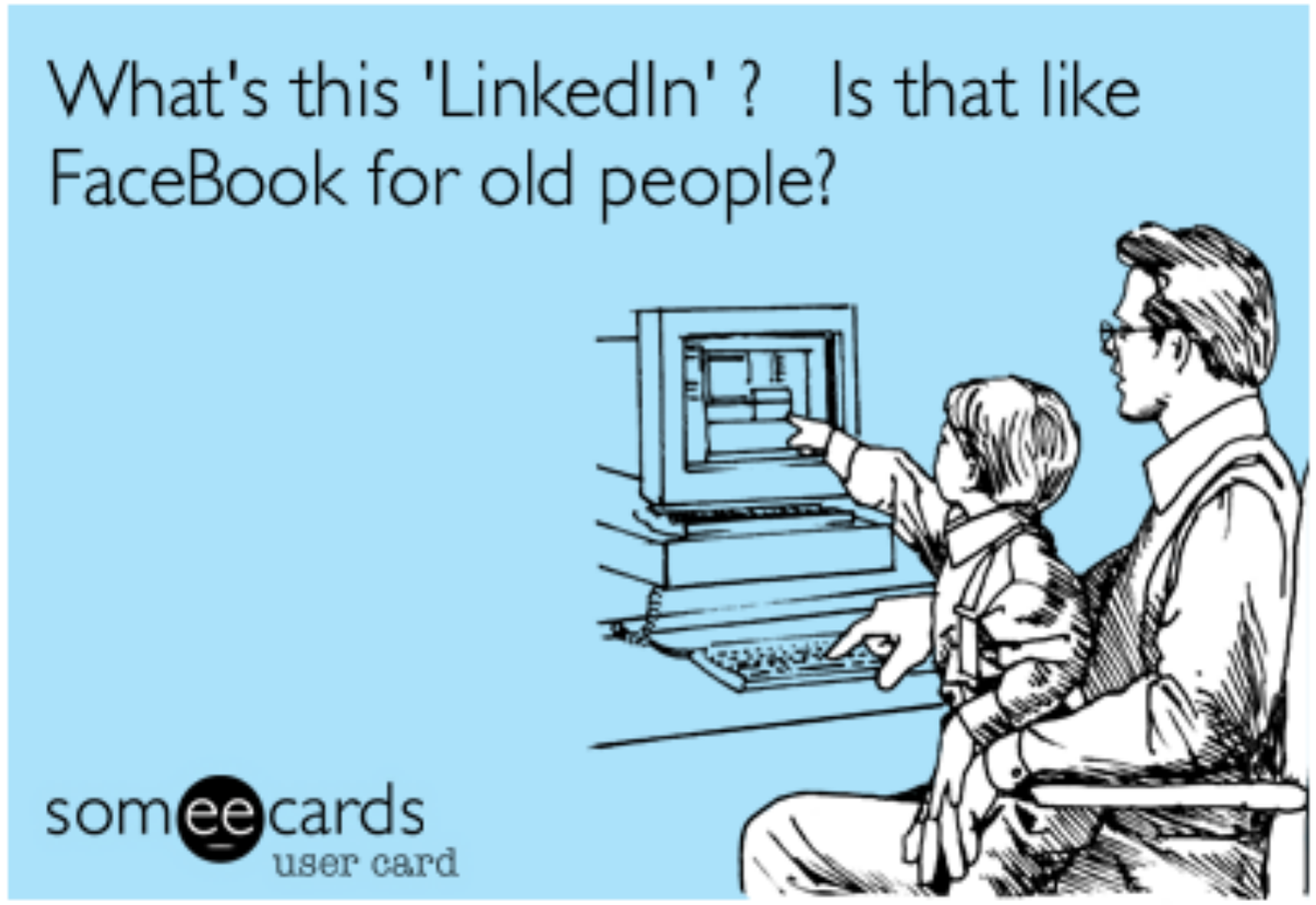
Careers Toolbox

for Undergraduate Physics Students*

includes guide for making a résumé! (see links on course webpage)

LinkedIn

I assumed this for a long time, but…



1) 94% of recruiters use, or plan to use social media for recruiting. This number has increased steadily for the last 6 years.

2) 89% of all recruiters report having hired someone through LinkedIn. Facebook and Twitter trailed by a wide margin, reaching only 26% and 15% respectively.

https://www.linkedin.com/in/jcgumbart

http://blog.capterra.com/top-15-recruiting-statistics-2014/

Slack

https://gtphysics.slack.com/

Slack is a team communication tool

We are using it in the School of Physics to manage discussions in various groups, announce events (seminars!), etc.

To sign up, you just need to use your GT email address