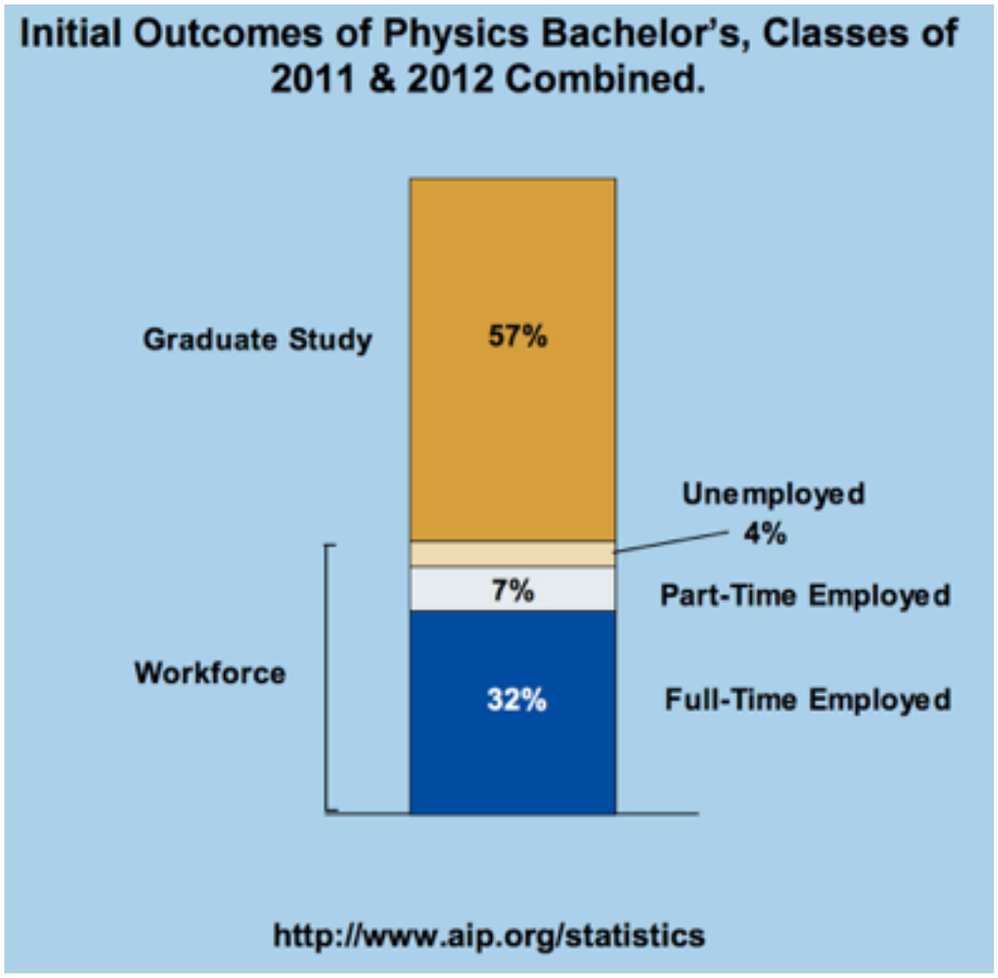
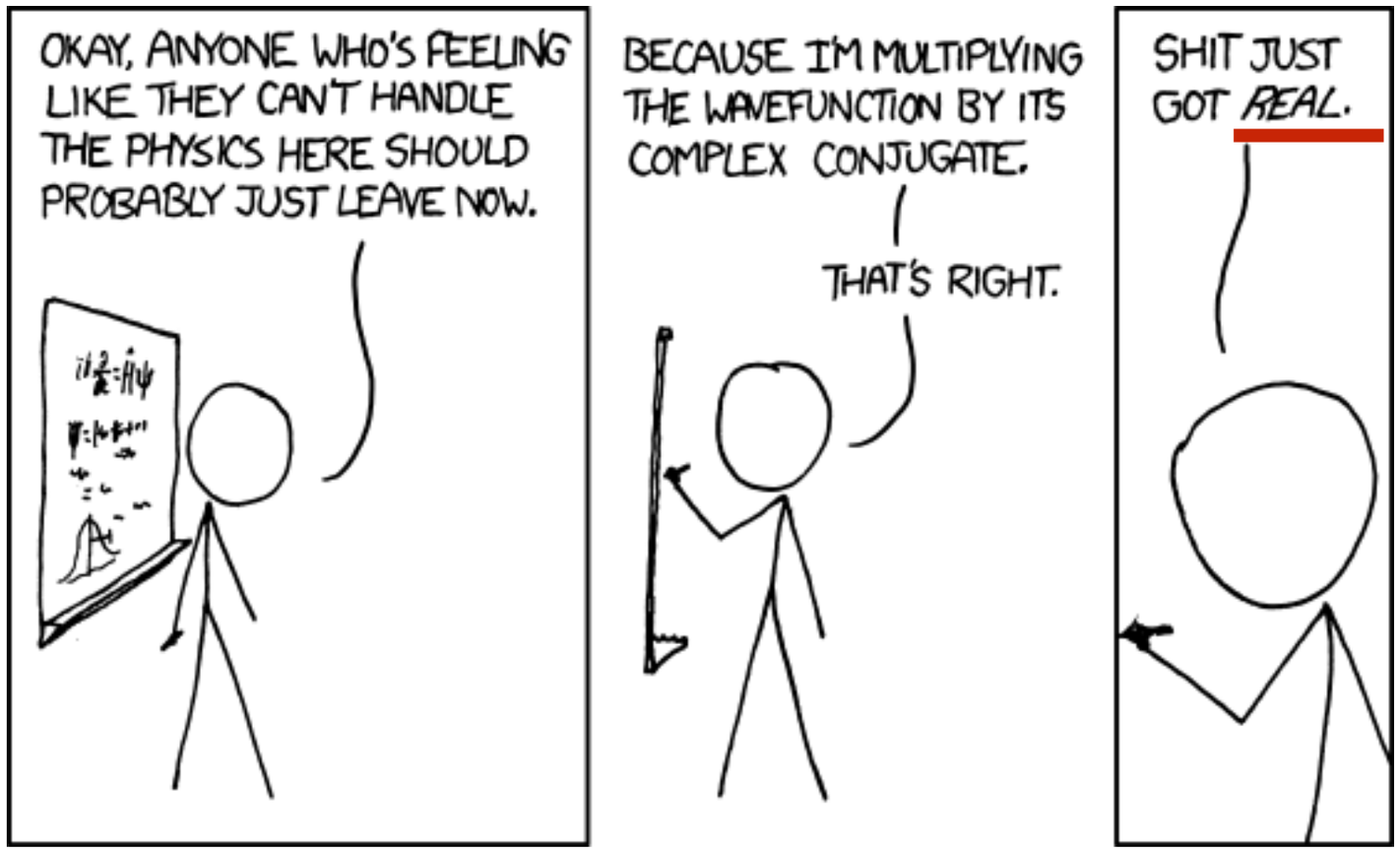
Physics 4601

Senior Seminar I





James C. (JC) Gumbart

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

School of Physics | Georgia Tech | Fall 2016

What senior seminar **is**:

Exploring career options…

all images © jorge cham

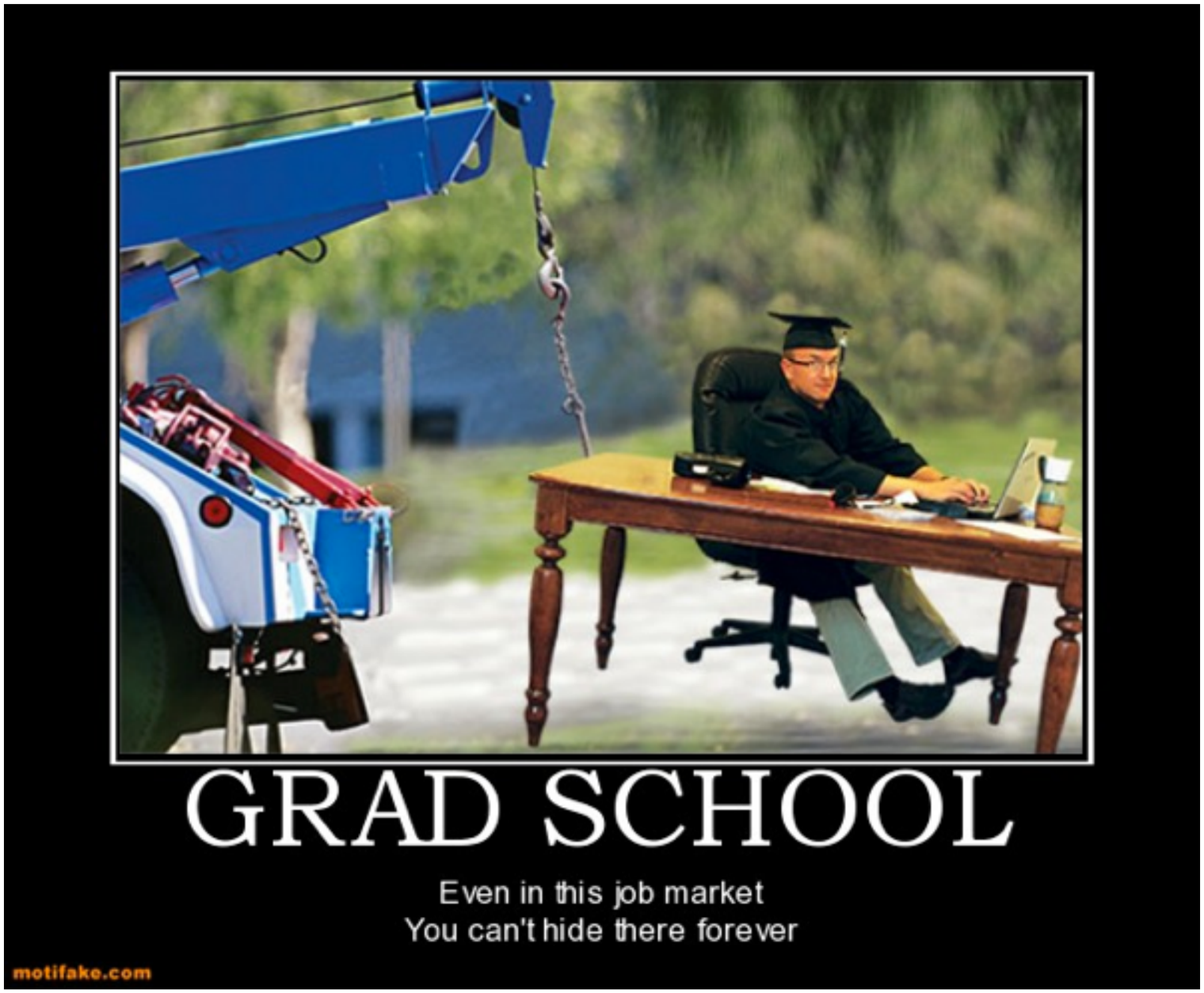
RSS

Emergency Button

What senior seminar **is**:

and avoid unemployment!

What senior seminar **is**:



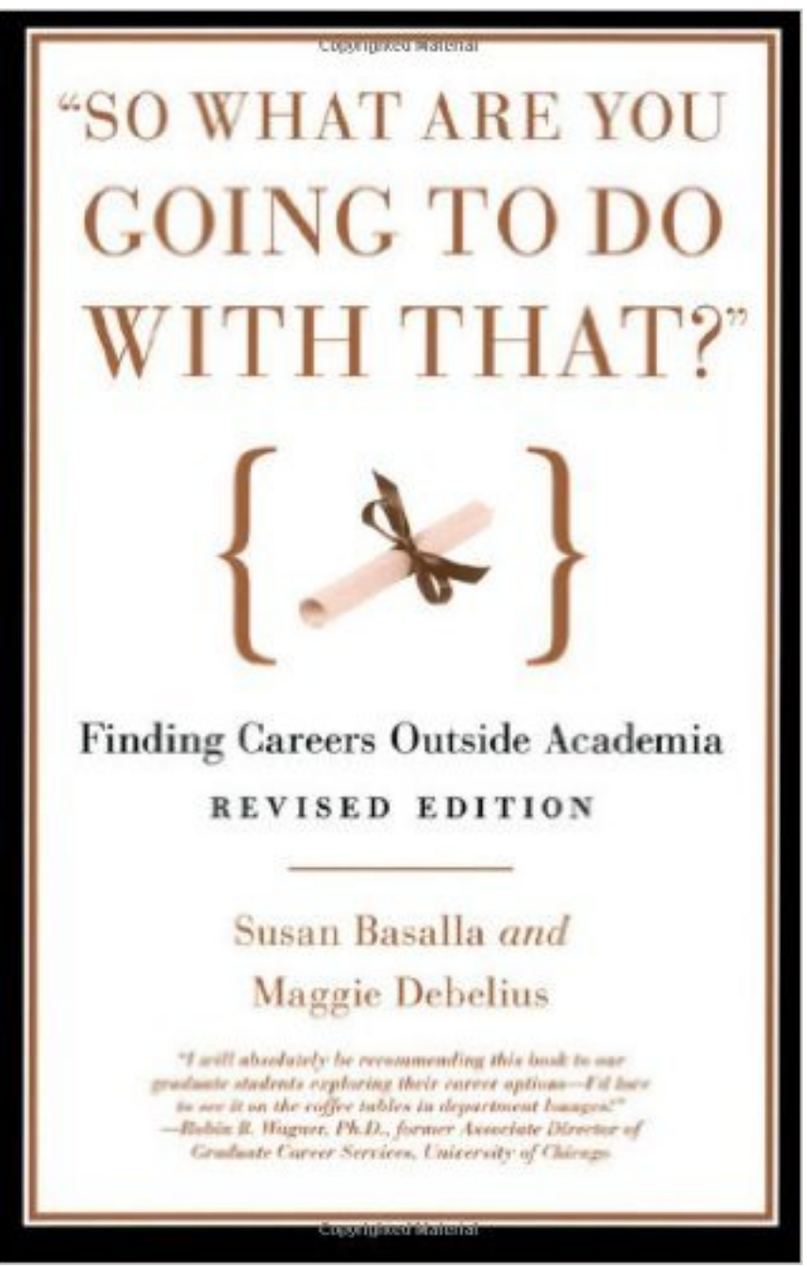
Even if you are going to grad school, you are not immune!

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.

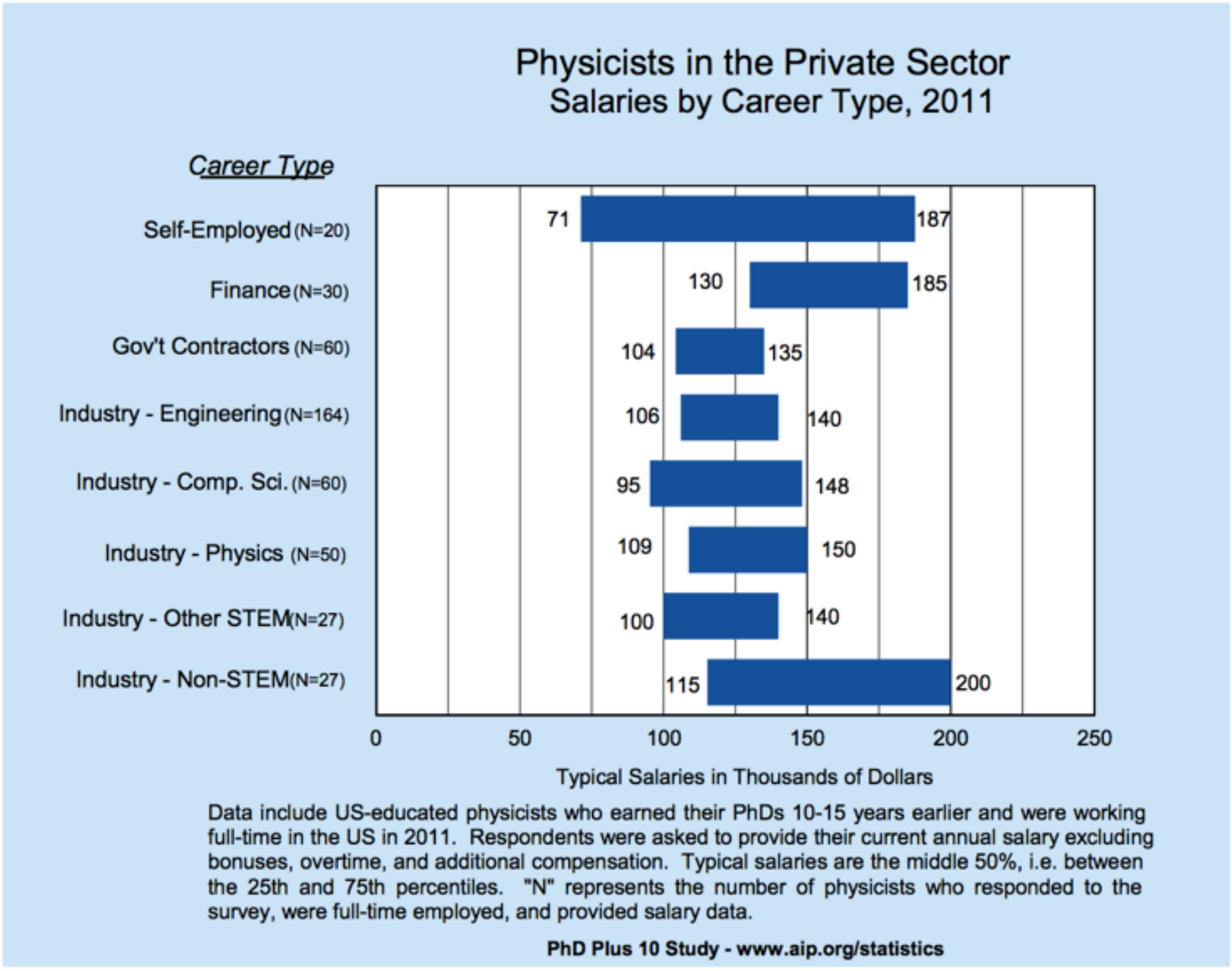
Every year US research universities hire about 200 new tenure-track physics faculty across all sub-disciplines.

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

choose graduate schools to which to apply

learn how to write a proposal

Syllabus and other important resources can be found here:

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

Schedule

Aug. 26: Intro, proposals

Sept. 2: guest lecture on résumés

Sept. 9: résumé cross-reading and 1-minute pitch

Sept. 16: Physics GRE

Sept. 23: Lagrangian/Hamiltonian

Sept. 30: Stat Mech I

Oct. 7: Stat Mech II

Oct. 14: other topics(?)

Oct. 21: proposal check-in and cross-reading

Oct. 28: applying to grad schools

Nov. 4: grad students(?)

Nov. 11: visitor?

Nov. 18: check-in

Nov. 25: Thanksgiving Break

Dec. 2: no class; proposals due

consider this merely one possible timeline

GT Career Fair

http://careerdiscovery.gatech.edu/

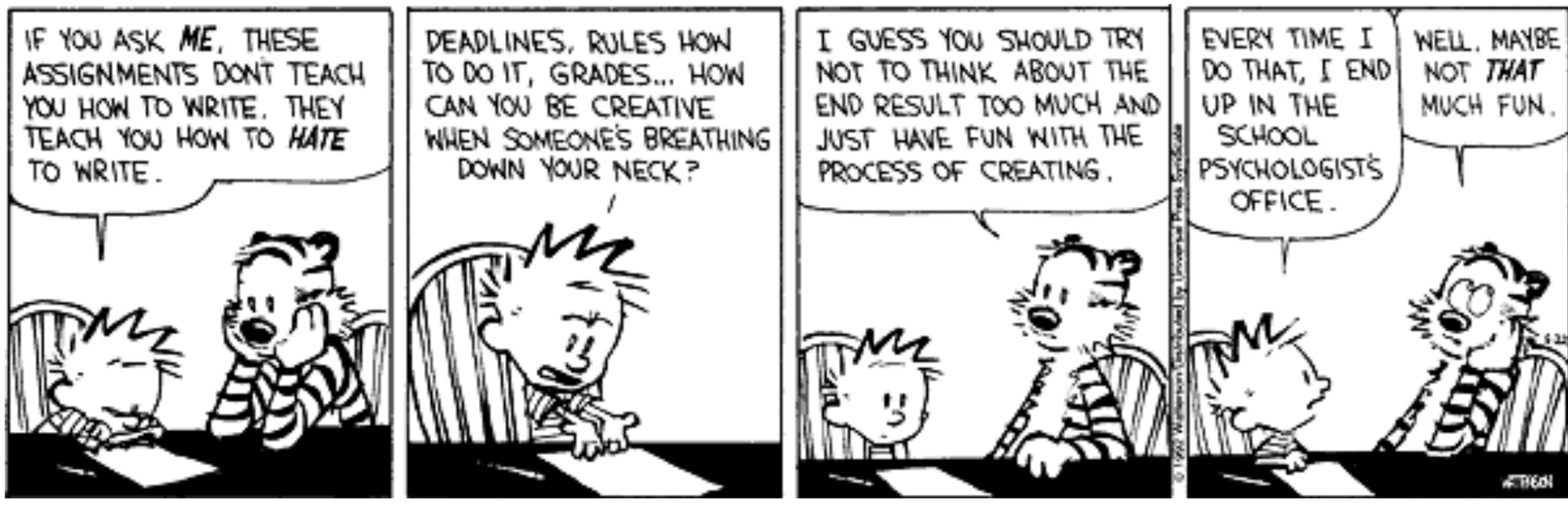
CRC
September 12 and 13,
9:30am until 4:00pm.

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 three physics colloquia and write a half-page **review**



One of the following:

- write a cover letter for and apply to 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 (starting next week)

- 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/

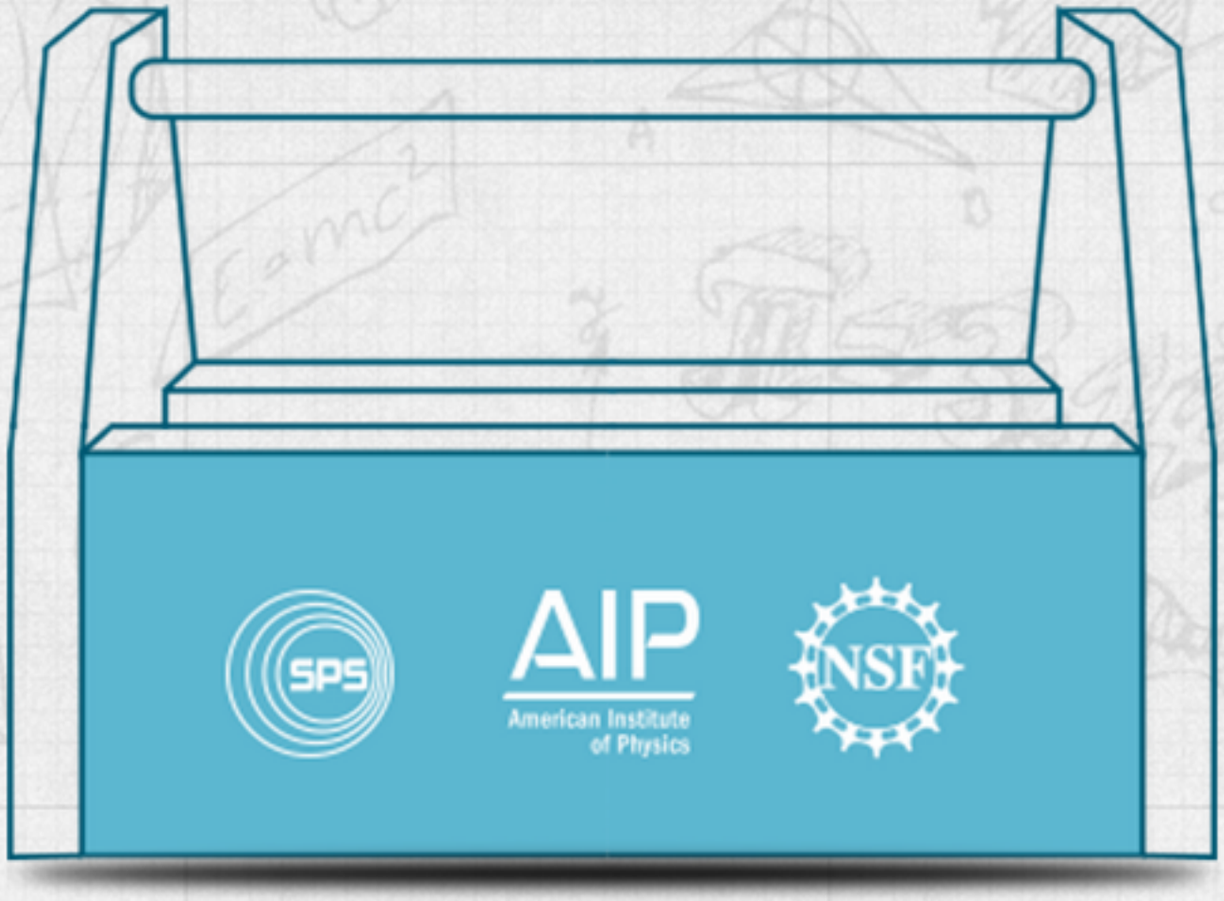
PROSPEROUS PHYSICIST

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/



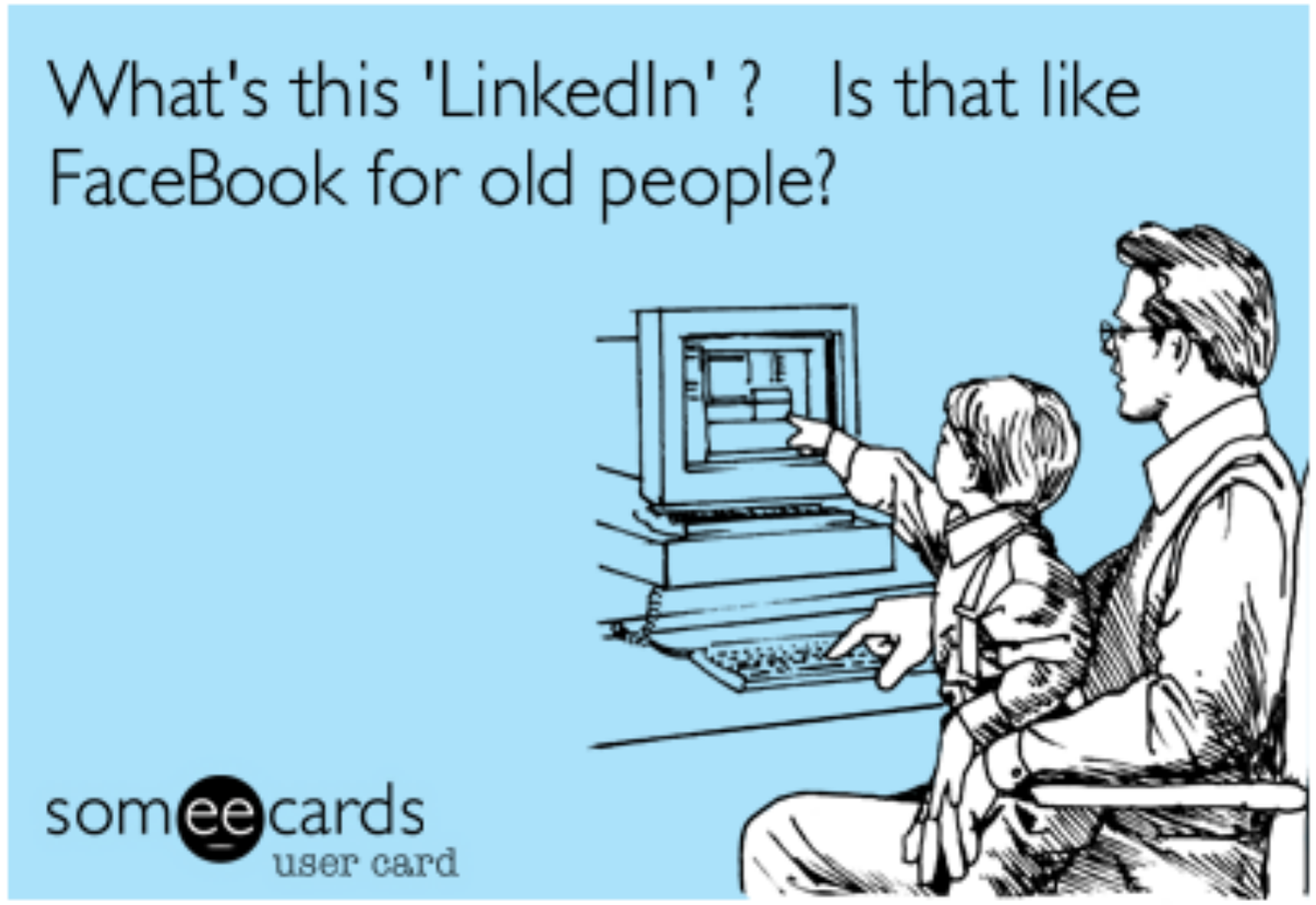
Careers Toolbox

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/