Physics 4601
Senior Seminar I

Initial Outcomes of Physics Bachelor’s, Classes of 2011 & 2012 Combined.

- Graduate Study: 57%
- Unemployed: 4%
- Part-Time Employed: 7%
- Full-Time Employed: 32%

http://www.aip.org/statistics

Okay, anyone who’s feeling like they can’t handle the physics here should probably just leave now.

Because I’m multiplying the wavefunction by its complex conjugate.

That’s right.

Shit just got real.

James C. (JC) Gumbart
http://simbac.gatech.edu/phys4601/

School of Physics | Georgia Tech | Spring 2020
What senior seminar is:

Exploring career options…
What senior seminar is:

**UNEMPLOYMENT**
sucks when your job gets blow'd up

and avoid unemployment!
What senior seminar is:

**GRAD SCHOOL**

Even in this job market
You can't hide there forever

Even if you are going to grad school, you are not immune!
What senior seminar is:

I highly recommend graduate school as a way to avoid the real world for 2 to 5 additional years. **5-7 (or 8 or...)**

But we’ll talk about how to 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 a new grad student has <10% chance of 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!

Physicists in the Private Sector
Salaries by Career Type, 2011

Career Type
- Self-Employed (N=20)
- Finance (N=30)
- Gov't Contractors (N=60)
- Industry - Engineering (N=164)
- Industry - Comp. Sci. (N=60)
- Industry - Physics (N=50)
- Industry - Other STEM (N=27)
- Industry - Non-STEM (N=27)

Data include US-educated physicists who earned their PhDs 10-15 years earlier and were working full-time in the US in 2011. Respondents were asked to provide their current annual salary excluding bonuses, overtime, and additional compensation. Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles. "N" represents the number of physicists who responded to the survey, were full-time employed, and provided salary data.

PhD Plus 10 Study - www.aip.org/statistics

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

figure out how to apply to graduate schools

learn how to write a proposal
Syllabus and other important resources can be found here:  

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

Schedule

Jan. 10: Intro; summer internships
Jan. 17: guest lecture on résumés and cover letters examples
Jan. 24: résumé cross-reading and 1-minute pitch
Jan. 31: “alternative” careers (outside of academia)
Feb. 7: applying to grad schools; personal statements
Feb. 14: personal statement/cover letter cross-reading
Feb. 21: NSF GRFP – (see “Fellowship Info” on the right for more)
Feb. 28: scientific papers and publishing
Mar. 6: GRE prep
Mar. 13: No class
Mar. 20: Spring Break!
Mar. 27: GRE prep
Apr. 3: Physics GRE sample test
Apr. 10: guest lecture on IP Law
Apr. 17: proposal cross reading
GT Spring All Majors Career Fair

http://career.gatech.edu/
https://career.gatech.edu/spring-2020-all-majors-career-fair

McCamish Pavilion

Wed. Feb. 5 & Thurs. Feb. 6, 9:30am until 4:00pm

Even if you aren’t sure what you want to do, consider going! I will excuse one absence if you go and take a picture of yourself there!
Okay, what else do you have to do?

résumé:

• shouldn’t you have already done this?

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 research fellowship (two pages, including references)
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


https://www.aps.org/careers/guidebook/index.cfm
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