How To Succeed In Graduate School

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Alternate Titles

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- Example talk prepared on low sleep, high stress, while working on paper deadline

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- They offered me food
  - Turns out ice cream is free @4p and for everyone

Motivation

- Graduate school is a juggling act
  - drop 1 ball $\rightarrow$ drop all the balls
- Emotionally challenging in addition to intellectually
- Hardest things you've attempted (probably)
- (Some?) Decisions now can affect your entire career
- Getting the right start is critical

Talk Outline

- Informal talk! – stop me and ask questions
- Immediate advice
  - picking classes
  - choosing advisors

- Coping strategies
- Goals for graduation
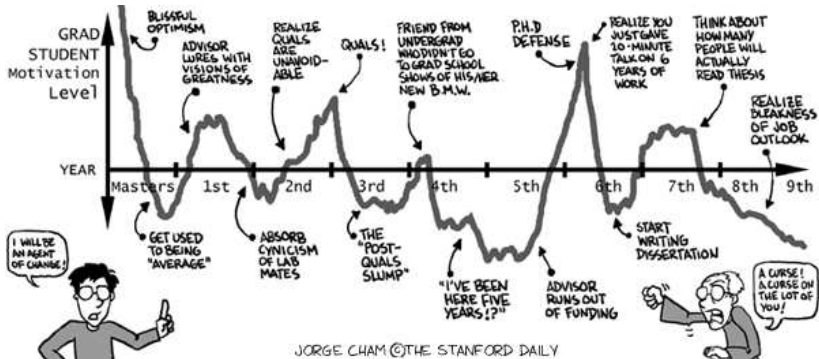 - know what you're shooting for

TODO List For First 2.5 Years

- Pick and pass classes
  - get at least 5 A's, 2 B's
- Find advisor
- Choose subject, start research
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- Problem:
  - all in parallel
  - plan for false starts

Time line

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Picking Classes (1/2)

Quick advice:

- Don't take 3 classes first semester
- Try to offset heavy programming classes with theory classes
- Picking 2 areas you don't want is easier then 5 you do
- Not all classes are offered all semesters, so plan ahead
- Find out the workload in advance

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Picking Classes (2/2)

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- Impress someone who is not (going to be) your advisor
  - Four(!) letters of recommendation
- Taking classes for easy A is a waste

A Case Study

A positive example how to balance course
work with research:
(cue Penelope)

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Advisors are important:

- Teaches you how to do research
- Helps direct your research
- Pays for you
  - essentially required past guaranteed funding
- Chairs your thesis committee
- Writes a letter of recommendation

- Finding advisor sooner is better
  - start learning/doing research faster
  - secure funding
- Changing advisors is suboptimal
  - may lengthen time to graduation
- Your current advisor is not automatically your academic advisor
- "Choose Wisely"

Critical Point: Choosing someone with whom you work well is almost as (more?) important as someone in your exact area.

Choosing An Advisor (4/4)

Critical Point: Choosing someone with whom you work well is almost as (more?) important as someone in your exact area.

- Graduate school is like an apprenticeship
  - interpersonal dynamics different then regular workplace
- Advisors are not machines
  - … if you think grad school is hard, try being an Assistant Professor
- Students trade-off work-style vs. area compatibility

Student/Advisor Work Styles

Main variables:

- Micro-management/interactivity level
    - see advisor once every few months
    - weekly meetings
    - sits over-shoulder and suggests alternate coding styles
- Motivation level
    - gives comments only at annual grad review
    - helps set short term goals
    - demands daily progress reports

- Number of students
- Availability/reliability of funding
- Sends students to conferences
- Encourages internships
- Students graduated/time to graduate

New faculty

- New ideas, highly motivated
- Similar to startup
- Less funding(?), fewer contacts, less experience

Senior faculty

- Established contacts, large grants
- Similar to big business
- Existing projects, tenure>motivation(?)

Courting Potential Advisors

(increasing commitment)

1. Talk to them/their students
2. Ask them for papers to read
3. Take their class
4. Get involved in existing research projects
5. Work for them over the summer
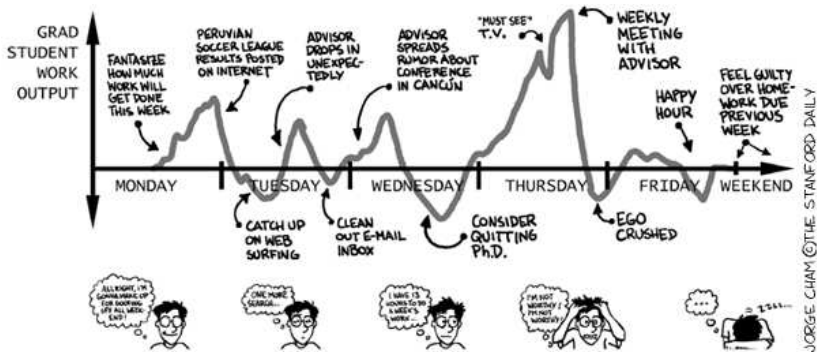6. Become their RA

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Self-doubt:

- Get used to feeling average
  - your classmates are also brilliant

- Impostor syndrome
- Lots of people think about quiting
  - few people actually do it
- Your worries are successfully satirized by a web comic
  - www.phdcomics.com

Grad school is stress, time management

- Find something to do that doesn't involve computers
  - Cooking, Photography
  - Terrapin Trail Club
- Physical activity encourages mental activity
  - our gym is awesome; use it
- Taking a break can be more productive then trudging through

Lots of resources available

- Get to know people outside of your lab (or department!)
  - Grad pub – happy hour for grad students
- Executive Council
  - Coffee hour
  - Picnics/Movie night
  - Grad lounge
- AWC/ACM student chapters

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The End State: Graduation

I know you just got here, but...

- How do you want to use your PhD?
  - Industry
  - Academia: teaching vs. research
- Graduating alone is not sufficient
  - accomplishing the bare minimum will probably not get you the job you want
- Don't need to decide now, but important to consider

Longer Term Thoughts To Consider (1/2)

- Starting research earlier graduates you earlier
- Many academic positions require four(!) letters of recommendation
  - work with many people
  - diverse publications can be a plus
- Internships can be good
  - $$$
  - application dates are earlier then you think

Longer Term Thoughts To Consider (2/2)

- Get involved/present a paper at syschat/dbchat/aichat/...
- Try to attend nearby conferences
  - get to know the names of researchers outside UMD
- Given the opportunity to learn a new skill, not directly related to your research, take it

Conclusion

- Classes aren't just about learning
- Advisor's work-style is critical
- Grad school is supposed to be hard
- Keep the end goal in mind, even if it's far away

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- Register NOW for a parking permit
  - the Undergrads are coming...