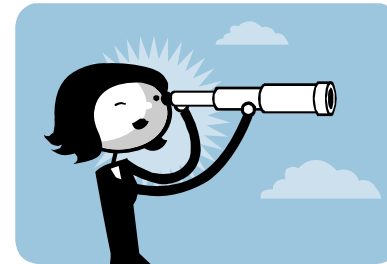


# A Successful Graduate Life And Beyond



“To know the road ahead, ask those coming back.”

- Chinese proverb



The long and winding road ...often bumpy.



## The Feynman Problem Solving Algorithm

- Write down the problem
- Think very hard
- Write down the solution

## “What the hell am I doing here?”

- Long hours, low pay
- Pitfalls along the road
- Is this undertaking needed for your goals?



## Academia is Business

Remember the golden rule:  
“Those with the gold make the rules”

It is very very hard to get money. Your advisor has to sweat to get the money.

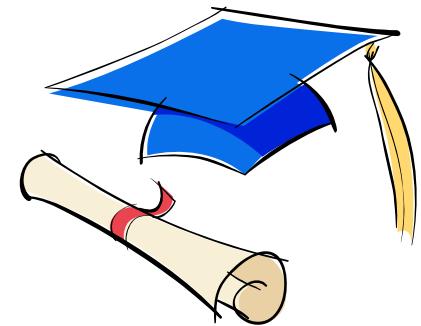
### Bottom line:

Realize that academia is a peculiar kind of business and the role you play in this enterprise.



## Graduate School is a Different Ballgame

“Don’t let school get in the way of your education”  
Mark Twain



Grad school is different from undergrad education

Your research output is your metric..  
not your course grades

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## Strengths of a Successful Graduate Student

- Discipline..tenacity..initiative
- Organizational skills
- Interpersonal skills..networking ability
- Flexibility
- Communication skills
- Balance and perspective



## Discipline..tenacity...initiative

- There is no such thing as free lunch.
- When the going gets tough, the tough get going.
- One should be “thick skinned”. You cannot finish your dissertation without being tenacious and patient.
- Do something every day that gets you closer to being done.
- The dissertation represents a focused, personal research effort.
- Show initiative and come up with research ideas.
- Guidance from the advisor should be a high level..not at the micromanagement level. Be more assertive and productive.
- Demonstrate decision making skills at some level.





## Organizational skills

- Failing to plan is planning to fail.
- You need to uphold your responsibilities.
- If you are not well organized, you will not meet those obligations.
- Set goals..short term ..long term
- Time allocation..you have no more than 24 hrs/day.
- Organize your tasks as if you were juggling them.



## Interpersonal skills..networking ability

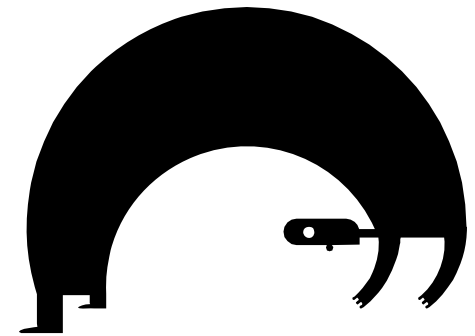
- Cultivate interpersonal relationships.
- Success depends on your relationship with your research group.
- Realize that different people work in different ways and are motivated differently..realize this diversity.
- Collaborate, share ideas..key to more productivity
- Join reading groups, engage in discussions.
- Attend conferences, meet researchers, folks from the sponsoring agencies...



Networking is the first step towards a career after graduation.

## Flexibility

- Take advantage of opportunities and synergies.
- Work around problems.
- Be willing to change plans as required. ADAPT!
- You are not in charge of events.
- Be flexible in your approach and research..recognize the opportunities and take advantage.



## Communication Skills

“Present to inform, not to impress; if you inform, you will impress”

### Some Presentation Tips

- Organization Matters
- Legible Slides
- Make your talk interesting
- Don't block the screen
- Point out limitations..increases credibility



“What is written without effort, in general, is read without pleasure”  
- Samuel Johnson

- Write regularly
- Break it down
- Technical writing is different..simple and direct
- Set goals. Schedule time
- Communicate with your advisor and group..  
weekly reports..
- If you crack a problem, let your team know.
- Read...it is a learning process..  
more you read the better you write
- A paper well written is half accepted..



## Balance and Perspective

“Generally speaking, people provide better maintenance for their cars than for their own bodies.”



- There is more to life than graduate school.
- Keeping your health and sanity intact is crucial.
- PhD is like a marathon, not a 100 m dash.
- Learn to pace yourself and take care of your body.
- Take short breaks..engage in other recreational activities for relaxation.
- Easy to lose perspective, your self esteem and confidence.
- Stay in touch with the real world...be reminded that you are here because you have the potential, skills and confidence... you need to preserve them when the going gets tough.

## A High Level of Awareness

- Literature
- Advanced topics, math courses (strongly recommended)
- Think outside the box..
- Peers, Other research groups
- Books, Monographs
- Journals
- Conferences, Workshops
- Funding agencies
- Graduate Fellowships and Grants
- Societies, Membership Benefits

Read, Read and Read...





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“Dissertations are not finished; they are abandoned”- Fred Brooks

Ph.D. is the beginning, not the culmination, of your career.

If you speak to others who have gone through this process, you will be more productive and graduate faster.

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Ron Azuma. So long, and thanks for the Ph.D.

Stephen Covey. The 7 Habits of Highly Effective People.

Peter Feibelman. Ph.D. is Not Enough! A Guide to Survival in Science

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