Surviving Grad School
– Things they don’t teach in class –

Presented by: Livio Soares

Thanks to:
Ioana Burcea, Lesley Shannon, Denis Kouroussis, U of T
Ted Wong et. al., CMU
Coming to Grad School

- You have the ability to graduate

- YOU are responsible for graduating

- You get out of your degree only what you put into it
Outline

- Learn to survive and thrive
  - You and your advisor
  - The first year
  - Tips for research

- Some micro valuable advice
Advisor is your mentor, manager and advocate

Building your advisor relationship
- Meet regularly with them
- Communicate openly with them
- Accommodate their needs
- Make your needs clear

Changing advisors
- When: early (!) or between MASc and PhD
The First Year of Master’s Grad

- First year is mostly about the courses
  - Good grades are important
  - Research is also important (especially 2nd semester)

- Things to do:
  - Attend the Distinguished Lecture Series
  - Attend your Ethics and Research Seminar
The First Year of PhD Grad

First year is NOT all about the courses
- Good grades are important
- Qualifying exams are important (2nd semester)
- Research is also important (especially 2nd semester)

Things to do:
- Attend the Distinguished Lecture Series
- Attend your Ethics and Research Seminar
- It’s not *that* bad.
- Two single hour interviews each with two professors
- Questions about MASc research and ????
Why Research Could Be Difficult

- First major research experience
- No simple recipe
Becoming Self-Directed

- **Before:**
  - External deadlines
  - Self-contained problems

- **Now:**
  - Internal deadlines
  - Open-ended problems
Stages of Research

- Becoming a researcher in the area
  - Do your background reading
  - Get into the research community
  - Talk to your colleagues
    - Connections 2011
    - Systems research presentation
    - Reading groups (CARG, SSRG, ...)

- Thesis Proposal

- Producing Results
  - Yes, this does include publications
Stages of Research (cont’d)

- Writing
  - Sell your research
  - Get it previewed, don’t save it to the end

- Presenting
  - Practice, practice, practice
Goals of Research

- Be clear about your goals

- Possible Goals:
  - Finish MASc, get a development job
  - Do a PhD, then go to a
    - Development job
    - R&D Lab
    - Teaching Staff
    - Faculty Member

- Each goal requires a different approach to your degree
Goals of Research (cont’d)

- Talk about these plans with your supervisor

- You CAN change your mind, but be prepared to change your tactics and do more work

- Remember you get out only what you put in

- No matter what you want to do: NETWORK!
FUD: Fear, Uncertainty and Doubt

- “I don’t belong here.” : Imposter Syndrome
- “I’m the only person having a hard time.”
- “I’m struggling in / failing a class.”
Beating FUD

- Talk to students
- Talk to your advisor
- Talk, talk, talk
  - Grad coordinator (David Lie)
  - Grad Office (Darlene Gorzo, Willy Wong)
  - University Student Services
Distractions (the GOOD and the BAD)

- The Bad: Moderation required
  - Supremely beautiful code (aka “Hacking is not research”)
  - Surfing the web
  - Video games
  - Side projects

- The Good:
  - Help out fellow students
  - Be involved in group social events
  - Stay active… play ball
  - Interact with NON-Technical People
  - Piled Higher and Deeper (www.phdcomics.com)
Micro Advice

- A) Never surprise or be surprised by your advisor
- B) Never surprise the Grad Office

- Once an advisor, always an advisor

- Talk with other students and faculty to get an outside perspective on your research
If you want to work, then WORK, If you want to play, then PLAY

Make the first hour of your day a working hour

Keep outside interests and activities
Micro Advice

Your thesis has less to do with your career than you think

What you can say about your thesis has more to do with your career than you think
Be honest to yourself about your abilities and limits

Be willing to ask for help from fellow students and faculty
Tons of online resources

- Blogs of experienced faculty:
  - Matt Might (Utah) – matt.might.net/articles
  - Matt Welsh (Harvard) – matt-welsh.blogspot.com
  - Dave Andersen (CMU) – dga.livejournal.com

- “How-to” advice (millions of hits on Google)
  - Write papers
  - Give talks
  - Find research topics
  - Attend conferences
LASTLY

HAVE FUN!
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The Research

Usually...

- M.A.Sc. : Project that your advisor KNOWS will work
  - Proposal (end of 1\textsuperscript{st} year )
  - Defense (end of 2\textsuperscript{nd} year)

- Ph.D. : Project that your advisor THINKS will work (aka “New Work”).
  - Qualification exam (in your 1\textsuperscript{st} year around Feb.)
  - Proposal (in your 2\textsuperscript{nd} year around Oct.)
  - Reviews ( end of 3\textsuperscript{rd} and possibly 4\textsuperscript{th} year)
  - Defense (internal & external)
Changing Thesis Topics (the dark side)

- **When to do it:**
  - Early, Early, Early!
    - MASc: By end of courses/first summer
    - PhD: By end of first year/fall of second year

- **Why do it:**
  - Found the “Holy Grail” and can complete it quickly
  - Cannot be completed in a reasonable time frame
  - No interesting new work (PhD = New Work)
  - Loathe and Despise the topic**

- TALK TO YOUR SUPERVISOR FIRST!
The professors do not do this.
You will not be able to answer all their questions.
The key is your methodology for trying.
You only need 3 out of 4 to pass you.