

### **MSc Thesis** Orientation

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### Contents

- Welcome
- Thesis research
- Thesis myths
- The CS Dept. & you
- You and your supervisor
- Writing a thesisThe examination
- Any problems ⊗
- How to be a bad student
- Introduction to Research in Computer Science



### Thesis research

- Objectives are to show that:
  - You can work independently on a significant project
  - "Master" a topic in detail
  - Work in a methodical and scientific manner
  - Present your results or findings in a professional manner
  - (...training for PhD research...)



### Thesis research

- 1st time you've not had
  - Regular lectures
  - Assignments
  - Hand-in deadlines
  - Exams
  - Regular feedback
  - Colleagues



### Thesis research

- Thesis research can be
  - Lonely
  - Disorientating
  - Confusing
  - Frustrating
  - **...**
  - Very rewarding



### Thesis research

- To counter the negative aspects you need
  - Structure
  - Planning
  - Discipline
  - Motivation
  - Support



# Thesis myths

- If I pay my fees I get the MSc
- Everyone who is admitted gets the degree
- My supervisor will do the hard work
- I can take as long as like writing up

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## The CS Dept. & You

- The CS Dept. provides:
  - A desk
  - Access to computing facilities
  - Access to the Internet, printing and photocopying
  - Technical support
  - A supervisor

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## You & Your Supervisor

- This relationship is crucial
- You should meet regularly
  - Once a week or so
- Quality time is important

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## You & Your Supervisor

- You should
  - Go to meetings with a list if items to cover
  - Take notes
  - If required give you supervisor something to review in good time before the meeting
  - Make a date and time for the next meeting

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## You & Your Supervisor

- Your supervisor will:
  - Provide you with guidance
  - Instruct you were to start researching
  - Give you feedback
  - Encourage you
  - Criticize you

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## You & Your Supervisor

- Your supervisor will NOT:
  - Do work for you
  - Give you a step-by-step plan
  - Debug your code
  - Correct your English

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## Writing a Thesis

- The hardest thing you've ever done?
- The Thesis is the goal
  - If your program is 100% perfect
  - But your thesis is poor

### YOU FAIL !!!

■ There is no 2<sup>nd</sup> chance

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## Writing a Thesis

- Plan (and keep to it)
- Work backwards from submission date
  - 2 weeks for binding
  - 2 months to finish off the write-up
  - 1 month for evaluation
  - 2 months for coding
  - 1 month for design
  - 2 months for literature review
  - 1-2 months to decide on topic
  - ~ 11.5 months

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## Writing a Thesis

- Do not leave the writing until the end
  - Perfect code + poor thesis = fail
  - Poor code + good thesis = pass
- Write regular reports at each stage
- Give them to your supervisor (even if he/she doesn't ask for them)
- These will become the basis of your thesis

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## Writing a Thesis

- Keep a research diary or journal
  - Record what you read (and surf)
  - Takes notes when you read
  - Record what activities you do each day
  - Jot down ideas, notes to yourself
  - Periodically read back through

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### Writing a Thesis

- Give each chapter to your supervisor one at a time
- Write chapters in this order:
  - Background
  - Design
  - Implementation
  - Evaluation
  - Conclusions
- IntroductionFinally write the abstract

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## Writing a Thesis

- Before submitting have a friend proof read the thesis
  - (perhaps you could offer to proof read theirs)
- Spell check and grammar check
- Don't assume that the examiners will "figure out" what you mean

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### The Examination

- Deadlines (full time)
  - Start 1st semester, deadline = 15th Dec
  - Start 2<sup>nd</sup> semester, deadline = 1<sup>st</sup> May
  - Part-time students get an extra year
- Short extensions
  - Start 1st semester, extension = 28th Feb
  - Start 2<sup>nd</sup> semester, extension = 15<sup>th</sup> July
  - Short extensions are granted automatically by the HoD

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### The Examination

- Special Extensions
  - Granted by Dean of Science
  - Requires a good reason
    - Sickness
    - Absence of supervisor
    - Academic reasons
  - Can be granted for 1 or 2 months or a semester
  - Can result in loosing eligibility for MSc Honours

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### The Examination

- Submitting your thesis
- Follow the instructions in the UoA Guide to Theses and Dissertations
  - The University requires 2 hardbound copies
  - The Department requires 2 bound copies (which we pay for)
  - You probably want some copies
- Submit 2 hardbound copies of the thesis to the Graduate Centre (Clock Tower Building) by the deadline

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### The Examination

- The examination process
- 2 Internal Assessors read your thesis
- Each Internal Assessor writes a short report
- And recommends a grade
- An External Examiner reads the Internal Assessment reports
- Reads your thesis
- The External Examiner decides if the Internal Assessment is correct and recommends a grade
- The External's recommendation is final
- Takes about 6 weeks

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#### The Examination

### **VERY IMPORTANT**

- The External Examiner
  - Does not know you
  - Has never seen your computer program
  - Doesn't know you're an A+ student
  - Judgement is made ONLY on your thesis
  - Perfect program + poor thesis = FAIL

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## Any Problems 🕾

- 1st talk to your supervisor
- Then talk to me (I'm independent & confidential)
- Talk to the Graduate Centre
- You can change supervisors midway
- You can have two supervisors (even from different departments)

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#### How to be a bad student

- Do an MSc because it allows you to postpone your entry to the real world
- Or because your best friend is doing one
- Assume that your supervisor (being more than 30 years old) doesn't understand current techniques, and is not (and never was) as smart as you are

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#### How to be a bad student

- Never come to a meeting with your supervisor prepared with an agenda
- Don't take notes
- Assume if it's important you'll remember it
- Assume that what you're doing is so new that there's no point in going to the library because there will not be anything of relevance to you there.

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### How to be a bad student

- Expect your supervisor to give you a good thesis topic
- tell you exactly how to carry out the work, step by step
- Corollary: If your thesis is not going well, it's your supervisor's fault, not yours

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#### How to be a bad student

- Regard any ideas that your supervisor gives you for your thesis as your own
- and present them to the world as if you alone thought of them
- Frequently cancel meetings with your supervisor with little notice
- Assume that you can write-up the final thesis in a week or two

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#### How to be a bad student

- Don't bother checking any of your results or proofreading anything you write - that's your supervisor's job isn't it
- Regard your graduate education as a 10 to 4, Monday to Thursday job
- Plan to "get started tomorrow" after all you have a whole year!

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#### How to be a bad student

- Give the draft of your thesis to your supervisor on a Friday, so that they can give you feedback on Monday (after all your supervisor is a bit of geek and can't have much personal life)
- Assume that because your computer code works really well and the interface is so cool that you don't really need to write much of a thesis anyway

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## How to be a bad student

- Assume that your examiners will be able to figure out what you mean because they're smart people aren't they?
- Assume that paying your fees to the University means you must get some sort of degree, isn't that the deal?



#### Intro to Research in Computer Science

- New 4<sup>th</sup> Stage course
- No credit & free in 2004
- Will provide valauble assistance to MSc & PhD students
  Research methods
  Writing a research proposal

  - Literature review
  - Research techniques
  - Thesis writing workshopOverview of CS research

  - Every Wed 12.00 to 2.00 pm