Writing a master thesis at IFI

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(Thanks to Arne Mauss)
What is a master thesis (I)?

- Long thesis (most common)
  - 60 stp.
  - Approx. 100 pages (+/- 20)
- Short thesis – 30 stp.
  - 17 weeks
  - Fixed start and end date – firm deadline
  - 70 pages (+/- 20)
What is a master thesis (II)?

- **Not** like a written exam
  - A text that stands on its’ own feet
  - Re-thought and re-vised multiple times
- Independent work, but with guidance
  - Degree of independence and collaboration differ
  - Some will be part of the supervisor’s projects, others will develop their own project
- In any case: Adding a brick to a large construction built by students and researchers before you
What is a master thesis (III)?

- What you work with should be formulated as a question or a problem.
- Ask yourself: Where are the challenges in what I shall do?
  - E.g., the task is not to create a program, but to find out whether the program can solve a particular problem in an efficient/appropriate way.
- The result of what you make (e.g., program, prototype) is not so important.
- ...what is important is the insights you generate from the process.
- Failure can be every bit as interesting as success!
What will you learn?

Explore a topic in-depth, but perhaps more importantly:

• Learn to write a long report
• Learn the basics about doing research
• Learn to keep a focus over long time
• Learn to motivate yourself and overcome hurdles
• Learn to receive feedback and use it constructively
• …
Finding a topic and a supervisor

• Deadline for study plan agreement was 1. Dec. 2017
  – If you haven’t got a supervisor and thesis topic yet, try: http://www.mn.uio.no/ifi/studier/masteroppgaver/

• The thesis will be a big part of your life – choose a topic that appeals to you!

• If you can’t choose what you love, learn to love what you choose!
The supervisor and you

• The supervisor is there to help you improve your skills
  – Don’t be afraid to ask "stupid" questions!
  – Write and share texts with your supervisor from the start
  – Expect constructive criticism
• Make a (tentative) plan for supervision
  – Regular or ad hoc?
  – More frequent towards the end?
Deadlines – painful but useful!

• Discuss with your supervisor
• Frequent smaller deadlines or less frequent big deadlines?

https://www.flickr.com/photos/angelamaphone/5199296195
The essay

- Gets you started with writing
- Helping you get an overview – what is done before, where are gaps my thesis might fill?
  - Preliminary research question
  - Research methodology you plan to use
  - Progress plan
  - Theory and previous studies
- Text often reused in the thesis
- 10 - 15 pages
- Due 1st June
- Approved by your supervisor
- 1-2 cycles of feedback and revision before submission
Structure and content of a thesis

Variations, but generally:

- **Introduction**
- **Background, theory, methodology**
- **Presentation of the work**
  - e.g., data collection, experiments, design process, programming…
- **Analysis and discussion**
  - What have I found, what does it mean, why does it matter?
- **Conclusion and suggestions for further work**
- **Get inspired by previous IFI-students:**
  - https://www.duo.uio.no
Norwegian or English?

• A matter of expression
• A matter of communication
• Be consistent
  – Make the effort to translate English terms to Norwegian
• Thinking it through in your mother tongue to check whether it makes sense
With regards to writing your master thesis:

What are you looking forward to?

What, if anything, do you worry about?
Getting started with the writing

• Who are you writing for?
  – Imagine a fellow student with some knowledge about the field
• Where do you start?
  – Some prefer writing orderly, some prefer jumping between sections
  – Start with something easy or fun
  – Don’t be too critical in the first draft – you will revise it several times!
• A good research question helps you focus
Very Important Practicalities of thesis writing

• Never ever cut and paste the work of others! (But you can quote others if you do proper referencing.)
• Make sure that you do proper referencing
• When in doubt, consult “Search & Write”: http://sokogskriv.no/en/
• If still in doubt, ask your supervisor
Writing together?

• Two or more students collaborating
• Complete thesis together, “fork thesis”, or collaboration on experiments or data gathering
• Writing together can give drive, added creativity and support
• But discuss potential conflict areas in advance – how much effort, frequency of meetings, how will you handle disagreements, etc.
Writing your thesis with a company

- Motivating that someone waits for your results
- Learning about a company/industry
- Building network

- Ownership to ideas and products can become an issue
- The boundaries between thesis work and free labor is another potential area of conflict
- If you get a hunch of this becoming an issue – don’t delay discussing it with your supervisor
- Think through ethical issues in advance – what are you comfortable with developing?

http://www.publicdomainpictures.net/view-image.php?image=221774&picture=drone-over-city
Writing – making sense to yourself

• Don’t wait until everything is clear to you before you start writing
  – Reading, writing, data collection, designing – at the same time (with different weight)
  – For some, writing a work log/diary is helpful

• If you can’t formulate it, you probably haven’t finished thinking it through

• Expect to re-write the same chapter several times

• Writing a simple and clear text takes a lot of effort!
Writing – making sense to others

- Your reader cannot look inside your head...
- Write complete and coherent sentences – also for your supervisor
  - Spellcheck, Grammarly.com
- Guide the reader
  - Refresh their memory, sum up
  - Make bridges for your reader to transit between sections with little effort
- Signposting
  - I am aware of topic X, but this is outside my focus
  - I am aware of concern Y, and I will get back to that further down

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Writing style

• Conventions of your field
  – style is connected to epistemology (the approach to knowledge and insight in your branch of informatics)

• Personal style
  – Some write lush texts, others write austere texts

• Cultural differences
  – e.g., Dostojevski vs. Vesaas

• Finding your style within the conventions of your field
  – If you are in doubt, discuss with your supervisor!

“There is something at the bottom of every new human thought, every thought of genius, or even every earnest thought that springs up in any brain, which can never be communicated to others, even if one were to write volumes about it and were explaining one’s idea for thirty-five years; there’s something left which cannot be induced to emerge from your brain, and remains with you forever.”

“Ein sjølv står i bøkene i alle slags forkleddningar.”

Fjodor Dostojevski

Tarjei Vesaas

https://commons.wikimedia.org/wiki/File:Dostoevskij_1876.jpg
Utilize the student community

• Much to learn from each other about how to write a master thesis
  – How to organize your studies?
  – How to handle studies and work?
  – Experiences with supervision
• Organize reading groups
• Attend breakfast meetings, public seminars, see relevant movies…
• Support from someone who shares your struggles – and your joy!
Expect a crisis (or several)!

Such as:
• Theme is too broad and too difficult
• Experiments do not go according to plan
• Struggles with writing

New understanding is built from the rubble of ideas that have fallen apart.

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When your mind tricks you (I)

The impostor syndrome ("I am a fraud!")
• Even your supervisor probably feels like this from time to time
• Save your early drafts and look back on how far you have come!

Don’t believe everything you tell yourself!
When your mind tricks you (II)

• The illusion of being self-sufficient
  – If you have a great idea, is likely that someone else have had the same idea before you
  – But improving an existing idea is a great contribution!

• Your work will be improved by exposing it to constructive critique
  – Seek feedback actively - from supervisor and fellow students
  – Search for similar work
Preparations for tomorrow

• Bring pen/pencil and paper!
• Be prepared to work on the theme for your essay or master thesis.
  – If you don’t have a clear idea yet, think about what you would like to work with or know more about.

Good luck!