



# Master's thesis in Bioinformatics



**Master's Degree Programme in Bioinformatics**

University of Tampere and University of Turku



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# MSc Thesis, 40 ECTS credits

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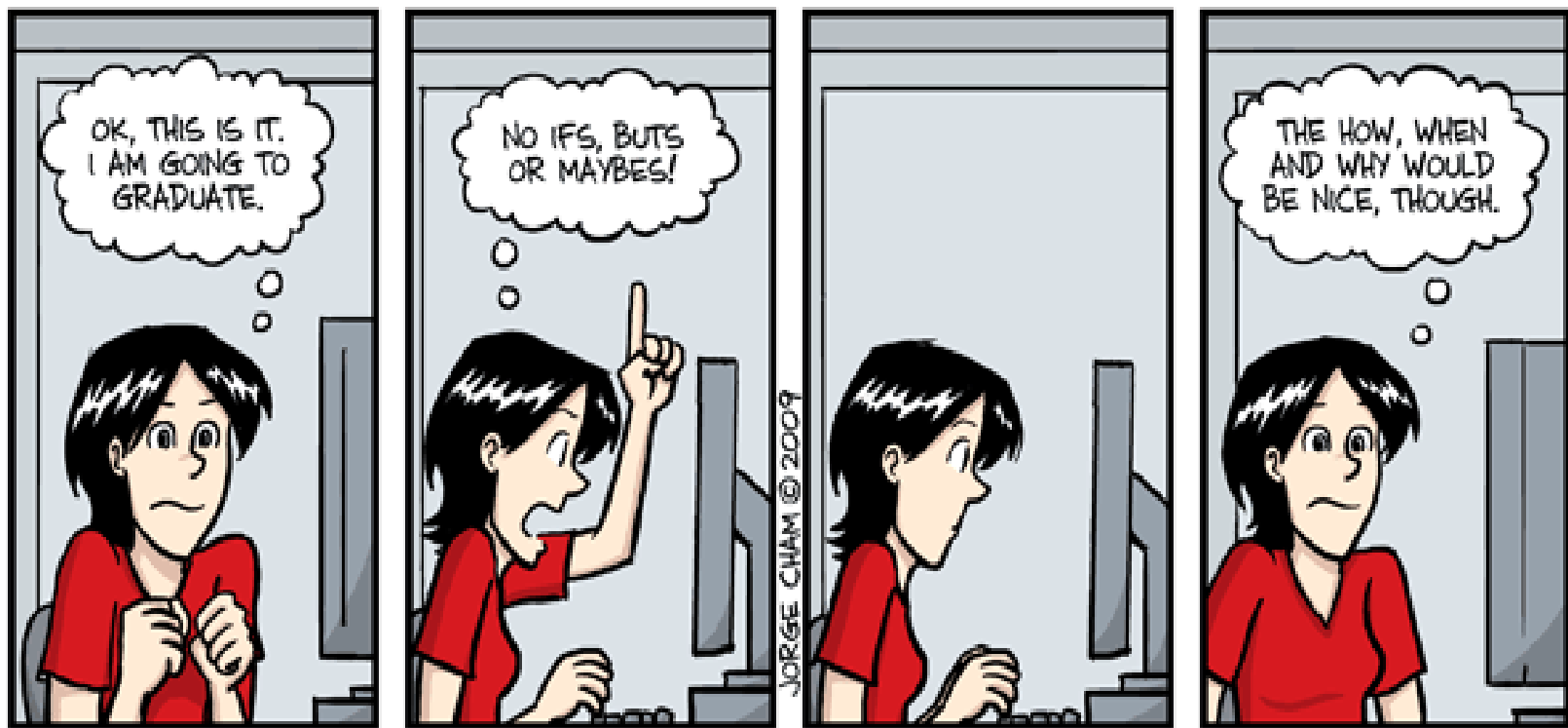
- Culmination of your studies, maturation into scientific work
- The objective of a thesis is that students:
  - learn to accomplish independent, systematic work in the setting of a research task, to outline the methods and implement the study,
  - investigate for themselves a problem or problem area pertaining to the field of bioinformatics, and
  - engage in the analysis of an extensive amount of data and its written reporting
  - learn good referencing and other conventions of scientific writing



# Thesis work needs focusing

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- You should be almost free from other courses when doing your thesis
- Work continuously, if possible
- → in practice, you need to have  
~ 50 to 60 credits of all other courses completed before starting



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# Thesis, when?

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- Most students start their thesis in their second year of MSc studies
- Summer months are available for thesis work
  - Supervisors' holidays?
- Duration of more than 8 months of full-time activity is unreasonable
  - Normally 3 to 5 months for work, 2 to 3 months for write-up



# Thesis, how?

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- Learn to know the bioinformatics research topics at IMT, ask around
- Talk with prof. Vihinen
- Talk with potential supervisors
  - Agree with whom and when to start the work
- In collaboration with supervisor(s), make a research plan for the thesis, have it approved by prof. Vihinen
- When the plan is approved, do the work and write the thesis



# Supervision and interaction

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- MSc thesis worker cannot work in isolation!
- Talk with your supervisor at least weekly
- Take part in group meetings, talk with other team members about your work
- If not working in prof. Vihinen's group, talk to the professor regularly, too



# The write-up

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- The final written report for your thesis contains:
  - The methods, results and conclusions of your work as in a scientific article
  - A large review of the background/context of your work
  - A largish reference list according to academic standards



## The write-up (2)

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- No fixed space constraints
  - Typically 30 to 60 pages of text, excluding appendices and ref. lists
  - Typically 100 to 200 references
- Check technical details in [www](#)
- Previous theses are available for browsing in our student affairs' office (FM2 4th) and in the e-library



# Printing your thesis

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- Do not print before your thesis has been pre-checked
  - Your supervisor and prof. Vihinen will give suggestions to improve your draft version and let you know when it's ok to print
- Submission to printing via NettiOpsu
  - <http://www.uta.fi/laitokset/kirjasto/english/guides/theses.php>



# Maturity test

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- Everyone needs to take a "maturity test" when their thesis is finished
- An essay of 3 to 4 pages on a topic inspired by the thesis, 3 hours of writing time
- Evaluated for content by a professor at the home institute AND for correctness of language by a specialist at the language centre
- You have to pass both for content and language
- Normal time for maturity test: right after your thesis has been printed



# Grading the thesis (1)

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- The grade of your thesis is given on an eight-tier scale (of Latin evaluations):
  - laudatur
  - **eximia cum laude approbatur**
  - **magna cum laude approbatur**
  - **cum laude approbatur**
  - **non sine laude approbatur**
  - lubenter approbatur
  - approbatur
  - improbatur



## Grading the thesis (2)

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- Two reviewers examine your thesis and give the grade
  - Formally nominated by director of IMT
  - In practice: always prof. Vihinen, second reviewer is usually the supervisor of your work
- Grade is based on evaluation of seven aspects of the work



## Grading the thesis (3)

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- Selection of literature and acquaintance with it
- Aims of the research and organization of the thesis
- Experimental part
- Discussion of results and conclusions
- Independence and originality
- Clarity of writing and linguistic form
- Finishing of the thesis



# Summary

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- Finding the topic and group
- Research plan
- Experimental work
- Write-up of results and literature review
- Preliminary review
- Printing into book form
- Maturity exam
- Final examination and approval