

Thesis Introduction

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❖ Aims/Structure of Thesis

Aims of the 4th-year thesis:

- give you exposure to research/industry topics
- give you experience in tackling a sizeable project
- allow you to "put together" what you've learned
- give you practice in giving presentations and writing technical reports

Structure:

- **Thesis A** ... understand the problem, start work on solution
- **Thesis B** ... solve the problem
- **Thesis C** ... evaluate your solution, report on your findings

Normally done in three consecutive terms

❖ Thesis People

Your Supervisor

- can help with topic, academic guidance, motivation

Thesis Coordinator

- Chun Tung Chou c.t.chou@unsw.edu.au
- can help with nominations, guidance, staff liaison

Thesis Administrator

- Jing Hsu jing.hsu@unsw.edu.au
- can help with extensions, late penalties, re-assessment

Each Other

- talk to each other, attend each other's presentations

❖ Thesis People (cont)



❖ Thesis Sites

Webcms3

- <https://webcms3.cse.unsw.edu.au/COMP4951/22T1/>
- we no longer use Moodle

Thesis Management System (TMS)

- <https://thesis.cse.unsw.edu.au/>
- includes topics, setting up a project, submission, marking

❖ Why a Thesis is not an Assignment

A thesis is significantly different from an assignment:

- it is, typically, open-ended
 - there is not an obvious single "correct" answer
 - you have more say in the direction the work takes
- it has a much longer time-frame
 - you need more self-discipline to get things done
 - you have more responsibility to plan your progress

If you're still in "assignment mode", break the task into small assignment-size steps and treat each one as an assignment (but, alas, no late penalty).

❖ Different Types of Theses

Theses have been classified into:

RES carry out a small focussed piece of research

DEV build a software and/or hardware system

R&D combination of the above two

Expectations for each type are slightly different

Topics typically come from academic staff, but can be proposed by you

Topics can be sourced from and supervised by industry partners

- but require involvement of CSE academic staff member, typically as assessor

❖ Selecting a topic

- Do this on the Thesis Management System (TMS)
 - <https://thesis.cse.unsw.edu.au/>
- Browse from the topic database at the TMS
 - Nominate a topic
 - The supervisor will accept or decline
- Approach an academic and negotiate a topic which is not in TMS
 - Ask the academic to add the agreed topic to TMS
 - You need to apply for the agreed topic in TMS
 - The academic will need to accept your application on TMS

❖ Thesis A

Goal: become an expert on your topic

- find a topic/supervisor (**do it now**)
- register your topic in TMS
- background research → literature review
 - state-of-the-art → how to advance it
- **presentation** (project overview + plan)
- use feedback from seminar to ...
 - broaden literature review
 - refine topic description
- **report** (summarize Thesis A achievements)

❖ Thesis A Deliverables

Presentation ... done in Week 8 ... 45 mins ... worth 25%

- motivate and describe your project
- organise time/date with supervisor and assessor
- submit presentation slides by 10pm Sunday Week 8

Thesis A Report ... due Week 11 ... 20-30 pages ... worth 75%

- detailed project description and motivation
- comprehensive review of literature related to topic
- any progress made towards solving the problem
- plan for Thesis B and Thesis C
- submit report (pdf) by 10pm Wednesday Week 11

❖ Thesis B

Goal: solve the problem

- work on solution and evaluate results (weeks 1-10)
 - if a DEV thesis, have a working prototype
 - if a RES thesis, have some preliminary result/analysis
- **presentation/demonstration** (week 11)
 - show results so far
 - reflect on progress against your plan
 - give detailed plan for Thesis C

❖ Thesis B Deliverables

Presentation ... Week 11 ... 45mins ... worth 100%

- demonstration and discussion of achievements so far
- organise time/date with supervisor and assessor
- submit presentation slides by 10pm Sunday Week 11

❖ Thesis C

Goal: complete the solution, evaluate your work, write the report

- complete the solution and evaluate result (weeks 1-8)
- **demonstration**
 - show your solution and analyse it (incl weaknesses)
- use feedback from presentation to improve your solution
- **final thesis**
 - project description + literature review
 - your approach + evaluation + conclusion

❖ Thesis C Deliverables

Presentation ... in week 8 ... 45 mins ... worth 10%

- reveal the final outcome of your thesis + evaluation
- organise time/date with supervisor and assessor
- submit presentation slides by 10pm Sunday Week 11

Final Thesis ... due Week 11 ... 40-80 pages ... worth 90%

- project description + literature review
- your approach + evaluation + conclusion

Summary/Abstract ... due week 11 ... 150 words

❖ Thesis Assessment Structure

Overall mark is derived from

- Thesis A (report + presentation) ... 20%
- Thesis B (presentation) ... 5%
- Thesis C (thesis + presentation) ... 70%
- "Participation" ... 5%

Note: you don't get a mark on MyUNSW for Thesis A and B ... just EC grade

❖ Hints

- Be proactive and drive your project
- Give yourselves time to think. Reflection.
- Time management. Devote time to work on the thesis each week.
- Make the weekly meetings productive:
 - What did you do since last meeting?
 - Do you have any obstacles? What have you tried to overcome them?
 - What will you do before the next meeting?
- Apply what you have learnt in your courses to your project
- Learn the state of the art
- Learn how to write well ("How to write a good thesis?" talk)

❖ Resources

On the WebCMS3 course site:

- Marking criteria
- Guide to technical writing
- Sample presentations
- Sample reports
- Thesis template in Latex (recommended) and Word
- Guide to use LaTeX

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