

# **CM50175 – Research Project Preparation**

## **Project Proposals**

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# Outline

- Where You Should Be
- Organizing a Project
- Organizing a Dissertation
- Organizing a Proposal
- Summary of Course

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## Where Are We Now? (1 of 3)

- You've been assigned a **supervisor**.
- You've negotiated a project **area**.
- You're starting to get a clear idea about your **project**.
- You won't precisely know your dissertation **thesis** until you've done your project / research.

## Where Are We Now? (2 of 3)

- You've read a great deal.
  - You may have read many papers and / or web pages, manuals, articles. ⇒ You are organizing a review of this literature, sorting the good from the bad, the useful from the irrelevant, and explaining your categories.
  - You may have read a few key papers or books and taught yourself about a field. ⇒ You are preparing a summary of what you've learned, so a peer could read your dissertation to get a good grasp of the field your project is in.

## Where Are We Now? (3 of 3)

- You've downloaded / found tools, compilers, related projects, and started playing with the code.
  - You have some idea how long parts of your project will take.
  - You may have chosen between tools  $\Rightarrow$  you can review and explain your choice.

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# Organizing a Project (1 of 2)

- Figure out what you are going to do.
  - Goals and subgoals for the project.
  - Start-up tasks (e.g. learning tools.)
  - Ending tasks (analysis, writing up.)
- Estimate how long each part will take.
- Realize your estimate will be wrong!
  - Order your priorities.
  - Do critical things early.
  - Two lists: needs and wants.



## Organizing a Project (2 of 2)

- Timeboxes and Anytime Algorithms.
  - Don't let the whole project collapse if one thing goes wrong.
  - Choose development strategies that give **something** early, get **better** with more time.
- **Prototype, prototype, prototype** and **test!**
- Somethings may go **faster** than you expect.
- Not 'unfinished stuff'; **Future Work.**

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# Organizing a Dissertation (1 of 2)

- Read the notes on the web page!
- Components: Introduction, Conclusion, Motivation, Background, Methods / Approach, Results & Analysis, Implications, Future Work.
- **Structure depends on thesis**
  - “Prolog is a good tool for building dialog tools.”
  - “I’ve built a dialog tool that helps resolve international conflict.”
- Importance of Evidence, Methods, depends on thesis.

## Organizing a Dissertation (2 of 2)

- Immense details that **someone** may want but that break the narrative structure belong in the Appendix.
  - Code
  - Complete raw results of experiments.
  - Immensely detailed description of GUI.
  - Less critical theorems, equations, derivations.
- A dissertation should be something someone would actually read.
- A dissertation should be something someone **could** actually read, and quickly (help skimmers!)

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# What's in a Proposal?

- A description of the project, including:
  - The project's primary and secondary goals.
  - The approach to be used, including an approximate timeline.
  - How you expect to evaluate it
- Motivation
- Background, including related work.
- “A comprehensive literature review which supports all of the above.”

## How is it Structured?

- “A 3-5 page Introduction which summarizes the expected main argument of the dissertation.”
- Other structure determined by how you prioritize your goals.
- Be sure to include a Conclusion or Summary (see notes on Essays!).

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# Course Objectives

(verbatim from the Unit Description)

- Students will be able to undertake a **literature review**,
- **critically review** previous work in a chosen subject area,
- prepare a project proposal and
- understand the principles of structuring a dissertation.

## Other (Bonus) Lessons

- Importance of prototyping, flexible scheduling.
- Importance of networking with peers.
- How to use latex (sort of, maybe, eventually.)
- What (almost) all our academic staff do.

## Some Nearly Final Comments

- Don't forget about WebofScience!
- Do look at other dissertations (*skim* them for structure, argument.)
- Don't forget that we have a Seminar on 1 May (would you like one on 24 April?)

## For the Seminar

- Be prepared to discuss these questions:
  - What is your project **area**?
  - What **theses** might your ultimate project result in?
  - What have you read? Was it useful? Might it be useful for someone else?

**Good Luck! Have Fun!**

**Work Hard!**

Yes, you can still email me:

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`http://www.cs.bath.ac.uk/~jjb/here/teaching.html`