



CM50175

# Research Project Preparation



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<http://www.cs.bath.ac.uk/~jjb>  
->teaching->RPP


<http://www.cs.bath.ac.uk/~jjb/here/CM50175/CM50175-top.html>





# Course Objectives – Academic


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- Help you to learn about doing computer science projects.
    - How do you make a contribution?
    - How do you recognize contributions?
  - Teach you about writing for peers.
    - Structuring your writing.
    - Choosing what to write.
- 



# Course Objectives – Practical

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- Choose your adviser & project.
  - Choose your dissertation style & analysis technique.
  - Get 80 hours of literature research and writing in *before* June.
  - Get 8,000 words written *before* June.
  - Find tools, peer support networks.
- 



# Tentative February Schedule


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## ● Lectures:

- Introduction to CM50175 + What's in a Dissertation?
  - Using the Bath Library for Literature Research.
  - Choosing a Project + How to Cite Literature.
  - What do Dissertations Look Like?
- 





# More for Feb

- 
- Choose a supervisor by the 27<sup>th</sup>!
  - Seminars from potential Supervisors.



# Tentative Schedule For March

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- Supervisor Assigned by 3<sup>rd</sup>.
  - Lectures:
    - Proving You've Done Something: Doing Statistics.
    - Testimonials from former MScs: What worked, what didn't.
  - **Mandatory** seminars on your project & proposal.
- 



# April & May Schedules



## ● April:

- Work on your project.
- Write 8,000 words.
- Last minute Q&A on April 25<sup>th</sup>.


## ● May:

- Submit Project Proposal: 2<sup>nd</sup> May
- 



# Course Marks



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- 90% on 8,000 word project proposal.
    - Half (so 45% total) marked by your supervisor, concerns research.
    - Half by me, concerns structure & clarity.
    - Details (including mark sheet) will be handed out in early March.
  - 10% for participation in seminars.
    - 3% each for 3 in March & April.
- 







# Can I Really Write 8,000 Words?

- 
- Most project time in 8 weeks from 3 March to 2 May.
  - ⇒ About 10 hours a week on project.
    - At least half of time will be reading & trying things out.
    - About half of writing time is really thinking.
  - ⇒ About 8 words per minute.
- 




# What is the Project Proposal?

- 
- Roughly a third of your dissertation.
    - Introduction & Motivation.
    - Literature review & related work sections.
    - Methodology.
  - A proposal.
    - An introductory chapter explaining how you've met the course objectives.
    - A plan, including alternatives.
- 





# Expect to Learn!

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- It wouldn't be a research project if the final outcome was known in advance.
  - Some things will take longer or shorter than you expect.
  - Plan for several scenarios: best case, worst case, expected case.
  - Be able to recognize which case you are in.
- 



# How Will the Proposal be Marked?


- 
- I will only read the Intro & References!
  - We will want evidence that you have:
    - Thought about the analysis, structure & scope of your project.
    - Communicated effectively with your supervisor.
    - Did thorough background research.
  - More details in March.
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# Tentative February Schedule

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## ● Lectures:


- Introduction to CM50175 + What's in a Dissertation?
  - Using the Bath Library for Literature Research.
  - What Dissertations Look Like + How to Cite Literature.
- Seminars from potential advisors.
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# Tentative February Schedule

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## ● Lectures:


- Introduction to CM50175 + **What's in a Dissertation?**
  - Using the Bath Library for Literature Research.
  - What Dissertations Look Like + How to Cite Literature.
- Seminars from potential advisors.
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# Outline:



## What's in a Dissertation?

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- What's in an essay?
  - How is a dissertation different?
  - Components of a dissertation.
  - What to do the next few months.
- 



# What's in an essay?


- 
- An argument! An essay is *not* a report.
  - A thesis.
  - Evidence for that thesis.
  - Evidence against that thesis.
  - Analysis of that evidence.
  - A summary and conclusion.
  - Nothing else! (the hard part)
- 







# Evidence and Analysis

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- Evidence can include:
    - Demonstrations.
    - Rational arguments.
    - Experiments & arguments from others.
  - Analysis includes:
    - Suggestions of how the evidence could be overturned, how likely that is, and how that could be recognized.
- 



# Are Dissertations Different?

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- A dissertation also contains a thesis and evidence, and summaries of these.
  - Dissertations **include** reports.
  - A dissertation is written primarily for peers – expect it to be read by future research students.
  - You are becoming a peer with your supervisor.
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# Components of a Dissertation

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- Introduction

- Conclusion

- Motivation

- Background

Methods

Results

Implications

Future Work





# These Aren't Necessarily Chapters!



- Introduction

- Conclusion

- Motivation

- Background

Methods

Results

Implications

Future Work





# Some people will only read these:



- Introduction

- Conclusion

- Motivation

- Background

Methods

Results

Implications

Future Work





Some will only read one of these:



- Introduction

- Conclusion

- Motivation

- Background

Methods

Results

Implications

Future Work



These might not include references  
to other literature.

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- Introduction

- Conclusion

- Motivation

- Background

Methods

Results

Implications

Future Work





# What to Do for the Next Few Months





- Read!
- Hack!
- Write!
- Talk!







# What to Do – Read!

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- Web pages:
    - Potential supervisors & projects.
    - Products & Users.
  - Magazines and Journals.
  - Documentation.
  - Dissertations.
  - Papers.
- 





# What to Do – Hack!

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- Try tools.
  - Build prototypes.
    - How hard is the problem?
    - Find missing parts of the architecture.
    - Get more familiar with tools.
  - Test other people's results & claims.
- 





# What to Do – Write!

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- Notes become text; some will go in the dissertation.
  - Non-notes become lost.
  - Writing on a computer allows for search, cut & paste.
  - Writing in notebooks allows time record & spatial structure.
- 



# What to Do – Talk!


- 
- Find out about tools.
  - Find out about papers.
  - Find someone to proof-read & give feedback.
  - Yes, it is part of your job to make friends with your coursemates (or at least to be colleagues with them.)
- 



# Summary:

## What's in a Dissertation?

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- *What's in an essay?* A thesis argument, evidence to support it, and analysis of that evidence.
  - *How is a dissertation different?* It's longer and contains reports. But mostly, it's not different.
  - *Components of a dissertation.*
  - *What to do the next few months.*
- 



# Summary: What's in a Dissertation?

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- *What's in an essay?*
  - *How is a dissertation different?*
  - *Components of a dissertation.*  
Introduction, Conclusion, Motivation, Background, Methods, Results, Implications, Future Work.
  - *What to do the next few months.* Read, hack, write & talk.
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