

Senior Honours Projects Workshop "Report Writing and Poster"

SH Project Organiser

Prof Franz Muheim

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www.ph.ed.ac.uk/~muheim

Course web page

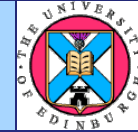
<http://www2.ph.ed.ac.uk/~muheim/teaching/sh-projects/>

Reminder - Project Signup



- If you have not turned in your project form
 - Please do so now
 - If you do not have a project for Semester S1 please contact us now
- Advise to book project in semester S2 now
 - Many have registered for S2, so slots will fill up quickly
 - Astrophysics students - please liaise with Andy Taylor and Paula Wilkie
- **IMPORTANT**
 - If your registered a project for S1 but are taking it in S2, ask your PT to change your registration

Project Submission



- What must be handed in?
 - Project Report (hardcopy) and Laboratory notebook
 - Report must also be submitted to "turnitin"
 - Project Poster
- Deadlines
 - Tuesday 3rd Dec 2013, 12:00 noon Semester 1
 - Tuesday 1st April 2014, 12:00 noon Semester 2
 - Late Handins
 - 5% mark reduction per day

Course Webpage



Course Organisation: Senior Honours Projects

Welcome to Senior Honours Projects!

Course Overview

- Senior Honours Project [Booklet](#)
- [Introduction](#) Slides
- **Workshop on Report Writing and Poster**
2nd October 2012 at 3pm in room 5326 in JCMB.
If necessary, there will be a 2nd workshop on
30th October 2012 at 3pm in room 5326 in JCMB.
- Slides from 1st Workshop on [Project Writing and Posters](#)
- [Grade Descriptors](#) for Project Assessment
- Project Submission:
Submission must include a Project Report (hardcopy), Laboratory notebook and a Poster;
Report must also be uploaded to turnitin, available in SH course webpage in [Learn](#).
- **Deadlines:**
Tue 3rd Dec 2013, 12:00 noon Semester 1
Tue 1st April 2014, 12:00 noon Semester 2
- Will also use course webpage on [Learn](#)

SH projects webpage

Contacts

- SH Projects Course Organiser: [Prof Franz Muheim](#)
- Teaching Office contact: [Laura Gonzalez](#)

Template Files, Forms, Useful Links

F. Muheim

Senior Honours 2 Oct 2013

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Grade Descriptors



- <http://www2.ph.ed.ac.uk/~muheim/teaching/sh-projects/>

Senior Honours Project Performance: Grade Descriptors

A1	Display an outstanding grasp and understanding of the project area, and be able to offer their own analysis with an outstandingly comprehensive interpretation of results. Outstanding commitment to the project throughout. Produce a set of results of outstanding quality, greatly exceeding the aims of the project. Maintain regular contact with the supervisor, while working very independently, and being always very helpful. Laboratory notebook
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Senior Honours Project Report: Grade Descriptors

A2	Display an exceptional grasp and understanding of the project area, and be able to offer their own analysis. Exceptional commitment to the project throughout. Produce a set of results of exceptional quality, greatly exceeding the aims of the project. Maintain regular contact with the supervisor, while working very independently, and being always very helpful. Laboratory notebook
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A3	Display an excellent grasp and understanding of the project area, and be able to offer their own analysis. Excellent commitment to the project throughout. Produce a high quality set of results, exceeding the aims of the project. Maintain regular contact with the supervisor, when needed and being very helpful. Laboratory notebook
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B	Show a very good grasp and understanding of the project area, and be able to offer their own interpretation. Remain committed to the project throughout. Produce a high quality set of results, meeting the aims of the project. Maintain regular contact with the supervisor, when needed and being helpful. Laboratory notebook
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C	Show a good grasp and understanding of the project area, and be able to offer their own interpretation. Remain committed to the project throughout. Produce a set of results, meeting the aims of the project. Maintain regular contact with the supervisor, when needed and being helpful. Laboratory notebook
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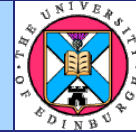
A2	Report will be exceptionally well written and expertly presented, including a flawless paragraph construction. Excellent command of English, free of spelling and grammatical errors. Show evidence of an outstanding grasp and understanding of the project's objectives and its background and theory. Outstanding and succinctly written literature review. Comprehensive description of the experimental methods and analysis procedures. Outstanding results very carefully presented, including clear and concise graphs and numerical data. Outstandingly complete and clear presentation of the project. Discussion and interpretation respects particularly insightful the wider context of the subject and references to other work.
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A3	Report will be very well structured and expertly presented, including a very few minor spelling and grammatical errors. Show evidence of an excellent grasp and understanding of the project's objectives and its background and theory. Inclusion of a comprehensive description of the experimental methods and analysis procedures. Exceptional quality results will be presented, including clear and concise graphs and numerical data. Excellent complete and clear presentation of the project and their significance, with valid conclusions. It will contain a very good description of the project and how it was undertaken with the results obtained to it. Some comparison to relevant other work.
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Senior Honours Project Poster: Grade Descriptors

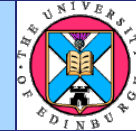
A1	Outstanding description of aims and results. Visually striking and appealing, with very attractive layout that balances the use of text and images / other visuals. Flawless presentation of exceptional results with insightful comparison to other work in the field.
A2	Exceptional description of aims and results. Visually striking and appealing, with very attractive layout that balances the use of text and images / other visuals. Extremely clear presentation of exceptional results with excellent comparison to other work in the field.
A3	Generally excellent description of aims and results. Visually striking and appealing, with attractive layout that balances the use of text and images / other visuals. Results are clearly presented with comparison to other relevant work where appropriate.
B	Very good description of aims and results. Well-designed and laid out, with a good mixture of detail balancing the project and how it was undertaken with the results obtained to it. Some comparison to relevant other work.
C	Good description of aims and results. Fairly well-designed and laid out, with a reasonable mixture of detail balancing the project and how it was undertaken with the results obtained to it. Some comparison to relevant other work.
D	Poor description of aims and results. Poorly laid out, not particularly eye-catching. Presented only a limited amount of new work. It may focus heavily on a description of what was done, rather than what was achieved.

SH Project Report



- Aim of project report
 - To describe all the relevant aspects and to present the results of the project as succinctly as possible without losing important details
 - To demonstrate that you are familiar with all the relevant literature and understand it!
 - To demonstrate that you understand the techniques that you are using
- Level to be understandable to your colleagues - SH students
- Overall length
 - 15-20 pages of A4 5000-7000 words

Declaration



School of Physics & Astronomy
The University of Edinburgh



Own Work Declaration

This sheet must be filled in (each box ticked to show that the condition has been met), signed and dated, and included with all assessments – work will not be marked unless this is done.*

** this does not include weekly hand-ins*

This sheet will be removed from the assessment before marking.

First Name: _____ Surname: _____

Matric Number: _____ Course/Programme: _____

Title of Work: _____

I confirm that all this work is my own, except where indicated, and that I have:

<input type="checkbox"/>	Clearly referenced/listed all sources, as appropriate
<input type="checkbox"/>	Referenced and put in inverted commas all quoted text (from books, web, etc.)
<input type="checkbox"/>	Given the sources of all pictures, data, etc. that are not my own
<input type="checkbox"/>	Not made any use of the report(s) or essay(s) of any other student(s), either past or present
<input type="checkbox"/>	Not sought or used the help of any external professional agencies for the work
<input type="checkbox"/>	Acknowledged in appropriate places any help that I have received from others (e.g. fellow students, technicians, statisticians, external sources)
<input type="checkbox"/>	Complied with any other plagiarism criteria specified in the Course Booklet / Programme Guide
<input type="checkbox"/>	I understand that any false claim for this work will be penalised in accordance with the University regulations

Signature: _____ Date: _____

Please note: If you need further guidance on plagiarism, you can:

1. Consult your Course Booklet / Programme Guide
2. Speak to your Course Organiser or Supervisor
3. Check out <http://www.aaps.ed.ac.uk/regulations/Plagiarism/Intro.htm>
Please read the notes about the use of plagiarism detection software, overleaf.

• Declaration Form

- available from
Course Webpage
<http://www2.ph.ed.ac.uk/~muheim/teaching/sh-projects/>

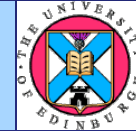
Report Structure



- Declaration
- Title, Author, Date
- Abstract

- Introduction / Background / Theory
 - Contains Literature Survey
- Experimental Method
- Results
- Discussion
- Conclusions
- Acknowledgements
- References

Titlepage



School of Physics



**Physics - Senior Honours Project B
Muon Lifetime Measurement**

**Your Name
Dec 3rd 2013**

Abstract

A measurement of the lifetime of atmospheric muons in a plastic scintillator was undertaken and found to be $(2.136 \pm 0.011)\mu\text{s}$. This was used to establish a value for the lifetime of the free muons of $(2.2 \pm 0.2)\mu\text{s}$ and to calculate a value for Fermi's coupling constant $\frac{G_F}{(\hbar c)^3} = (1.15 \pm 0.05) \times 10^{-5} \text{ GeV}^{-2}$ both of which are consistent with the world average within error. The measurement was also used to establish the ratio of positive to negative muons at sea level as 2.0 ± 0.4 , which disagreed with the expected value by 1.6σ .

Supervisor: Dr F. Muheim

- Title
- Autor
- Date
- Abstract
 - Objectives/Method
 - Results
 - 100 to 200 words

Introduction/ Theory/ Background



- Context
 - A description of why the project is interesting and important
 - Setting the scene
- Objectives
 - What are the key aims of this project?
- Theory and Background
 - Short overview of theoretical background to project
 - Principles of experiment, no derivations
- Literature Survey
 - Integrated here or separate as an Appendix

Literature Survey



- A review of relevant topics and work within the field
 - Not just a listing of work that has been done
- Expand your literature survey in some depth
 - Discuss relevant details
- Literature survey properties
 - Must provide added value to report extending beyond your results
 - Well annotated with references to journals or books
 - Try to avoid referencing webpages when possible

Literature Survey



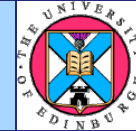
- Start from information given to you by your supervisor
 - You will need to read more widely to find other papers
- Use web search databases
 - General
Web of knowledge wok.mimas.ac.uk
 - Subject specific
SPIRES <http://www-spines.slac.stanford.edu/spines/>
- Search of keywords, names, years, journal names

Experimental Method



- Description of
 - Apparatus/equipment and how it works
 - Experimental method and procedures
 - Calibration of equipment
- Scope
 - Enough to allow the reader to understand how the experiment was carried out
 - Very important for people attempting to reproduce your results
- Useful tips
 - Make use of diagrams, pictures, ...
 - Give references to manuals, books
e.g. when using existing figures

Results



- Description of
 - Analysis procedure including error propagation with enough details for reader to test your results
 - Data processing (Excel, Java Code, ...) Programming code in Appendix if required
- Presentation of Results
 - Plots and summary data tables
 - Graphically wherever possible, no large tables of numbers
 - Large datasets in appendix, if really required
 - Data points in plots with error bars
- Useful Tips
 - Appropriate numbers of significant digits, uncertainties, units
 - Plots fully labeled with captions, referenced in main text
 - Plots of residuals when fitting to data

Discussion



- May overlap with Results and/or Conclusions
- Assumptions and approximations
- Error analysis - statistical and systematic errors minimisation procedures
- Comparison of results with literature values
- Significance and relevance of results
- Consistency of data
- Limitation of apparatus
- Possible Improvements
-

Conclusions



- Have you achieved your objectives?
- Summarise main results
- Summarise significance and relevance of results
What confidence do you have in your results
- Suggestions for further work and how the experiment might be improved
- Tip - Don't introduce new material in Conclusions

References



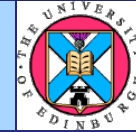
- [1] A.N.Author, A.N.O.Author and A.Y.N.O.Author,
"Observation of Bananas in Heavy Flavour"
J. Improb. Res., Vol, page (year)
- Try to avoid references to webpages when possible

LATEX



- What is LATEX?
 - Text formatting mark-up language
 - Written specifically for scientific paper writing
 - Available on linux, windows and Mac
- Why use LATEX?
 - Very convenient and simple for equations
 - Can embed figures
 - Cross referencing done automatically gives figure and reference numbering
 - Latex references can be downloaded from wok, SPIRES
- See information on Will Hossack's web page
 - <http://www2.ph.ed.ac.uk/~wjh/tex/index.shtml>

Report Template



**School of Physics
and Astronomy**



**Senior Honours Project
Physics 4
Template for Writing a Report**

William Hossack
October 2000

Abstract

The abstract is a short, concise explanation of the project covering the aims, outlines of techniques used and a short summary of the results. It should contain enough information to make the aims and success of the project clear, but contain no details. A typical abstract should be between 50 and 100 words.

Declaration

I declare that this project and report is my own work.

Signature:

Date:

Supervisor: Dr. A.N. Other

6 Weeks

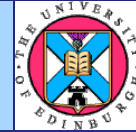
- **Template**
 - available from Course Webpage
- **Latex**
 - Tutorial available from Will Hossack's web page
 - Linked to Course Webpage

Poster I



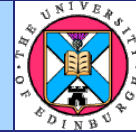
- Posters
 - Are a major way in which science is communicated at conferences
- Poster Session
 - Between 10 and >100 posters up on boards in a room with everyone visiting posters and talking to the authors
 - Efficient way of presenting and also very effective one to one communication
- For SH project
 - We will have a poster session at the end of semester 2
Audience will be you and members of academic staff
 - Poster template will be provided online

Poster II



- Scope
 - Poster should be a summary of what is in the report presented in an A2 sized area
 - It should be visually attractive
 - you have to persuade people to come and look at it
 - It should provide "oomph" that will help you getting your message across when speaking about it
 - It should be understandable without you there to explain it
- Styles
 - Various poster styles are possible
 - Full sentences or bullet points
 - Using pictures and data plots is always a good idea
 - Look at the postgraduate posters in the 4th floor of JCMB

Poster Template



- Available from Course Webpage

Senior Honours Poster Template in A2

J.S. Loveday

Supervisor Professor Odin

Insert a text box to place some text on the poster. Make sure that it is readable from a meter or so away.

To insert figures use the Insert picture from file facility

You can then move them around at will



How to generate
pressure this is a group

