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INTRODUCTION

The aim of this document is to provide guidelines for the research management process and to establish criteria for the evaluation and grading of the Honours research report.

CONTENT OF THE RESEARCH REPORT

The research report comprises a short literature study which is carried out under supervision of a lecturer. The essay must be an independent study and must clearly illustrate the student's mastering of the topic. The following are aspects of a research report:

- A clear formulation of the topic/problem illustrated with real situations where the topic/problem is experienced;
- An overview of relevant literature from text books, scientific reports and articles (The relevant references must be unambiguously stated and the student can only use that to support his own understanding of the topic.);
- A solution to the topic/problem, showing that the student has mastered the topic;
- Computer programs/simulations applicable to the topic.

The first 9 weeks of the semester will entail a group class for the research report comprising 10 credits of the total 30 credits. These classes are compulsory. The following will be covered: 1) Literature search skills and basics of research report writing (2 weeks); 2) Basic R and SAS overview (2 weeks for each); and 3) Latex (LyX) text editor (3 weeks). The marks achieved during this preparation course will comprise 20% of the final mark for the module.

The remainder of the year will involve research and the write-up together with a supervisor from the department, and comprises the remaining 20 credits. The final written report should be approximately 30 pages and written with Latex. The submission date of the research report is 3 November 2014. The report will comprise 70% of the final mark for the module.

A compulsory poster which summarizes the research and forms part of the evaluation of the essay must be developed by the beginning of October. The poster should be size A1, laminated and present a clearly thought-out summary of the research – it should not simply be a copy-and-paste from the report. The posters will be presented by the student and the student graded on their knowledge at a cocktail function on 15 October 2014. All students must present their poster on this date. No exceptions. The poster will comprise 10% of the final mark for the module.

The following figure emphasizes the difference between an Honours research report, a Masters Dissertation and a PhD thesis with respect to:

- The application of existing theory, models and methods to a problem,
- The testing of existing theory, models and methods in order to develop new or improved theories, models and methods.

Remember that applying a known model to a new application is also “new”.

2
RESEARCH TOPIC

A list of possible topics from which students may choose, in consultation with the head of department, will be made available by the Department. See Appendix 1.

Students are warned against plagiarism when they write up the findings of their literature study. The final report (as well as all preliminary reports) will be submitted via ClickUp and through TurnItIn in the research report ClickUp module. Supervisors are required to confirm the TurnItIn result is acceptable and include this in their final report.

PLAGIARISM IS COMMITTED WHEN SOMEONE USES ANOTHER PERSON’S WORDS, IDEAS OR OPINIONS WITHOUT PROPER ACKNOWLEDGMENT. SPECIAL CARE SHOULD BE TAKEN REGARDING INFORMATION TAKEN FROM WEB SITES AND OTHER ELECTRONIC SOURCES

A student committing any form or degree of plagiarism will fail the essay and the necessary disciplinary action will be taken.
Various search engines exist, which can be used to find: journals, catalogues, books, research papers and theses. All prospective students should attend a training session from personnel at the Academic Information Services (AIS) which is presented by the Library personnel.

Literature searches can amongst other be conducted on the following websites:

- [http://www.ais.up.ac.za](http://www.ais.up.ac.za) (UP Library Catalogue)
- [http://www.ais.up.ac.za/journals/index.htm](http://www.ais.up.ac.za/journals/index.htm) (Electronic Journals)

An overview of the relevant literature available on the topic forms an integral part of the essay. As part of the first 9 weeks an overview of this will be done.
RESEARCH MANAGEMENT PROCESS FOR HONOURS RESEARCH REPORT

The following is a schedule of milestones for an Honours research report.

THE STUDY LEADERS MUST REGULARLY INFORM THE POSTGRADUATE COMMITTEE ON THE STATUS AND PROGRESS OF THE RESEARCH REPORT AS INDICATED BELOW.

<table>
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<tr>
<th>MILESTONES/EVENTS</th>
<th>MILESTONE DATES</th>
</tr>
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<tbody>
<tr>
<td>1. First 9 weeks – preparation course (10 credits) – research proposal draft due 16 April 2014, final proposal due 23 April 2014 via ClickUp. <em>(Brown Lab, 18:00 – 20:30 on Wednesdays)</em></td>
<td>12, 19, 26 Feb, 5, 12, 19, 26 March, 9, 16 April</td>
</tr>
<tr>
<td>2. Supervisors to submit proposal marks (template provided) to research report coordinator (Theo Loots).</td>
<td>7 May 2014</td>
</tr>
<tr>
<td>3. Students and supervisors begin regular meetings (at least every second week).</td>
<td>Mid March</td>
</tr>
<tr>
<td>4. Progress report (by supervisor(s)) handed to research report coordinator (template provided). Internal examiner appointed by the postgraduate committee is Theo Loots for all research reports.</td>
<td>30 July 2014</td>
</tr>
<tr>
<td>5. Complete draft document submitted via ClickUp.</td>
<td>17 September 2014</td>
</tr>
<tr>
<td>6. Submit a draft poster via ClickUp.</td>
<td>1 October 2014</td>
</tr>
<tr>
<td>7. Submit (via ClickUp) and print final poster for cocktail evening. Presentation of poster at cocktail evening. The top 2 poster presentations will be sponsored to attend the annual SASA conference during the last week of October 2014.</td>
<td>15 October 2014</td>
</tr>
<tr>
<td>8. Submit final document for examination. Two final hard copy research reports must be handed in after examination: one to the supervisor and one to the secretary of the head of department. A hardcopy of the final poster must also be handed in to the secretary. A copy must also be submitted via the ClickUp module.</td>
<td>3 November 2014</td>
</tr>
</tbody>
</table>

NOTE:

- It is the responsibility of the student to ensure that he/she has regular contact with the supervisor, as well as informing the supervisor of the progress regarding the essay. A meeting at least every two weeks is highly recommended.
• If a student does not meet the supervisor frequently and the progress of the essay is insufficient to such an extent that the above milestones are not met, the student will have to reregister for the essay the following year.

• The research report coordinator (Theo Loots) will send all documents uploaded on ClickUp to the respective supervisors.

• All uploaded documents will provide a progress mark towards the 20% component of the research report. Late documents will not be accepted. Source Latex files as well as final pdf files must be uploaded in each instance.
The research report is the final embodiment of the student’s research project. The reader should never be in doubt as to where he/she is in this process. The student must write it for a busy person who begrudges you the time spent reading it. Do not force the reader to read the whole document before he/she gets the message. The report should thus be written clearly and concisely.

The following format is proposed:

(a) The essay should start with a Title page, Acknowledgements, Summary/Abstract (i.e. a 200 word synopsis of the topic, giving major points, conclusion(s)); Table of contents. (see template provided)

(b) A statement by the student declaring that the work is his/her own, co-signed by the study leader. (see template provided)

(c) Introduction/Background

It should present the reasons for selecting the particular topic/problem (the rationale of the study)

(d) The main body (chapters) of the research report should comprise the following:

- A comprehensive overview of relevant literature e.g. text books, scientific reports and articles regarding the theory and past research related to the research topic/problem. It is very important that the student must consult the latest publications in the field of study. Text references must give the author’s surname, year of publication and page reference.

- The theory should be embodied in conceptual models (graphical, mathematical or schematic descriptions).

- In the case of an application study the student must present the model he/she wishes to test or apply. (Clear reference to data sources must be given.)

(e) The study must conclude with a section titled: Conclusions and recommendations. An honest appraisal of what you have accomplished.

(f) List of References and Appendices.
GUIDELINES FOR POSTER DESIGN

Avoid big paragraphs - point form and tables are clearer; include graphics rather than text where possible; only include main references. Be very careful not to clutter the images with too much detail.

Introduction

Clearly state what you are going to present

Background / The problem statement

Importance of the research topic/problem

Body: Theoretical framework

State what you want the viewer to know

Theory and research overview

Current theories; models (Use nice clear graphics)

Data analysis

Conclusion

State what you have presented

Contributions to theory

Recommendations

PRESENTATION SKILLS FOR POSTER COCKTAIL EVENING

Students should prepare thoroughly for their poster presentation.

The following are guidelines:

Have a short summary prepared for each new audience member who passes by

Don’t read only what is on the poster

Be prepared to answer questions and engage with the audience
THE CONTENT:

The following table provides guidelines for assessment of the research report. The assessor may deviate from it but is requested to comment on why the allocated marks are acceptable. Keep the following in mind before using the table.

(a) Written presentation of report
   - The language usage
   - Length
   - Technical layout/How is the essay structured?
   - Referencing method
   - Complete list of references
   - Recent publications included?
   - Figures
   - Table of contents

(b) Background information
   - Statement of the topic/problem
   - Reason/rationale for the study

(c) Comprehensive overview of the literature
   - Description of theory/method/Data analysis/Simulation

(d) Presentation of conclusion
   - Final statements/conclusions
   - Clarity/Applicability/Correctness
GUIDELINES FOR ASSESSMENT OF WRITTEN RESEARCH REPORT

<table>
<thead>
<tr>
<th>MARK LEVEL</th>
<th>RESEARCH REPORT</th>
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<tbody>
<tr>
<td>80% and above</td>
<td>Professionally produced.</td>
</tr>
<tr>
<td></td>
<td>It is easy to assimilate the main research problem.</td>
</tr>
<tr>
<td></td>
<td>Illustrates that the student has done a comprehensive overview of literature.</td>
</tr>
<tr>
<td></td>
<td>The student has mastered the topic.</td>
</tr>
<tr>
<td></td>
<td>The student has exceptional abilities with written communication.</td>
</tr>
<tr>
<td></td>
<td>There should be evidence that the student spend at least 400 hours on the report.</td>
</tr>
<tr>
<td>70-80%</td>
<td>Well produced and the contribution, analysis, conclusion and the reasons could be easily obtained.</td>
</tr>
<tr>
<td></td>
<td>The depth exceeds what would be normally achieved by a student at this level.</td>
</tr>
<tr>
<td>60-70%</td>
<td>Well-structured but evidence of minor faults may exist (e.g. including irrelevant detail, poor referencing).</td>
</tr>
<tr>
<td></td>
<td>The main research and outcomes good.</td>
</tr>
<tr>
<td></td>
<td>Some lack of understanding of the broader issues may be evident.</td>
</tr>
<tr>
<td>50-60%</td>
<td>Showed some major areas of poor performance e.g. difficulty of finding information, excess irrelevant material.</td>
</tr>
<tr>
<td></td>
<td>Although the general outcomes were reasonable sound.</td>
</tr>
<tr>
<td>40-50%</td>
<td>Poorly presented especially in terms of the structure.</td>
</tr>
<tr>
<td></td>
<td>It is difficult to pick up the required information.</td>
</tr>
<tr>
<td></td>
<td>Student required to repeat the module – hasn’t mastered the research report</td>
</tr>
<tr>
<td>Below 40%</td>
<td>Not a document that the Department would wish to be associated with.</td>
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THE SUPERVISOR(S) MUST SUBMIT A REPORT TO THE DEPARTMENT AND THE STUDENT TO JUSTIFY THE MARK AWARDED.
THE POSTER PRESENTATION:

GUIDELINES FOR ASSESSMENT OF POSTER

Posters Presentation Assessment Guidelines

The idea of the poster is for the student to indicate they have mastered the following:

1) The theoretical work covered in their research report
2) The application of the theory such that the use of a software package is illustrated and the understanding of the package and application is clear
3) Ability to put a poster together in a professional manner
4) Ability to clearly communicate their work to an audience of peers and lecturers
5) Ability to make use of the allotted time effectively
6) Ability to explain new or difficult concepts to an audience who don’t have prior knowledge of the work

In line with above the students will be graded on the following for a final mark out of 10 towards their research report mark:

1. Communication
   Does the presenter talk clearly? (10)
   Does the presenter maintain the audience’s attention? (10)

2. Presentation Material
   Is the poster neat, well-structured? (10)
   Is the poster easy to read/follow? (10)
   Do the results follow logically over the poster? (10)

3. Scientific Contribution
   Does the presenter indicate they have mastered their topic? (10)
   Level difficulty of the scientific work presented? (10)
   Does the presenter go into detail on a specific concept (at least) and explain the technicalities clearly and effectively? (10)

4. Applications
   Is the application problem clearly explained? (10)
   Are the applications shown executed correctly and in the most effective manner? (10)

key: 0 = very low, 10 = very high, 5 = average

ACKNOWLEDGEMENT: The Research guide for Post-Graduate students from the School of Engineering and Technology management was very helpful in compiling this document.