

**COLLEGE OF ARCHITECTURE AND ENGINEERING**

**SCHOOL OF ENGINEERING**

**GUIDELINES FOR ADMISSION TO DOCTOR OF PHILOSOPHY AND MASTERS PROGRAMMES AND RESEARCH PROPOSAL FORMAT**

**I: Doctor of Philosophy Programme - Guidelines**

**Admission Regulations and procedure**

The common regulations of the Doctor of Philosophy Degrees in all Faculties of the University of Nairobi apply. However, admission into any Ph.D programme in the School of Engineering shall be open to holders of Master of Science degree in the respective field of specialization, either from the University of Nairobi or other Universities recognized by the Senate of the University of Nairobi.

**Programme Structure and Duration**

Regular Ph.D programmes in the School are by thesis only. Candidates will be required to undertake research guided by at least two supervisors competent in the subject area and field of research in which the candidate proposes to work. The main supervisor must come from the Department where the student is registered. After the research, the candidate shall be required to submit a thesis for examination. The programme shall take a minimum period of three (3) years and a maximum of six (6) years.

**Examination regulations**

This shall comprise two parts: (i) Independent written assessment of the thesis by Internal and external examiners (ii) oral examination of the thesis by a board of examiners as prescribed by the University of Nairobi statutes.

**Degree award**

Successful candidates shall be awarded the degree of Doctor of Philosophy in the respective area of specialization. Where a candidate's thesis is assessed and found to require major revision, it shall be re-submitted once only for re-examination in a revised form within twelve months. Beyond this period, the candidate shall be discontinued.

**Steps towards admission**

- i. *Application:* The candidate shall obtain an official application form from the Board of Postgraduate Studies (BPS) office situated at the Main Campus of the University upon payment of the prescribed fees. The candidate shall complete the said application form, attach certified copies of degree certificates and a draft research proposal prepared in a prescribed manner and return the same to the School of Engineering. The SPSC (School Postgraduate Study Committee) in consultation with the Department in which registration is sought will process the documents and make recommendation. Upon receipt of these documents, the Director, BPS will write to the candidate informing him/her whether he/she is eligible or not. **Note:** A candidate who is eligible for admission can request the BPS for interim (6 months) registration pending preparation and submission of the full research proposal.

- ii. *Full proposal development:* The candidate, in close liaison with supervisors shall develop the full proposal.
- iii. *Proposal presentation:* When the supervisors are satisfied that the draft proposal has attained a reasonable quality, they will allow the candidate to present it at a seminar with at least 40% of the academic members of staff of the Department in attendance. A report on the recommendations made during the presentation shall be forwarded to SPSC together with the revised version of the proposal.
- iv. *Submission to Faculty Postgraduate Committee:* Three (3) copies of the revised version of the proposal will be submitted for review to SPSC. The recommendations of SPSC shall be communicated to the candidate and copied to the supervisors. The candidate, with the help of supervisors, shall attend to all significant recommendations by the SPSC and resubmit two copies of the proposal back to SPSC.
- v. *Submission to BPS:* The Deans office shall forward the approved copy of the proposal to BPS for the Director to accord the candidate full registration status.

## II: Master of Science Programmes - Guidelines

### Admission Regulations and procedure

The common regulations of the Master of Science Degrees in all Faculties of the University of Nairobi apply. However, admission into any MSc. programmes in the School of Engineering shall be open to holders of a Bachelor of Science degree in the respective relevant field of specialization, either from the University of Nairobi or other Universities recognized by the Senate of the University of Nairobi.

### Programme Structure and Duration

MSc programmes in the School are either by course work and thesis or course work and project. Candidates will be required to undertake research guided by at least one supervisor competent in the subject area and field of research in which the candidate proposes to work. The main supervisor must come from the Department where the student is registered. After the research, the candidate shall be required to submit a thesis for examination or a research project report at least two weeks before the end of second semester for the later. The programme shall take a minimum period of two (2) years and a maximum of three (3) years.

### Examination regulations

This shall comprise two parts: A: Thesis (i) Independent written assessment of the thesis by Internal and external examiners (ii) oral examination of the thesis by a board of examiners as prescribed by the University of Nairobi statutes and B: Project; Independent assessment of the thesis by internal examiners.

### Degree award

Successful candidates shall be awarded the degree of Master of Science in the respective area of specialization. Where a candidate's thesis / Project is assessed and found to require major revision, it shall be re-submitted once only (for thesis) and at most twice (for project) for re-examination in a revised form within twelve months. Beyond this period, the candidate shall be discontinued.

### Research proposal development and registration

(i) *Full proposal development:* The candidate, in close liaison with supervisor(s) shall develop the proposal.

(ii) *Proposal presentation:* When the supervisors are satisfied that the draft proposal has attained a reasonable quality, they will allow the candidate to present it at a seminar with at least 30% of the academic members of staff of the Department in attendance. A report on the recommendations made during the presentation shall be forwarded to SPSC (for MSc. by thesis) together with the revised version of the proposal.

(iii) *Submission to School Postgraduate Committee:* Four (4) copies of the revised version of the proposal will be submitted for review to SPSC. The recommendations of SPSC shall be communicated to the candidate and copied to the supervisor(s). The candidate, with the help of supervisor(s), shall attend to all significant recommendations of the SPSC and resubmit two (2) copies of the proposal back to SPSC.

(iv) *Submission to BPS:* The Deans office shall forward the approved copy of the proposal to BPS for the Director to accord the candidate registration status to proceed with the research work..

**Note:** For the MSc. by project at (ii) the respective Department should be satisfied that the proposal is to the required standard before the candidate proceeds with research.

### III: Research Proposal Format (PhD and MSc)

The proposal should be between 15 and 30 pages in length (News Time Roman-Font 12, double spaced OR Arial Font-12, 1.5 spacing). The left and right margins should be 25 mm (1 inch) and the top and bottom margin 30 mm (1.25 inches) and 20 mm (0.75 inches) respectively.

All proposals shall consist of the following sections:

**Front page, Table of Contents, Introduction** (Study Background, Problem statement, Objective), **Literature review, Materials and methods / Methodology, References, Work plan / Schedule of activities, Budget, Appendices.**

The following shall be the format of the research proposal:

#### A. Front/Title Page

The front page will consist of the following:

- University Logo followed by University of Nairobi and School of Engineering
- Project Title: This shall be short, precise and descriptive of the study.
- Candidate: Full name and admission number followed by space for signature and date.
- Supervisor(s): Names of all supervisors, followed by signature and date.
  
- Chairman of Department: Signature and date.
- Chairman SPSC: Signature and date.
- Dean SoE: Signature and date.

- **Statement:** “A proposal submitted in fulfillment for the Degree of (*insert name of degree*) in the (*insert Department where candidate is registered*) in the University of Nairobi”.
- **Date:** Date of submission of proposal (month and year).

## **B. Table of Contents**

The second page should contain a table of contents with page numbers.

## **C. Proposal Body**

The body of the proposal should consist of the following subsections.

### **1. Introduction**

#### *Background*

This section shall provide a brief overview of the proposed area of study. It should be short (maximum four (4) pages); telling the reader what the study will be about and why it is important and timely.

#### *Problem Statement / Statement of Research Problem*

This section should provide brief information identifying the gaps in knowledge or problems to be addressed in the study.

#### *Objectives*

These should clearly state how the problem will be addressed. Research questions or hypothesis should be included and tally with the objectives.

### **2. Literature Review**

This section shall present information on the evolution and present state of theory, practice and research of the topic proposed for investigation. A candidate is expected to demonstrate review of most recent and relevant publications which must be properly cited in the references. This section may be organized with subheadings to represent different areas of emphasis.

### **3. Materials and Methods / Methodology**

- Focused on addressing the objectives of the study.
- Detailed enough that the study is repeatable and reproducible.
- Where standard methods are used, adequate reference should be provided.

### **4. Work plan / Schedule of Activities**

The work plan should indicate the duration of planned activities in a logical sequence.

### **5. Budget**

- Shall be based on all envisaged activities of the study.
- Shall comprise costs relevant to the above activities, including all the materials and contingencies.

### **6. References**

There are two widely used methods of citing references in documents such as a thesis or project report. In the first method, the reference is cited as a number in the text, thus: “These results are similar to those that have been found by other researchers [1, 2]”. In

this method, it is not necessary for the authors' names to appear in the text, though they frequently appear. In the references section, the cited references are then listed, in proper numerical sequence, as follows. The IEEE format also falls under this category.

1. WISMER, R. D. and H. J. LUTH. ***Off-road traction prediction for wheeled vehicles***. Journal of Terramechanics, 10(2):49-61. 1973.
2. KEPNER, R. A., R. BAINER and E. L. BARGER. ***Principles of Farm Machinery***, AVI Publishing Co., Inc. 1972.

In the second method, the authors' names and the year of publication of cited literature are used in the text, in citing the literature, thus: "These results are similar to those that were found by WISMER and LUTH (1973) and by KEPNER *et al.* (1972)". In the references section, the cited references are then listed, without numbering but in proper alphabetical order, as shown below:

KEPNER, R. A., R. BAINER and E. L. BARGER, (1972). ***Principles of Farm Machinery***, AVI Publishing Co., Inc.

WISMER, R. D. and H. J. LUTH, (1973). ***Off-road traction prediction for wheeled vehicles***. Journal of Terramechanics, 10(2):49-61.

**Note:** All web-based cited references should be of reputable institutions to facilitate independent verification.

## **7. Appendices**

The appendices should be clearly labelled and placed after the reference section. The labelling system should be e.g. Appendix A (A1, A2 ...), Appendix B (B1, B2), etc. They should be listed in the table of contents.

*For further information, please contact:*

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**UNIVERSITY OF NAIROBI**  
**COLLEGE OF ARCHITECTURE AND ENGINEERING**  
**SCHOOL OF ENGINEERING**

**GUIDELINES FOR MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY  
THESIS FORMAT**

**Format**

The thesis format shall conform to the following details; The thesis must be printed on good quality white paper of A4 size. The pages must be double or 1.5 spaced and on one side of the paper only. There should be 50 mm (2 inches) margin on the left hand and 25 mm (1 inch) margin on the right hand of the paper (left and right hand justified). Printing should begin about 40 mm (1.5 inches) from upper margin and there should be a 25 mm (1 inch) margin at the bottom of the page. Pages should be numbered consecutively and the numbers should be at the bottom center position of the page. The main body of the thesis should be about 100 pages.

**Cover Page**

This page shall consist of the following:

- University Logo followed by University of Nairobi and School of Engineering
- *Project Title*: This shall be short, precise and descriptive of the study
- *Candidate*: Full name, previous degrees attained and name (s) of institutions where the degrees were obtained
- *Statement*: The following standard statement, “*A thesis submitted in partial / fulfillment for the Degree of (insert name of degree) in the (insert department where candidate is registered) in the University of Nairobi*” shall be included below the candidate’s name
- *Date*: Date of submission of thesis inserted at the bottom of cover page.

This page should not be assigned a page number.

**Declaration/Approval Page**

This shall be the second page of the thesis and shall contain the following:

*Declaration*: This is a standard declaration signed by the candidate worded as follows: “*This thesis is my original work and has not been presented for a degree in any other university.*”

*Approval*: This comes below the declaration and consists of the full name and title of each supervisor and the following standard statement: “*This thesis has been submitted for examination with my/our approval as university supervisor(s).*”

This page shall be assigned the roman page number one (i).

## **Dedication page**

The candidate is free to dedicate their work to whoever they wish on page (ii).

## **Acknowledgement page**

It is good professional practice to acknowledge any assistance rendered during the study on page (iii).

## **Abstract**

Shall come immediately after the list of figures and shall be short and concise. It should be a maximum of 1 page. The contents should include what was studied (objectives) how it was done (methodology); lessons learnt (results) and what it means (discussions).

## **Table of contents**

This is the next item after acknowledgements. It shall start on a new page and may spread over several pages.

## **List of Tables, Figures, Plates, Nomenclature**

These are the next items after the table of contents. They should begin on separate pages and consist of lists of all items found in the body of the thesis, plus the page where they occur.

## **Thesis Body**

The body of the thesis shall generally consist of:

Introduction (Study background, problem statement and objectives),  
Literature review,  
Materials and method / Methodology,  
Results and discussions,  
Conclusions and recommendations,  
References and  
Appendices

### **1. Introduction**

#### *Background*

This section shall provide a brief overview of the proposed area of study. It should inform the reader what the study will be about and why it is important and timely.

#### *Problem Statement / Statement of Research Problem*

This section should provide brief information identifying the gaps in knowledge or problems to be addressed in the study.

#### *Objectives*

These should clearly state how the problem will be addressed.

### **2. Literature Review**

This section shall present information on the evolution and present state of theory, practice and research of the topic proposed for investigation. A candidate is expected to demonstrate review of most recent and relevant publications which must be properly cited in the references. This section may be organized with subheadings to represent different areas of emphasis.

### 3. *Theoretical Framework (optional)*

### 4. **Materials and Methods / Methodology**

Briefly but accurately explains how you performed your research in a logically organized manner. This section should be sufficiently detailed to allow the reader to duplicate the important aspects of your methods. It is quite common for this section to contain labeled subsections dealing with apparatus, materials and specific procedures used. It establishes the credibility of your methodology or the lack of it. Commercially available pieces of apparatus may be described in terms of their commercial labels while specially constructed apparatus needs to be described in greater details.

### 5. **Results**

This section basically describes ‘what *happened*’ in the investigation. There are several approaches to writing this section:

- Presentation of results without analysis.
- Presentation of results with limited interpretation.
- Combination of results and discussion.

*Use of figures and tables:* Results are normally presented in Tables and Figures. All tables and figures must be referenced in the text. Their formats should conform to the style used in the candidate’s discipline. A candidate may be required to use statistical methods wherever applicable.

### 6. **Discussion**

In this section, the question to be answered is ‘*what do my results mean and what are their implications?*’ This is the most thoughtful and demanding section. The section has three parts: facts found, commentary on the facts and theoretical implications of the facts. These will operate together and constantly interact in the discussion. The ultimate goal is to interpret the results for the readers so that they understand their meaning. Clear relations must be drawn to previous work done by other researchers. Explanations on why things happened or did not happen should be provided.

### 7. **Conclusions and Recommendations**

Quite often, this is not done as separate section, because conclusions will have been stated in the last paragraph of the Discussion. Recommendations for further research work show continuity.

### 8. **References**

There are two widely used methods of citing references in documents such as a thesis or project report. In the first method, the reference is cited as a number in the text, thus: “These results are similar to those that have been found by other researchers [1, 2]”. In this method, it is not necessary for the authors’ names to appear in the text, though they frequently appear. In the references section, the cited references are then listed, in proper numerical sequence, as follows. The IEEE format also falls under this category.

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**Note:** All web-based cited references should be of reputable institutions to facilitate independent verification.

## **9. Appendices**

The appendices should be clearly labelled and placed after the reference section. The labelling system should be e.g. Appendix A (A1, A2 ...), Appendix B (B1, B2), etc. They should be listed in the table of contents.

### **Note:**

- A chapter by chapter presentation of the research work is also allowed.
- Combination of 5 and 6 as; **Results and Discussions**, is common practice.
- A candidate shall be required to have submitted two (2) papers to a refereed journal before thesis submission for examination and show evidence of progress towards publication (or acceptance) by the time of oral examination.

### For further information, please contact:

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