Industrial Engineering and Engineering Management Post Graduate Study Guide
2014
Important notice:
This document is intended to disseminate information about the Industrial Engineering Department’s post graduate offer. It further aims to act as a guideline on how the post graduate programme is administered and managed. If there is any conflict between information presented in this document and an official policy or arrangement by the University of Stellenbosch, the latter will take preference and supersede this document.
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1 Introduction

The Department of Industrial Engineering at the University of Stellenbosch hosts two post graduate study domains: Industrial Engineering and Engineering Management. In each study domain, there are three different programmes, i.e. the Post Graduate Diploma in Engineering (PDE), the MEng programme and the PhD programme. The delivery of the MEng programme is split into two different models, i.e. Structured and Research. These options add up to eight different possible post graduate qualifications for students in a variety of research areas:

1. PDE (Industrial Engineering)
2. PDE (Engineering Management)
3. MEng(Structured)(Industrial Engineering)
4. MEng(Research) (Industrial Engineering)
5. MEng(Structured)(Engineering Management)
6. MEng(Research) (Engineering Management)
7. PhD (Engineering Management)
8. PhD (Industrial Engineering)

The PhD programmes listed above essentially lead to the same qualification but the content of the research is determined by the study domain and for the sake of consistency it is listed as different qualifications.

Figure 1: Study domains, programs, models and research areas

Figure 1 shows the relative position of the study domains, programmes, models, research areas and courses. This guide will use these terms consistently throughout.
The study domains hosted by the department, i.e. Industrial Engineering and Engineering Management, are fundamentally different but do have some overlap in certain areas. This often leads to confusion with prospective students and one of the objectives of this guide is to provide clarity on the department’s offering. The full list of objectives of the guide are:

- Providing definition to the different post graduate product offerings of the department especially highlighting the differences between Industrial Engineering and Engineering Management;
- Explaining the department’s approach to accommodate students with different backgrounds in the same programme;
- Explaining the application process;
- Establishing a baseline plan for the post graduate activities in 2014;
- Enabling students to plan their course work for the year;
- Helping students to understand the various rules and regulations applicable to them.

Note that due to the dynamic nature of the post graduate offer, this guide will be updated and improved continuously. The latest version of the document will be available from the post graduate coordinator or administrator (contact details in Table 4) or it can be download from the link on the title page of this document.

This is Version 1.0 (2014) of the post graduate study guide. Always confirm that you have the latest version of the guide when consulting it. Later versions of the guide always supersede earlier versions in all respects.

2 Principles and orientation

2.1 Industrial Engineering vs Engineering Management

Definitions for the different study domains are adopted from various sources and institutions involved in the field and are presented in this section as a basis to distinguish the domains.

*Industrial Engineering* is a discipline of engineering dealing with the optimization of complex processes or systems. It is concerned with the development, improvement, implementation and evaluation of integrated systems of people, money, knowledge, information, equipment, energy, materials, analysis and synthesis, as well as the mathematical, physical and social sciences together with the principles and methods of engineering design to specify, predict, and evaluate the results to be obtained from such systems or processes. Its underlying concepts overlap considerably with certain business-oriented disciplines such as operations management and financial management, but the engineering side tends to emphasize extensive mathematical proficiency and usage of quantitative methods.

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1 If there is a conflict between information in this guide, and the official regulations of the university, the official regulations will be applicable. This document is simply a guide to help the student to understand the process, and point him/her in the right direction, and is not a formal regulatory document. It does, however, contain department specific rules and requirements.
Figure 2: Relative positions of research contributions in the study domains

**Engineering Management** on the other hand is a specialized form of management that is concerned with the application of engineering principles to business practice. Engineering management often leads to a career that brings together the technological problem-solving savvy of engineering and the organizational, administrative, and planning abilities of management in order to oversee complex enterprises from conception to completion.

The overlap that exists between the two study domains is covered by the theoretical foundation that forms the structure of the post graduate offering which is discussed in Section 2.2. The research contribution that students have to make as part of graduating from a specific study domain is considered to be well defined with no overlap at all. These relative positions are shown in Figure 2.

Figure 2 shows that research in the Industrial Engineering study domain requires a research contribution primarily in engineering but significant integration of management concepts are allowed (up to a maximum of 50% of the total research output). Engineering Management requires mastering advanced management principles and concepts while integrating engineering principles as part of the research contribution. The engineering component of Engineering Management research output must exceed 25% but should be less than 50%. Research outputs where the management component exceeds 75% of the study is typically the make-up of an MBA thesis and falls outside the scope of the Industrial Engineering department.
2.2 Programme structures

The MEng and PDE programmes are delivered through a structure with a course component and an independent research component. PhD students normally have no course component towards the degree and only perform research which leads to a dissertation. In some cases supervisors of PhD students may decide that a selection of courses could be beneficial to the student and will then prescribe these courses. The MEng and PDE programmes’ course component consists of a series of compulsory courses as well as elective courses which should be thesis supporting (or research proposal supporting in the case of PDE students). The compulsory courses are based on four fundamental capabilities that students must master before graduating from any particular programme:

1. Analytical decision making capability based on information distilled from data. This is delivered through the course Analytics and Synthesis for the MEng programme and Engineering Statistics and Quantitative Management 1 for PDE students;
2. Commercial and/or financial reasoning capability delivered through Financial Management;
3. Strategic operations management knowledge and awareness of externalities delivered through Strategic Operations Management;
4. The ability to perform independent research taught through Research Methodology.

Elective courses must be aligned with research, i.e. the thesis of MEng students or research proposal in the case of PDE students.

Figure 3\(^2\) shows the structure of every programme (applicable for both study domains) including the weight of compulsory courses, elective courses and the thesis, research proposal or dissertation (depending on the programme). Figure 3 should be cross referenced to the information in Section 6 which deals with courses and course requirements for each programme.

2.3 Accommodating different academic backgrounds and qualifications

It is important to note that you do not necessarily require an Industrial Engineering (or engineering) degree to be accepted to one of the post graduate programmes at the department (see Section 3). This means that students start off with different backgrounds and at different levels when doing course work or doing research for thesis/dissertation purposes. The principle on which the department handles varying backgrounds is fairly simple from a programme delivery perspective: varying ef-

\(^2\)Figure 3 is not drawn to scale.
Figure 3: Building blocks for programme structures (not drawn to scale)
Fort will be required initially to participate (depending on students’ academic backgrounds) but on completion of a course the knowledge of all students strengthened and enhanced to achieve the expected level of competence, irrespective of background. Figure 4 illustrates this principle. Section 3 provides more details on the requirements to be accepted to a specific programme.

3 Programme requirements and format

Requirements for each programme are summarized below. For more details, please refer to the Engineering Almanac Chapter 6. The most recent version can be downloaded from http://www.sun.ac.za/university/jaarboek/. Note that the language used for postgraduate studies, particularly in the case of coursework, is in-line with the strategic framework of the University to be language-friendly. Although Afrikaans is used as the point of departure, English is used as the language of instruction, where necessary. Postgraduate courses are therefore taught in English.

3.1 Post Graduate Diploma in Engineering

The Post Graduate Diploma in Engineering (PDE) is presented as both a stand-alone career enhancing programme but also as a bridge into the MEng programmes for candidates that don’t qualify for the MEng programmes immediately. The programme requires 120 SAQA3 credits made up by a combination of compulsory and elective post graduate courses.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Admission Requirements</th>
<th>Format</th>
<th>SAQA Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDE (Industrial)</td>
<td>1. Qualifications:</td>
<td>A coursework based programme, with an Industrial Engineering or Engineering Management Research Proposal</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>• BSc</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• BTech</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Applicable 4-year B degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE (Engineering Management)</td>
<td>2. Successful completion of Admissions Week</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Selection by Department</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3For more information on SAQA credits, visit the website of the South African Qualifications Authority at www.saqa.org.za
3.2 MEng (Structured)

For the MEng (Structured) Degree a total credit weight of 180 SAQA credits is required, with at least 33.3% of the total credits being awarded to a project and a maximum of 66.7% of the credits awarded to advanced course work.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Admission Requirements</th>
<th>Format</th>
<th>SAQA Credits</th>
</tr>
</thead>
</table>
| M.Eng (Structured)(Industrial) | 1. Qualifications:  
• BEng  
• Hons BSc  
• Applicable 4-year B degree  
• PDE  
• MTech | A coursework based programme with a composition of 120 course credits and 60 credits earned through a thesis. | 180 |
| M.Eng (Structured)(Engineering Management) | 2. Successful completion of Admissions Week | | |
| | 3. Selection by Department | | |

3.3 MEng (Research)

The MEng (Research) is a research based programme, generally requiring full-time study and research over a period of 18-24 months. A research thesis is produced, but six subjects are required to be completed to instil fundamental concepts. Four of the subjects are compulsory (as described in Section 2.2) while two are elective. The selection of elective courses have to be approved by study supervisors. Note that one of the elective courses could be exchanged for a peer reviewed publication produced while the student is registered for the MEng (Research) degree. More information on producing the peer reviewed publication is provided in the compulsory Research Methodology course. The MEng Degree has a total credit value of 180 SAQA credits.
### Programme Admission Requirements Format SAQA Credits

<table>
<thead>
<tr>
<th>Programme</th>
<th>Admission Requirements</th>
<th>Format</th>
<th>SAQA Credits</th>
</tr>
</thead>
</table>
| M.Eng (Research)(Industrial) M.Eng (Research)(Engineering Management) | 1. Qualifications:  
• BEng  
• Hons BSc  
• Applicable 4-year B degree  
• PDE  
• MTech  
2. Successful completion of Admissions Week  
3. Selection by Department | 100% research based programme with an element of compulsory supplementary coursework, with the purpose of supporting the research. | 180 |

### 3.4 PhD

<table>
<thead>
<tr>
<th>Programme</th>
<th>Admission Requirements</th>
<th>Format</th>
<th>SAQA Credits</th>
</tr>
</thead>
</table>
| PhD | 1. Applicable Masters Degree  
2. Suitable Research Topic  
3. Selection by Department | 100% research based programme | 360 |

### 4 Admission, selection and registration of MEng and PDE students

It is important to note that some elements of the admission, selection and registration process are handled centrally by the university’s administration department. For convenience, the university’s administration department will be referred to as “Admin” hereinafter. Other elements involving admission, selection and registration are handled by the department itself, specifically the post graduate administrator (contact details in Table 4). The term “The Department” will be used in when referring to administration done by the Industrial Engineering Department.

#### 4.1 First time applicants

First time applicants who wish to be selected and admitted for post graduate programmes at the department has to be successful in two processes:
(a) The initial application which leads to provisional acceptance to the post graduate programmes;
(b) Admissions Week which comprises of several mini-modules on industrial engineering and engineering management as well as language and comprehension proficiency tests.

More information on these processes are described below.

### 4.1.1 Initial Application

Applicants who have never studied or been registered with the University of Stellenbosch or former students who have not been registered for more than one year have to complete all the steps below:

**Step 1:** Complete the electronic application form on the university’s website at [http://web-apps.sun.ac.za/eAansoek2/alg.jsp?Tl=1](http://web-apps.sun.ac.za/eAansoek2/alg.jsp?Tl=1). The purpose of this step is to be issued with a temporary student number which you should use as a reference in all further steps. Admin will send you a formal letter confirming your student number. There is an example of such a letter in Appendix A. Please note that this is only administrative acceptance to the university. You still have to be approved by selection committee at The Department as well as be successful during the Admissions Week for final acceptance.

**Step 2:** Complete the electronic application form on The Department’s website at [www.ie.sun.ac.za](http://www.ie.sun.ac.za). The details that you have entered will be emailed to The Department for further processing.

**Step 3:** Forward your complete study record to the post graduate administrator, Mrs Amelia Henning at ah2@sun.ac.za. Quote your temporary student number in the email.

**Step 4:** Forward your abbreviated CV (one page) to the post graduate administrator, Mrs Amelia Henning at ah2@sun.ac.za. Quote your temporary student number in the email.

Candidates who have been registered at the university during the year before the intended year of study only need to complete Steps 2 and 4. Once you have performed all the relevant steps above, The Department will confirm that your application is under review via email.

Other points of importance are:

1. Selection of candidates is done by a dedicated committee in The Department and the purpose is to identify candidates’ suitability, and whether The Department will be able to support the specific research intention;
2. Applications have to be done in the year before the intended study-year, preferably before December.
3. Depending on the programme selected, the selection process may take some time. The meeting frequency of the selections committee is once a month. Where the applicant has an international qualification, The Department first needs to verify the applicant’s qualifications through the International Office at the university which may take additional time;
After your application has been considered, The Department will notify you of the outcome. Successful candidates can prepare for Admissions Week (discussed in Section 4.1.2). Unsuccessful candidates will not be considered further. The reasons for declining an application are usually disclosed to unsuccessful candidates and these candidates are welcome to reapply once the shortcomings have been addressed.

### 4.1.2 Admissions Week

Admissions Week is compulsory for ALL first time applicants for the PDE or MEng programmes and is scheduled for **20 - 24 January 2014**. The concept of Admissions Week is loosely based on the Graduate Management Admissions Test (GMAT), Graduate Record Examination (GRE) and the Test of English as Foreign Language (TOEFL) used in the USA for admission to post graduate programmes at universities. The goal of Admissions Week is for the department to assess students’ suitability for post graduate programmes in detail but also for students to make sure that they have made the right choice to apply for selection at the Industrial Engineering department. The details of the week are shown in Table 1 and described below:

**Table 1: Admissions Week schedule and content**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Session</th>
<th>Session chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon 20-Jan-14</td>
<td>08:00</td>
<td>10:00 Administration and orientation</td>
<td>Prof. PJ Vlok</td>
</tr>
<tr>
<td></td>
<td>10:30</td>
<td>12:30 Simulation</td>
<td>Prof. J. Bekker</td>
</tr>
<tr>
<td></td>
<td>13:00</td>
<td>15:00 Innovation</td>
<td>Prof. C. Schutte</td>
</tr>
<tr>
<td></td>
<td>15:15</td>
<td>17:00 Industrial Robotics</td>
<td>Dr. S. Matope</td>
</tr>
<tr>
<td>Tue 21-Jan-14</td>
<td>08:00</td>
<td>10:00 Physical Asset Management</td>
<td>Prof. PJ Vlok</td>
</tr>
<tr>
<td></td>
<td>10:30</td>
<td>12:30 Operations research</td>
<td>Prof. J. van Vuuren</td>
</tr>
<tr>
<td></td>
<td>13:00</td>
<td>15:00 Project Management</td>
<td>Prof. N. Fourie</td>
</tr>
<tr>
<td></td>
<td>15:15</td>
<td>17:00 Advanced Manufacturing</td>
<td>Prof. D. Dimitrov</td>
</tr>
<tr>
<td>Wed 22-Jan-14</td>
<td>08:00</td>
<td>10:00 Sustainability of systems</td>
<td>Prof. A. Brent</td>
</tr>
<tr>
<td></td>
<td>10:30</td>
<td>12:30 Micro Manufacturing and Energy Management</td>
<td>Mr. T. Dirkse van Schalkwyk</td>
</tr>
<tr>
<td></td>
<td>13:00</td>
<td>15:00 Resource Management</td>
<td>Prof. A. van der Merwe</td>
</tr>
<tr>
<td></td>
<td>15:15</td>
<td>17:00 Principles of systems engineering</td>
<td>Dr. B. Bekker</td>
</tr>
<tr>
<td>Thu 23-Jan-14</td>
<td>08:00</td>
<td>10:00 Supply Chain Management</td>
<td>Mr. K. von Leipzig</td>
</tr>
<tr>
<td></td>
<td>10:30</td>
<td>12:30 Data science</td>
<td>Dr. A. van Rensburg</td>
</tr>
</tbody>
</table>

*Version 1.0 (2014)*

*Wed 11th Dec, 2013*
(a) All sessions will be presented in room M306;

(b) 100% attendance is required for all sessions of the Admissions Week;

(c) Starting and finishing times of scheduled activities can change at short notice. Make arrangements to be on campus every day between 08:00 and 18:00;

(d) The week consists of a series of mini-modules on a variety of subjects in Industrial Engineering or Engineering Management which are described in Table 1;

(e) Notes will be issued during every session of every day and your knowledge of the material will be tested during the afternoon session of the last day in a written examination;

(f) The Inter-Institutional Center for Language Development and Assessment (ICELDA) will test applicants’ ability to communicate in English on the morning session of the last day in a written test. More information on ICELDA is provided in Appendix B.

To pass Admissions Week and to be accepted into a post graduate programme, a final mark of 60% is required for the language assessment and 60% for the exam on the mini-modules. The department will issue a formal “Permission to Register” letter if you were successful and you will require this document when formally registering at the university. The results of the Admissions Week will be published electronically by 17:00 on Saturday 25 January 2012.

Note that even though you can formally register at the university for a particular programme on receiving the Permission to Register letter, you will still have to find a study leader that can supervise your thesis. In an extreme case you might be allowed to register at the university but if you have an interest in a field for which there is no supervision available in the department, e.g. quantum astrophysics, it may theoretically mean that you will never finish your programme. This example is extreme but it is necessary to consider the risk before deciding to register. More information on finding a study leader in Section 7.

4.1.3 Registration

This is the formal process where you will become an official student of Stellenbosch University and it is administered by the central administration.

1. Fulltime and part-time students must report to Mrs N Hartzenberg’s office (Admin A building, Room A2029) for registration;
2. The following documents must be presented when registering:
   • Original degree certificate(s)
   • Proof of payment or bursary
   • Your Permission to Register letter issued by The Department

3. International students take note of the following:
   • Before registration, report to the international office (Admin A building);
   • Present your passport, permit, medical aid insurance and proof of payment with registration;
   • Present proof of payment and registration when activating your student card at the Student Card Office in the Admin A building.


4.2 Reregistrations

Fulltime and part-time non-first year postgraduate students may register online at www.mymaties.com the student portal from the 15th of January 2014. Those students who struggle with online registration may send Mrs N Hartzemberg, nicolepa@sun.ac.za, their proof of payment and she will register them from her side. They may then print the proof of registration at www.mymaties.com.

4.3 Interrupting or discontinuation MEng studies

Should you require to interrupt your MEng studies for whatever reason, you have to apply for consent using the application form in Appendix H. Send the form to the post graduate administrator for processing.

If you have decided to discontinue your studies, complete the form in Appendix I and send the form to the post graduate administrator.

5 Admission, selection and registration of PhD students

It is important to note that some elements of the admission, selection and registration process are handled centrally by the university’s administration department. For convenience, the university’s administration department will be referred to as “Admin” hereinafter. Other elements involving admission, selection and registration are handled by the department itself, specifically the post graduate administrator (contact details in Table 4). The term “The Department” will be used in when referring to administration done by the Industrial Engineering Department.

The formal process flow of the registration of PhD students is included in this guide as Appendix K. Some elements of the process are described below as a concise summary.
5.1 Initial Application

Applicants who have never been registered with the University of Stellenbosch or former students who have not been registered for more than one year have to complete all the steps below:

**Step 1:** Make contact with the post graduate coordinator or a potential study leader in The Department via The Department’s website ([www.ie.sun.ac.za](http://www.ie.sun.ac.za)) to share your research interests with the study leader. If the study leader agrees to act as a potential supervisor for your work, obtain a written confirmation (via email) from the person that confirms his/her willingness to lead your research if you are formally accepted.

**Step 2:** Complete the electronic application form on the university’s website at [http://web-apps.sun.ac.za/eAansoek2/alg.jsp?Tl=1](http://web-apps.sun.ac.za/eAansoek2/alg.jsp?Tl=1). The purpose of this step is to be issued with a temporary student number which you should use as a reference in all further steps. Admin will send you a formal letter confirming your student number. There is an example of such a letter in Appendix A. **Please note that this is only administrative acceptance to the university. You still have to be approved by selection committee at The Department.**

**Step 3:** Complete the electronic application form on The Department’s website at [www.ie.sun.ac.za](http://www.ie.sun.ac.za). The details that you have entered will be emailed to The Department for further processing.

**Step 4:** Forward your complete study record to the post graduate administrator, Mrs Amelia Henning at ah2@sun.ac.za. Quote your temporary student number in the email.

**Step 5:** Forward your abbreviated CV (one page) to the post graduate administrator, Mrs Amelia Henning at ah2@sun.ac.za. Quote your temporary student number in the email.

Candidates who have been registered at the university during the year before the intended year of study only need to complete **Steps 2 and 4.** Once you have performed all the relevant steps above, The Department will confirm that your application is under review via email. The Department may also request addition information if deemed necessary.

Other points of importance are:

1. Selection of candidates is done by a dedicated committee in The Department and the purpose is to identify candidates’ suitability, and whether The Department will be able to support the specific research intention;
2. Applications have to be done in the year before the intended study-year, preferably before December.
3. Depending on the programme selected, the selection process may take some time. The meeting frequency of the selections committee is once a month. Where the applicant has an international qualification, The Department first needs to verify the applicants qualifications through the International Office at the university which may take additional time;
After your application has been considered, The Department will notify you of the outcome. If you were successful, The Department will issue a “Permission to Register” permitting you to register at the university for the PhD degree. You do not require an approved dissertation title at this point but you need to submit a formal research proposal within 9 to 12 months from registration for formal approval. More info on the research proposal in Section 5.3.

### 5.2 Registration

This is the formal process where you will become an official student of Stellenbosch University and it is administered by the central administration.

1. Fulltime and part-time students must report to Mrs N Hartzenberg’s office (Admin A building, Room A2029) for registration;
2. The following documents must be presented when registering:
   - Original degree certificate(s)
   - Proof of payment or bursary
   - Your Permission to Register letter issued by The Department
3. International students take note of the following:
   - Before registration, report to the international office (Admin A building);
   - Present your passport, permit, medical aid insurance and proof of payment with registration;
   - Present proof of payment and registration when activating your student card at the Student Card Office in the Admin A building.

### 5.3 PhD Research Proposal

Students registered for the PhD degree must submit a formal research proposal to The Department within 9 to 12 months from the date of first registration. The PhD proposal process is quite involved whereby reviewers from outside The Department are appointed by the Vice-Dean: Research, and the candidate must submit a formal proposal and present this proposal to a panel. If the panel approves the proposal, it is then submitted to the faculty committee, faculty board, and eventually the senate, before it is finally approved.

Since there are very few PhD students and they often have unique circumstances, the post graduate coordinator will walk the student through the process and it is hence not described in detail in this document. A guideline for the arrangements and evaluation of a research proposal is attached as Appendix J.
5.4 Upgrading from MEng to PhD

In exceptional circumstances, MEng students are allowed to upgrade to the PhD programme. The appropriate steps are described below.

5.4.1 Upgrading during the normal masters evaluation process

1. The supervisor(s) is(are) of the opinion that the thesis to be submitted for evaluation exhibits such a degree of originality that the registration of the candidate may potentially be upgraded to PhD.
2. The supervisor requests the Postgraduate Coordinator to ask the examiners pertinently in the cover letter accompanying the thesis to consider the possibility of upgrading to PhD, after subjecting the thesis to the usual assessment.
3. After completion of the oral examination the Postgraduate Coordinator, in consultation with all the examiners concerned and the supervisor(s), considers the desirability of upgrading to PhD.
4. If it is decided that an upgrade is NOT appropriate, the normal M evaluation process continues and a final mark is awarded.
5. If it is decided that an upgrade IS appropriate, the candidate is requested to prepare a formal research proposal such as is expected from doctoral students registered for PhD without a research topic. This proposal would usually build on and constantly refer to the M thesis.
6. The research proposal, together with the M thesis and the prescribed application form, will be submitted to the departmental Executive/Admissions Committee, as is the case with doctoral students who have already been registered without a research topic.
7. As the candidates thesis has been formally evaluated by the examiners and an oral examination has been completed, the departmental Executive/Admissions Committee has the authority to make an autonomous decision regarding the advisability of recommending an upgrade. The departmental Executive/Admissions Committee completes the recommendation form (Recommendation form - PhD registration.doc).

5.4.2 Upgrading on recommendation of supervisor(s)

1. The supervisor(s) realize(s) during the course of the candidates M studies that the research exhibits such a degree of originality that the registration may potentially be upgraded to doctoral studies.
2. The supervisor(s) request(s) the candidate to prepare a formal research proposal such as is expected from doctoral students registered for PhD without a research topic, and which conforms to the requirements set out in the US Calendar-Part 1.
3. The research proposal, together with the prescribed application form, will be submitted to the departmental Executive/Admissions Committee, as in the case of doctoral students who have already been registered without a research topic.
4. A Candidature Panel, comprising the proposed promoter and at least two further knowledgeable people, at least one of whom should be from outside the home department, is appointed by the departmental Executive/Admissions Committee. The Vice Dean: Research must approve the
proposed Candidature Panel.

5. The Candidature Panel adjudicates the research proposal and, after a compulsory oral presentation and evaluation of the candidate, a final recommendation is made. The Candidature Panel is at liberty to request that the research proposal be revised and resubmitted for consideration.

6. The recommendation of the Candidature Panel is made known to the departmental Executive/Admissions Committee. The departmental Executive/Admissions Committee completes the recommendation form (Recommendation form - PhD registration.doc).

7. If the upgrading is recommended the research proposal and prescribed PhD application form are subjected to the same process as those of doctoral students who have already been registered without a research topic.

8. If the upgrade is NOT recommended the candidate continues his/her M studies.

### 5.5 Interrupting PhD studies

Should you require to interrupt your PhD studies for whatever reason, you have to apply for consent using the application form in Appendix H. Send the form to the post graduate administrator for processing.

### 6 Courses

#### 6.1 Required credits and registration

The MEng (Structured) programme as well as the PDE programme have a course credit requirement. This consists of a number of compulsory courses as well as some elective courses. The elective courses have to be thesis supportive (or research proposal supportive in the case of the PDE programme) and selections must be signed off by the study leader. The requirements are shown in the table below:

<table>
<thead>
<tr>
<th>Programme</th>
<th>Credits from compulsory modules</th>
<th>Credits required from elective modules</th>
<th>Total course credits required</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEng (Structured)</td>
<td>44</td>
<td>76</td>
<td>120</td>
</tr>
<tr>
<td>PDE</td>
<td>72</td>
<td>48</td>
<td>120</td>
</tr>
</tbody>
</table>

MEng (Research) students don’t have course credit requirements but they have to complete a total of **six courses** (four compulsory and two elective), irrespective of the number of credits. Take note of the possibility to exchange one of the elective courses for a peer reviewed publication (while being registered...
for M.Eng. (Research)) as described in Section 3.3.

6.2 Available courses

Table 3 shows the list of courses available at the department (as of Wed 11th Dec, 2013) as well as which courses are compulsory and which are elective as a function of the programme. The table is applicable to both study domains, i.e. Industrial Engineering or Engineering Management. More courses are planned and the details will be released as soon as arrangements have been finalized.

Students are also allowed to attend courses at other departments to fulfill elective credit requirements provided such courses are aligned with their theses. Requests to attend courses outside the department are considered on a case by case basis and request should be made to the post graduate coordinator by your study leader. Examples of courses that could be considered are those at the Center for Renewable and Sustainable Energy Studies:

- Renewable Energy Systems: 31 March to 5 April 2014
- Renewable Energy Policy: 19 to 24 May 2014
- Introduction to Solar Energy: 23 to 28 June 2014
- Renewable Energy Finance: 21 to 26 July 2014
- Bio-energy: 11 to 16 August 2014
- Wind & Hydro: 1 to 6 September 2014
- System Dynamics Modeling: 18 to 29 August 2014


Courses at the Department of Civil Engineering are also often used as elective courses in the Department of Industrial Engineering. A schedule of courses is included in Appendix R and more information can be viewed at [http://www0.sun.ac.za/civeng/index.php?page=postgrad-item-1](http://www0.sun.ac.za/civeng/index.php?page=postgrad-item-1).
Table 3: Available courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Presenter</th>
<th>MEng (Structured)</th>
<th>MEng (Research)</th>
<th>PDE</th>
<th>ME(M) (Structured) Credits</th>
<th>PDE Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASY Analytics and Synthesis</td>
<td>JvV</td>
<td>C</td>
<td>C</td>
<td>NA</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>DS* Data science</td>
<td>AvR</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>ERM Environmental Risk Management</td>
<td>Univ of Bath</td>
<td>NA</td>
<td>E</td>
<td>NA</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EST Engineering Statistics</td>
<td>PvD</td>
<td>NA</td>
<td>NA</td>
<td>C</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>FIN Financial Management</td>
<td>KvL</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>FSS Advanced functional specification of systems and systems design</td>
<td>AS</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>FSS Advanced functional specification of systems and systems design</td>
<td>AS</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>INM Innovation Management</td>
<td>CS</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>PAM Physical Asset Management</td>
<td>PJV</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>PM Project Management</td>
<td>CJF</td>
<td>E</td>
<td>E</td>
<td>C</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>QMG1 Quantitative Management 1</td>
<td>TDvS</td>
<td>NA</td>
<td>NA</td>
<td>C</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>QMG2 Simulation 2</td>
<td>JB</td>
<td>E</td>
<td>E</td>
<td>C</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>QMT* Quality Management</td>
<td>TBA</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>REM Research Methodology</td>
<td>ACB</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>REP Research Proposal</td>
<td>ACB</td>
<td>NA</td>
<td>NA</td>
<td>C</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>SDEV Sustainable Development</td>
<td>Univ of Bath</td>
<td>NA</td>
<td>E</td>
<td>NA</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SOM Strategic Operations Management</td>
<td>KvL</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>STA Strategic technology analysis</td>
<td>RvW</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>SYS Principles of Systems Engineering</td>
<td>BB</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>15</td>
<td>12</td>
</tr>
</tbody>
</table>

**C:** Compulsory  
**E:** Elective  
**NA:** Not available for a programme  
**Asterisk (*):** Course currently under development. Details available soon.
Note that students in the MEng programme are assessed differently to students in the PDE programme, from there the difference in credits. Students in the MEng programme typically have to do an additional assignment for a particular course to make up for the difference in credits.

6.3 Course registration process

6.3.1 MEng (Research) Programme

Complete the registration form in Appendix M and hand the form in at the post graduate administrator. You can register for the compulsory modules without a study leader but elective modules have to be signed off by your study leader on the form. See Section 7 for more information on finding a study leader.

Important: The fee for the MEng (Research) programme (both study domains) include the fee for the first attempt at any course (compulsory or elective) as part of the tuition fee. If you start but do not complete a course, you will need to pay the per-credit fee for the second time you register for the course. Please plan and commit yourself fully to your courses so that you will not be required to register a second time for a course.

Students who would like to change their elective course selections less that 30 days prior to commencement of a course already enrolled for will be charged an administration fee of R2,500. Changes to elective selections should also be signed off by the study leader.

6.3.2 MEng (Structured) and PDE Programme

Complete the registration form in Appendix M and hand the form in at the post graduate administrator. Note that the titles of course that you want to enroll for listed in Table 3 might be registered at the university's central administration form under a generic name, e.g. the course “Financial Management 1” has a formal module name called “Engineering Economy”. The title “Engineering Economy” will be recorded on your academic record on completion of the course but all correspondence by The Department will refer to “Financial Management 1”.

MEng (Structured) students can only apply at a study leader for supervision of his/her thesis on completing more than 90 credits of his/her programme. PDE students will only require inputs from subject experts occasionally on the Research Proposal course (REP). This interaction will be arranged by the Research Proposal course owner.
7 Finding a study leader (MEng (Research) students)

MEng (Research) students have time until **31 March 2014** to find a study leader for his/her thesis. The process of finding a study leader is fairly easy after the Admissions Week: during the Admissions Week you will gain a good understanding of the various available topics, fields, research areas and capabilities of most of the potential study leaders in The Department. Students are encouraged to make appointments and meet with study leaders after the Admissions Week to discuss their research visions.

To make an appointment with a potential study leader, report to the reception at the the department or phone the department on (021) 808 4234 to request an appointment. Your academic record and Admissions Week exam paper will be forwarded to the potential study leader for his/her perusal before your meeting.

Once a study leader has agreed to supervise a student, the student can select his/her elective courses as described in Section 6.3.1.

Students who are unable to secure a study leader before **31 March 2014** will have an opportunity to reapply for supervision by a study leader between 1 January 2015 and 31 March 2015. Every study leader can only accommodate a limited number of students and applicants are encouraged to start with the process as early as possible.

8 Course schedules

This section contains the specific dates scheduled for every course. There is also a global overview of the course schedules in Appendix S on a single page (best viewed electronically). Note that additional information about the scheduled dates of a particular course is provided in Appendix O as part of the detail description of courses.

8.1 Analytics and Synthesis

<table>
<thead>
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<tr>
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<tr>
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<tr>
<td>Mon, 05-May-14</td>
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<td>Wed, 07-May-14</td>
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8.2 Data science

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</tbody>
</table>

M: Morning, A: Afternoon, F: Full day, H: Half day

8.3 Environmental Risk Management

Distance learning unit presented by die University of Bath. Refer to the detail course description and global schedule (on the last page) for more information.

8.4 Engineering Statistics

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<td>Wed, 18-Jun-14</td>
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M: Morning, A: Afternoon, F: Full day, H: Half day
### 8.5 Financial Management

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M: Morning, A: Afternoon, F: Full day, H: Half day

### 8.6 Advanced functional specification of systems and systems design (Prerequisite: SYS)

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M: Morning, A: Afternoon, F: Full day, H: Half day

### 8.7 Innovation Management

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M: Morning, A: Afternoon, F: Full day, H: Half day
### 8.8 Physical Asset Management

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M: Morning, A: Afternoon, F: Full day, H: Half day

### 8.9 Project Management

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M: Morning, A: Afternoon, F: Full day, H: Half day

### 8.10 Quantitative Management 1

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<td>Wed, 21-May-14</td>
<td>F</td>
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<td>Thu, 20-Nov-14</td>
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M: Morning, A: Afternoon, F: Full day, H: Half day
8.11 Simulation 2

<table>
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<tr>
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M: Morning, A: Afternoon, F: Full day, H: Half day

8.12 Quality Management

No information available. Course under development.

8.13 Research Methodology

<table>
<thead>
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M: Morning, A: Afternoon, F: Full day, H: Half day

8.14 Research Proposal

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<td>Fri, 31-Jan-14</td>
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8.15 Sustainable Development

Distance learning unit presented by the University of Bath. Refer to the detail course description and global schedule (on the last page) for more information.

8.16 Strategic Operations Management

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M: Morning, A: Afternoon, F: Full day, H: Half day

8.17 Strategic technology analysis

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M: Morning, A: Afternoon, F: Full day, H: Half day

8.18 Principles of Systems Engineering

Version 1.0 (2014)
Wed 11th Dec, 2013
9  Thesis/Dissertation format, submission and evaluation

A style guide for formatting theses and dissertations is attached in Appendix L. Study the guide carefully before documenting your work in a thesis or dissertation. For a guaranteed professional and consistent result, students are encouraged to make use of \LaTeX to develop their documents. \LaTeX is free and can be downloaded from the [http://www.latex-project.org](http://www.latex-project.org). The Stellenbosch University templates for theses and dissertations can be downloaded from [http://www.ctan.org/tex-archive/macros/latex/contrib/stellenbosch](http://www.ctan.org/tex-archive/macros/latex/contrib/stellenbosch).

Theses and dissertations are evaluated as per a formal process dictated by the Faculty of Engineering. The process flow is shown in Appendix C and the minimum standards for evaluation are listed in Appendix D. Make sure you complete Appendices E, F and/or G whichever applicable as part of the submissions process.

10  Fees

Registration fees as well as course fees and the procedure for payment for 2014 are found in Appendix N. These fees are indicative only and should be confirmed by Admin.

11  General

11.1  Work hours

Full-time students have to be at the office during normal office hours (08:30 till 16:00, excluding lunch break).
11.2 Office space

There is limited office space available for full time students at The Department. The post graduate administrator will allocate space to you if there is space available and only when you have secured a study leader. Place your name on the waiting list with the post graduate administrator if you are interested or if your study leader insists that you work on campus. The space will be allocated in late February 2014.

11.3 Adequate progress with a programme and progress reports

The Department monitors the progress of students throughout their programmes carefully. If a student does not make sufficient progress with his/her particular programme, reregistration for the programme might be refused at the sole discretion of The Department.

Monitoring is particularly rigorous for the M.Eng. (Research) programme. M.Eng. (Research) students have to develop and submit a programme roadmap that details their intended route to complete all the requirements for the degree. The roadmap is developed as part of the Research Methodology course and in conjunction with the supervisor and is unique to every student. Progress will be evaluated against the programme roadmap at specific intervals, shown below:

1. **February 2014**: All non-first year M.Eng. (Research) students. If satisfactory progress can be shown, the department will issue a permission to reregister letter.

2. **April 2014**: All first year M.Eng. (Research) students.

3. **August 2014**: All M.Eng. (Research) students. Satisfactory progress will have to be shown by departmental bursary holders before the second draw on their bursaries is released.

The roadmap is typically a three page document showing milestones, important dates, thesis targets, frequency of meetings with supervisors, obstacles, achievements, etc. It has to be signed off by the study supervisor and the document has to be presented for sign off to the post graduate coordinator. The document will be compared to previous versions to evaluate progress. Once the document is signed off by the post graduate coordinator, permission to reregister for the programme will be granted and/or permission to release the next bursary draw will be granted.

11.4 Funding

As part of the on-line application for MEng students (described in Section 4.1.1), students are asked to indicate whether funding is required or not. This indication is only used for planning purposes and is by no means an application for funding. Funding can be applied for at [http://www0.sun.ac.za/pgstudies/postgraduate-student-funding.html](http://www0.sun.ac.za/pgstudies/postgraduate-student-funding.html). You could also enquire about funding at study.
leaders directly. Some study leaders have access to research grants which may, in certain cases, be disbursed as bursaries.

11.5 Electronic communication

All electronic communication from The Department will be sent to your University of Stellenbosch email address which you will receive when registering at the university. Make sure you check your emails regularly since important announcements, deadlines, changes to schedules, etc, will be sent to your university address.

11.6 The use of Moodle

Moodle is an Open Source Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE) used at The Department. Follow the instructions in Appendix P to register for Moodle.

11.7 Plagiarism and Turnitin

"Plagiarism is the theft and use of the ideas, material and other intellectual property of others that are passed off as one's own" is the formal definition of plagiarism at Stellenbosch University as published by the senate in 2010 in the formal policy document: “SUN policy on academic integrity: the prevention and handling of plagiarism” (attached in Appendix Q). The Industrial Engineering Department has a zero-tolerance policy on plagiarism and suspicions of plagiarism are dealt with strictly in accordance to the formal policy.

The university also uses a service called Turnitin to assist in eradicating plagiarism. Students upload assignments onto the Turnitin database where the papers are compared with billions of pages on the internet. The results are returned in the form of an “Originality Report” that gives clear indications and explanations of possible plagiarism.

For more information on the university’s plagiarism policy or Turnitin, visit http://www.lib.sun.ac.za/library/eng/help/IG_Programme/Plagiarism/Plagiarism_Index.html

11.8 Important Contacts

The following contact details may assist you in your queries.

Table 4: Important contacts
<table>
<thead>
<tr>
<th>Role</th>
<th>Person</th>
<th>E-mail</th>
<th>Tel Nr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman: Department</td>
<td>Prof Corne Schutte</td>
<td><a href="mailto:corne@sun.ac.za">corne@sun.ac.za</a></td>
<td>021-808-3617</td>
</tr>
<tr>
<td>Post Graduate Coordinator &amp; Industrial Engineering Post Graduate Enquiries</td>
<td>Prof PJ Vlok</td>
<td><a href="mailto:pjvlok@sun.ac.za">pjvlok@sun.ac.za</a></td>
<td>021-808-3734</td>
</tr>
<tr>
<td>Engineering Management Post Graduate Enquiries</td>
<td>Mr Konrad von Leipzig</td>
<td><a href="mailto:kvl@sun.ac.za">kvl@sun.ac.za</a></td>
<td>021-808-4233</td>
</tr>
<tr>
<td>PDE Programme Enquiries</td>
<td>Prof PJ Vlok</td>
<td><a href="mailto:pjvlok@sun.ac.za">pjvlok@sun.ac.za</a></td>
<td>021-808-3734</td>
</tr>
<tr>
<td>Post Graduate Administrator</td>
<td>Mrs Amelia Henning</td>
<td><a href="mailto:ah2@sun.ac.za">ah2@sun.ac.za</a></td>
<td>021-808-4240</td>
</tr>
<tr>
<td>Departmental Financial Administrator</td>
<td>Mrs Anel de Beer</td>
<td><a href="mailto:au1@sun.ac.za">au1@sun.ac.za</a></td>
<td>021-808-4234</td>
</tr>
</tbody>
</table>

**The End.**
A Example provisional acceptance letters
Dear MR ADHIKARI

RECEIPT OF APPLICATION FOR THE UNIVERSITY

Thank you for your application for admission in 2013 for MEng (Structured) (Full time).

Although you have not yet been formally admitted to the University at this stage, we have already assigned you a student number, namely [redacted].

This number must be quoted in all your future communication with the University.

We will inform you in due course of your actual admission or not, to the University.

You have not indicated that you require University housing; we therefore assume you will be staying in private boarding.

If for whatever reason you were to cancel your application, you will be required to complete a new application form should you wish to study at the University the following year. Please note that applications cannot be carried over from one year to another.

With regards from Matieland

Mrs SE Blanché
for THE REGISTRAR
Dear [Name]

**RECEIPT OF APPLICATION FOR THE UNIVERSITY**

Thank you for your application for admission.

You have now been assigned a username and password to gain access to the University's personalised virtual web environment for students.

At www.maties.com, you have access to your e-learning environment, services on campus, the welcoming program for new students and parents, campus news, the electronic communications policy, e-shops and many more.

NB: This password also gains access AFTER registration to www.mymaties.com, www.sun.ac.za/library, e-mail, CUA's, Library computers and WebStudies.

Username: [Redacted]
Password: [Redacted]
(Please note the upper and lower case characters in 'Sun')

NB: If you experience any problem with 1) log on or 2) did not receive a username and password please report an error to the following address: https://iheat.sun.ac.za/webheat/ [choose the 'portal error' option]

This username and password is uniquely your own. Please also note the following:
- You must keep your password confidential.
- You may not use the password or username belonging to another person at any time and for any reason.
- You are not permitted to transmit your password or username through any medium (except through the Stellenbosch University network for which access is specifically granted by the password), including, but not limited to email and internet related chat.
- Should any person or entity attempt to obtain your password from you, you are requested to report this to Information Technology.

With regards from Matieland

JG du Toit
for THE REGISTRAR
B  Inter-Institutional Center for Language Development and Assessment
Testing of postgraduate students

Academic success and language ability

Studies have shown that the best predictors of academic success are firstly preparedness for the teaching and learning context, for example the ability to think critically and logically, and, secondly, motivation (Pascarella & Terenzini, 2005). The former, however, cannot be separated from language ability, as one uses language to structure thoughts while seeking for information, processing information and producing information, whether it is by means of listening, reading, speaking or writing, or a combination of these, as it always happens to be (Van Dyk & Weideman, 2004; and Bachman & Palmer, 1996). This is illustrated in Lipman’s observation that this ability

… ranges from very specific to very general abilities, from proficiency in logical reasoning to the witty perception of remote resemblances, from the capacity to decompose a whole into parts to the capability to assemble random words or things so as to make them well-fitting parts of a whole, from the ability to explain how a situation may have come about to the ability to foretell how a process will likely eventuate, from a proficiency in discerning uniformities and similarities to a proficiency in noting dissimilarities and uniquenesses, from a facility in justifying beliefs through persuasive reasons to a facility in generating ideas and developing concepts, from the capacity to solve problems to the capacity to circumvent them or forestall their emergence, from the ability to evaluate to the ability to re-enact – the list is endless because it consists in nothing less than an inventory of the intellectual powers of mankind Coles and Robinson (1991:12).

Low levels of ability in the language(s) of teaching and learning are widely considered as one of the main reasons for a lack of academic success, even among those with high academic potential. This is particularly evident in the ability of first-year and postgraduate (master’s and PhD-level) students who have a great deal of difficulty in dealing with prescribed material, and producing proper academic text (both orally and written). The international body of research moreover indicates that approximately ten percent of academic success can be ascribed to language ability (cf. McNamara, 1996). Similarly, Van Rensburg and Weideman (2002) emphasise the importance of language ability for students by stating that it is a sine qua non for completing one’s studies successfully.

Since the percentage mentioned above is quite substantial (Van Dyk 2010), the immediate issue to be addressed is to respond to evidence of inadequate success in whichever way it manifests, whether it be by a decline in throughput rates, students expressing a need for support, or supervisors maintaining that their students on master’s or doctoral level do not meet the linguistic requirements associated with postgraduate studies (Butler, 2007). If one furthermore considers that English is in most cases the lingua
It is imperative that innovative solutions for the implementation of fully functional language policies and plans be developed. Such policies and plans should include, *inter alia*, clear descriptions of language levels according to international standards, and the necessary conditions to implement and facilitate support mechanisms for students and staff, such as tests and support courses. The need to identify students who are at risk of failing or dropping out, so as to make informed decisions and intervene with relevant support programmes, is therefore urgently required to increase student success and enable effective language development to take place (Wickham, Van Schalkwyk, Pym, Schreiber & Bozalek, 2009; Du Plessis, 2012; and Rambiritch, 2012).

The Inter-institutional Centre for Language Development and Assessment (ICELDA)

The Inter-institutional Centre for Language Development and Assessment, a partnership of four multilingual South African universities (Pretoria, Stellenbosch, North-West and the Free State), identified a need for the development of an integrated, standardised, reliable and valid test to measure the academic language ability of entry level postgraduate students. The purpose of this test would firstly be to determine whether students find themselves at risk as a result of too low a level of academic language ability, and, secondly, to identify specific problem areas that need to be addressed through different kinds of support, i.e. academic language development courses, workshops in academic reading and writing and in proposal writing, the development of academic speaking skills for oral presentations, listening skills development, support from a writing centre, etc.

The Test of Academic Literacy for Postgraduate Students (TALPS) was consequently developed. This test is highly reliable and valid. The ICELDA partnership is responsible for the standard administration of the test, for marking them, and for assisting in the interpretation of their results.

The Test of Academic Literacy for Postgraduate Students (TALPS)

TALPS is used in the first instance to determine whether students find themselves at risk as a result of too low a level of academic literacy. Should that be the case, such students may be advised to put plans into place to help develop their ability to handle academic discourse more competently. It tests a number of components of academic literacy, that allow it to assess whether students are able to:

- understand a range of academic vocabulary in context;
- interpret and use metaphor and idiom, and perceive connotation, word play and ambiguity;
- understand relations between different parts of a text, be aware of the logical development of (an academic) text, via introductions to conclusions, and know how to use language that serves to make the different parts of a text hang together;
- interpret different kinds of text type (genre), and show sensitivity for the meaning that they convey, and the audience that they are aimed at;
- interpret, use and produce information presented in graphic or visual format;
- make distinctions between essential and non-essential information, fact and opinion, propositions and arguments; distinguish between cause and effect, classify, categorise and handle data that make comparisons;
see sequence and order, do simple numerical estimations and computations that are relevant to academic information, that allow comparisons to be made, and can be applied for the purposes of an argument;

know what counts as evidence for an argument, extrapolate from information by making inferences, and apply the information or its implications to other cases than the one at hand;

understand the communicative function of various ways of expression in academic language (such as defining, providing examples, arguing); and

make meaning (e.g. of an academic text) beyond the level of the sentence.

The Academic Listening Test (ALT)

Listening to lectures, seminars, symposia, etc. is such an important part of university study, it seems logical that an assessment of academic listening could add new insights to the body of knowledge that is being gathered on the subject of academic success. Although some progress has been made on the "cognitive nature" of listening, it remains the least researched of the four language skills. It must, however, be remembered that language skills are inter-connected and cannot be dissociated. A lecture situation is a good example of this, where listening, writing and reading, combine to facilitate learning. The development of these skills can pose a problem for students (Lynch, 2011) particularly if they are second language speakers who are hampered by a general lack of linguistic, and therefore content, understanding. It is thus imperative that some of the cognitive factors, such as the role played by listening, which contribute to the academic success or failure of tertiary level students in South Africa, are identified. A recent development has therefore been the design and refinement of the Academic Listening Test (ALT). This test aims to measure the academic listening ability of students. The purpose of ALT is to assist other tests, like TALPS, in more accurate screening of students, particularly the borderline cases. Its reliability has already been proven and its validity is currently under investigation.

The test consists of five tasks:

- The first task comprises a lecture situation where the students listen to a 12 minute video extract from a Psychology 1 lecture and answer the multiple choice questions that follow. This task tests a candidate’s ability to differentiate between main and subordinate information and whether the main themes can be identified.

- The second task is based on listening for detail, where a lecturer gives the class instructions on the completion of an upcoming assessment. Multiple choice questions follow the audio clip.

- The third task is a gap-fill exercise based on a summary of what is heard through the headphones, as opposed to the exact words delivered in the clip. It is an extract from a talk given on Foreign Direct Investment by a specialist from the Gordon Institute of Business Science. In this task, the candidates can listen to the audio file twice, before being asked to select the correct words from a list (this is to prevent spelling from becoming an assessment factor), which also includes additional words that serve as red herrings, and place them in the relevant spaces.

- In the fourth task, candidates listen to an informal discussion by two Law students on the legal aspects of euthanasia. The multiple choice questions, that follow, require test-takers to infer meaning, as well as to supplement gaps in the information from their own background knowledge.

- The final task introduces the idea of listening effectively in spite of a speaker having a strong foreign accent. The topic of the seminar extract is ‘Climate Change’ and the speaker has a broad South Korean accent, making his pronunciation difficult to decipher at times. The fact that he has an oriental accent, rather than being from somewhere in the west, is so as to increase the fairness for all
test-takers, since the majority would be unfamiliar with this type of accent. Here too, the test-takers are required to take notes and answer the multiple choice questions that follow.

**General enquiries**

Internet address:

http://sun.ac.za/icelda

Contact persons:

- Tobie van Dyk  
  North-West University  
  tobie.vandyk@nwu.ac.za

- Fiona Stanford  
  Stellenbosch University  
  fcm@sun.ac.za

- Albert Weideman  
  University of the Free State  
  albert.weideman@ufs.ac.za

- Jurie Geldenhuyys  
  University of Pretoria  
  jurie.geldenhuys@up.ac.za
C Process flow of examining Master's theses
The public is excused (if examination directly follows presentation)

If all evaluation reports have been received:

- EXAMINERS: Send evaluation reports to PG Administration
- PG ADMINISTRATION: Contact examiner

If all evaluation reports have not been received:

- PG ADMINISTRATION: Inform supervisor and PG Coordinator that oral can be arranged

If feedback from examiners is necessary:

- SUPERVISOR: Study the feedback from examiners
- STUDENT: Submit copy of article
- STUDENT: Complete 20-30 minute presentation

If thesis is secret:

- SUPERVISOR: File article

If thesis is publishable:

- SUPERVISOR: Send article to journal for consideration

If student is excused:

- STUDENT: Complete 20-30 minute presentation
- CHAIRPERSON EXAMINATION COMMISSION: Facilitate general questions
- CHAIRPERSON EXAMINATION COMMISSION: The public is excused (if examination directly follows presentation)

In case of in depth questions being posed to student:

- EXAMINERS: In depth questions are posed to student, including questions from absent examiners that were sent to PG Coordinator
- NO
- YES

If examiners finished:

- EXAMINERS: Finished?
- YES

If student is excused:

- CHAIRPERSON EXAMINATION COMMISSION: Student is excused
PROCESS FLOW FOR EXAMINATION OF MASTER'S THESIS (continue)

SUPERVISOR: Changes are discussed with student

STUDENT: Changes are implemented

SUPERVISOR: Changes are discussed

STUDENT: Changes are implemented

SUPERVISOR: Written confirmation that thesis may be uploaded to SU database

PG ADMINISTRATION: Nominate person responsible for uploading thesis

STUDENT: At least one hard copy of thesis is ordered from SUN Media for supervisor

STUDENT: Graduate

STUDENT: Graduate

STUDENT: Graduate
D Minimum standards for postgraduate dissertation/thesis examination procedures
MINIMUM STANDARDS FOR POSTGRADUATE DISSERTATION/THESIS
EXAMINATION PROCEDURES

1. APPOINTMENT OF EXAMINERS
   • The study leader(s)/supervisor(s) nominate the examiners in writing, on condition that the examiners have been consulted prior to the nomination and that the independence of the external examiner(s) has been confirmed on the form. The template Appointment of Postgraduate Examiners-2012.doc, as well as the corresponding English version, is available for this purpose on Sharepoint.
   • The nominations are submitted to the Departmental Executive Committee and, upon approval thereof, sent to the Faculty Secretary for placement on the agenda of the Faculty Committee.
   • Following approval by the Faculty Committee, and thereafter final approval by the Faculty Board, appointment letters are sent out by the Faculty Secretary.
   • The study leader(s)/supervisor(s) may under no circumstances get in touch with the examiners with regards to the candidate for as long as the examination process has not yet been completed.

2. SUBMISSION OF DISSERTATION/THESIS
   • It is the responsibility of the study leader(s)/supervisor(s) to verify that the content and editorial care of the dissertation/thesis is of acceptable quality.
   • The designated departmental officer is requested by the study leader(s)/supervisor(s) to submit the dissertation/thesis to Turnitin, in order to ensure that the candidate responsibly made use of citations and references.
   • In the case of a dissertation/thesis having been classified as secret, the document is not submitted to Turnitin, but instead it becomes the responsibility of the study leader(s)/supervisor(s) to ensure that the document is above reproach with regards to plagiarism.
   • A designated person, aside from the study leader(s)/supervisor(s), checks a random sample with regards to the editing of the dissertation/thesis, and reports the submission suitability of the document to the study leader(s)/supervisor(s).
   • The study leader(s)/supervisor(s) gives written permission for the dissertation/thesis to be submitted for examination. The template Declaration MEng supervisor - 2012.doc and Declaration PhD promoter - 2012.doc, as well as the corresponding Afrikaans versions, are available for this purpose on Sharepoint.
   • If the study leader(s)/supervisor(s) does not give permission for the dissertation/thesis to be submitted, the candidate may insist that his dissertation/thesis be examined. In such a case it is required that the study leader(s)/supervisor(s) submit a report, by the due date for submission of examiners’ evaluation reports. The Examination Commission will review the report upon completion of the examination process.
   • It is the prerogative of the study leader(s)/supervisor(s) to submit a report on the dissertation/thesis, by the due date for submission of examiners’ evaluation reports, at the designated departmental officer. The latter is only valid if no grade is recommended (in the case of a thesis) or no recommendation is made with regards to the outcome (in the case of a thesis). If it so happens that there are serious objections with regards to the official result, such a report will ensure that the study leader(s)/supervisor(s) has the right to appeal.
• The student submits the required number of copies of the dissertation/thesis at the postgraduate departmental officer who is responsible for distributing the documents.

3. DISTRIBUTION OF DISSERTATION/THESIS
• In addition to the following documentation, the postgraduate departmental officer who is responsible for distributing the documents sends the dissertation/thesis to the internal and external examiner(s) – preferably by courier to the external examiner(s):
  ‣ A cover letter that identifies the candidate and indicates the deadline for submission of the evaluation report.
  ‣ The evaluation report form, of which the master template MEng report form - 2012.docx or PhD report form - 2012.docx, as well as the corresponding Afrikaans versions, are available for this purpose on Sharepoint.
  ‣ The Faculty Secretary initiates the payment for external examination by, upon completion of the evaluation process, sending claim forms to the external examiner(s).
• The written letter of consent, which confirms that the dissertation/thesis may be submitted for examination, is not sent to the examiner(s).

4. RECEIPT OF DISSERTATION/THESIS EVALUATION REPORTS
• The postgraduate departmental officer, who is responsible for receiving the evaluation reports, ensures that all reports are received by the due date. Timely reminder messages for the examiners may sometimes be necessary.
• The Postgraduate Coordinator and study leader(s)/supervisor(s) are notified once all the evaluation reports have been received. The study leader(s)/supervisor(s) are requested, in consultation with the Postgraduate Coordinator (who is responsible for appointing the Chairperson of the Examination Commission), to schedule an oral examination.
• The study leader(s)/supervisor(s) now has full access to the examiners' evaluation reports and may, if the examiner(s) indicate it as such on the report form, share the feedback with the candidate. The grade point, as recommended by the examiners, may however not be conveyed to the candidate. Seeing that the candidate is at this stage not allowed to contact any of the examiners, THE CANDIDATE IS NOT ALLOWED TO KNOW THE IDENTITY OF THE EXAMINERS.

5. ORAL EXAMINATION
• The Examination Commission consists of an independent Chairperson (usually the Postgraduate Coordinator, who should also be an academic staff member), the internal examiner, and at least one of the external examiners. An examiner who is available via telephone, Skype, or a similar acceptable connection, is regarded as present.
• If an external examiner is unable to be present, he/she can send a list of questions to the Chairperson, who in turn will present these questions to the candidate.
• The Chairperson is in possession of all the examiners' evaluation reports and recommendations.
• The candidate submits a copy of the journal article on his research. In the case of an M-thesis, it is the study leader(s) prerogative to submit the article to a journal
for publication, or to hold it back. In the case of a doctoral dissertation, the article should have been sent off prior to the oral. It is not required that the journal article be sent off in the case of a dissertation/thesis that has been classified as SECRET.

- The candidate has the opportunity to deliver a presentation (typically 20 to 30 minutes) on his/her research. This presentation is open to the public and general questions may be posed to the candidate at the end of his presentation.

- In the event of the presentation and the examination process following one after the other, the general public is excused and only the members of the Examination Commission, the study leader(s)/supervisor(s), and the candidate remain for the formal examination process.

- The Chairperson now facilitates the candidate’s examination by the examiners. The study leader(s)/supervisor(s) does not participate in the question session.

- Upon completion of the question session (and after the candidate has been excused), the study leader(s)/supervisor(s) are given the opportunity to put the candidate’s research into context with regards to issues such as workload, autonomy, unique contributions, etc. The report by the study leader(s)/supervisor(s) is now, if submitted, presented by the Chairperson to the Examination Commission for consideration.

- The study leader(s)/supervisor(s) is now excused and the Chairperson attempts to reach consensus with regards to the grade point (for M-theses) and the outcome (for doctoral dissertations).

- In a case where no initial consensus on the final grade mark or outcome can be reached, all the examiners must be consulted in determining the grade mark or outcome, even if an examiner was not present at the oral examination.

- Once consensus is reached, the outcome is recorded on the Examination Commission Form and signed by the members present. The template *MEng Examination Commission Form - 2012.doc* or *PhD_DEng Examination Commission Form - 2012.doc*, as well as the corresponding Afrikaans versions, are available for this purpose on *Sharepoint*.

- If consensus cannot be reached, the situation is handled as follows:

  - If the candidate passes, but there is a huge difference in the grade mark (typically greater than 20%), and if the examiners stick to the original grade mark that was awarded, then the case is referred to the Departmental Executive Committee for a final decision.
  - If the candidate fails, and the examiners stick to their original standpoint, then the case is referred to the Faculty Management Committee for a final decision.
  - The Departmental Executive Committee / Faculty Management Committee may decide to appoint additional examiners.

- The Chairperson returns the Examination Commission Form (and all the evaluation reports and recommendations) to the postgraduate administrative officer, who, in consultation with the Postgraduate Coordinator, is responsible for capturing the final grade mark/outcome on the SU system.

- The study leader(s)/supervisor(s) has the right to appeal if the study leader(s)/supervisor(s) has serious objections regarding the final outcome of the Examination Commission, and if a report was submitted on time. Written appeal must take place via the relevant Postgraduate Coordinator, who can then refer it
to the Departmental Executive Committee or the Faculty Management Committee for further handling.

- The required editorial changes should now be implemented in consultation with the study leader(s)/supervisor(s). THE CANDIDATE MAY NOW KNOW THE IDENTITY OF THE EXAMINERS, AS WELL AS THE FINAL GRADE MARK THAT HAS BEEN AWARDED.
- If the study leader(s)/supervisor(s), or the examiners, are satisfied with the edited dissertation/thesis, the study leader(s)/supervisor(s) should inform the postgraduate administrative officer in writing (usually via email) that the pdf version of the document can be loaded onto the SU database.
- The postgraduate administrative officer must now nominate, on the US system, the designated person (usually the study leader(s)/supervisor(s) or the postgraduate administrative officer) who will upload the dissertation/thesis onto the SU database.
- The dissertation/thesis is uploaded to the SU database by the nominated person.
- The candidate must supply the study leader(s)/supervisor(s) with at least one hard copy of the final dissertation/thesis.
E  Declaration by supervisor for MEng
### Confidential Declaration by Supervisor

<table>
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<td>Thesis:</td>
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<th>Yes</th>
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I have seen and checked the document, as submitted for examination, contextually.

I have assessed each chapter in the document extensively at least once before and I have made applicable suggestions and recommendations, providing sufficient guidance to enable the student to submit an acceptable thesis.

Select only one

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I am in full support of this submission and am of the opinion that the thesis is of acceptable standard for the degree under consideration.

I am in support of this submission, but I am not necessarily fully satisfied with the final product. However, I have assessed the work and commented on it extensively at least twice before.

I do not support this submission, but the student has requested that the work be examined.

Specific comments in support of the selection above:

---

**Note:** This declaration is confidential and shall not be made available to the student, or any of the examiners. However, the thesis shall only be submitted for examination once the supervisor has completed and signed this declaration.
F Declaration by supervisor for PhD/DEng
Faculty of Engineering  
Submission of Doctoral Dissertation  
Confidential declaration by Supervisor

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<th>Full Name of Student:</th>
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<td>Supervisor:</td>
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<td>Signature:</td>
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| I have seen and checked the document, as submitted for examination, contextually. | Yes | No |
| I have assessed each chapter in the document extensively at least once before and I have made applicable suggestions and recommendations, providing sufficient guidance to enable the student to submit an acceptable thesis. |   |   |

| I am in full support of this submission and am of the opinion that the dissertation is of acceptable standard for the degree under consideration. | Yes | No |
| I am in support of this submission, but I am not necessarily fully satisfied with the final product. However, I have assessed the work and commented on it extensively at least twice before. | Yes | No |
| I do not support this submission, but the student has requested that the work be examined. | Yes | No |

Specific comments in support of the selection above:

**Note:** This declaration is confidential and shall not be made available to the student, or any of the examiners. However, the dissertation shall only be submitted for examination once the supervisor has completed and signed this declaration.
G Final submission and declaration
Final Submission

FAKULTEIT INGENIEURSWESE, DEPARTEMENT BEDRYFSINGENIEURSWESE
FACULTY OF ENGINEERING, DEPARTMENT OF INDUSTRIAL ENGINEERING

FINAL SUBMISSION OF THESIS AND DOCTORAL DISSERTATIONS

MASTER’S AND DOCTORAL CANDIDATES’ PERSONAL DETAILS

SURNAME: ...........................................................................................................

INITIALS: ...........................................................................................................

STUDENT NUMBER: ...........................................................................................

CELL NUMBER: ..................................................................................................

E-MAIL: .............................................................................................................

SUPERVISOR: ....................................................................................................

CO-SUPERVISOR: ............................................................................................... 

DEPARTMENT(S): .................................................................................................

• 6-8 keywords: .................................................................................................

• A compact disc submitted to the Post Grad Admin Officer in department (AMELIA HENNING) which must be marked with student number, initials and surname in permanent ink). DO NOT ASK YOUR STUDY LEADER TO SUBMIT THE THESIS ELECTRONICALLY.

MEng(Research) MEng(Structured):
1. Final version of the thesis in copyable PDF-format
2. A publishable Journal Article in Word.doc format
3. Other relevant data and information gathered during the study

PhD:
1. Your Article already submitted to an international journal with at least 50% of the authors being full time permanent academic personnel of the department
2. Proof of submission of the above
3. The final version of the dissertation in copyable PDF format
4. The ready submitted article in PDF-format
5. A second publishable article in Word.doc format
6. Other relevant data and information gathered during the study
7. A 50 word as well as 100 word abstract sent by mail to ah2@sun.ac.za. This will be read out at the graduation ceremony.

Submitted by: ........................................................ Signature ........................................................

Submission date: ........................................
DECLARATION BY SUPERVISOR

I/we ______________________________ hereby certify that:

Firstly the accompanying unbound master’s thesis / doctoral dissertation (line through non-applicable part) of (initials and surname):

__________________________________________

for the degree of ____________________________________________
(use correct abbreviation) is in its original form and ready to be submitted to the ASM-USD for the duplication and binding of the prescribed number of copies and secondly the prescribed declaration page (as described in the Year Book), has been duly signed by the candidate.

Supervisor’s signature ______________________________

Date _____________________________________________

CONFIDENTIALITY OF THE THESIS OR DISSERTATION

It is hereby certified that this copy is to be classified as confidential and be kept under lock and key

Until ___________________________________________ (date)

Supervisor’s signature ______________________________

Date _____________________________________________

When the thesis or doctoral dissertation is submitted, ASM-USD must be informed that it is confidential and that this decision has been approved by the senate. A letter of confirmation must accompany this.

Please note: no copy will be handed over to the student, supervisor or anyone before the abovementioned period of time has elapsed.
H Applying for consent to interrupt MEng or PhD studies
Faculty of Engineering
Application for consent to interrupt M- or D-studies

STUDENT

| Name: | |
| Degree programme: | Student number: |
| Supervisor: | |
| Signature: (Student) | |

MOTIVATION

Only the situation at work, medical reasons, financial reasons and highly special personal circumstances, with appropriate supporting documents, are valid reasons for consent to interrupt studies.

PERIOD OF INTERRUPTION OF STUDIES

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<td>PhD</td>
<td>1 year</td>
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DEPARTMENTAL RECOMMENDATION

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<th>Question</th>
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<td>Was application submitted before 30 April? (YES/NO)</td>
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<td>Is interruption recommended? (YES/NO with reasons)</td>
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<tr>
<td>Signature: (Supervisor)</td>
<td>Date:</td>
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<tr>
<td>Signature: (Departmental Chair)</td>
<td>Date:</td>
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The recommendation must be sent to the Faculty Secretary, irrespective of the outcome of the recommendation, with a copy to the Departmental Postgraduate Coordinator.
I Discontinuation of MEng studies
A. **VERKLARING / DECLARATION**
Hiermee gee ek skriftelik kennis van my staking van studie, en dus van my hele registrasie as student, met ingang van I hereby give notice in writing of discontinuing my studies and hence my registration with effect from

Datum / Date: ______________________________

Minderjariges: Ek het reeds my ouers / voog / beursgewer verwitting.
Minors: I have informed my parents / guardian / bursary donor.

My rede(s) vir staking van studie / My reason(s) for discontinuing my studies:

_________________________________________________________________________________________

_________________________________________________________________________________________

B. **PERSOONLIKE BESONDERHEDE / PERSONAL PARTICULARS**

Studentenr / Student No: Voorbeeld / Example: 13045841-2001

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Van / Surname: ____________________________________________________

Volle naam / First names: __________________________________________

Program / Programme: _____________________________________________

Universiteitskoshuis, Huis, Woonstel / University Residence, House, Flat: _______________________________________________________

C. **BANKBESONDERHEDE / BANK DETAILS**

Bank / Bank: ______________________________________________________

Bankrek no / Account nr: ___________________________________________

Takkode / Branch Code: ____________________________________________

Tipe rekening / Type of Account: ____________________________________

Naam van rekeninghouer / Name of account holder: ______________________

I.W: Indien u van Universiteitsbehuisig gebruik maak, MOET u u behuisig by die Afdeling Toelating en Losies in Blok A formeel kanselleer.

PLEASE NOTE: If you have been making use of University accommodation, you MUST cancel your accommodation formally with the Division for Admissions and Accommodation in Block A.

Adres waarheen enige korrespondensie gestuur moet word: Address to which any correspondence should be sent:

_________________________________________________________________________________________

_________________________________________________________________________________________

Poskode / Postcode: ______________________________

Telefoonnommer / Selfoonnommer: _________________________________

HANDTEKENING / SIGNATURE   DATUM / DATE

Faksnr: (021) 808 3822
J Proposed Process for PhD Selection and Readmission for Faculty of Engineering
MINIMUM STANDARDS REGARDING PHD REGISTRATION

1. The prospective student and possible supervisor come to a verbal agreement regarding a possible field of study.
2. If the supervisor is willing to accept the student, the short application form for registration as a PhD candidate is completed and signed by both the supervisor and the student.
3. The application form and academic transcript of the prospective student are submitted for approval by the departmental Admissions Committee and, if so approved, the signature of the Chair. Typically the Admissions Committee comprises of at least 3 persons with PhD qualifications, of which two members are not involved in the particular study, and where at least one person is appointed on the same level as the proposed supervisor. The Committee may request additional information (such as a CV) to help in making the decision.
4. The signed form is sent to the Faculty Secretary, who then registers the student, without a dissertation subject.
5. The student has a maximum of twelve months from the beginning of the semester of first registration to formulate a research proposal with a descriptive title, in collaboration with the supervisor. The student’s registration will lapse unless the research proposal is submitted, at the latest, to the first meeting of the Faculty Council after the expiration of the twelve month period.

The research proposal, typically 20 to 30 pages in length, should contain at least the following information:
5.0. An extensive exposition of literature relevant to the PhD studies as well as a synthesis and evaluation of the most important themes found in the literature.
5.1. A clear explanation of the study’s objectives with specific reference to how it relates to previously published work and what the expected original contribution of the study will be.
5.2. A description of the research methodology proposed in order to attain the set objectives.
5.3. A broad time schedule for the study, typically in terms of 4-10 activities, with a short description of the focus of each.
5.4. A clear explanation of the infrastructure (software, equipment, laboratories, operating costs etc) necessary to complete the study, as well as arrangements that have been made to ensure its availability.
5.5. A critical self evaluation by the student of the progress made to date.
6. In addition to the research proposal, an Executive Summary (maximum of 600 words) must be prepared by the student. Only the following information must be contained in the document:
6.1. The title of the research project.
6.2. Name of student.
6.3. Name of supervisor(s).
6.4. The body of the Executive Summary with the following numbered sections:
   6.4.1. A short summary of the research project and the goals of the study.
   6.4.2. The anticipated unique research contribution(s) of the study.
   6.4.3. A broad time framework for the study, typically in terms of 4 to 10 activities.
7. When the supervisor is satisfied with the research proposal it is submitted, together with the separate Executive Summary and the prescribed PhD application form, signed...
by both the student and the supervisor, to the departmental Admissions Committee. The Committee may request that the candidate make an oral presentation and/or to request that the research proposal be revised and resubmitted for consideration.

8. If the supervisor(s) is(are) not satisfied with the research proposal or if the departmental Admissions Committee decides that further opinion should be sought regarding the research proposal and/or the student’s research capabilities, a Candidature Panel is appointed, comprising the proposed supervisor(s) and at least two further knowledgeable people, at least one of whom should be from outside the home department. The Vice Dean: Research must approve the proposed Candidature Panel. It is important to note that the rejection of a research proposal can only by recommended by a Candidature Panel.

9. The Candidature Panel adjudicates the research proposal and makes a recommendation to the departmental Admissions Committee. The Candidature Panel may request that the candidate make an oral presentation and/or to request that the research proposal be revised and resubmitted for consideration.

10. The Candidature Panel’s recommendation is then made known to the departmental Admissions Committee.

11. After acceptance of the research proposal by the departmental Admissions Committee, the recommendation form (Recommendation form - PhD registration.doc) is completed and the prescribed PhD application form is signed by the Chair and then sent, together with the Executive Summary and the research report, to the Faculty Secretary for inclusion in the agenda of the Faculty Committee for approval.

12. The recommendation form and the Executive Summary serve at the Faculty Committee for approval. The research proposal is available online as a pdf document.

13. After approval by the Faculty Council, the subject of the dissertation is entered in the existing academic record of the student.
K  Process flow for PhD Registration
PROSPECTIVE PhD STUDENT
Agreement with willing supervisor regarding research field

SUPERVISOR
Complete shortened PhD application form, with signature of supervisor and student

EXECUTIVE/ADMISSIONS COMMITTEE
Application approved and signed by Chairperson

FACULTY SECRETARY
Student is registered without dissertation topic

STUDENT
Prepare formal research proposal according to given guidelines within 1 year

SUPERVISOR
Proposal submission before deadline?

FACULTY SECRETARY
Student registration lapses

SUPERVISOR
Research proposal in order. Complete full PhD application form, with signature of supervisor and student

EXECUTIVE/ADMISSIONS COMMITTEE
Scrutinise research proposal. May require oral presentation.

EXECUTIVE/ADMISSIONS COMMITTEE
Unsure of research capabilities of student?

EXECUTIVE/ADMISSIONS COMMITTEE
Appoint Candidature Panel

VICE DEAN: RESEARCH
Approval of Candidature Panel

CANDIDATURE PANEL
Evaluation of merit of research proposal. May require oral presentation.

CANDIDATURE PANEL
Inform Executive/Admissions Committee of recommendation

SHAREPOINT
Recommendation form - PhD registration.doc

EXECUTIVE/ADMISSIONS COMMITTEE
Send documentation, with recommendation form and application form, through to Faculty Secretary

FACULTY SECRETARY
Register PhD student with dissertation topic

SHAREPOINT
PhD Aansoekvorm - Geen onderwerp.pdf
PhD Application form - No dissertation topic.pdf

DEPARTMENTAL POSTGRADUATE ADMINISTRATIVE OFFICER
Departmental application form
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THE TECHNICAL EDITING
OF
MANUSCRIPTS

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THE TECHNICAL EDITING
OF
MANUSCRIPTS

INTRODUCTION

An assignment, thesis or dissertation must offer proof that you

- have the ability to do independent research
- can come to specific, valid conclusions concerning the subject of study
- can combine the data that are obtained and/or the results of the inquiry into a logical and rounded whole
- can convey all the information that is obtained in a concise, clear and meaningful way to the reader.

In the course of the study or inquiry, you will have to study sources

- to orientate yourself to the field of study in which the inquiry will be conducted,
- to scrutinise authoritative viewpoints or opinions or specific research on aspects of the field
- to gain more information about the subject.

Your writing must demonstrate an

- honesty and freedom from bias
- logical coherence and clarity
- thoroughness and comprehensiveness
- clear formatting and attention to detail.

The submitted work will be assessed on

- the content
- the quality of research
- the logic of the argument
- how systematic the presentation is
- the style of writing, formulation and language usage
- the professionalism of the technical production.

Section B provides guidelines on the kind of submitted work that is acceptable to the Faculty of Education. The following aspects of a thesis/assignment/portfolio/dissertation are discussed:

- preparation for the study/inquiry
- the format and presentation of the text
- the compilation of a thesis/assignment or dissertation
- the presentation of illustrative and reference material, and
- the reference system that the student should use.
1. PREPARATION FOR THE RESEARCH

1.1 INTERPRETATION OF THE TOPIC

After the study topic has been finalised, first clarify how it is to be interpreted and what the its scope should be. It will then be necessary to read extensively in the field of study in which the topic has to be studied.

1.2 SEARCH FOR SOURCES

In trying to find relevant literature, it is advisable to begin with general sources (such as indexes) which will help you find bibliographies that will put you on the track of topic-related sources. The University librarians can assist you in initiating a search for sources.

Sources should be chosen carefully because the quality of the eventual product depends on the nature and status of the sources that are chosen. Unless the historical origin and course of an item or the topic also have to be traced, it is advisable to give more attention to contemporary sources because they offer the latest research findings.

1.3 LITERATURE STUDY

A search for sources should also involve an intensive period of reading during which you orientate yourself to the subject and develop the capacity to analyse and evaluate the information that is obtained. Eventually you will be in a position to begin systematising the information and so finally to arrive at a synthesis of it. Only then should you try to articulate your personal insights on the topic.

1.4 SCOPE OF THE RESEARCH

Generally, a research design includes both quantitative and qualitative research. A doctoral dissertation will require research of greater scope than a master's thesis, while the nature of the topic of a research portfolio/assignment or 50% thesis will probably demand an inquiry on a smaller scale. Whatever the scope of the research may be, the student will probably first have to consult a variety of sources (and resource people), before planning the actual research.

Planning the research will include the following:

- the steps to be followed (the planning framework)
- the nature of the information to be collected
- the data gathering techniques to be used
- the design of the questionnaires, activities, etc
- the people to be involved in the inquiry.

1.5 CONSULTATION WITH THE SUPERVISOR/PROMOTOR

The student ought to consult the supervisor/promotor regularly particularly in the initial stages of the research

- to ensure that the topic is being interpreted correctly
- to ensure the appropriateness and feasibility of the planned enquiry
- to obtain approval relating to certain aspects
- to report on progress.
1.6 PERMISSION TO DO THE RESEARCH

Depending on the nature of your inquiry you may need to obtain the approval of institutions (for example, an education department or a school governing body) or persons before the inquiry can be launched. The supervisor/promotor will be able to give the necessary advice on the steps to be followed.

1.7 PROFESSIONAL PRESENTATION

All work should be word-processed and edited before being submitted. Preliminary work should already show evidence of logic, thoroughness, organisation and refinement of ideas.

2. FORMAT AND PRESENTATION OF SUBMITTED WORK

2.1 UNIVERSITY REQUIREMENTS

2.1.1 Theses and dissertations
Apart from this manual, the US Calendar, Part 1 should also be studied with regard to

- requirements for theses/assignments for master's studies and dissertations for doctoral degrees
- the form and format in which these should be submitted
- copies that are needed for examining and later of the completed manuscript
- the duplication and binding of theses/assignments/dissertations
- the publication of theses and dissertations or part thereof.

2.1.2 Research portfolios and research assignment
A student who has to submit a research portfolio or research assignment should discuss the nature, scope and format with the supervisor.

2.1.3 Submission of the final manuscript
A final and original copy of the dissertation or thesis (100% or 50%) should be submitted to the printing department of the US at least 10 working days before the relevant degree ceremony. Comprehensive regulations in this regard are clearly set out in the US Calendar, Part 1.

2.2 FACULTY STIPULATIONS

2.2.1 Form of presentation
Your work must be presented in word-processed form. Unless the supervisor/promotor arranges otherwise with the student, handwritten texts may not be submitted. Perforated computer paper will not be accepted.

The compilation of theses and dissertations is discussed in par 3 of this section.

2.2.2 Format of the submitted work

- Paper - White Bond paper, A4 size (80g thickness), on one side only
- Paragraphs - Block format
- Spacing
  - Text - Double spacing (or one-and-half line spacing)
  - References - single spacing with an open line between each entry
  - Footnotes - single spacing
  - Appendices - single spacing
- Margins - 2cm width around the written section
- Font size - Font 10-12 for the text (as prescribed by the University)
- Headings - Bold
- Page numbers
  - Title page - No page number
  - Introductory pages - Small Roman numerals, at head of page, centred
  - Text - Arabic numerals, without a stop, at head of page, centred
  - Reference lists - Continuous with the text
  - Appendices - Continuous with the reference lists
- Paragraph numbers - Arabic numerals
Sub-paragraphs
- 3.2
- 3.2.1
- 3.2.1.1
- Thereafter: Small Roman numerals: (I), (ii), (iii), etc.
- Thereafter: Small letters: (a), (b), (c), etc.
OR
-Symbols (bullets) in a consistent sequence.

2.3 REFERENCE SYSTEM

2.3.1 The abridged Harvard System
The abridged Harvard system (see Section C) is recommended for students of the Faculty of Education. Another reference system may, however, be used if the supervisor/promotor so desires. The student should consult the supervisor/promotor in this regard.

2.3.2 Preliminary work
- Preliminary chapters: A list of the sources that have been consulted for a particular chapter should always accompany the preliminary chapters. Find out whether the preliminary chapters should be bound or not.
- Final manuscript for examination: A complete reference list should of course accompany the final manuscript. The number of copies that has to be submitted for examination/evaluation purposes will depend on the number of examiners that has been assigned (consult the supervisor/promotor and the US Calendar, Part 1).

2.3.3 Illustrative or reference material
- Preliminary chapters: Relevant graphic work, tables, appendices and other essential illustrative material should also accompany the preliminary chapters.
- Final manuscript: The final manuscript that is submitted to the examiners should contain all illustrative or reference material (see also US Calendar, Part 1).

3. THE COMPILATION OF A THESIS OR A DISSERTATION

The completed thesis/assignment or dissertation consists of five distinct parts:
- Title page: Not numbered.
- Introductory pages: Numbered with small Roman numerals.
- Text: Numbered from page 1.
- Reference list (list of sources): Numbered continuously with the text.
- Illustrative material (appendices): Numbered continuously with the text and the list of sources.

3.1 TITLE PAGE

The US Calendar, Part 1 sets out clearly the university's requirements regarding the compilation of the title page, the format and the essential information that has to be distributed across the title page. Some aspects are discussed here.

- Complete title: From the beginning of the studies, the title should be formulated as briefly but as comprehensively as possible. The title on the title page may not differ from the registered title (which has been approved officially and in writing by die Faculty Council and the Senate at the first registration). The title may be altered only with permission and by being re-registered. The subsequent cover title of the final, bound copy may however be shortened on the spine in consultation with the binder.
- Initials and surname of writer: No title is indicated; only one first name is given in full.
- Degree/degrees already achieved: The degree/degrees that the writer has already achieved are placed on the line just after the author's name. The name of the degree must be written as it is stated on the degree certificate.
- Indication if this is an assignment/thesis/dissertation: The following formulation is obligatory:
Thesis 100%: Thesis submitted in partial fulfilment of the requirements for the degree of Master of Education at the University of Stellenbosch

Thesis/Research Portfolio/Assignment (50%): Thesis (or Research Portfolio or Assignment) submitted in partial fulfilment of the requirements for the degree of Master of Education at the University of Stellenbosch

Dissertation: Dissertation presented for the degree of Doctor of Education at the University of Stellenbosch

- Title, initials and surname of supervisor/promotor
- Date: The month and year in which the degree will be received.

3.2 OTHER INTRODUCTORY PAGES (BEFORE CHAPTER ONE)

3.2.1 Declaration of originality
This declaration is inserted on a separate page immediately after the title page and is formulated according to university requirements. It is set out as follows:

DECLARATION

I, the undersigned, hereby declare that the work contained in this dissertation (or thesis/research portfolio/assignment) is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature: ................................................

Date: ................................................

3.2.2 Abstracts in Afrikaans and English
An abstract of about 500 words in both Afrikaans and English, on separate pages, must precede the text. The abstract states very succinctly the problem that is investigated, the method and procedure that are followed and the findings of the inquiry. If the thesis/dissertation is written in Afrikaans, the Afrikaans abstract is placed first. If it is written in English, the reverse applies.

3.2.3 Acknowledgements
It is usual (but not essential) for the writer to thank certain people for help or guidance with the completion of the thesis or dissertation. Occasionally the work is also dedicated to someone. An acknowledgement should preferably be limited to one page.
3.2.4 Table(s) of contents of the text

The work as a whole ought to be provided with a table of contents with page references. This gives the reader a general view of the contents and makes it easier to consult the work. The heading for this is CONTENTS (capital letters and centred).

Each chapter may also be provided with a table of contents in which main and sub-paragraphs are indicated.

The headings for chapters and main or sub-paragraphs should be represented in the table of contents exactly as written in the text.

3.2.5 Table of contents of the source material

Immediately after the table of contents of the text, the reference and illustrative material is mentioned (with page references), for example:

| REFERENCES .......................... | 210  |
| APPENDIX A .......................... | 215  |
| APPENDIX B .......................... | 231  |
| etc ................................. | ...........................

3.2.6 Table of contents of the tables, figures and other graphic material

On separate pages, after the list of reference material, lists of the tables and figures and other graphic material (with numbers, titles and page references) respectively.

3.3 THE TEXT

Together with this, consult Section C of the Guidelines.

The term text refers only to the content of the thesis, assignment or dissertation. The tables of contents, reference list, appendices and illustrative or reference material are thus not included here.

3.3.1 Presentation of the information or research results

3.3.1.1 Presentation style

The nature of the research will to a large extent determine the style of presentation of the information. Consult your supervisor/promotor in this regard.

3.3.1.2 Terminology

If you wish to use terms in a specific context or attach specific connotations to them, or use words that are possibly unknown to the reader(s), explain these terms either on a separate page before the start of the text or in the first chapter of the thesis or dissertation. Words from another language that are used once may be explained by adding the meaning, or the translation or the familiar form after the word, for example: abantwana (boys).

3.3.1.3 Chapter division

Chapters should reflect the logical course of the study.

The contents of the first chapter may be finalised in consultation with the supervisor/promotor. Usually this chapter serves as an introduction to the problematic aspect of the research topic. Items such as the following may be discussed in it:

- statement of the problem and formulation of aim: a succinct formulation of the aim of the research
- demarcating the field: the nature and scope of the research
- literature survey: a survey of previous research that has been conducted in this particular field or of works that deal with the particular topic or problem
- research design which includes the method of inquiry and/or procedure of inquiry that will be followed
- **Explanation or definition of concepts** so that the reader will interpret the specific concepts within the framework of the assignment/thesis/dissertation.

- In the **subsequent chapters** the content is presented in the order agreed to with the supervisor/promotor.

- Provide each of the **preliminary chapters** with a table of contents, also when they are submitted individually for a first evaluation, and number the pages again from page 1. Only with the **final copy** are the pages of the text and the tables of contents of the chapters numbered continuously from page 1 of chapter one.

- Each chapter begins on a **new page**.

- The **title** of the chapter is centred and written in **bold** capital letters.

- Each chapter should have an **introductory paragraph** and should be concluded with a succinct **summary**. Such a summary may also include a **link with or connection to** the contents of the following chapter(s).

### 3.3.1.4 Paragraphs

- **Paragraph division** should reflect the essentially argumentative nature of theses and dissertation. A thesis or dissertation cannot just be a compilation of other people's points of view and ideas – or of relevant material – on a topic. Quotations, information and inquiry data should **serve a specific purpose** (such as supporting or refuting a particular proposition) and/or be **critically analysed**.

- **Sub-paragraphs** should be limited to those that are really necessary for the logical exposition of the subject or problem. A thesis/assignment/dissertation is not just an inventory of other writers' opinions or research, and is also not just a manual for the reader (with lists of hints or proposals offered in sub-paragraphs), but deals with research that is undertaken to resolve a particular problem or to present information that will support or reject a particular hypothesis.

- **Paragraph headings**: Paragraphs and sub-paragraphs should have appropriate and succinct headings. The headings of the **main sections** (for example, 2 and 2.1) are typed in **capital letters** and in **bold** (not underlined). Different font sizes may however be used. The **US Calendar, Part 1** contains prescriptions regarding the font size of the text itself. The headings of **subsections** (in **bold**) that follow are written in small letters, naturally with the exception of the first letter. If for practical reasons an exception has to be made to this, the change should be applied consistently. Consult the supervisor/promotor in this regard.

<table>
<thead>
<tr>
<th>EXAMPLE OF POSSIBLE FONT FORMATS</th>
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</thead>
<tbody>
<tr>
<td><strong>Font type = Arial (computer)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER TWO</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAGEMENT STYLES</td>
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</table>

<table>
<thead>
<tr>
<th>2.1</th>
<th>A DEMOCRATIC MANAGEMENT STYLE</th>
</tr>
</thead>
</table>

<table>
<thead>
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<th>Introduction</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>2.1.1.1</th>
<th>Historical perspective</th>
</tr>
</thead>
</table>
HINTS

Prior paragraph planning can ensure that each paragraph follows logically on the other. The paragraphs may be rearranged later if they do not contribute to the logical build-up of the argument, description, etc.

Logical progression may be, for example, from the broader perspective to the narrower, from the international perspective to the more local, sequence according to passage of time, from the beginning of the process to the end, etc.

Classify in categories the information that is to be used in a particular paragraph before the paragraph is arranged in a logical order. Give temporary headings to sub-paragraphs under a particular broad argument, description or exposition to serve as guidelines and to keep your train of thought on track as you write.

Example:
ATTITUDES REGARDING MULTICULTURAL EDUCATION
Community / Parents / School / Teachers / Learners / Individual learner
(The paragraphs are arranged from a broader to a narrower perspective).

3.3.2 Technical editing of the text

3.3.2.1 Language editing
The final manuscript of the thesis or dissertation should be edited for language usage according to university requirements (see US Calendar, Part 1) before the final copy is submitted. Preliminary work must satisfy the language requirements of the supervisor/promotor.

3.3.2.2 Pagination
- Preliminary chapters should be numbered individually to begin with.
- Final copy: Only after the compilation of the manuscript has been finalised, the chapter corrections have been effected, and all the graphic work, tables, the reference list and appendices have been added, are the pages numbered in sequence. The first page of the text is page one (1) of the thesis/assignment/dissertation.
- Illustrative or reference material that is added at the end of the thesis/dissertation must be numbered continuously with the text and reference list. Each type of reference material begins on a new page. The first page of each of these sections is also recorded in the table of contents.

3.3.2.3 Abbreviations of words
Only the following abbreviations may be used in the text:

- Titles of address abbreviations are written without stops. If the title appears in the middle of a sentence it is written with a small letter in Afrikaans but always with a capital in English.

<table>
<thead>
<tr>
<th>Afrikaans:</th>
<th>Mev / Prof / Dr (beginning of sentence) / mev / prof / dr (within sentence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English:</td>
<td>Mrs / Prof / Dr (always)</td>
</tr>
</tbody>
</table>

- Names of organisations, institutions, and psychometric instruments (without stops). When the name is used for the first time in the text it is written in full with the abbreviation in brackets afterwards. Consult a dictionary or glossary.

North Atlantic Treaty Organisation (NATO)

- Standard Latin abbreviations

et al.
3.3.2.4 Written usage for amounts, numerals, formulae and symbols

- **Amounts up to nine (9)** should be written out in the text except when mathematical, statistical, natural science and technical content demands numerals, as well as where dates, percentages, decimals and sums of money are concerned. In such cases, follow the prescriptions of the subject field concerned. However, avoid as far as possible sentences that begin with a numeral (see examples below).

| Only 290 children (20%) passed the test.  
| Twenty children (11%) suffer from leukaemia. |

3.3.2.5 Underlining / Italicising

Avoid as far as possible the underlining of words or headings in computer processed text. The only exception is the underlining of word in a quotation for emphasis (see Section C, par. 4.2: Own initial).

**Italicise** as follows:

- **Foreign language words** (= foreign to the language of the text). *Palaistra* and stadium are both Greek words but only the former will be italicised.
- **Latin words or abbreviations**: *et al*.
- **Emphases**: The term *stress* refers in this study to …
- **Published titles of books, names of journals** and **statutes** when they are named in the text: key articles can be found in *Tesol Quarterly*.

3.3.2.6 Style of font

Avoid too many kinds of font style in the text as this leads to a “busy” final product.

3.3.2.7 Quotations

Quotations should be presented in such a way that the text can be clearly distinguished from the quotation. The quotation may be italicised provided it is written in a language other than that of the thesis/assignment/dissertation. A quotation is placed between **double quotation marks**. **Single quotation marks** are used for a quotation within a quotation. Excessively long quotations from sources should, however, be avoided. A longer quotation (more than three lines) is treated as a separate paragraph, slightly indented (0.5 cm) on both sides, with or without quotation marks and typed in single spacing (see also Section C, par. 4.2).

Students should especially take note of the following:

- **Spelling, punctuation and paragraphing** of the original text must be retained.
- **Copyright regulations** for the quotation of texts or the use of tables, figures or illustrations from other sources should be strictly observed.
- **Authors’ names** are **not** written in italics, in bold or underlined.

3.3.2.8 References in the text

The use of authors’ names in the text, as well as quotations from their works, requires references to the particular work that is being used. Textual references are discussed fully in Section C.

3.3.2.9 Illustrations, figures and other graphic material

Graphic work should be of a high standard throughout.

- **Figures**: **Figure** (or the abbreviation = **Fig**) is used in the text for any graphic illustration except tables. Figures are numbered per chapter and in succession and are provided with headings above or below the figure.
FIGURE 3.2: SECOND MOVEMENT
(This is the second figure of Chapter 3.)

Tables: Tables are identified by numbers per chapter and in succession and with descriptive or explanatory headings/titles above or below the table.

TABLE 4.1: TARGET GROUP
(This is the first table of Chapter 4.)

A table (with the descriptive title) should be able to fit onto a particular page completely. If there is space under the table on a page, the text should be continued. If a table has too many columns, it may be placed widthways on the page, but the page number is placed in the usual position. Tables may also be reduced for easier placing on an A4 page, or a folding page may be used for exceptionally large tables. Footnotes may be placed below tables.

Textual references to tables and other graphic material: If tables, figures, photographs and other graphic material are used, there should be references to them in the text. They should be placed as close as possible to the textual reference.

It is important to remember that tables and graphic material may not contain references to the text whereas the facts that are contained in the tables, figures and other graphic material may be referred to in the text.

Example:
Table 5 reflects the increase in the number of children who have been diagnosed over a period of 10 years as children with minimal brain dysfunction. This indicates that ….

3.3.2.10 Footnotes
The abridged Harvard reference system excludes the use of footnotes for making references. A footnote may indeed still be used, but only when the writer wishes to explain or expand on something in the text without disturbing the flow of the argument. It is thus an explanatory (interpretative) footnote and is indicated in the text with the aid of a symbol, for example (*), or a numeral, for example 3 or (1). This symbol or numeral is also placed at the foot of the relevant page in front of the footnote. Footnotes are written in single spacing and in a smaller font size than the text.

3.4 LISTS OF REFERENCES

Different types of reference lists may be compiled.

3.4.1 List of References
A list of sources/resource material is usually included in a thesis, assignment or dissertation. It contains only works that have been consulted – i.e. the sources that the writer actually studied or consulted during his research – and which have been referred to in some way or other (with or without quotations) in the text or appendices. This list includes published and unpublished works.

All works that are referred to in the text must be mentioned in the list of references.

Sources are arranged alphabetically in the reference list according to the name of the writer and are not numbered. The works of one writer are placed in chronological sequence (see, however, also Section C, par 3.2.2). The titles of references are always recorded in the language of the version used by the student.

Complete guidelines are presented in Section C for

- the recording of the different types of consulted sources
- the citing of reference works in the text
- the compilation of a list of reference works.


3.5 ILLUSTRATIVE MATERIAL/APPENDICES

Illustrative material is inserted directly after the list of references. Each type of appendix begins on a new page.

Appendices consist of material that cannot reasonably be included in the text or that could obstruct the flow of the argument. They are inserted only if they contribute an essential explanatory or elucidatory contribution to the text. Questionnaires, schedules of interviews, important documents, letters of permission, extended mathematical deductions, sketches, programmes and so on may be included here. They are arranged in the order indicated in the table of contents and the pages are numbered continuously with the text and the reference lists.
M Course selection form
Post Graduate Course Selection Form 2014

Enter all your details in the block provided below:

<table>
<thead>
<tr>
<th>Surname:</th>
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<th>First name:</th>
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<table>
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</table>

<table>
<thead>
<tr>
<th>Programme: (MEng (Str), MEng (Res), PDE)</th>
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</thead>
</table>

Follow the steps below when making your selection of courses:

1. Read Section 6 again to make sure you understand the requirements with regards to course selection;
2. Scratch out the programme columns in the selection table below that do not apply to you;
3. Select your courses by making crosses in the appropriate boxes;
4. Add up your credits if you are entering the PDE or MEng (Structured) programme - both programmes require 120 credits;
5. Add up the number of subjects selected if you are entering the MEng (Research) programme - you need to enroll for 6 courses in total unless you plan to exchange one of the elective courses with a peer reviewed publication.

Print pages 84 to 88, complete the details, get your supervisor to sign and hand in at the post graduate administrator.
<table>
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<th>Code</th>
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<th>MEng (Research)</th>
<th>PDE</th>
<th>MEng (Structured) Credits</th>
<th>PDE Credits</th>
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</thead>
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<tr>
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<td>X</td>
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<td>DS*</td>
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<tr>
<td>FSS</td>
<td>Advanced functional specification of systems and systems design (Prerequisite: SYS)</td>
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<td>Strategic technology analysis</td>
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<tr>
<td>SYS</td>
<td>Principles of Systems Engineering</td>
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</tbody>
</table>

* Please note that there might be a difference between the working title of a course (as listed in the table above) and the title of the course on your academic record.

** There may be a discrepancy between the credits indicated on your formal academic record and the table above. Whenever there is a discrepancy, the credits appearing in the table above will apply.
For office use only:

<table>
<thead>
<tr>
<th>Date</th>
<th>Note</th>
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N Fees for 2014
### FACULTY OF ENGINEERING POSTGRADUATE STUDY FEES FOR 2014

#### PDE [120 credits]

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* Applies only to postgraduate modules where the home department of the module is a department in the Faculty of Engineering. Prospective students must consult the SU Student Fees Yearbook for the study fees of a module that is offered by a department that does not resort under the Faculty of Engineering or where an undergraduate module is followed in the PDE degree.

**Key:**

- Normal duration of degree
- Final grace year
- Must reapply for admission to degree
- Not applicable
REGISTRATION FOR 2014

First year students: 27 – 28 January • Senior students: 29 – 31 January

THE FOLLOWING AMOUNTS ARE PAYABLE BEFORE DATE OF REGISTRATION

| Compulsory first instalment on Tuition Fees | UNDERGRADUATE | R 9 600 |
| Compulsory first instalment on Tuition Fees | POSTGRADUATE  | R 7 000 |
| Compulsory first instalment on Tuition Fees | DIPLOMA       | R 7 000 |
| Compulsory first instalment of Residence Fees |              | R 8 750 |

- International students, including Namibians, are liable for the full tuition fees on day of registration.
- Stellenbosch University Bursary students can activate their student cards directly after registration for 2014.
- Students who receive bursaries from other institutions (not SU) have to submit proof of the final bursary amount on the letterhead of the funder (with their contact details) to Jean Swart at jsb@sun.ac.za before registration. Only these students can activate their student cards directly after registration without providing proof of funding for 2014 if the amount is more than the minimum registration fees.

1) Payments made directly into the University’s bank account
   Name: Stellenbosch University
   Bank: ABSA
   Acc no: 0410 204 789 – Cheque account
   Branch code: 632005
   Reference: Student number
   Fax deposito slip to: 021 808-3739

2) Internet banking payments from ABSA banking services
   At beneficiaries click on “Add new”
   Enter the RVN number from ABSA
   Click on “Link ABSA listed beneficiary” (bill payment)
   Enter beneficiary institution: UNIV SBOCH
   Click on: UNIV SBOCH STUDENTEGELDE
   Enter the beneficiary details:
   * Your account number with the institution: Student number
   * Account holder’s name: Initials and surname of Student
   * Description for your statement: Stellenbosch University
   Fax proof to: 021 808-3739 or email to susanv@sun.ac.za / amerika@sun.ac.za

3) Credit card web payments
   Go to www.sun.ac.za
   Click on Students
   Click on Fees
   Click on Payment Options
   Follow the steps
   Fax proof to: 021 808-3739 or email to susanv@sun.ac.za / amerika@sun.ac.za

   *All outstanding amounts must be settled before a student will be allowed to register for 2014.
   THANK YOU FOR YOUR PAYMENT DURING 2013

G Cronje
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Details of courses
P Moodle
Course Websites

A website will be created for each of the courses listed in this appendix. This website will contain at least the information provided here. Each lecturer will add information and content to the respective course website according to his/her discretion.

Follow the instructions below to access the websites of your courses:

1. Use the URL [www.ie.sun.ac.za/moodle](http://www.ie.sun.ac.za/moodle) to enter course portal for the post graduate program.
2. Click on the “Login” link

3. Enter your 8-digit student number and your password.
   - **When you login for the first time, your password is the same as your 8-digit student number.** You will be prompted immediately to change your password. As soon as you have changed your password, update your profile by clicking on the “Edit profile link”. Make absolute sure that you enter a valid e-mail address.
4. Then return to the post graduate programme and the list of courses.
5. Click on the hyperlinked text “First Semester 2013” or “Second Semester 2013” – whatever is relevant.

6. Scroll down the list of “Available Courses” until you find the course you would like to view.

7. Click on the hyperlinked course name.
   - When you enter a course website for the first time, you will need to enter an enrolment key. This enrolment key will be provided to you by the lecturer at the first contact session of that particular course.
Q  SUN policy on academic integrity: the prevention and handling of plagiarism
SU POLICY ON ACADEMIC INTEGRITY:
THE PREVENTION AND HANDLING OF PLAGIARISM
Senate: 26 November 2010

1. BACKGROUND
The academic work done at a university means that academics and students are exposed to the ideas, written material and various intellectual and creative products of fellow students and colleagues. The intention of academic work is precisely that the ideas of the lecturer/researcher and student are shaped and honed by these ideas and material of others. At the same time, a process of critical evaluation is required to make new or original inputs or syntheses in order to make it applicable to contemporary international and local questions. Herein lies the particular satisfaction of academic work at university level.

Naturally, the original contribution by a person can only be evaluated if it can be distinguished clearly from the contributions of other people. This is done by way of acknowledged systems of acknowledgement and referencing. By not following these conventions and giving the necessary acknowledgement, the basis of the academic work at a university is undermined. By taking over this work (words, ideas, creations) of other people and passing it off as the writer’s own is to commit plagiarism.

The University wishes to ensure that the mechanisms are in place that will enable staff and students to promote academic integrity and eliminate plagiarism. At the same time it is important that the effort to deal with cases that are related to plagiarism are dealt with in a consistent and fair manner. It therefore is essential that the University have a policy in place to intercept these aspects and create a framework within which it is possible to function.

The following policy is thus proposed and has to be read together with the Framework Policy for the assurance and promotion of ethically accountable research at Stellenbosch University, the disciplinary code for students of SU, the disciplinary code for staff of SU, as well as any other University policies and guidelines that may be applicable from time to time.

2. PLAGIARISM: DEFINITION AND BROAD CATEGORIES

2.1 Definition:
Plagiarism is the theft and use of the ideas, material and other intellectual property of others that are passed off as one’s own.
The intellectual property contained herein is, among others:

a) *literary works*, which include articles, books, dissertations, theses, newspapers, notes, course material, the assignment of fellow students, e-mail messages, data, computer code, internet sources, and *spoken text*, which includes speeches, cassette recordings, lectures, interviews, etc.

b) *artistic works*, which include images and graphic art, photographs, etc.

c) *multimedia products*, which include websites, video productions, films, CDs, design projects, etc.

d) *musical works*, which include compositions, lyrics, CDs, DVDs, music or sound bites on the internet, etc.

2.2 Categories:

All cases of *plagiarism* amount to a serious offence, which can have dire consequences for the person concerned, including suspension or expulsion (in the case of a student) or dismissal (in the case of a member of staff) from the University, besides possible criminal or civil action.

In terms of the University’s handling of cases of plagiarism, the offences are divided into three broad categories:

Category 1: Minor offences that can be regarded as resulting from ignorance, negligence or inaccuracy in working with and acknowledging sources, but that can still be regarded as plagiarism.

Category 2: Less serious cases, in which sources/work/material has/have been handled injudiciously, but that by nature still constitute plagiarism. Category 1 and 2 offences are usually dealt with by the department concerned in the case of students. Repeated category 2 offences can be referred to the Central Disciplinary Committee (CDC) in the case of students, and in the case of staff they will be dealt with in terms of the Disciplinary Code for Staff (refers to less serious cases).

Category 3: Blatant cases, i.e. where the work/material of another person has been taken over and used intentionally and deliberately. In the case of students, such cases will normally be referred to the Central Disciplinary Committee (CDC), and in the case of staff will be dealt with in terms of the Disciplinary Code for Staff (refers to serious cases).
3. THE UNIVERSITY’S APPROACH

The University’s policy approach is based on a developmental or awareness-creating dimension, particularly in the case of students and with due observance of the University’s Policy on Learning and Teaching. This does not mean that the University is lenient in its handling of plagiarism; on the contrary, it creates a basis for the firm, consistent and tenable handling of cases of plagiarism. Through this dimension, the University creates an opportunity for offences relating to plagiarism to be handled in a decentralised manner and for certain cases to be dealt with at the departmental level and for others to be addressed by way of disciplinary processes, as set out in 3.1 and 3.2 of this document.

3.1 ALLEGED OFFENCE(S) BY A MEMBER OF STAFF

(a) The departmental chairperson will only respond to written complaints that plagiarism has allegedly been committed, together with the necessary documentary evidence. Such complaint may be made anonymously.

(b) In cases where it is suspected that a member of staff has committed plagiarism, the case will be facilitated by the chairperson of the department. If the member of staff who pointed out the plagiarism is also the departmental chairperson, another member of staff in the department concerned has to be involved in the process.

(c) The departmental chairperson will make enquiries at the Legal Services Division to determine whether any previous offence with regard to plagiarism has been reported. This information is taken into account in the further handling of the case.

(d) Action against a member of staff is subject to the provisions of the Disciplinary Code for Staff. A first offence, if of a less serious nature, is handled by the dean of the faculty. All complaints of alleged serious (second or further) offences by a member of staff will be dealt with in terms of the provisions for serious offences in the Disciplinary Code for Staff.

3.2 ALLEGED OFFENCE(S) BY STUDENTS

(a) Where it is suspected that a student has committed a form of plagiarism, the matter will be handled further by the chairperson of the department and the lecturer concerned. If the lecturer who pointed out the plagiarism is also the departmental chairperson, another lecture in the department concerned should be involved in the process.

(b) The student shall be informed in writing that he/she has allegedly committed an offence and that, in terms of the rules of the University, the case can at the sole discretion of the student directly be referred to the CDC, that the process before the CDC is formal and that, among others, the student has “a right to legal representation” (in terms of the Disciplinary Code for Students). The student’s attention should also be drawn to the possible sanctions that can be imposed by the CDC.

(c) The departmental chairperson will make enquiries at the Legal Services Division to determine whether any previous offence with regard to plagiarism by the student concerned has been
reported. This information is taken into account in the further handling of the case. (See (d) and (e) below).

(d) **In the case of a Category 1 or 2 offence:**

i. Category 1 cases are handled in the department and repeated cases of Category 2 are referred to the Central Disciplinary Committee for students (CDC).

ii. A first Category 2 offence can be dealt with at the departmental level. However, the student has to make an informed decision on the possibility of the case being handled internally, in which case there can be specific sanctions (e.g. that a mark of nil is allocated, that the assignment has to be redone, etc.). In the case of action at the departmental level, the student’s “right to legal representation” falls away, as does the right to have a process conducted before the CDC. The decision taken by the student must be put in writing, on the prescribed form that can be obtained from the Legal Services Division.

iii. The minimum sanction by a department is a verbal warning.

(c) **In the case of a Category 3 offence:**

i. The departmental chairperson must refer to case to the Manager: Student Discipline, who will handle the case in terms of the CDC protocol.

ii. The decision of the Central Disciplinary Committee (CDC) on action against the student is put in writing.

iii. The Legal Services Division is informed of the case in writing on the prescribed form that can be obtained from Legal Services.

3.3 **RECORD KEEPING IN ORDER TO ENSURE THE CONSISTENT HANDLING OF PLAGIARISM**

3.3.1 Departmental chairpersons must report all cases of alleged plagiarism to the Legal Services Division. This is also done for cases where the person concerned was found not guilty, for the record.

3.3.2 The following information should accompany all reports:

i. Plagiarism: Departmental handling (form as prescribed in Addendum 2)

ii. Written complaint that was submitted

iii. Alleged documentary evidence that was submitted

iv. Names of people who were involved in the investigation/hearing

v. Proof that the alleged offender, in the case of students, exercised his/her choice regarding whether or not the case should be referred directly to the CDC.

vi. Verdict, with the sanction, where applicable.

vii. Proof that the alleged offender has been informed of the decision.

3.3.3 The Legal Services Division must standardise all cases on an annual basis – the reason being to ensure consistent action at the institutional level and to determine a median punishment. In
cases where it is clear that a particular department is imposing penalties beyond the median, the department concerned should be informed accordingly and be provided with a copy of the latest guidelines.

3.3.4 Appeals are dealt with according to the existing protocols and procedures.

3.3.5 All cases should be dealt with in the strictest confidence.

4 IMPLEMENTATION

4.1 It is the responsibility of departments to ensure that all students and staff are aware of the policy and to make sure that the processes contained therein are implemented consistently.

4.2 It is compulsory for all students to sign the Plagiarism Declaration (as attached in Addendum 1) and to attach it to any relevant study assignments, as prescribed by the department concerned. Furthermore, it is essential that members of staff are aware that they are also subject to this declaration as employees of the University.

4.3 The University has a development instrument (Turnitin software) that is available for students to check their documents as part of the learning process. Lecturers are also encouraged to make use of it. The Centre for Teaching and Learning can assist you with training where required. The University’s Library and Information Service also provides information literacy sessions that address plagiarism.

4.4 In the case where a thesis/dissertation/mini-dissertation is examined for plagiarism, the item must be withdrawn from SUNScholar for the duration of the investigation, as should any other online forms of the document (e.g. on departmental websites). If no form of plagiarism can be found, the document may once again be made available.

4.5 Departments should endeavour to ensure the greatest possible measure of consistency in the implementation of the policy with regard to the handling of plagiarism, in order to ensure fairness for all staff and students.

4.6 This policy takes preference over all other arrangements that faculties and departments might make with regard to dealing with plagiarism, and the necessary adjustments should be made to such faculty and departmental arrangements to ensure that they are in line with this policy.

4.7 The responsibility for supporting those involved in dealing with plagiarism is assigned to the Division for Research Development, which support will take place in consultation with other appropriate support service divisions, such as the Legal Services Division and the SU Library and Information Service.

4.8 The Legal Services Division keeps a record of all instances of plagiarism that are reported by the department concerned or by the relevant disciplinary committees.
Courses available at the Department of Civil Engineering that could be considered for electives
APPENDIX I: SCHEDULE FOR COURSE MODULES

Postgraduate course modules offered by the Department of Civil Engineering, University of Stellenbosch

- The table below indicates when course modules are scheduled to be presented over the 3 year period from January 2014 through December 2016. Provisional dates are indicated where available. These are updated regularly in the electronic version of this Brochure on the Civil Engineering website (p.1), under Programmes/Postgraduate and must be confirmed with the Secretary of the hosting division.
- In the table below course modules are listed alphabetically, firstly according to field and secondly to course module title. Notes regarding the content of course modules are provided in Appendix II in the same order. (Please note that a list of ‘Forthcoming M Eng (R) Block Courses’ arranged according to date, is also available on the website.)
- Compulsory and recommended combinations for the respective fields of specialisation are indicated in Section 6 of the Brochure.
- Unless indicated otherwise (refer to numbered footnotes) all the courses below are presented on the Campus of Stellenbosch University at the Faculty of Engineering.
- Enquiries and registration regarding the courses below can generally be made by e-mail to the reference provided with each field or by default to the Secretary of every division indicated in the Table below.
- All modules will be assessed on a continuous basis. No supplementary test or examinations will be set.
- Full time students must complete two semesters of Mentorships or Assistantships during the period of Postgraduate Studies.
- Candidates may be required to pay for course notes, lunches, handbooks or other study material with regard to block courses or studies in general. These fees are paid directly to the Secretary of the relevant division and do not form part of your Tuition Fees.

This schedule was last updated on 22/10/2013
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**Programme for Construction Engineering and Management**:

1 The CMP is an extremely intensive high level management course of 4 weeks, offered annually. A substantial course fee applies also to registered postgraduate students. Admittance for Degree purposes subject to special selection criteria. Course details: [http://www.cmp.sun.ac.za](http://www.cmp.sun.ac.za)

- ☐ = 1st or 2nd semester contact Department of Industrial Engineering: ah2@sun.ac.za
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#### LEGEND:
- C = Compulsory Module, E = Elective Module, B = Block
- Block course: 1 week full-time attendance plus task and exam within the semester (Port & Coastal students do not attain credits with Block Courses, but must attend them)
- Module: 6 weeks with one 4-hour lecture per week, normally: Tuesday morning (Coastal) Thursday morning (Port) followed by an exam in the 7th week
- Modules from other Departments or Faculties (Port Economics may involve evening lectures)
- Full timers and part timers have the same module load (no compulsory extra courses for full timers)
- M Eng (R) need to pass only 5 modules minimum (4 of which are compulsory) plus attendance of both block courses as prerequisite for submitting thesis.
- MEng (S) need to pass all 8 modules (4 coastal & 4 port modules) plus attendance of both block courses as prerequisite for submitting the project.