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Department of Earth Sciences

Research Student Handbook

2018

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Welcome to Stellenbosch as a research (MSc or PhD) student, or a prospective research student. We hope you find this information handbook helpful; we are always ready to improve it, if you have suggestions.

A note about telephone numbers: All phone numbers listed in this handbook are given as extensions (e.g., x1111). To dial internally you just use the 4 digits. To phone from outside, or on a cell phone, you need to dial 021 808 and then the 4 extension digits.

1. DEPARTMENTAL ADMISSIONS PROCEDURE

This section sets out procedures and protocols for research student (MSc and PhD) registration for the Department of Earth Sciences at Stellenbosch University. These requirements are additional to the regulations of the Science Faculty that governs enrolment, and to the Faculties' guidelines for the supervision of postgraduate students. *All students must complete the departmental formalities before applying to the Faculty*.

The point of departure is that the prospective student has applied to the Department for admission to the research student programme (through personal contact with a prospective supervisor) and meets the primary Faculty requirements for admission to the particular degree.
Please refer to the departmental website for the application process.
https://www.sun.ac.za/english/faculty/science/earthsciences/prospective-students/postgraduate-programme/prospective-postgraduate-students

a. Requirements for Registration

Prior to registration of a new research student, the DoS (Director of studies) and student should seek permission to register by submitting a project proposal to the Research Student Committee (RSC). This is done by preparing the proposal, according to the guidelines below and submitting the package to the Departmental Postgrad Administrator (currently Martina Frei, room 2017, x4820, mfrei@sun.ac.za). After details are recorded the application goes to the Chair of the RSC (currently Prof. J. Clemens). An example of the prescribed departmental form for registration can be found as Appendix 1, *but do not try to use this*. The actual form can be obtained from your supervisor, or downloaded from the departmental web site. If the Chair of the RSC is also the DoS, the proposal will be handled by the Head of Department. Proposals should consist of around four A4 pages and document the following:

i. a short CV of the student (maximum one A4 page)

ii. a description of the study area or field of research, with a summary of the anticipated outcomes and a timetable for completion of the various stages of the project. The relevant literature needs to be cited.

iii. details of the logistics of the project e.g., a summary of availability and access to the required analytical techniques, details of arrangements for field access, etc. *In the case of facilities being used outside the Department, the application must include attached letters from the outside organisation specifically granting access and detailing any charges to be made for access.*

iv. details of the budget required to complete the project successfully. This should include information on sources of funding to support any bursaries pledged to the student by the DoS, other bursary funds intended to be accessed by the student, details of the research costs (e.g. analytical services) and details of the sources of research funding that will support the project.

v. Ideally, the project should form part of the core research of the DoS. *In cases where projects fall outside of the DoS's field of demonstrated expertise, the onus is on the DoS to demonstrate the likely success of the project. This part of the proposal should include details of support (through co-supervisors or other collaborators) that makes the project viable.*

The research aims and objectives should be realistic, feasible and tailored to the capabilities of the student. The research question must be clearly defined, with due consideration given to the requirements for the relevant degree (in terms of depth of knowledge gained, new perspectives revealed and the length of time needed to complete the work). The work plan/workload must be planned in a way that the successful completion of the project is likely within the allowable time frame; note the need to include a timetable/time-line – currently 2 years for MSc and 4 years for PhD.

For projects of an applied nature, the proposal should demonstrate that there is sufficient academic merit to warrant the granting of the relevant degree, not simply that there is money available to have

the work done. As a measure of the academic merit, there should typically be potential for at least one journal article emanating from an MSc project, and at least two for a PhD. The feasibility of this will be evaluated on the basis of the likely scientific outcomes of the project, as detailed in the proposal.

To recommend registration, the RSC should ideally be able to find in the proposal positive answers to the following.

- Does the academic record of the student suggest that they are likely to gain the degree? If not, can any shortcomings be rectified with additional course work in the first year of the programme (typically from existing Honours modules)?

- Is the project academically sound, does it address an issue of fundamental scientific interest and is the research plan likely to deliver results that can readily be written up in a thesis appropriate to the degree?

- Is the research programme likely to be completed within the maximum time available? (currently ca. 2 years for MSc and 4 years for PhD)

- Is the DoS suited to the project, i.e. do they have the scientific background that will enable them to lead the research successfully? If this is not the case, do co-supervisors provide that necessary expertise?

- Is funding in place to support the research? This includes appropriate bursary funding to support the student.

- Are the logistical conditions and analytical services available and appropriate to complete the research successfully? This would involve consideration of access to land, mines, existing sample sets and data, and access to analytical equipment.

Upon departmental acceptance, a student may register with the Faculty of Science ("deadlines" – 30 June or 31 October, for late applications). It is also a requirement of the Faculty of Science that, once officially registered, each student and their DoS (main supervisor / promoter) jointly complete and sign the Faculty's **Memorandum of Understanding** on academic supervision, which sets out the rights and responsibilities of both parties. A summary of these points follows.

2. FACULTY ADMISSION

Following successful admission at departmental level, you are permitted to register with the Faculty of Science. With acceptance at Faculty level, you officially become a research student at Stellenbosch. Appendix 2 contains an example of the Faculty registration document. Do not try to use this. You can obtain a proper copy from the faculty, your supervisor or the Departmental Postgrad Administrator (currently, Martina Frei).

3. SUPERVISION OF RESEARCH DEGREES IN EARTH SCIENCES

The main supervisor (or director of studies) is the staff member with whom you have regular supervisory contact and the person who will guide you through your project. You may have additional supervisors in other academic institutions, government facilities or industry.

The following provisions relate to supervision of full-time students. Acceptable norms for part-time students would be approximately half the values stated. The candidate is entitled to the following forms of support from the DoS.

- MSc students – at least 1 full day (in total) of supervision per month. This should typically include at least 2 hours of contact time per week. In addition, the DoS should make available additional time to explain, data collection (including experimental, analytical and computational) techniques that will be required to successfully complete the project. This latter should take place at the outset of any phase of data collection.

- PhD students – at least 2 full days (in total) of supervision per month. This should typically include at least 4 hours of contact time per week. In addition, the DoS should make available additional time to explain, data collection (including experimental, analytical and computational)

techniques that will be required to successfully complete the project. This latter should take place at the outset of any phase of data collection.

- *The student can expect the DoS or supervisory team to be completely familiar with the academic background of the research project, including limitations and advantages of different analytical techniques and data analysis/acquisition methods, research methodology and background literature. Where this is not the case, clear provision needs to have been made in the project proposal, showing how the relevant gaps will be bridged*.

- The supervisor should make provision for the student to attend at least one major, preferably international, conference during the student's registration period. The student should be expected and assisted to submit either a poster or oral presentation at any meeting attended.

- *During the phase of thesis writing (typically lasting 6 months for an MSc and least 10 months for a PhD) the student is entitled to submit all chapters or sections of the thesis, in draft form, and to receive comprehensive comments regarding any changes needed for improvement, within 1 month of submission to the DoS.* Similarly, if the student submits a complete draft of the thesis, once the first round of changes and modifications have been made, they can expect to receive further feedback within 1 month. This feedback should clearly indicate what further improvements are needed for the thesis to be suitable for examination. If the DoS is unable to meet these time commitments the Head of Department should be notified as soon as the work is received from the student, so that alternative arrangements can be made. Students should submit drafts only after they themselves have closely vetted them for problems with style, grammar and organisation of text, tables and figures. Correcting such problems is not the primary responsibility of the supervisor(s).

- Where projects depend on expertise from individuals not directly involved with the supervision of the student, this must be explained to the student prior to registration and these external parties should agree to their involvement in writing, as part of the proposal.

Complaints or concerns regarding supervision should first be made to the RSC, through the Chair (unless the Chair is the DoS). If the student receives, in their judgement, no satisfactory resolution, within 1 month, representation should be made, in writing, to the DoS, with a copy to the HoD and Chair of the RSC. The HoD will then meet with the student and DoS to help resolve the issue. If the issue happens to be with the HoD or Chair of the RSC (as DoS) representation should be made to another member of the RSC.

4. MoU BETWEEN STUDENT AND SUPERVISOR

Following successful registration, the Faculty of Science requires each research student and his/her director of studies to co-sign a memorandum of understanding that sets out their duties toward each other and their expectations of each other. Once completed, the Department keeps this on file. Blank copies of the MoU can be downloaded from the departmental web site. You need to complete and submit this by the time that your first research report is due. Appendix 3 shows an example, *but do not try to use this*.

5. DEPARTMENTAL CONTACTS

Your DoS (main supervisor) is your first port of call for all enquiries. The following is a list of other people in the Department who can assist you in various ways.

Head of Department – general enquiries about matters that cannot be resolved through the DoS, second supervisor or the Chair of the Research Student Committee
currently – Prof. A Kisters, office: 1036, tel: x3113, akisters@sun.ac.za

Chair, Research Student Committee – (oversees Departmental research student admissions and monitors your progress)
currently – Prof. John Clemens, office 2027, tel: x3159, jclemens@sun.ac.za

Departmental Administrative Officer – initial contact for submission of registration and monitoring documents.
currently – Dr Martina Frei, office 2017, tel: x4820, mfrei@sun.ac.za

Departmental Officer / Secretary – financial enquiries, vehicle bookings (at least 24 hours notice required)
currently – Mrs Gillian Strydom, office 1011, tel: x3219, gstrydom@sun.ac.za

Senior Technical Officer – reporting of safety concerns, equipment faults and deficiencies in general, non-laboratory supplies
currently – Mr George Olivier, office: 1036, tel: x3118, olivierg@sun.ac.za

6. UNIVERSITY ADMINISTRATIVE CONTACT POINTS
University Help Desk – can potentially be useful but rather phone the section you really want to speak to. It will be more efficient and effective.
tel: x4669

Postgraduate and International Office – general enquiries and assistance for international students, information on funding, skills development, accommodation, etc.
tel: 2565, info@sun.ac.za
http://www0.sun.ac.za/international/

Faculty of Science – rules and regulations and specific information about procedures, applications, bursary information
Faculty Manager – general enquiries tel: x3760
Faculty Officer – rules and regulations tel: x4832
http://science.sun.ac.za/index.php?alias=students&calias=students02&lang=eng

University Language Centre – general assistance with language issues, translations, short courses in writing skills, thesis editing, etc.
http://www0.sun.ac.za/languagecentre/
tel: x2167

Campus Health – medical services and advice, Monday – Friday: 08h00 – 17h00, tel: x3496/3494
http://www1.sun.ac.za/kampusgesondheid

Student Counselling and Development – careers, counselling, therapy, disabilities, tel: x4707 Victoria Street, Stellenbosch
http://www.sun.ac.za/english/learning-teaching/student-affairs/cscd

Campus Security – patrols, emergency reaction, incident reporting
tel. for service problems: x3775
tel. for emergencies x2333

Campus Map
https://www.sun.ac.za/english/welcome/find-it/stellenbosch-campus-map

7. ACCESS TO ANALYTICAL FACILITIES
a. Central Analytical Facility
The Central Analytical Facility (CAF) manages most analytical facilities that you are likely to use at Stellenbosch. Many of the relevant instrument laboratories are actually located within the Chamber of Mines building (e.g. SEM, ICP-MS) and some are located in other University buildings (e.g. XRF, XRD). You can find out what is available and who to contact about access to a particular facility by visiting the CAF web site:
https://www.sun.ac.za/english/faculty/science/CAF
This site also contains forms for sample submission to certain facilities, booking procedures and contact persons.

The two SEMs in the Chamber of Mines Building (room 1035) are run by Prof Lydia-Marie Joubert lydiaj@sun.ac.za and her colleagues – please contact them directly if you need to use the instruments. The older of the two instruments (SEM calendar) is used for cathodoluminescence (CL) imaging. The newer instrument (WDS and EDS SEM calendar) is used for analysing the major-element compositions of minerals, X-ray compositional mapping and back-scattered electron (BSE) imaging.

In other cases (ICP-MS, LA-ICP-MS and XRF) you need to contact the CAF staff member responsible for the particular analytical facility to book time on instruments (LA-ICP-MS) or to have samples collected for XRF. Find their contact details here: https://www.sun.ac.za/english/faculty/science/CAF. ***Make contact well in advance, as some instruments are being used constantly and have long waiting lists.***

Never book analytical time without receiving prior approval to do so from your DoS. All instrument time is charged for and you have to check that your supervisor is providing funds to cover this. If you book instruments without supervisor's permission, covering the associated costs, even for cancelling the reservation, remains with you.

Training in analytical techniques, data reduction and interpretation is a fundamental part of a research degree. The extent of student participation within CAF varies, depending on the technique used. For example, after appropriate training, you can expect to be involved in all your imaging and collection of EDS/WDS mineral major-element compositions using the SEM, X-ray maps and all data reduction. On the contrary, for XRF you will not be running the instrument but, depending on the level of your supervisor's funding, you may have to crush and powder the samples yourself.

Certain other CAF facilities are grouped under what might be called sample preparation. These include rock cutting, grinding, crushing and polishing (e.g., in lab 1022), as well as mineral separation facilities (in the rear quad). Access to these, particularly the mineral separation, grinding and polishing is controlled and you need to book times through the online-booking system: icpxrf.skedda.com. To get a Login and be added to the relevant group, please contact **Mareli Grobbelaar. She will also provide you with necessary training and oversight.**

For the saw lab please contact George Olivier. Please keep rock preparation areas clean. Failure to do so may result in the contamination of your samples or those of others. It will also result in denial of further access to preparation areas. If a facility is broken, either by you or others, please report this immediately to the Departmental Technical Officer (Mr George Olivier). It can take quite a while to order replacement parts and/or service machinery and severe delays will eat into your research time.

For thin sections please consult your supervisor. We have limited provision for making polished thin sections in the department but, in many cases, thin sections are outsourced to laboratories in other institutions. Whether produced here or elsewhere you will certainly be involved in cutting rock samples into thin section briquettes.

Note that, in early February, there will be a short introduction to CAF facilities and analytical methods given as part of the Honours course. Subject to space being available it may be worthwhile seeing if you can attend these 6 to 8 lectures. Discuss this with your DoS.

b. Departmental Facilities

Some additional facilities that you may need to use fall under the control of the Department of Earth Sciences. The most important of these are:

Field Store

This contains a variety of equipment that is available for use in the field and for camping. However, the equipping of undergraduate field trips must take precedence over your possible needs. If you wish to use something you need to approach the Senior Technical office, Mr George Olivier.

Rock Store

It is a legal requirement that we store your research samples for a number of years. You also need space to store these during your work here. Therefore, you will be allocated space in the Department's Compactus-style rock store shelves.

Research Microscopy Laboratory (room 2037)

This facility houses the research-grade petrological microscopes, the photomicroscope and the A3 flatbed scanner. The Department's Senior Technical Officer (Mr George Olivier) oversees access. Always replace the microscope covers after using. Do not consume food or drink in this lab. If you wish to scan a solid specimen, always place a sheet of clear plastic between the sample and the glass on the scanner. Report any problems to Mr Olivier immediately, and police each other's use of this lab as well.

Environmental Geochemistry Research Laboratory (room 1015)

This lab is exclusively for the use of students working on projects supervised by Prof. Roychoudhury and Dr Fietz. Prof. Roychoudhury is the responsible member of staff. Access is restricted.

Ultra-clean Laboratory (entrance in the rear quad)
This lab is under the strict control of Prof. Roychoudhury and is only used for highly specialised sample preparation and analysis. Access is restricted.

Experimental Petrology Laboratory (in rear quad)
This laboratory houses high-pressure and high-temperature apparatus of various kinds, used to investigate earth materials properties and behaviour at deep-Earth conditions. The equipment is the joint property of Profs Gary Stevens and John Clemens. Access is restricted to specially trained students working with Prof. Stevens.

Geological Compasses, GPS units and Geiger Counters, etc.
The Department has a stock of such items that you may be able to take into the field. The needs of the undergraduate fieldwork programme take precedence, however. If you would like to take such equipment for your own fieldwork, you need to talk with the Senior Technical Officer (Mr George Olivier), who has custody of these things and can arrange for the forms, etc. that you will need to complete to borrow them.

Laptop Computers and Software
Research students are normally supplied with a Windows desktop computer to use, and a connection to the Internet. Some basic software will be present on that computer. However, if you require specialised software packages, the use of a laptop computer or a computer with an operating system other than Windows, your DoS must supply these for you, out of his/her research costpoints.

Note that you, or your DoS, must pay for your Internet access, as well as any printing or photocopying charges that you may incur.

We cannot stress strongly enough the need for you to ***backup your important research files and thesis parts***. The worst has a way of happening, so regularly back up your data, etc. to an Internet Cloud, a hard disk or a large-capacity USB flash disk. Keep the backup disk in a separate place from your computer.

Telephones
Postgrad research students do not have automatic access to telephones. For organizing your project-related research field trip / accommodation / vehicle booking, you may, with express permission from your supervisor, request the departmental administrator to make use of her phone (Currently,Departmental Officer: Ms Gillian Strydom; Room 1011). For reporting emergencies in the laboratories, make use of the phone in the laboratory, if available. For all other purposes, you may only use your own personal phone.

Other Facilities
In addition to the facilities above, individual supervisors may give you access to personal research equipment that they own (e.g., microscopes, slide scanners and special field equipment). It is your responsibility to see that you have the appropriate knowledge and training to use these things safely and without damaging them. Your supervisors will provide that training.

High-Resolution Slide Scanner (for thin sections or colour transparencies)
Access to this piece of equipment is a special case. Although it is the joint personal property of Profs Buick, Stevens and Kisters, they are prepared to accord research students access to it. If you need to use this, you should approach Prof. Ian Buick. If access is granted, you will then need to arrange for access to Prof. Gary Stevens's office, as that is where this equipment is housed.

c. Rental Vehicles
You may need to hire a vehicle for the purposes of field work, or to visit another institution (for research purposes). The Department has no vehicles of its own. However, the University has a large variety of vehicles available in its Vehicle Fleet. Additionally, the University has an arrangement with Bidvest, to supply rental vehicles at an advantageous price. The Vehicle Fleet compound is located on Banghoek Rd, just north of the Campus. Bidvest is located in Merriman Place, in the town.

If you need a vehicle, you and your supervisor must decide on the type required and the duration of the rental, and your DoS needs to allocate funding (i.e., provide a costpoint number). Please check with the Departmental Officer (Mrs Gillian Strydom) which types of vehicles are available and what information she needs from you. She will arrange the rental for you once she has all the details from you. However, ***please remember that you need to make these requests at least 24 hours before you need the vehicle***, to ensure availability and to minimise cost to your DoS. Remember too that ***you are responsible for payment of any fines that you may receive as a result of traffic or parking offences***.

8. SAFETY AND SECURITY

All laboratories contain protective equipment and first-aid kits. Please ensure that these are in place and use them, as directed. The Department has a number of trained and certified first-aiders; their names and office locations are given on the departmental directory, on the ground floor.

Each year, new research students are invited to attend a workshop on Occupational Health and Safety, run on behalf of the University. You are expected to attend. In addition there is a booklet covering the health and safety aspects of the Chamber of Mines Building. This is available for download from the departmental web site.

Safety on fieldwork is primarily your own responsibility. You must always operate vehicles according to the law and obey special safety instructions that may apply to the various places in which you may be working (e.g., mines, quarries, processing plants, slag heaps, laboratories in other institutions, etc.). You are personally responsible for paying any fines related to traffic or parking violations. Use portable and fixed equipment according to the instructions and training that you have received. If you think you need training in something specific, ask for it. Mr George Olivier can help. Whenever hammering rocks to obtain samples, you must wear eye protection. Never use one geological hammer to strike another one, as this commonly causes metal fragments to be thrown off at high velocity. These can cause serious injury. ***Always think about the safety aspect before you decide to do anything.***

Security in the CoM building is another issue that you need to be aware of. There have been incidents of theft of University property, departmental property and personal property, including money. It is known that petty criminals and thieves do wander around the campus, looking for opportunities. Some are brazen enough to walk straight into buildings to look for things to steal. The following simple precautions should always be taken.

- ***Never block building entrance doors open*** unless the door is actually guarded, especially after normal business hours. If you see a door in this condition, close and lock it, or call security on x2333.
- ***Never leave laboratory or office doors open*** unless you are actually in the room.
- ***Always lock the door when you leave***, even if it is just for a minute or two
- ***Never leave bags, purses, wallets, cell phones, keys, etc. within sight.*** Always put these things away and preferably locked away when not actually in use.
- ***Never keep money in rooms overnight*.** If you need to store any large sum of money that is not your own property, Mr George Olivier or Mrs Gillian Strydom can assist. Never leave your own money on University property overnight.
- Small portable and valuable items (e.g., laptops, hard drives, etc.) should always be locked away, out of sight (or taken home) at night.
- If you see anyone who you do not recognise in the building, you are perfectly entitled to ask who they are and what they are doing. If you are not satisfied with their answer, just call campus security on x2333.
- ***If you witness a crime or suspicious activity on campus, call campus security on x2333***.

Security is as much your business as your personal safety is, so please be vigilant.

Fire Alarms

Please obey the fire alarm and vacate the building immediately. You can never know whether it is a drill or a real fire, so don't try to guess.

Insurance

As stated on your University registration documents, there is no insurance cover provided for you, either while you are on campus, in laboratories, or in the field. It is your personal responsibility to make sure that you have adequate personal insurance to cover the possibility of injury, hospitalisation or loss of or damage to personal belongings that you may have in your possession while you are on University property or in the field. *Under no circumstances does the Department accept responsibility for loss of or damage to your personal property.*

9. DEPARTMENTAL RESEARCH SEMINARS

As a senior student within the Department, you will be expected to lead the honours and undergraduate students by example. Part of this is by being a good example of general behaviour. However, another important part is to show your interest in the research life of the Department by ***attending all departmental research seminars***, irrespective of the subject area within the Earth Sciences. Furthermore, as people involved in intensive research, *you are expected to each present one research seminar yourself, every year*. This can be either a review of work relevant to you project or the results of your project itself. *From August 2018 onwards you will have to present proof of one seminar talk per year in your research report.*

10. TEACHING

As a research student, you are primarily here to do your project research. However, as a senior student, you have a wealth of knowledge that can benefit the undergraduate students. Worldwide, it is normal for research students to demonstrate in undergraduate practical classes. At Stellenbosch we strongly encourage you to do at least some demonstrating, in the appropriate area of geoscience. You will be paid for this at standard rates and the Senior Technical Officer (Mr George Olivier) is the person to approach about all non-academic matters pertaining to demonstrating. Remember that doing a little bit of teaching also looks good on your CV.

11. SOCIAL ACTIVITIES

a. Braais

Research students are welcome to organise braais, held in the quad, and the Department will supply wood and two braais for the purpose. You just need to check with Mr George Olivier that there are no clashing events on the day that you wish to have your braai. Remember too that you are an example to the honours and undergraduate students. So, make sure that you treat the building with respect and clean up after yourselves.

b. Special Orientation Event with New Honours Students

Each year, there is a welcome event for all the new postgraduate students, including honours. This takes place in the afternoon of the day on which the honours students have their official University welcoming and orientation. The format for the first part of the event may vary from year to year, but the last part is always a braai held in the quad. The Department subsidises this event.

12. MONITORING AND REPORTING

Half-yearly research reports provide the basis for evaluation of your progress. These progress reports are a Faculty requirement, The Department will contact you when it comes time to complete one (early May and early September). A short meeting with you and your supervisor and the RSC will commonly take place. ***Please note that non-completion of a report will be deemed as unsatisfactory progress and you may be deregistered as a consequence.***

See chapter 14 for time frames.

13. UPGRADING FROM MSc TO PhD

The following regulations are taken from the Faculty of Science Calendar. In deserving cases, and with due regard for the best interests of the student concerned, the conversion of a registration for the degree of Master (requiring a thesis) into a registration for the Doctorate may be considered and recommended by the Faculty Board –

a. provided that the student shall have shown exceptional progress with his research (after not less than one year's study);

b. provided that in the course of the work done for the Master's study concerned new and original insights which warrant further research at the Doctoral level shall have emerged;

c. provided that the work done for the Master's study concerned shall have been such that it exceeds the conventional Master's study in terms of scope and cannot reasonably be separated into a Master's component and a Doctoral component;

d. provided that the results of the work done for the Master's study concerned shall have been accepted for publication in a journal of high quality or shall have been found suitable by virtue of some other acceptable form of peer evaluation;

e. provided that the proposal for such a conversion shall be initiated by the supervisor, who shall make a request to the relevant departmental chair. If the chair supports the request, he shall direct the request to the Dean. (Where the supervisor himself is the departmental chair, he shall make the request directly to the Dean.) After approval by the Dean, the department shall appoint a committee of three or four members whose subject expertise equips them to judge the request. One of the members shall preferably not be a member of staff of Stellenbosch University. The student, after consultation with the supervisor, shall compile a brief memorandum containing (i) a report of the progress made with the Master's study and (ii) a submission on the proposed Doctoral study. The committee shall consider the student's memorandum and make a recommendation for consideration by the Faculty Board;

f. provided that, before the Doctorate may be awarded to the student concerned, he shall have been registered for the degrees of Master and Doctor jointly for a total of not less than three years, in the case of Master's after Honours, and not less than four years in the case of Master's after Bachelor's, including not less than one year for the Doctorate;

g. provided that, in cases where written examinations are required for the Master's study in question, all such examinations shall have been taken and passed by the student before the Doctorate may be awarded to him; and

h. provided that the student's tuition fees shall not be retrospectively adjusted after the conversion.

14. TIME LIMITS AND SUBMISSION OF YOUR THESIS

In short, you are supposed to submit your thesis within 2 years of registration, for an MSc and within 4 years for a PhD. If you do not make satisfactory progress (as judged by your supervisors and the Head of Department, based on your progress reports) your registration can be terminated. Please remember that support for a research degree is costly to the DoS and the Department.

Each year, the Faculty of Science asks the Department about whether students who have exceeded their nominal periods of registration should be allowed to re-register for the following year. The answer to this depends on progress and whether a thesis is likely to appear for examination within the next few months. Don’t fool yourself – several research students have been denied re-registration in recent years. You have to show sufficient progress.

15. SUBMITTING YOUR THESIS

Theses can take a number of different forms. Some supervisors insist on their students producing a thesis based on a number of journal articles that have been published or accepted for publication. Others require more traditional forms of thesis. The Department of Earth Sciences recommends that all MSc and PhD theses should form the basis for publications and that the theses be written in such a way that these papers can be extracted from them relatively easily. It has actually become normal practice that published, or at least submitted, papers form the basis of the thesis – a minumum of 2 for an MSc and 3 for a PhD.

Theses and dissertations must be submitted by the student to SUNScholar in electronic format. No hard copies are required, but it is customary to provide your supervisors with a final bound copy. SUNScholar is at https://scholar.sun.ac.za/

16. EXAMINATION AND DEFENCE

Your DoS will nominate appropriate supervisors for your thesis and submit these names for approval by the Faculty. Upon approval, the examiners will be sent copies of the thesis (commonly by the Postgrad Administrator but never by the student !!). They will examine the thesis and submit a report to the faculty. In the case of an MSc only the examiners will each award a mark out of 100, which will normally be averaged for your final thesis mark.

The student is also required to present a public thesis defence highlighting the results of the research. The Department organises these defences, usually for small groups of candidates, periodically, and the proceedings are overseen by the designated Unattached Chairperson (currently Prof. J. Clemens). There

are no exceptions to this policy. The defence cannot be waived irrespective of what presentations you may have given at conferences, etc. For both MSc and PhD candidates, the defence will comprise a 30-minute presentation, followed by questioning by the examiners and the general audience for up to 20 minutes. Following this, the examiners will meet to discuss the result. For an MSc defence, they will provide a mark out of 100 for your performance in presenting and answering questions. This mark will count toward 20% of your final result. The DoS is responsible for communicating the results of this to the Faculty. In the case of a PhD there is no mark given for the defence and the examiners simply decide on a pass or fail result. The Unattached Chairperson will write a summary report that, together with the examiners' reports will form the basis for the decision on whether to award the degree. The defence may take place either before or after the final thesis version has been lodged with the University. Note that there are provisions in place to cover the eventuality that examiners cannot attend the defence. Appropriately qualified alternates are appointed in their stead. ***Under no circumstances may the student have any contact whatsoever with the external examiner/s during the examination process and up until the examiners' reports are received and the defence is completed.***

You must be registered as a student while the examination process is underway and abide by the strict Faculty deadlines. If you are awarded the degree, you can then graduate at the next available ceremony (in either December or March).

17. PLAGIARISM

Plagiarism, as defined in the 1995 Random House Compact Unabridged Dictionary, is the "use or close imitation of the language and thoughts of another author and the representation of them as one's own original work". Within academia, plagiarism by students is considered academic dishonesty or academic fraud, and offenders are subject to academic censure, up to and including expulsion from the University. The most common infraction is to cut and paste sections of previous work without reference to the source. Even if the source is referenced, this is still plagiarism unless the piece is given within quotation marks and the reference is given, with the relevant page number in the original publication. Beware; the University has zero tolerance toward plagiarism.

18. IP RIGHTS

Since your thesis is part of your research output while you are a student enrolled at the University of Stellenbosch, the intellectual property rights (IP) resides with the University of Stellenbosch. In special cases, the IP rights may belong jointly to the University and an industry or government sponsor of the research.

Please also be aware that all samples that you use for your research must legally be archived by the Department. It is therefore your responsibility to ensure that each sample is catalogued, labelled and the sample locality accurately and fully specified. Thin sections, rock powders, mineral separates, epoxy mounts and XRF disks remain the property of your supervisor and the Department, and must likewise be archived.

APPENDIX 1 Example of the Departmental Registration Form

STELLENBOSCH UNIVERSITY

Department of Earth Sciences

REGISTRATION DETAILS – RESEARCH DEGREES

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1 Research degree details

Please indicate the degree applied for: **(Delete as appropriate)**	**Master of Science** **Doctor of Philosophy**
Please indicate the mode of study: **(Delete as appropriate)**	**Full time/ Part time**
Please give the initial title of your project:	

2 Personal Details

Surname/Family name:	Forename(s):
Address for correspondence: …… …… …… …… …… ……	Telephone number:……. Fax number:….. E-mail address:
Sex: Male/Female	Date of birth:

3 Details of funding provided for the project

4 Details of facilities available to support the project [including funding and location, giving details of any collaborating establishments[1]]

5 Supervision of Programme of Work

5.1 *Director of Studies [name, qualifications, post held and place of work]:*

	% super-vision

I confirm my support for this application and confirm

that the details in sections 3 and 4 are correct.

(signed)……..

DATE…….

Current supervisions (give numbers)	(as Director of Studies)	(as other supervisor)
MSc		
PhD		

[1] NB: If there is a formal collaborative agreement with another institution, the application must be submitted together with evidence of the collaborative agreement and the funding, as appropriate. If external analytical facilities are to be used, evidence of sufficient funding must be provided.

5.2 *Other Supervisor[s] [name, qualifications, post held and place of work]:*

a)

	% super-vision

I confirm my support for this application.

(signed)……..

DATE…….

Current supervisions (give numbers)	(as Director of Studies)	(as other supervisor)
MA/MSc		
PhD		

b)

	% super-vision

I confirm my support for this application.

(signed)……..

DATE…….

Current supervisions (give numbers)	(as Director of Studies)	(as other supervisor)
MA/MSc		
PhD		

NB: If there are additional supervisors or advisors, please give details of their roles on a separate sheet.

6 Statement by the Applicant

I apply for registration for MSc/PhD (delete as appropriate) on the basis of the proposal given in this application. I confirm that the details given in Section 1 are correct.

SIGNED: .....
DATE:.....

7 Statement by Director of Studies

I confirm that I undertake to supervise this student's project and to provide sufficient financial support to cover the costs of any field and laboratory work associated with the project, as detailed in sections 3 and 4.

SIGNED:.....
DATE:.....

8 Statement of the Head of Department

(to be signed only when the student is finally accepted for registration, and filed, together with the proposal, as documentation of the conditions of acceptance)

I confirm that the Department supports this application for registration as a candidate for the specified research degree at Stellenbosch University. The Department undertakes to provide general infrastructural support for the project, and to general support the candidate in carrying out the research project.

SIGNED: .....
DATE:.....

[HoD]

APPENDIX 2: Example of the Faculty of Science Registration Document

FACULTY OF SCIENCE
STELLENBOSCH UNIVERSITY

Send *signed*, completed form to: Mr Bevin Abels, Faculty Secretary: Faculty of Science, Admin A2027
Deadline: consult Faculty Secretary.

RECOMMENDATION FOR ADMITTANCE OF CANDIDATE TO MASTER'S STUDIES

The application of the candidate mentioned hereunder for master's studies has been received and evaluated by the department. The following recommendation is made:

Mark only **ONE** of the following three options. (In the case of a conditionally selected candidate the chairperson may adjust or add to the conditions in this category if this is the requirement for a specific candidate in this category.)

☐ **Successful candidate, *finally* selected**

The candidate fulfils the selection criteria and admittance requirements for master's studies for which application has been made, and is therefore accepted for master's studies by the department.

☐ **Successful candidate, *conditionally* selected**

The candidate fulfils the selection criteria for a master's degree (relevant undergraduate training and good academic record to date), but at present lacks the specific *admittance requirement* for a master's degree; such requirement being an honours degree. As soon as this conditionally selected candidate however is able to deliver proof that he/she indeed meets the aforementioned admittance requirement/experience/equivalent qualification, the department will accept this candidate for master's studies without any reservation.

☐ **Unsuccessful candidate**

The candidate does not fulfil the selection criteria and admittance requirements for master's studies and therefore cannot be accepted for postgraduate study.

Signed on [Click **here** and type date] by:

[Click HERE and type name of supervisor]
[Click HERE and type name of department]

Signed on [Click **here** and type date] by:

[Click HERE and type name of chairperson]
[Click HERE and type name of department]

COMPLETION OF THE REST OF THE FORM: For a final or conditionally selected candidate, the rest of the form must be completed in full. For an unsuccessful candidate, you need fill in only the student's title, names and surname, as well as student number (if SU student).

Student's title, name(s) and surname	
Student number (if SU student)	

Degree(s) already obtained	**Degree**	**Field of study**	**University**	**Year**
Undergraduate				
Postgraduate				

Degree for which now registered (if applicable)	**Degree**	**Field of study**	**University**	**Year**

Proposed graduate studies	**Degree**		**Field of study**	
	Department in which intending to study		Earth Sciences	
	Starting date for study			
	Full-time or part-time			

Type of dissertation (mark ONE of the options)	**Thesis***	**Assignment****
	X	

5 *THESIS, if the study (including an oral examination) counts 50% or more of the final mark.
*ASSIGNMENT, if the study (including an oral examination) counts less than 50% of the final mark.

Title of thesis/assignment	

6

Supplementary study Should the student's undergraduate training not be sufficient for the particular study area, please indicate for which undergraduate modules the student should enrol over and above the postgraduate module:

7

	Title, initials and surname	Department (SU) OR address, if external
Supervisor		
Co-supervisor		

8

Declaration :	**Yes**	**No**
Does the student have the ability to undertake the envisaged study and to complete it successfully?	X	
Are the necessary equipment, laboratory and library facilities available for the proposed study?	X	
Are the proposed place(s) of study acceptable to the supervisor?	X	
Is the proposed project feasible or practicable?	X	

APPENDIX 3: Example of the Memorandum of Understanding (between student, supervisor, Department and Faculty)

MEMORANDUM OF UNDERSTANDING
ACADEMIC SUPERVISION
REGISTRERED POSTGRADUATE STUDENTS

The role and responsibilities of both a candidate and a supervisor[2]

CANDIDATE INFORMATION

STUDENT NUMBER: ….……

NAME OF CANDIDATE: ……

CELLPHONE NR: ……

E-MAIL ADDRESS: ……..

PROGRAMME FOR WHICH CANDIDATE IS REGISTRED:……

SUPERVISOR INFORMATION

NAME OF SUPERVISOR: ……..

E-MAIL ADDRESS: ……

DEPARTMENT: ……..

CO-SUPERVISOR INFORMATION (If applicable)

NAME OF CO-SUPERVISOR:……

E-MAIL ADDRESS:……

UNIVERSITY: ……..

DEPARTMENT: ……..

DATE OF REGISTRATION OF THE RESEARCH COMPONENT OF THE PROGRAMME:

……

This document must be signed by both the candidate and the supervisor and be submitted to the Head of the Department within 2 months after the date of registration to be kept on file.

[2] Acknowledgement: Documents from the Faculty of Science from Stellenbosch University, Faculties of Natural and Agricultural Sciences and Economic and Management Sciences from the University of Pretoria, as well as a document from the University of Cape Town was used in compiling this document.

ADMINISTRATIVE MATTERS

Candidate supplied with the Code of Research Ethics of the University of Stellenbosch and agrees to abide by this code.

The General ethics information for research at Stellenbosch University is available at:
http://www0.sun.ac.za/research/research-integrity-and-ethics.html

Yes		No		Signature	

Candidate supplied with the Plagiarism Policy of the University of Stellenbosch and agrees to abide by this policy. The Plagiarism Policy document is available at:
http://www.sun.ac.za/english/legal/_layouts/15/WopiFrame.aspx?sourcedoc=/english/legal/Documents/Plagiaat_Nov2010_eng.doc&action=default&DefaultItemOpen=1

Attached to this document is the Declaration of Originality document which must be submitted with every essay, report, project, assignment, dissertation and/or thesis.

Yes		No		Signature	

Candidate supplied with the contact details of the Library's relevant information specialist

Yes		No		Information Specialist

Candidate referred to General Regulations of the University of Stellenbosch pertaining to postgraduate matters and agrees to abide by these regulations

Yes		No		Signature	

Specific regulations that must be noted:

……

……

Any other administrative matters:

……

……

……

……

……

EXPECTATIONS

Supervisor's expectations:

1. Regular scheduled meetings (at least once per month) punctually attended by the candidate. Meetings to be scheduled in advance by the candidate. More frequent meetings may be arranged.
2. Candidate to provide an indication of the time to be spent on each phase of the research project (time chart). The project should be completed as soon as possible within the minimum time period as allowed by the University. The University's General Regulations regarding the renewal of registration per degree should be consulted in this regard. The time chart could be drawn up with reference to the following:
   - literature review (critical evaluation of existing knowledge)
   - drafting of the research proposal (what the research is intended to accomplish, including a protocol on how the research will be undertaken, i.e research design and methods)
     The suggested outline for a research proposal is as follows:
     - Title / Area
     - Abstract
     - Introduction / Background
     - Research problem
     - Conceptual framework
     - Previous work – comprehensive and critical appraisal of literature
     - Proposal of new model/technique/idea/approach
     - Suitability of the approach for the level
     - Hypothesis and anticipated results
     - Milestones and timelines for completion
     - Conclusion
     - References
   - the actual research, and
   - recording of the research findings
3. Quarterly written reports from the candidate on his / her progress in terms of the indicated time frame / time chart.
4. Candidate to ensure that all submitted work is written in an acceptable standard of English. It is not the supervisor's duty to do "*rough editing*" and (s)he will merely concentrate on contents and structure.
5. Any revisions suggested by the supervisor to be resubmitted by the candidate within one calendar month (along with the copy of the previous manuscript where comments were made by the supervisor).
6. Any class, workshop or course that the candidate **must attend as a prerequisite:**
   ……

   ……

7. Other Expectations:

   ……

   ……

   ……

   ……

8. Comments by candidate on the abovementioned:

……

……

……

……

Candidate's expectations:

1. Supervisor to be easily accessible.
2. Clear mediation mechanisms to deal with any grievances, personal problems or disagreements that may arise between the candidate and the supervisor.
3. All work submitted to the supervisor to be returned within a reasonable time (maximum turnover of one month), accompanied by written comments on the manuscript as well as separate general comments.
4. Other expectations:

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5. Comments by supervisor on the abovementioned:

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Supervisor's plans and commitments:
The supervisor must set out, where applicable, his/her plans for providing supervision in terms of the time chart. The supervisor must indicate any expected absence on leave/sabbaticals (providing alternative arrangements for supervision if away for more than two months in any one year)

.....

.....

Supervision arrangements:

.....

.....

Candidate's plans and commitments:
The candidate must indicate any matters that may have an impact on the time chart he/she provided (e.g work pressure)

.....

.....

.....

.....

Candidate's undertakings:

.....

.....

.....

INTELLECTUAL PROPERTY ISSUES:

Authorship: Authorship should be discussed and agreed up by all parties concerned. Any additional remarks regarding authorship must be noted by the supervisor*:

.....

The intellectual property rights of the outcome of the research will be determined by the agreement that the candidate has with the University of Stellenbosch and which is in line with the policy of the University of Stellenbosch.

.....

*In the case that the candidate is employed by an institution other that the University of Stellenbosch an agreement as to which address is used on the publication needs to be signed. If such an agreement does not exist, the candidate must publish under the name of the University of Stellenbosch in line with the General Regulations of the University of Stellenbosch.

DEREGISTRATION

Should a candidate fail to maintain satisfactory academic progress at any phase of his/her period of study, the supervisor may, in consultation with the candidate, send the candidate a warming letter indicating the seriousness of the matter. This letter should also include written instructions on the conditions that need to be met in order to achieve / accomplish satisfactory progress/performance. The candidate will then be placed on probation and be monitored for a period of three months. Should the candidate fail to rectify his/her progress and/or improve his/her performance, he or she will have his/her registration terminated by the Dean on the recommendation of the Head of Department/Academic committee.

A candidate can appeal the decision to terminate his/her registration. An Appeals Committee would be formed consisting of the Vice-Principal responsible for Research and Postgraduate Studies and two members of the Senate Committee for Research. The two members of the Senate Committee for Research are appointed by the Vice-Principal. The candidate must state his/her case in writing and a written response should be solicited from the supervisor. The Appeals Committee must base its judgement on these written submissions. The decision of the Appeals Committee is final.

Candidate's comments:

……

……

……

SIGNATURE OF THE CANDIDATE

Name	Signed	Date

SIGNATURE OF THE SUPERVISOR

Name	Signed	Date

OBSERVATIONS BY THE HOD

I have reviewed this completed Memorandum of Understanding and I am satisfied that it reflects the shared understanding of the supervisor and the candidate and that the Department is able to meet the obligations to the candidate set out in this Memorandum of Understanding:

Name	Signed	Date