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Department of Earth Sciences

MSc and PhD Research Student Handbook

2021

Welcome to Stellenbosch as a research (MSc or PhD) student, or a prospective research student.

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 contacted a potential supervisor directly and applies to the Department for admission to the research student programme. The student must meet the primary Faculty requirements for admission for the particular degree. Please also 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 supervisor and student should seek permission to register by submitting a [project proposal](#) to the Research Student Committee (RSC). This is done by preparing the internal application proposal, according to the guidelines below and submitting the package to the Departmental Postgrad Administrator (currently Martina Frei, mfrei@sun.ac.za).

The application form can be obtained from your supervisor or downloaded from the departmental website. After details are recorded the application goes to the Chair of the RSC. If the Chair of the RSC is also the supervisor, 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 supervisor, 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 supervisor. *In cases where projects fall outside of the supervisor's field of demonstrated expertise, the onus is on the supervisor 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/timeline – currently 2 years for MSc and 3 years for PhD.

External and international students must additionally contact and apply through the postgraduate and international office for degree validation and SU number.

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 three 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 2 years for MSc and 3 years for PhD)
- Is the supervisor 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).

PhD applications need to go through the faculty board which only meets 4 times a year.

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. You will receive an E-mail from the faculty with your registration details. If you are an external student new to SU you might need to bring your original degree certificate for registration.

3. SUPERVISION OF RESEARCH DEGREES IN EARTH SCIENCES

The main supervisor 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 supervisor.

- 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 supervisor 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 supervisor 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 supervisor 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 supervisor.* 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 supervisor 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.

4. MEMORANDUM OF UNDERSTANDING (MoU) BETWEEN STUDENT AND SUPERVISOR

Following successful registration, the Faculty of Science requires each research student and his/her supervisor 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 latest by the time that your first research progress report is due.

5. DISPUTES

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

6. DEPARTMENTAL CONTACTS

Your supervisor (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 supervisor, second supervisor or the Chair of the Research Student Committee
currently – Prof. A Kisters, office: 2027, tel: x3113, akisters@sun.ac.za

Chair, Research Student Committee – (oversees Departmental research student admissions and monitors your progress)

currently – Prof. A Kisters, office: 2027, tel: x3113, akisters@sun.ac.za

Departmental Administrative Officer – initial contact for submission of registration and monitoring documents.
currently – Dr Martina Frei, office 2040, 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 – field equipment, 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

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.

7. 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: x3822

Postgraduate and International Office – general enquiries and assistance for international students, information on funding, skills development, accommodation, etc.

<http://www.sun.ac.za/english/research-innovation/Research-Development/postgraduate-office>

Faculty of Science – rules and regulations and specific information about procedures, applications, bursary information

www.sun.ac.za/english/faculty/science

University Language Centre – general assistance with language issues, translations, short courses in writing skills, thesis editing, etc.

<https://languagecentre.sun.ac.za/>

Campus Health – medical services and advice

<http://www.sun.ac.za/english/CampusHealth>

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

<http://www.sun.ac.za/english/safety>

Campus Map

<http://www.sun.ac.za/english/maps>

8. ACCESS TO ANALYTICAL FACILITIES

a. Central Analytical Facility

The Central Analytical Facilities (CAF) manages most analytical instrumentation that you are likely to use at Stellenbosch University. Many of the relevant instrument laboratories are actually located within the Chamber of Mines building (e.g. SEM, ICP) and some are located in other University buildings (e.g. XRF). You can find out what is available and whom 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. For access to all CAF units and instrument [training please contact the CAF staff](#).

There are three SEMs in the Chamber of Mines Building (room 1034/1035) – please contact the staff directly if you need to use the instruments. The Zeiss MERLIN has 8 different detectors and is used for high resolution SE (Secondary Electron), BSE (Backscattered Electron), EDS (Energy-Dispersive X-ray Spectroscopy), CL (cathodoluminescence) and STEM (Scanning Transmission EM) imaging. The Zeiss EVO is used mainly for elemental analysis using EDS and WDS (Wavelength Dispersive Spectroscopy) as well as for SE and BSE imaging. Both MERLIN and EVO instruments also have a cryo stage to stabilize samples and improve resolution.

At the EM Unit, group training is provided once a month as a one-day course, followed by one-on-one sessions using the students' own samples, until they are proficient to use the instruments independently.

For the 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>.

For all units: 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 supervisor. 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.

Note that, usually in early February, there will be a **short introduction to CAF facilities** and analytical methods given as part of the Honours course. Provided space is available, other postgrads (M and D) are welcome to take part in this course. Beside this CAF offers yearly workshops.

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:

Rock & 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 Fiazal Timmey and Mr George Olivier

Research Microscopy Laboratory

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

This lab is exclusively for the use of students working on environmental projects. Access is restricted please contact Prof. Roychoudhury and Dr Fietz.

Ultra-clean Laboratory

This lab is under the strict control of Prof. Roychoudhury and is only used for highly specialised sample preparation and analysis. Access is restricted please contact Prof. Roychoudhury.

Experimental Petrology Laboratory

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 one of these two staff members.

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.

Computers and Software

MSc students find computers to work on in the MSc lab. The workplaces are to be used on a 1st come 1st served basis and must be left clean for the next student to use. The lab is supplied with Windows desktop computers to use, and a connection to the Internet. PhD students find workspaces in the PhD lab. Computers are provided by the supervisor.

Some basic and geology software is installed. However, if you require specialised software packages, the use of a laptop or a computer with an operating system other than Windows, you or your thesis supervisor must supply these for you, out of his/her research cost points.

Note that, as per University regulations, you 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. In 2013 and 2014 students lost parts of their work close to thesis submission time through failing to backup.** 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

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 (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)

This joint personal property of Profs Stevens and Kisters. If you need to use this, you should approach Prof. Gary Stevens. 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.

If you need a vehicle, you and your supervisor must decide on the type required and the duration of the rental, and your supervisor needs to allocate funding (i.e., provide a costpoint number). Please check with the Departmental Officer (Mrs 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 your details. However, **please remember that you need to make these requests at least 48 hours before you need the vehicle**, to ensure availability and minimise cost to your supervisor. Remember too that **you are responsible for payment of any fines that you may receive as a result of traffic or parking offences**.

E-mail the following information if you would like to make a vehicle reservation to Mrs Strydom (gstrydom@sun.ac.za):

- Driver / drivers names and surnames
- Date of reservation
- Time of pick-up
- Date of return of vehicle
- Time of return
- Destination
- Cost Point

9. 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.

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.***

10. 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 take place if needed.

Please note that non-completion of a report will be deemed as unsatisfactory progress and you may be deregistered as a consequence.

See chapter 15 for time frames.

11. 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 at least one research seminar yourself***, 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.***

12. 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.

13. 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. Welcoming of postgraduate students

Each year, there is a welcome event for all the postgraduate students, including honours. This takes place in the first week in which the honours students have their official University welcoming and orientation. A social gettogether is held in the quad. The Department subsidises this event.

14. UPGRADING FROM MSc TO PhD

The following regulations are taken from the Faculty of Science Calendar. The regulations of the calendar of the year you are applying for upgrade are valid for you. Double check there. 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.

15. 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 3 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 supervisor 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.

Students beyond the time frame will be blocked from re-registration by the faculty and need to produce a convincing plan of action to their supervisor.

16. 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 minimum of 1 for an MSc and 3 for a PhD (alternative is 2 publications plus respective thesis chapters).

After your examination and defence the thesis/dissertation must be submitted by the student to SUNScholar in electronic format. No hard copies are required, please ask your supervisor if they want a hard copy. SUNScholar is at <https://scholar.sun.ac.za/> Check there for the deadline to upload.

17. EXAMINATION AND DEFENCE

Your supervisor will nominate appropriate supervisors for your thesis and submit these names for approval by the Faculty ca 4 month before the deadline to hand in. Upon approval, the examiners will be sent copies of the thesis and Turnitin reports (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, and the proceedings are overseen by the designated Unattached Chairperson. 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 20-30 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 supervisor 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).

18. 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.

Check the universities website regarding the relevant policies.

19. 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.

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