



North-West University: Potchefstroom Campus

FACULTY OF NATURAL SCIENCES

Quality Manual

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1 CONTENT OF THE QUALITY MANUAL

1.1 AIM OF THIS QUALITY MANUAL

The aim of this Quality Manual is to describe the processes which are designed to improve, sustain, monitor and continuously promote quality in the Faculty of Natural Sciences at the Potchefstroom Campus of the North-West University.

The primary processes are the following:

- teaching and learning,
- research and postgraduate education,
- implementation of expertise and community engagement.

The Manual describes these processes together with the sub processes involved.

1.2 AIMS OF THE FACULTY OF NATURAL SCIENCES

- Aims for Teaching and Learning: In agreement with its Teaching and Learning Policy, it is the aim of the Faculty to deliver students, who have attained at the end of their studies on the different levels, as described in the policy, specific outcomes.
- Research aims: The aims for research and postgraduate education are contained in the research policy
- Aims for implementation of expertise and community engagement: The Faculty aims for commercialization of research and executing outside projects, which include the offering of short courses.
- Strategic aims: Strategic aims and goals form part of the Faculty Plan which appears on the Faculty website and which are updated on an annual basis.

See [Addendum A](#): *TEACHING AND LEARNING POLICY*

See [Addendum N](#): *RESEARCH POLICY OF THE FACULTY*

See [Paragraph 6](#): *COMMERCIALIZATION OF RESEARCH AND OUTSIDE PROJECTS*

2 APPROACH TO QUALITY

The aim of the quality policy of NWU is continuous improvement in quality to support the vision ***to be a pre-eminent university driven by the pursuit of knowledge and innovation***. Improvement in quality is not an event but rather a continuous process.

In agreement with the management structure of the NWU, there is institutional policy which is valid for the University as a whole. The different policy documents are available at the following web link:

http://www.nwu.ac.za/content/policy_rules

The Faculty processes in this Manual are in agreement with and in support of the institutional policy within the own nature of the activities of the Faculty.

3 MANAGEMENT

3.1 FACULTY STRUCTURE

The Faculty structure is contained in the organogram on the following page.

FACULTY OF NATURAL SCIENCES

DEAN



Prof Kobus Pienaar

SCHOOLS

Biological Sciences

- Botany (Botanical Garden)
- Microbiology
- Zoology



Prof Victor Wepener

Physical and Chemical Sciences

- Biochemistry
- Chemistry
- Physics



Prof Christien Strydom

Geo- and Spatial Sciences

- Geography and Environmental Management
- Geology and Soil Science
- Urban and Regional Planning



Prof Stuart Piketh

Computer, Statistical and Mathematical Sciences

- Computer Sciences and Information Systems
- Statistics and Operational Research
- Mathematics and Applied Mathematics



Prof Gilbert Groenewald

RESEARCH ENTITIES

Unit for Business Mathematics and Informatics

- IT Innovation and practical statistics



Prof Magda Huisman

Centre for Space Research



Prof Stefan Ferreira

Unit for Environmental Sciences and Management



Prof Nico Smit

Focus Area for Chemical Resource Beneficiation

- Laboratories for Electron Microscopy, MS and NMR (LAS)



Prof Manie Vosloo

Focus Area for Human Metabolomics



Prof Du Toit Loots

CENTRES

Centre for Business Mathematics and Informatics



Prof Riaan de Jongh

Centre for Human Metabonomics



Prof Chris Vorster

Centre for Environmental Management (CEM)



Prof Johan Nel

Centre for Water Sciences and Management

- Hydrology and Geohydrology



Prof Ingrid Dennis

3.2 GENERAL CORE RESPONSIBILITIES

Key role players	Core responsibilities
Dean	<p>To ensure, through effective application of the management triangle model, that:</p> <ul style="list-style-type: none"> • a strategic plan is prepared and implemented for the faculty in keeping with the University’s vision and strategy; • effective development and management of human resources take place in the faculty with a view to motivated and competent employees; • the financial resources of the faculty are managed effectively; • high-quality research programmes that meet the established quality assurance requirements are implemented and managed; • relevant high-quality teaching programmes that meet the internal/external quality assurance requirements are implemented and managed; • the faculty is developed in an innovative way through effective marketing with regard to students and sources, and through creating a positive image; • sufficient and well-maintained facilities and equipment are continuously available to the faculty; • and that effective administrative management is practised.
School directors	<ul style="list-style-type: none"> • Planning of goals and output for the school within the faculty’s strategic plan. • Managing and developing the human resources in the school in an effective manner, with a view to competent and motivated staff that perform optimally. • Managing the financial resources of the school effectively, through sound financial management methods and controls. • Planning, implementing and evaluating the school’s teaching-learning programmes and an effective marketing and recruitment strategy with a view to the enrolment and delivery of students within relevant teaching-learning programmes of a high quality, and in accordance with the negotiated student numbers, study levels and fields of study as contained in the three-year rolling plan of the University/faculty. • Active promotion and support of research and M and D training with the object of ensuring scientifically well-structured and quality research programmes and linked M and D training within the focus area or research unit. This has to be done in collaboration with the director of the focus area / unit. • Planning, organising and evaluating the school’s programmes for the marketing of expertise, in order to establish well-structured and source-generating programmes that support the teaching and research programmes. • Ensuring adequate and well-maintained facilities and equipment for the school. • Ensuring effective administrative management in the school. • Developing a positive image of the school through effective liaison and marketing. • Developing own professional and academic leadership and management skills, with a view to academic leadership and effective quality management in the school.

Research director	<ul style="list-style-type: none"> • Preparing and implementing a strategic research plan for the focus area / unit within the research strategy of the University and the faculty/faculties. • Expert guidance, innovation and initiative with regard to research programmes in the focus area / unit. • Preparing applications and actively attempting to obtain funds, facilities and equipment for the focus area / unit through independent initiatives and through activation of researchers' potential in this regard. • Organising and coordinating resources for the achievement of goals, including staff, M and D students, finance and equipment. • Planning and organising ways to market the research expertise of the focus area / unit by engaging in income-driven research contracts and undertaking research projects for which there is a market. • Selecting researchers to participate in the programmes in the focus area / unit, and participating in the planning of task agreements for these researchers. • Involvement in the planning of staff structures, establishment of positions and the appointment and evaluation of staff involved in the focus area / unit, with the necessary emphasis on capacity building and supplementing of expertise. • Implementing applicable quality promotion and assurance systems and mechanisms to ensure high quality research outputs. • Managing the integration with and participation of M and D students in programmes in the focus area / unit. • Developing a positive image of the focus area / unit through effective liaison and marketing. • Developing own professional and academic leadership and management skills, with a view to high-level expert guidance and research management in the focus area /unit.
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3.3 STAFF MANAGEMENT

Every academic staff member completes a task agreement form for academic staff and a personal development plan for academic staff with the school director and research director concerned annually. The directors monitor the staff member continuously. At the end of the year, they evaluate the staff member's progress according to his/her measurable outputs and an evaluative interview. This leads to a new task agreement and personal development plan for the next year.

Promotion of academic staff takes place in accordance with the central policy of the University. In the process of promotion, the Faculty recognises the National Research Foundation (NRF) evaluation that staff have acquired.

There is a separate process for evaluation of work performance and formation of a personal development plan for support staff.

3.4 QUALITY MANAGEMENT

Quality management is the responsibility of the dean, school directors and research directors. A quality manager provides support and also submits a monthly report to the faculty management committee. The quality manager is responsible for the annual revision of this Quality Manual.

3.5 MANAGEMENT OF OCCUPATIONAL HEALTH AND SAFETY

- The Faculty committee for Occupational Health and Safety consists of the safety representatives for the schools, research entities and other sections within the Faculty. The safety representatives are responsible for the general upkeep of an Occupational Health and Safety System within the sections of the Faculty. There are four scheduled meetings of the Committee per year and the Committee reports to the Campus Occupational Health and Safety Executive Committee. Safety reports are completed monthly per section within the Faculty and submitted to the Campus safety coordinator.
- All matters concerning general occupational health and safety system requirements, laboratory safety, requirements for clothing in laboratories, emergency plans, emergency equipment and removal of chemical waste, are handled by the safety representative involved. Documentation with prescriptions in this regard is available in the different sections. A document for the occupational health and safety system with standard guidelines and overall policy of the University is being drafted and is already partially available on the intranet. Training for all safety representatives and implementation of the overall Occupational Health and Safety system is planned by the campus representatives for occupational health and safety.

3.6 MANAGEMENT OF RISK

The University developed a process for risk management. In order to make identification and management of risk part of the daily work activities, the Department Internal Audit in die Office of the Registrar developed the document Guidelines for risk management to be included as part of daily operations and quality management-related activities and it is available at Internal Audit.

4 TEACHING-LEARNING

4.1 APPROACH TO TEACHING-LEARNING

In agreement with the National Education Policy for Outcomes-based Education and the level descriptors of the National Qualifications Framework, the teaching and learning approach of the NWU is one of guided, independent, outcomes-based study within a blended teaching and learning environment. The lecturer guides learners to attain the outcomes unique to a programme and its composite modules through active learning activities suitable to the level of autonomy expected of learners on a specific level of study.

The [Teaching and Learning Policy](#) of the Faculty contains full details and also contains the different role players and their responsibilities.

See [Addendum A: TEACHING AND LEARNING POLICY](#)

4.2 RESPONSIBILITIES OF SUBJECT GROUP CHAIRPERSONS

The decentralized and integrated management and financial policy aims to give greater responsibility to each individual lecturer in terms of the lecturer's teaching, research and community tasks, while, simultaneously freeing the maximum number of senior academics from managerial and administrative responsibilities. Yet there are some functions in subject groups which make the designation of a Subject group chairperson desirable and preferable:

- The primary task of the Subject group chairperson has to do with advice to the school director concerning staff utilization in teaching programmes to increase depth in the subject field. This concerns advice regarding staff utilization in teaching up to the honours degree.
- Since the division of work is closely tied to time tables, the setting of class and supervision schedules, as well as coordinating student assistants and markers to assist staff, falls within the scope of responsibilities of the Subject group chairperson. In this regard the chair may ask for help from the administrative and/or other staff in the school.
- The monitoring of student performance and decisions on student reassessments similarly fall within the responsibility of the class guardian (lecturer) and the Subject group chairperson. The class guardian or Subject group chairperson provides only a summary of course details for approval by the school director, who is responsible for the finalization of all teaching results.
- The depth in a field also depends on class and practical exemptions and therefore Subject group chairpersons provide advice in this regard to the school director. (The handling of student admission, requests and examination is according to job description the responsibility of the school director.)
- Advise the school director regarding staff requests that relate to the day-to-day functioning of the subject group, including arrangements for leave of staff members. The school director recommends these requests for approval to the dean.
- Supports the school director in the execution of the strategic policy of the school, faculty and university (as is also expected from every other member of staff).

4.3 APPROVAL OF NEW PROGRAMMES, CHANGES TO EXISTING PROGRAMMES AND TERMINATION OF PROGRAMMES

The rules of the Faculty of Natural Sciences are published in the Faculty's *Calendar*.

The calendar consists of two volumes, viz. an undergraduate and a postgraduate volume. The latter contains the rules for honours, master's and doctoral degrees.

The Administrative Manager of the Faculty has the overhead responsibility to compile the calendar and to make sure that it is updated annually.

The director of each school/unit in the Faculty is responsible for the rules that apply to the undergraduate and honours qualifications and/or curricula that belong to his/her school. The director takes the initiative when these rules are updated.

The rules for structured master's degrees are the joint responsibility of the school director and the research director involved and they will come to a mutual agreement about dividing the responsibility for changes between them. The research director is responsible for all other master's and doctoral degrees.

The directors are also responsible to make sure that the changes in rules are made in the appropriate programme documents.

Each [change of rule](#) must be approved by both Faculty Management *and* ICAS (Institutional Committee for Academic Standards) before it is published in the calendar.

See [Addendum B](#): *PROCEDURES TO BE FOLLOWED TO CHANGE A FACULTY RULE*.

4.4 MANAGEMENT OF PROGRAMMES

All programmes offered by the University must have at least the following:

- A programme owner
- A programme leader
- A programme document

4.4.1 PROGRAMME OWNERS

A school that has developed a programme and registered it in its name for purposes of subsidy is the owner of the programme. Ownership may change hands by mutual consent of schools within a faculty. If a programme does not have an owner, it may not be offered.

4.4.2 PROGRAMME MANAGERS

The programme manager, who is appointed by the school director, develops the programme, manages programme delivery and maintains the programme document on behalf of its owner.

4.4.3 PROGRAMME DOCUMENT

The [programme document](#) is the primary source of information and must therefore always be updated and be available at the school director/owner of the programme. As it is owned by a school, it is the property of that school and therefore has to comply with the structural requirements of both its owner and the University. The programme information in calendars, for example, has to correspond with the programme document, which always contains the most recent information about the programme.

See [Addendum C](#): *TEMPLATE FOR PROGRAMME DOCUMENT*

4.4.4 MODULE FILE

The Faculty requires a module file for each module. This file has to contain the following: study guide, list of outcomes in the calendar, supporting audio and digital study material, formative and summative assessment planning, class tests and assignments with memoranda, examination and test papers with memoranda, reports of internal/external moderators, examples of marked

examination answer scripts, number of enrolments and throughput rates, feedback of students on the module and on presenters of the module, as found in prescribed questionnaires and CV of the lecturers. A module file is kept for 3 years after presentation of the module. It is now policy that the module files be placed on SHARE and will not be in paper format any more.

4.5 ASSESSMENT

4.5.1 APPOINTMENT OF EXAMINERS AND MODERATORS

The school director appoints one internal examiner and at least one internal moderator in time for each paper in each module, up to honours level, that has to be examined during a specific examination opportunity. For each exit-level module of first degrees and for honours modules an external moderator is appointed every second year. For each taught module on a master's level one internal examiner plus either an external moderator or an external examiner is appointed.

As regards the examination opportunity, the list of examiners and moderators of each paper in each module of a school must be available as part of the school's records.

The Dean may request a school director from time to time to make the school's list of examiners for a specific examination opportunity available.

See [Addendum D](#): *NOMINATION OF EXAMINERS AND MODERATORS*

4.5.2 MANAGING UNDERGRADUATE EXAMINATION RESULTS

The responsibility of [managing examination results](#) first rests on the shoulders of the lecturer who examines students, and then it shifts to the Subject group chairperson who has to exercise control and eventually to the school director. The latter finalises the results (in consultation with the Dean, if necessary) and forwards them to Academic Administration staff who arranges for them to be put up on the notice board. Within seven days, the school director sends a report on the examination to the Dean.

The Administrative Manager of the Faculty controls all the results after the examination and reports to the Dean on the examination as a whole.

See [Addendum E](#): *MANAGING UNDERGRADUATE EXAMINATION RESULTS*

4.5.3 MONITORING OF STUDENT PROGRESS

- In agreement with the [Teaching and Learning Policy](#), it is the responsibility of each lecturer to regularly evaluate the progress of students. In addition, the administrative manager identifies, after each examination, students whose progress is unsatisfactory. This leads to interviews with students and parents and students receive help with study methods with the aim of improving performance.

- Faculty Management accepts that it is impossible for the Faculty to formulate a throughput rate policy for the Faculty as a whole. Most of the students attending classes in the Faculty are from other faculties and they only take one or more service modules in Natural Sciences. The basic viewpoint of the Faculty is that [pass norms](#) should rather be determined separately for each module in the Faculty. The Faculty Management Committee monitors after each examination the throughput figures in view of the pass norms by means of a [report from each school director](#).
- There is a comprehensive [process for the monitoring of the progress of postgraduate students](#), which is described elsewhere in this manual.

See [Addendum A](#): *TEACHING AND LEARNING POLICY*

See [Addendum F](#): *PASS NORMS*

See [Addendum S](#): *PROCEDURE FOR THE PROGRESS REPORTS OF POSTGRADUATE STUDENTS*

4.5.4 CONFERRING A DEGREE WITH DISTINCTION

With reference to General Rule 2.5.2 a B-degree is conferred with distinction, where the student completes the degree in the minimum period of study and has achieved a weighted average of at least 75% in the modules of the major subjects designated by H in each curriculum (core modules). See N3.6.

See [Addendum G](#): *ACHIEVING BACCALAREUS DEGREES OF THE FACULTY WITH DISTINCTION*

4.5.5 INTERNAL AND EXTERNAL MODERATING

Internal moderating takes place for both the first and second examination opportunities of all undergraduate modules which are not subjected to external moderation.

[External moderating](#) takes place for the first examination opportunity of the exit-level modules. This arrangement is for exit-level modules at undergraduate or honours level. The external moderating occurs interchangeably between the exit-level modules of the first semester and of the second semester from year to year. Each school director reports annually in February on the external moderation of the previous year. The [report](#) contains a list of the modules which were externally moderated, the names and affiliations of the external moderators and a summary of the comments of the external moderators.

See [Addendum H](#): *POLICY FOR INTERNAL AND EXTERNAL MODERATING OF EXIT LEVEL MODULES*

4.5.6 SECURITY IN ASSESSMENT

There are a number of aspects which needs attention throughout the assessment process in order to ensure [security in assessment](#). There also is a Disciplinary Procedure for students which determines action in cases of dishonesty and breaching of academic integrity.

See [Addendum I](#): *SECURITY IN ASSESSMENT AND DISCIPLINARY PROCEDURE FOR STUDENTS*

4.6 ADMISSION OF STUDENTS AND RECOGNITION OF PRIOR LEARNING

4.6.1 ADMISSION OF STUDENTS

Prospective students apply for [admission](#) to the Potchefstroom Campus of North-West University at the Admission Office of the University. This office selects students and decides whether or not applicants will be accepted as students. Faculty Management or the Dean does not participate in the selection process.

If the applications received for a programme are more than the relevant subject group will be able to manage, the group of students who has the best prospect of success in the opinion of the school director is selected for the appropriate programme. The background and potential of students are also taken into account in this selection process.

The minimum requirements for selection to the Faculty of Natural Sciences are published in its calendar every year.

4.6.2 RECOGNITION OF PRIOR LEARNING

The Faculty of Natural Sciences accepts the principles of outcomes directed, resource-based and life-long learning, in which considerations of articulation and mobility play a significant role. The Faculty subscribes to the view [that recognition of prior learning](#), whether acquired formally through teaching-learning programmes at this or another institution, or informally through experience, is an essential element in deciding on admission to a chosen teaching-learning programme and in awarding credits with a view to placement in the chosen teaching-learning programme.

Admission of students to the MSc based on a BTech is done according to the [policy](#) of the Faculty in this regard.

See [Addendum P: PROCEDURES REGARDING ADMISSION OF STUDENTS AND RECOGNITION OF PRIOR LEARNING](#)

4.7 SUPPORT OF STUDENTS

4.7.1 RECEPTION OF STUDENTS

The Faculty of Natural Sciences endeavours to give optimal support to every new student that reports at the Potchefstroom Campus of North-West University at the beginning of the year. Through this support, the Faculty wants to ensure that the student starts his/her study in the best possible way.

The Administrative Manager, faculty advisors, Subject group chairperson and school directors are available throughout the year to offer counselling to students, attend to their enquires and support them in managing their study programmes. During the [reception of new students](#) at the beginning of the academic year, the following aspects receive special attention:

- Reception of parents and students on their arrival
- Curriculum guidance
- Curriculum control
- Organisation of practical sessions
- General study orientation

See [Addendum K](#): *RECEPTION AND SUPPORT OF FIRST YEAR STUDENTS*

4.7.2 STUDENT REQUESTS

The Administrative Manager of the Faculty is currently the address for all [requests of students](#) regarding changes in enrolments, class schedule problems, absence, examination issues and related matters.

See [Addendum L](#): *PROCEDURES REGARDING STUDENT MATTERS*

4.7.3 USING THE SUPPLEMENTAL INSTRUCTION (SI) SYSTEM

The Faculty participates in the system of Supplemental Instruction of the University. More details can be found on the intranet homepage of Academic Development and Support under SI (Supplemental Instruction).

4.8 STAFF DEVELOPMENT IN TEACHING-LEARNING

4.8.1 PARTICIPATION IN WORK SESSIONS OF ACADEMIC SUPPORT SERVICES

The Faculty recommends that lecturers participate in the regular work sessions that Academic Support Services offers on the improvement of teaching-learning.

4.8.2 PARTICIPATION IN THE ITEA PROGRAMME

The *Institutional Teaching Excellence Award (ITEA)* is aimed at encouraging fulltime academic staff who is involved in contact teaching at the NWU to develop their teaching skills and provide proof driven demonstration that their teaching practices fit in an excellent way with the outcome based teaching principles which should lead to effective learning in the higher education environment.

Through the award the ITEA recognizes that an academic staff member has reached the status of excellent university teaching. The award is one mechanism to recognize this achievement. The ITEA process also provide academic staff opportunities to improve their teaching practices optimally through scheduled workshops and under supervision of an experienced academic advisor and an academic peer member from the same subject of study.

There are more details and the necessary forms on the intranet home page of Academic Development and Support.

4.9 EVALUATION OF TEACHING AND LEARNING AND IMPROVEMENT OF PROGRAMMES

4.9.1 CONTINUOUS EVALUATION AND PROGRAMME IMPROVEMENT

As part of their core tasks school directors continuously evaluate the quality of programmes and apply improvements. Reports on various aspects of this appear on the agenda of the Faculty management Committee for review. The quality manager of the Faculty provides support in this and makes submissions to the Faculty Management Committee on improvement of the quality processes concerning teaching and learning in the Faculty. A document providing guidance in this is *Criteria for Programme Accreditation* of the Higher Education Quality Committee, which is available on the website of the Institutional Quality Office and of which the criteria are mirrored in the questionnaires for internal programme evaluations.

4.9.2 STUDENT EVALUATION OF LECTURERS

The lecturer of every module must participate in an evaluation by students at least once during the semester he or she presents the module. The lecturer must make use of an instrument approved by the University (questionnaire for student feedback which appears on the website of Academic Support Services) and make sure that the data of the evaluation are recorded. This must be done under the supervision of an uninvolved person.

4.9.3 INTERNAL PROGRAMME EVALUATIONS

The Faculty takes part in [internal programme evaluations](#). School directors plan that **all** undergraduate and honours programmes in the school will be evaluated over a period of four years, i.e. a quarter of the programmes of a school will be evaluated per year. For structured M programmes, the frequency is once every five years. In this way, school directors and deans make sure that all programmes that are offered in the schools comply with minimum standards and – if necessary – are improved and developed further. The research directors, in consultation with the school directors, are responsible for the evaluation of the structured master's degrees.

Full details of the process of internal programme evaluation are contained in the document "[Guide for internal programme evaluation](#)" of the Institutional Quality Office and which is made available on the website of the Quality Office.

The Faculty approved the following steps in completing the report of an internal programme evaluation:

- The chairperson of the evaluation team is responsible for compiling the evaluation report and makes sure that the input of the representative of Academic Support Services is included.
- The chairperson then circulates the report among the members of the team for comments.
- After the comments have been dealt with, each member of the evaluation team confirms in writing agreement with the report.
- The chairperson sends the report to the school/centre director/research director concerned (if he or she is not the chairperson himself), the Quality Manager of the Faculty and the Dean.

- The Dean, with the support of the Quality Manager, and in consultation with the school director/centre director/research director concerned, reads the report and requests alterations if necessary.
- After making the alterations, the chairperson sends the final report to the Quality Manager for further finalisation by the Dean.
- The Dean sends the report with comments, if any, to the Vice-principal and to the Institutional Quality Office to be filed.
- The Vice-principal reads every report from an overhead vantage point to make sure that the self-evaluation was done truly and thoroughly and that the shortcomings identified receive thorough attention in the action plan. The Vice-principal discusses comments he may have with the Dean and school director/centre director/research director concerned and files the report in his office.
- Within six months, feedback must be given to the Quality Manager, the Dean and Vice-principal about the progress of the action plan.

See [Addendum M: GUIDE TO INTERNAL PROGRAMME EVALUATION](#)

4.9.4 EXTERNAL PROGRAMME EVALUATIONS

The Quality Office together with the Faculty annually selects the programmes that will participate in an external programme evaluation during the current year. The selection of programmes takes place by means of random sampling.

Full particulars of the process of external programme evaluation are contained in the document *Guide for External Programme Evaluation* of the Quality Office. This document is available on the website of the Quality Office.

5 RESEARCH AND POSTGRADUATE STUDIES

5.1 APPROACH TO RESEARCH AND POSTGRADUATE STUDIES

According to its research policy, the Faculty of Natural Sciences pursues the following through research:

- to add new knowledge to natural sciences by publishing scientific articles in subject journals, to deliver talks at international and national congresses and to register patents;
- to create opportunities for educating postgraduate students in natural sciences;
- to enhance undergraduate education by applying new knowledge;
- to deliver service to research organisations and associations and contribute to development of policy in this area;
- to reveal philosophical fundamentals and ethical aspects of the pursuit of natural sciences;
- to contribute to the economy of the country by means of operational projects.

By achieving these aims, the Faculty contributes to enhancing the work force capacity in the country and educates men and women that are able to think independently when they plan and conduct projects, and publish results.

See [Addendum N](#): *RESEARCH POLICY OF THE FACULTY*

5.2 ADMISSION OF HONOURS AND POSTGRADUATE STUDENTS

Students have to be selected to be admitted to a specific programme. The purpose of [selection](#) is to [admit](#) only those students who have a realistic prospect of success. Selection is based on a student's academic record and other proven appropriate prior learning, taking into account the student's background and potential.

A prospective honours student applies to the school director of the school under which the subject of intended further study falls.

For the selection of master's and doctoral students, one of the following procedures applies:

Under the direction of the research director, the research director and the school director (together with the Subject group chairperson, if necessary) decide on a supervisor/promoter and research topic.

Or:

The supervisor/promoter discusses the suggested research topic with the research director in consultation with the school director. Factors that are thoroughly considered include:

- availability of funds to finance the research;
- the question whether the research project can lead to a dissertation/thesis AND results that can be published in a realistic period of time;
- the ability of the nominated supervisor to provide constructive, expert guidance regarding the research project - the availability and accessibility of expert study guidance play a crucial role in selecting a research topic – and to ensure that, in the case of an inexperienced supervisor/promoter an experienced cosupervisor/copromotor is appointed as well;
- the work load of the supervisor/promoter;
- the way the project ties in with the programmes of the focus area/research unit.

See [Addendum O](#): *PROCEDURAL DOCUMENT: SELECTION OF HONOURS AND POSTGRADUATE STUDENTS*

See [Addendum P](#): *PROCEDURES REGARDING ADMISSION OF STUDENTS AND RECOGNITION OF PRIOR LEARNING*

5.3 GUIDING POSTGRADUATE STUDENTS

The student is [guided](#) by the supervisor/promoter in his study from day one under the supervision of the research director in accordance with the *Code of conduct for supervisors and promoters* in

the *Manual for Master's and Doctoral Studies*. Except for guidance in research and report writing, the following managerial tasks are included in guiding a student:

- The supervisor/promoter must ensure that the student registers before study is commenced and that the student re-registers every year.
- The supervisor/promoter must ensure that the student submits a [title](#) and [research proposal](#) within six months after registration or completion of the last exam to the Faculty Management, which usually meets once per month, on the prescribed forms. (See A.4.3.1.1 and A.5.3.1.1)
- The supervisor/promoter must submit the names of examiners to the research director well in advance (at least three months before submission). The directors will in turn submit the names of the examiners on the prescribed form to Faculty Management for approval.
- The supervisor/promoter must be aware of the target dates for submission of dissertations/theses for the different graduation ceremonies and must manage the completion of the student's study with these dates in mind.
- With the submission of any thesis the candidate, with the concurrence of the promoter, must submit proof that a research article was submitted to an accredited journal. (A.5.4.2.6) This requirement must be checked by the directors on the submission of theses.
- The supervisor/promoter must ensure the student give notice of his intention to submit the dissertation/thesis at least three months in advance.
- The supervisor/promoter must ensure the student complies with the requirements of language editing and technical care.

See *Addendum Q*: [REGISTRATION OF TITLES AND SUBMISSION OF RESEARCH PROPOSAL](#)

5.4 RESPONSIBILITY FOR THE MANAGEMENT OF POSTGRADUATE STUDENTS

The point of departure in managerial assignments by school and research directors regarding education and training is the following: The [school director](#) manages the programme in respect of undergraduate and honours education, and the lectured sections of master's programmes, as appropriate to the school. The [research director](#) manages the research programmes of the research entity, which includes the research sections of master's and doctoral students who work in the programmes of the focus area. In this Faculty a basic managerial principle applies that the school director and research director concerned ensure that all academic staff in the school and focus area/unit accept mutual responsibility for the success of each other's programmes.

Every school director and research director ensures that all academic staff in the school and research entity are well informed about the contents of the *Manual for Master's and Doctoral Studies*. The entire registration, research and examination process is set out in this *Manual*.

See [Addendum R](#): *MANAGEMENT OF MASTER'S AND DOCTORAL STUDENTS*

5.5 MEETINGS OF THE RESEARCH DIRECTOR, SUPERVISORS, PROMOTERS AND POSTGRADUATE STUDENTS

The supervisors/promoters and the research director concerned (and the school director concerned, if necessary) [gather in a meeting](#) during which the following items with regard to each student are discussed:

- Control that the formal matters with regard to the following are in order: registration, appointment of a supervisor/promoter, approval of a title and research proposal, appointment of examiners and notification of submission, and especially the necessity to re-register.
- Do contact and discussions between student and supervisor/promoter take place regularly?
- Does the student have free and unimpeded access to his/her supervisor/promoter?
- Is the progress of the student's study since the previous evaluation satisfactory?
- Can something be published already?
- Target date for completion of the studies.
- Are there potential internal circumstances or factors that may have an adverse effect on the study of the student? In what way can these circumstances or factors be managed so that the student will not be adversely affected?
- Are there external factors (work circumstances, marriage problems etc.) that have an adverse effect on the student's study? Can something be done about it?
- Will the student submit the dissertation/thesis on time or must special arrangements be made to make sure that the study does not spill over to the following year?
- During these meetings, master's students whose achievements are exceptional must be identified in time with a view to possible upgrading to a Ph.D. enrolment.

See [Addendum R: MANAGEMENT OF MASTER'S AND DOCTORAL STUDENTS](#)

5.6 REPORTING ON POSTGRADUATE STUDENTS

- A process to obtain progress reports with respect to the study of postgraduate students starts annually by the end of July. The administrative manager sends out the necessary forms before the end of August in order to hand them over to the research directors. (Since the M students in Business Mathematics and Informatics complete their mini-dissertations within a period of 6 months, through a well-controlled process, the procedure is not applicable to them).
- The supervisor/promoter reports on the studies of each master's and doctoral student to the research director on a prescribed form in August.
- The student also delivers a report at this time and completes the student form.
- Each research director delivers a report to the Dean on the way problems emerging from the forms have been managed. This takes place in writing on a form before the end of November.
- The dean reports to the Faculty Management Committee annually before the end of February on the number of progress reports which were not received by the research directors, the

number of problem cases which were handled and the number of warning letters which was sent out.

- In addition the administrative manager reports to the first meeting of the Faculty Board in the new academic year on the decision taken about every postgraduate student who exceeds the study period.

See [Addendum S](#): *PROCEDURE FOR THE PROGRESS REPORTS ON MASTER'S AND DOCTORAL STUDENTS*

See [Addendum S1](#): *PROCEDURE PROGRESS REPORTS FOR M AND D STUDENTS*

See [Addendum S2](#): *PROGRESS REPORT FROM STUDENT ON M OR PHD STUDY*

See [Addendum S3](#): *SUPERVISOR'S/PROMOTER'S PROGRESS REPORT ON MASTER'S OR DOCTORAL STUDIES*

See [Addendum S4](#): *REPORT OF THE RESEARCH DIRECTOR TO THE DEAN ON THE PROGRESS OF MASTER'S AND DOCTORAL STUDENTS*

See [Addendum S5](#): *PROGRESS REPORT OF POSTGRADUATE STUDENTS: REPORT FORM FOR THE DEAN TO FACULTY MANAGEMENT COMMITTEE*

5.7 REQUIREMENTS FOR MINI-DISSERTATIONS, DISSERTATIONS AND THESES

5.7.1 REQUIREMENTS

The requirements for mini-dissertations, dissertations and theses are found in the A-rules and in the *Manual for Master's and Doctoral Studies*.

5.7.2 ARTICLE FORMAT

The A-rules also allow a dissertation or thesis to be submitted in [article format](#). Examiners receive in addition an [explanatory document](#) in this regard.

The Faculty is of the opinion that it is important that master's students must acquire the skills to write an extensive research report, which is the essence of a dissertation. In view of this, an M student judges together with the supervisor and in consultation with the research director on the use of the article format in the specific study.

See [Addendum T](#): *PRESCRIPTIONS AND GUIDELINES FOR A DISSERTATION OR THESIS THAT IS SUBMITTED IN ARTICLE FORMAT*

See [Addendum Z](#): *EXPLANATORY NOTES ON THE ARTICLE MODEL FOR MASTER'S DISSERTATIONS, MINI-DISSERTATIONS AND DOCTORAL THESES IN THE FACULTY OF NATURAL SCIENCES*

5.7.3. JOINT INTERNATIONAL DOCTORAL DEGREES

The NWU approved a “Policy on joint and double degrees at master’s and doctoral level with foreign universities (Cotutelle). The Faculty has specific rules for these degrees.

See [Addendum KK](#): *JOINT (COTUTELLE) DOCTORAL DEGREE*

5.8 UPGRADING OF MASTER’S TO DOCTORAL STUDY

The A-rules provide that a student who is registered for a master’s degree and who, in the opinion of the supervisor and the research director concerned, has achieved outcomes the quality and extent of which are acceptable for a doctoral degree, may apply to the Faculty Board to change the registration for the master’s degree to a doctoral degree. The application is done in accordance with the approved [procedure](#).

Faculty Management [decided](#) that the relevant A-rule in the Faculty of Natural Sciences is interpreted in such a way that the registration for a master’s degree cannot be changed to a doctoral degree after examination of the master’s dissertation.

See [Addendum U](#): *UPGRADING OF MASTER’S REGISTRATION TO DOCTORAL REGISTRATION*

5.9 ASSESSMENT OF POSTGRADUATE STUDENTS

5.9.1 NOMINATION OF EXAMINERS

5.9.1.1 EXAMINERS FOR M STUDENTS

Examiners for master’s students must comply with the requirements of A.4.4.3 that reads thus:

A.4.4.3.1 For the examination of every dissertation or mini-dissertation at least two examiners, of which at least one must be an external examiner, must be appointed by the dean in accordance with the provisions of the applicable faculty rules and in consultation with the research director or research entity leader concerned, or where applicable, the school director concerned to conduct the assessment of the student’s performance in an examination.

A.4.4.3.2 The names of the examiners are not made known to the candidate without the permission of the examiners concerned.

A.4.4.3.3 No examiner of a dissertation or mini-dissertation may in any manner have been involved in the supervision of the student.

5.9.1.2 EXAMINERS FOR D STUDENTS

Examiners for doctoral students must comply with the requirements of A.5.4.3 that reads thus:

A.5.4.4.1 The examiners of a thesis are requested to provide an assessment of the question whether the thesis contains proof that the candidate has made a distinct scholarly

contribution to the knowledge and insight in the field and of originality, either by way of the pronouncement and dissemination of new facts or by means of the exercise of independent critical skills.

A.5.4.4.2 The promoter, co-promoter or assistant promoter does not communicate or negotiate with the examiners about the examination after the examination copies of the thesis have been dispatched to the examiners.

A.5.4.4.3 Each examiner separately submits a written report on the thesis to Academic Administration (post-graduate), which provides the examiners' reports to the research director or research entity director concerned, or where applicable, to the school director concerned, for processing and finalization by the faculty board concerned.

5.9.1.3 ADDITIONAL GUIDELINES FOR EXAMINERS

In view of the emphasis on demonstrable quality control, Faculty Management has approved a further number of [guidelines](#) for the nomination of examiners for master's and doctoral degrees.

See [Addendum V](#): *NOMINATION OF EXAMINERS FOR DISSERTATIONS AND THESES*

5.9.2 GUIDELINES TO EXAMINERS

The guidelines for the examiners for the masters' degree and the doctoral degree, together with the recommendation forms for the examiners, are contained in the following documents:

See [Addendum W](#): *GUIDELINES TO EXAMINERS FOR EVALUATING A DISSERTATION OR MINI-DISSERTATION FOR THE MASTER'S DEGREE*

See [Addendum X](#): *RECOMMENDATIONS OF EXAMINERS REGARDING MASTER'S DISSERTATION/MINI-DISSERTATION*

See [Addendum W](#): *ADMINISTRATIVE PROCESS FOR THE EXAMINATION OF MINI-DISSERTATIONS FOR BUSINESS MATHEMATICS AND INFORMATICS*

See [Addendum Y](#): *GUIDELINES FOR THE EXAMINATION OF A THESIS FOR A DOCTORAL DEGREE*

See [Addendum Z](#): *EXPLANATORY NOTES ON THE ARTICLE MODEL FOR MASTER'S DISSERTATIONS, MINI-DISSERTATIONS AND DOCTORAL THESES*

See [Addendum AA](#): *RECOMMENDATION OF EXAMINER REGARDING A DOCTORAL THESIS*

5.9.3 RESULTS OF EXAMINATION

Faculty Management approved the following [administrative guidelines](#) for dealing with the reports of the examiners and finalising the results of postgraduate studies:

- After all the reports on a candidate's dissertation/thesis have been received, i.e. as soon as the last report has been received, Postgraduate Administration sends copies of ALL examiners' reports to the research director involved. The research director transmits the reports to the supervisor or promoter. (See A.4.4.4.4 and A.5.4.4.3).

- The supervisor/promoter writes a summative report and completes the summative report form for a [dissertation](#) or [thesis](#) in which the results of the examination are recommended. This summative report and the summative report form are handed over to the research director.
- The research director deals with the results and makes a decision according to the prescriptions of the A-rules and the document [Guidelines for managing master's and doctoral results](#) of the Faculty in consultation with the school director (and the Dean, if necessary).
- After a decision on the results has been made by the research director in consultation with the school director (and the Dean, if applicable), the research director completes the final results form for either a [master's degree](#) or a [doctoral degree](#). The research director sends this properly signed form and the complete file to Administrative Manager for submission to the Postgraduate Examination Committee (consisting of the dean and the research directors) and confirmation by Faculty Management.
- The results are made known by Postgraduate Administration after confirmation by Faculty Management.

See [Addendum DD](#): *GUIDELINES FOR MANAGING MASTER'S AND DOCTORAL RESULTS*

See [Addendum HH](#): *ADMINISTRATIVE ARRANGEMENTS FOR MANAGING MASTER'S AND DOCTORAL EXAMINATION RESULTS*

5.9.4 DISTINCTIONS FOR HONOURS AND MASTER'S DEGREES

A student acquires an honours of master's degree with distinction if the average mark of ALL the modules (including the dissertation) of the relevant curriculum is 75% or more. In calculating the average mark, the credits of each module must be regarded as a weight factor.

If a student has taken additional modules, i.e. modules apart from those prescribed in the relevant curriculum, these modules are NOT taken into account in calculating the average mark.

5.10 NOMINATIONS FOR THE S2A3 MEDAL AND THE VICE-CHANCELLOR'S MEDAL

The Faculty participates annually in the nomination of graduates who received their M degree with distinction for the S₂A₃ medal and the Vice-Chancellor's medal, which are prestige awards and of which the selection is done by a selection committee of the University. The Faculty has its own [selection process](#) for this purpose.

See [Addendum GG](#): *NOMINATIONS FOR THE S2A3 MEDAL AND THE VICE-CHANCELLOR'S MEDAL*

5.11 STAFF DEVELOPMENT IN RESEARCH

The Faculty deems the development of the research of young and promising staff so important that all members of the Faculty decided to accept joint responsibility for it. Full particulars on the different steps and regular reporting are found in the document [Development of promising young researchers](#).

See [Addendum II](#): *DEVELOPMENT OF PROMISING YOUNG RESEARCHERS*.

5.12 EVALUATION OF RESEARCH AND POSTGRADUATE EDUCATION

5.12.1 CONTINUOUS EVALUATION OF RESEARCH AND POSTGRADUATE EDUCATION

As part of their core tasks the research directors evaluate on a continuous basis, the quality of programmes and implement improvements. Reports in this regard serve at the Faculty management Committee for review. The quality manager of the Faculty provides support in this and makes submissions to the Faculty management Committee on improvement of the quality processes especially concerning postgraduate education within the Faculty.

5.12.2 INTERNAL EVALUATION OF RESEARCH AND POSTGRADUATE EDUCATION

The Faculty ties in with the university-wide internal evaluation of research and postgraduate education that take place according to a fixed schedule. Internal evaluations are the task of the Research Support Commission and the arrangements are the responsibility of the Director of Research Support. Reports of these evaluations appear in the agendas of the Institutional Committee for Research and Innovation and the Research Directors together with the Dean are responsible for the handling of the recommendations.

5.12.3 EXTERNAL EVALUATION OF RESEARCH AND POSTGRADUATE EDUCATION.

External evaluations take place by external peer panels at an international level according to a fixed schedule. The Director of Research Support is responsible for organising these evaluations. Reports of the evaluations appear in the agendas of the Institutional Committee for Research and Innovation and the Research Directors together with the Dean are responsible for the handling of the recommendations.

5.12.4 INTERNAL AND EXTERNAL EVALUATION OF POSTGRADUATE EDUCATION

The quality of the master's and doctoral programmes are strongly dependent on the quality of the research programmes with which they are associated and in the evaluations of the research programmes this aspect receives attention. However, the delivery of the postgraduate programmes themselves, requires various processes which should also be subjected to quality evaluation. These processes are not concerned so much with the content of the research projects, but more with aspects such as admission, supervision and assessment. For the purpose of internal and external evaluation of these and related processes, there are questionnaires and accompanying guidelines available on the web site of the Institutional Quality Office. The Faculty participates in these evaluations...

6 IMPLEMENTATION OF EXPERTISE AND COMMUNITY ENGAGEMENT

6.1 SHORT COURSES

The Faculty offers short courses of which the aims are as follows:

- to facilitate access to learning in a structured manner in terms of cost, time, energy and support;
- to contribute to continuous professional development; and
- to contribute to upgrading of skills and knowledge that will ensure success in a specific learning area.

The University distinguishes between credit-bearing and non-credit-bearing short courses, but all short courses must be registered at the University and conform to the quality requirements of the University. All applications for new courses serve for approval at the Faculty Management Committee, which then submits them to higher bodies.

Full particulars may be found in the [Policy for the Presentation of Short Courses at the NWU](#), which describes the central policy of the University and which available on the website of the NWU.

6.2 COMMERCIALISING OF RESEARCH AND EXTERNAL PROJECTS

The Faculty strives after a culture of entrepreneurial attitudes and therefore promotes cooperation with external parties. In this regard, the Faculty makes sure that intellectual property is protected and that formal cooperative agreements are concluded. The research directors of the Faculty are responsible for managing these agreements on projects within the research entities and the Director Technology Transfer and Innovation Support offers support. See also the [*central Policy for the management of research and innovation contracts*](#) which is available on the website of the University.

6.3 CONTINUOUS EVALUATION AND IMPROVEMENT

As part of their core tasks, school directors and research directors continuously evaluate the quality of short courses and external projects as under their supervision and implement improvements.

7 QUALITY SCHEDULE

In the table below a number of procedures that have to be completed regularly are indicated in the first column. In the second column, the frequency and target dates are indicated and in the third column the responsible person. The paragraph numbers in the third column refer to paragraphs in this *Quality Manual*.

PROCEDURE	FREQUENCY/TARGET DATE	RESPONSIBLE PERSON	PARAGRAPH
Rule changes	Before 7 June annually	Directors	4.2
Nomination of examiners and moderators for module examinations	Before each examination.	School directors	4.4.1
Examination report	Within 7 days after completion of each examination	School directors	4.4.2
Evaluation of throughput figures	February and August annually	Administrative Manager	4.4.3
External peer moderating of exit modules	Exit-level modules annually taking turns for modules of the first and second semesters	School Directors	4.4.5
Report of external moderating	February yearly	School directors	4.4.5
Student evaluation of lecturer	During each semester	Lecturers	4.8
Internal programme evaluation	Every four years	Quality Manager	4.9
Meeting of research director with supervisor/promoters	At least twice a year	Research Directors	5.5
Reporting by supervisors/promoters and master's and doctoral students on progress	August annually	Research Directors	5.6
Report by research directors to Dean on progress of master's and doctoral students	November annually	Research Directors	5.6

Report on master's and doctoral students who exceed the maximum duration of study	February annually	Administrative Manager	5.6
Nomination of examiners for dissertations, mini-dissertations and theses	At least three months before the student submits. Through a submission to the Faculty Management Committee	Research Directors	5.9.1
Development of promising young researchers	Continuously and after each PhD graduation ceremony	Dean	5.10.

ADDENDA

A TEACHING AND LEARNING POLICY

The teaching and learning policy and procedures of the Faculty of Natural Sciences is based on the Teaching and Learning Policy of the NWU and has the following point of departure:

In agreement with the National Education Policy for Outcomes-based Education and the level descriptors of the National Qualifications Framework, the teaching and learning approach of the NWU is one of guided, independent, outcomes-based study within a blended teaching and learning environment. The lecturer guides learners to attain the outcomes unique to a programme and its composite modules through active learning activities suitable to the level of autonomy expected of learners on a specific level of study.

The guidelines and the procedures are formulated in compliance with the General Academic Rules of the NWU and Senate decisions.

The procedures are applicable to all the Faculty's teaching and learning programmes. The procedures must be read in conjunction with the Teaching and Learning Policies, as well as the Assessment and Moderation Policies of the NWU. The procedures support the most important principles contained in the above policies.

1 STUDENT ADMISSION

Admission to any programme in the Faculty is granted in accordance with the Admissions Policy of the University, the General Academic Rules and the specific rules of the Faculty as set out in the relevant yearbook. Where applicable, exemption cases are dealt with in accordance with the Policy for the Recognition of Prior Learning (RPL). The final responsibility rests with the relevant School Director (programme owner), who is assisted by the relevant programme leader or Subject group chairperson person in the application of the policy.

2 TEACHING METHODS

- The teaching methods applied must comply with the outcomes-based teaching and learning approach espoused by the NWU.
- A learner-centred teaching-learning approach is pursued; aimed at fostering self-regulated, reflective, self-directed and creative problem-solving learner conduct amongst students.

3 E-LEARNING AND BLENDED LEARNING

- The Faculty is working actively to create a teaching and learning environment of blended learning, where technology is utilized to provide on and off campus students with a learning environment which makes optimal use of direct personal contact and e-learning. The Faculty view of blended learning and e-learning appears beneath.

- Blended learning is the integration (or fusion) of thoughtfully selected complementary teaching and learning approaches and technologies based on educational merit as determined by factors such as the pedagogical context, the nature of the discipline and the learning material, and the profile of the students, so that the strengths of each are blended into a unique learning experience. It is a fundamental redesign that transforms the structure of, and approach to, teaching and learning embedded in a range of delivery modalities.
- E-learning is technology-supported learning and refers to structured learning opportunities mediated through software applications. Each learning unit is provided with process and product outcomes. The choice of digital learning material (text, audio and/or video files) has the purpose of guiding students in the most effective way to master the set outcomes. E-learning can be offered in- time or through data which is made available so that they can master it according to a prescribed schedule. E-learning platforms provide excellent integration possibilities to facilitate and support blended learning.

4 TEACHING-LEARNING AIMS

In accordance with its vision, aims and strategy the Faculty wants to deliver students that have attained specific outcomes at different levels at the end of their studies. The levels of the specific outcomes are in agreement with the levels of the National Qualification Framework (NQF).

4.1 UNDERGRADUATE TEACHING-LEARNING

The aim of undergraduate teaching-learning is to equip students with expertise and appropriate skills at degree level in the field of natural sciences so that they will find opportunities for continuing personal intellectual development, value-added economic activities and rewarding contributions to the community. Continuing to equip the student scientifically takes place from a perspective of value.

The specific outcomes are the following:

4.1.1 KNOWLEDGE

- The student will be able to integrate basic knowledge and techniques of natural sciences in order to be able to solve problems in science and society. This knowledge comprises knowledge of concepts and structures, procedures and techniques, theories, principles and research methods.
- The student will have knowledge of and insight into the coherence of disciplines in the field of natural sciences.

4.1.2 SKILLS

The student will be empowered to –

- disclose, apply, analyse, integrate and evaluate knowledge fundamentally in an independent way;
- communicate knowledge scientifically in different media;
- conduct research on a limited scale and develop knowledge;
- think and act critically and creatively in solving problems;
- act as an entrepreneur and intrapreneur;
- implement expert skills in a community environment.

4.1.3 VALUES AND ATTITUDES

The student will, from the perspective of fundamental values –

- know and appreciate concepts like fulfilment of vocation and a readiness to be of service;
- respect his/her fellow human, creation and authority;
- think and act according to principles as regards sociological issues;
- demonstrate integrity, perseverance, accuracy and preciseness;
- be aware of the necessity to ensure continual competency and to keep abreast of the latest technology and techniques, and to be able to remain involved in life-long learning by well-developed learning skills.

4.2 HONOURS

The aim of honours education is to provide a student who has already attained a first degree in a field of natural sciences, or a qualification recognised to be of equal value, further rounding off of his/her expertise in the field of natural sciences, so that he/she will find opportunities for continuing personal intellectual development, value-added economic activity and awarding contributions to the community. Continuing to equip the student scientifically takes place from a value-driven perspective.

The specific outcome objectives are the following:

The outcomes described above for undergraduate studies are still pursued in honours studies, but now with an emphasis on a particular discipline or on a few disciplines in natural sciences. At the end of the honours studies, the knowledge, skills, values and attitudes that the student has already acquired will be further refined with an emphasis on accompanying research skills.

4.3 MASTER'S DEGREE

The aim of the master's degree is to provide a student that has already attained a first degree and/or an honours degree in the field of natural sciences, or a qualification recognised to be of equal value, further broadening of his/her expertise and appropriate skills in a specific discipline of natural sciences, so that he/she will find opportunities for continuing personal intellectual

development, value-added economic activity and awarding contributions to the community. Continuing to equip the student scientifically takes place from a value-driven perspective.

In the case of studies for the master's degree, the outcomes set in 3.1 and 3.2 are rounded off and further refined.

Furthermore, the student who has completed this programme will be well informed about the general scientific method of research, focussing on the particular research methodology of research, and emphasising the particular research methodology of one natural science core discipline. This outcome includes:

- identification and scientific formulation of a problem statement;
- a thorough investigation of existing knowledge as reflected in appropriate scientific literature;
- conducting appropriate research to solve the problem;
- scientific evaluation of the results in the context of the problem statement;
- scientific communication of the results in the form of a mini-dissertation or dissertation.

The research component of master's degree education takes place in accordance with the research policy of the Faculty.

4.4 DOCTORAL DEGREE

The aim of doctoral education is to enable a student that has already a master's degree in the field of natural sciences, or qualifications recognised to be of equal value, to provide proof by means of a doctoral thesis that he/she can make a definite contribution to the development of new knowledge and/or appropriate skills in a single discipline of natural sciences. Such a contribution will provide the student with opportunities for continuing development, value-added economic activity and awarding contributions to the community. Continuing to equip the student scientifically takes place from a value-driven perspective.

The student in this programme will achieve the specific outcomes stated below:

The student will write a thesis of high technical quality (with reference to language, illustrations, tables, graphic representations etc.) that will demonstrate that the student -

- has skills in quantitative and qualitative research methodology and in scientific writing;
- is able to perform the following by integrating the above-mentioned skills and as a result of thorough investigation of existing knowledge as reflected by appropriate scientific literature:
 - identify a relevant research problem;
 - conduct the required research to solve the problem;
 - evaluate the results scientifically in the context of the problem statement;
 - communicate the results scientifically.
- Doctoral education takes place in accordance with the research policy of the Faculty.

5 INTEGRATED ASSESSMENT

Integrated assessment of the achievement of outcomes will take place at the different levels by means of a variety of strategies.

5.1 UNDERGRADUATE TEACHING-LEARNING

5.1.1 Formative assessments can include:

- individual and group assignments that cover creativity, revelation of knowledge and application of appropriate methodologies and computer implementation, group communication and reporting;
- with reference to the previous point, individual and group discussions in class context in which the development of the student's scientific communication skills will be evaluated;
- continuous written class tests to assess theoretical and practical subject knowledge and the ability to solve problems practically;
- excursions and training in practice during which functioning in the context of a team is assessed amongst others;

5.1.2 Summative assessments include:

- a final examination on theoretical subject knowledge and practical problem solving skills, with special emphasis on questions testing critical outcomes, such as the identification and solving of problems, responsible decision-making and critical and creative thought.
- group presentations, group assignments and individual presentations on theoretical knowledge of skills.

5.1.3 External moderating of examination papers and answer sheets:

- External and internal moderators are nominated for exit modules. For all other modules there are internal moderators. The prescriptions in this regard appear in the Faculty Quality Manual.

5.2 HONOURS

5.2.1 Formative assessments include:

- individual as well as group assignments (where applicable) that comprise creativity, revelation and application of knowledge with appropriate methodologies and computer implementation, group communication and reporting;
- with reference to the previous point, individual and group discussions in class context in which the development of the student's scientific communication skills are evaluated.

5.2.2 Summative assessments include:

- written and/or oral middle and final examinations on theoretical subject knowledge, practical problem solving skills and experimental abilities, with special emphasis on questions that test critical outcomes, such as identification and solving of problems, responsible decision-making and critical and creative thought;
- writing a scientific report on a project assignment with a view to introduce the student to the research methodology of the relevant discipline;

- class discussions and assignments that deal with issues pertaining to the relationship between science and society from a value-driven perspective.

5.3 MASTER'S DEGREE

Integrated assessment to ensure that the aim of the qualification is achieved, takes place by means of a variety of strategies which include the following:

- compiling a research proposal under supervision of the supervisor and director of the appropriate research entity for approval by Faculty Management;
- continuous evaluation of the quality of the research by the supervisor and report back;
- annual progress reports by the supervisor as well as the student to the director of the appropriate research entity;
- final examination of the dissertation or mini-dissertation by a panel of internal and external examiners.

5.4 DOCTORAL DEGREE

Integrated assessment to ensure that the aim of the qualification is achieved takes place in the same way as for the master's degree, with the following additional requirements:

- The promotor must continually assure that the research is done on the appropriate scientific level leading to new insights in the discipline;
- The candidate, with approval of the promotor must provide proof that a research paper has been submitted to an accredited journal.

6 STAFF

- The Faculty expects its academic staff to be actively involved in undergraduate and postgraduate teaching-learning.
- Academic staff members are responsible for the quality of the modules which were agreed on with them during the discussion of their task agreements.
- The Faculty expects lecturers to attend seminars, workshops and/or training sessions to enable them to be knowledgeable about the latest teaching-learning strategies and technology.
- When staff is appointed, attention must be given to the teaching record and potential of candidates.
- A candidate's teaching record is taken into consideration in staff promotions.
- Training in teaching is given to newly appointed lecturers.
- The quality of modules is measured continuously (also by the students involved).

- Lecturers must keep abreast of the university regulations with regard to teaching-learning. The documents involved are available at the following web address: http://www.nwu.ac.za/content/policy_rules
- For each module, a study guide and/or e-guide must be compiled. This is done under supervision of the school director involved.
- The lecturer ensures that suitable study material is available to students and plans and organises the teaching and learning environment in such a way that optimal teaching and learning can take place.
- Within the learning environment lecturers have to encourage students to be independent by making the necessary adjustments in respect of the teaching-learning strategies.
- The lecturer takes care of regular evaluation of the progress of students and speedy feedback of the evaluation to the students, including making available the memorandums (preferably electronically) of all formative assessment opportunities.
- The lecturer must identify all students who perform poorly and propose remediating measures.
- With a view to maintaining a high level of teaching-learning, lecturers are encouraged to participate in the Institutional Teaching Excellence Award (ITEA) programme.
- The teaching and learning activities of staff in schools involved in the UNISA programme of the Department of Life Sciences take place in accordance with the document Management Policy of the Department concerned.
- The school director and director(s) of the research entity (entities) within which the staff members involved work, come to an agreement on the use of each staff member in order to attain the teaching and research aims for the next year.
- The school and research directors conduct performance agreement discussions with each staff member based on the division of teaching obligations and of the research expectations.

7 SUBJECT GROUP CHAIRPERSON

For each subject group in a school a Subject group chairperson is appointed who has the responsibility to support and advise the school director and appropriate research director(s) in respect of matters that have an influence on the depth of the subject.

8 FINANCIAL POLICY ON TEACHING

The Faculty gives financial support to staff to promote teaching by budgeting for:

8.1 STAFF SUPPORT

- Visits abroad
- Attendance of congresses and conferences (in South Africa and abroad)

- Enabling visits of experts from abroad to a staff member or research environment.
- Master's and doctoral bursaries for staff.

8.2 ACADEMIC INFRASTRUCTURE SUPPORT

This budgetary appropriation is used to buy expensive specialised apparatus, small capital items and computer equipment with a view to afford quality research and teaching.

8.3 OPERATIONAL COSTS

This budgetary appropriation is intended for the operational expenses of schools, with the main emphasis on support of teaching-learning programmes.

8.4 TEMPORARY STAFF

- Assistance with theoretical and practical teaching-learning, including markers and demonstrators
- Administrative support by non-academic staff
- Temporary lecturers because of existing vacancies

Budgeting for the above-mentioned aims takes place during the Faculty's annual budget process.

9 MANAGING TEACHING-LEARNING

9.1 SCHOOLS

Teaching and learning take place in the Faculty within schools which consist of one or more subject groups(s). The management of teaching and learning in a specific school is an integral part of the management task of the school director. The Dean is responsible to make sure from an overhead perspective that the teaching aims of the Faculty, as described in this document, are realised in every school.

9.2 FACULTY MANAGEMENT

Faculty Management is responsible for

- periodical revision of the Faculty's
- stimulation of teaching development in the Faculty;
- managing the involvement of the Faculty in actions connected to the academic orientation of first years.

9.3 CONFIRMATION OF EXAMINATION RESULTS

- The school director in consultation with the examiners of that module approves the final examination results in each module.
- After each examination opportunity the Administrative Manager receives the complete examination results of the Faculty and controls the results to
 - identify students achieving degrees;
 - identify students achieving degrees with distinction;
 - identify students whose progress is not satisfactory and with whose parents an interview is conducted with a view to improving the student's achievement;
 - identify students who continuously perform poorly, with a view to termination of such students' studies;
 - determine if there are any significant tendencies in the examination results;
 - report to the Dean on the outcome of the examinations as a whole.
- Finalisation of the examination of master's and doctoral students takes place according to the guidelines set by Faculty Management in the document Management of master's and doctoral students.

9.4 ADMINISTRATIVE MANAGEMENT OF STUDENT AFFAIRS

The Faculty has a Requests Committee, which consists of the Dean and Administrative Manager and deals with all special student requests. These requests concern matters like the following:

- curriculum changes;
- exemption from prerequisites and parallel requirements set for modules;
- subject recognitions;
- class exemptions;
- permission to take extra modules;
- permission to enrol at two universities or for two qualifications simultaneously.

The procedural regulations concerning these matters and matters like changes in timetables, and special regulations of Senate on which students may base their requests to be excused from classes and tests because of sports and cultural duties, are set out in the procedural document [Procedures regarding student matters](#) of the Faculty.

9.5 EXAMINATION ADMISSION

Admission to an examination may be refused if students do not provide sufficient proof of participation (as indicated in the study guides involved) during the semester. A full description of the form and scope of proof of participation must be provided in the study guide.

9.6 TIMETABLE SHIFTS

No time table shifts may be made without the permission of the School Director involved and the Timetable Committee. Timetable problems must be submitted in writing to the School Director and the Timetable Committee.

9.7 STUDY MATERIAL

- Approved prescribed study material and additional support material for each module must be readily available to all students concerned.
- Where applicable, copy right clearance and reference must occur according to legal and NWU requirements.
- Study material must satisfy requirements of quality which include recency and technical quality.

10 TEACHING COMMITTEE

The Faculty has a Teaching Committee which functions according to the following guidelines:

10.1 PURPOSE

The Teaching Committee is a subcommittee of the Faculty Management Committee and advises the Faculty Management and Faculty Board on matters with respect to teaching and learning and the promotion of the quality thereof.

10.2 MEMBERSHIP

The membership of the Teaching Committee is as follows:

- The directors of the schools and the Centre for BMI, of which the Dean appoints one as chairperson.
- The Dean
- The Administrative Manager who serves as secretary.
- An academic staff member from each of the schools based on expertise and interest in matters of teaching and learning, appointed in consultation with the Dean.
- The Quality Manager.
- A representative of Academic Support Services.
- The chairpersons of the Academic Student Societies.
- Other members appointed by the Dean.

10.3 MEETINGS

The Teaching Committee meets twice per year, before each of the two meetings of the Faculty Board, so that the minutes can be placed on the agenda of the Faculty Board via the Faculty Management Committee. The Administrative Manager schedules the meeting dates.

Urgent interim matters are handled by an executive committee consisting of the chairperson, dean and administrative manager. In exceptional cases the executive committee may convene a special meeting of the Teaching Committee.

10.4 TERMS OF REFERENCE

The Teaching Committee handles matters as stated in its purpose above and, more specifically, the following matters which are fixed points on the agenda:

- Development and implementation of policy for teaching and learning.
- Improvement of teaching practice.
- Promotion of research in teaching and teaching innovation.
- Handling of matters concerning teaching and learning as referred to the Faculty by the institutional and campus management bodies.

Matters such as the following can also be on the agenda from time to time:

- Institutional Teaching Excellence Award (ITEA)
- Supplemental Instruction

The chairperson ensures that the agenda is limited to the mentioned matters and not matters which directors and other functionaries can handle by themselves.

B PROCEDURES TO BE FOLLOWED TO CHANGE A FACULTY RULE

1 INTRODUCTION

The rules of the Faculty of Natural Sciences are published the calendar of the Faculty. The calendar consists of two volumes, namely an undergraduate and a postgraduate volume. The latter contains rules for honours, master's and doctoral degrees.

2 RESPONSIBILITY

The Administrative Manager has the overhead responsibility for compiling the calendar and for having it updated if necessary. The director of each school/unit in the Faculty is responsible for the rules that apply to the undergraduate and honours qualifications and/or curricula that belong to the school and takes the initiative when these rules have to be updated.

The rules for structured master's degrees are the joint responsibility of the school director and the research director involved and they will come to a mutual agreement about dividing the responsibility for changes between them. The research director is responsible for all other master's and doctoral degrees.

The directors are also responsible to see that the rule changes are made in the appropriate programme documents.

3 PROCEDURES

3.1 GENERAL

- Every rule change must be approved by Faculty Management and by ICAS (Institutional Committee for Academic Standards) before they may be included in the calendar.
- Directors must submit the proposed rule changes in such good time to Faculty Management that the latter is able to approve the proposed changes before they submit them to ICAS.
- Submission to ICAS must be made on the prescribed forms according to the procedures prescribed by ICAS.
- **The whole process must be completed by the first week in June, because the calendar has to be handed in on 30 June to be checked by Academic Administration.**

3.2 PROCEDURES FOR SUBMISSIONS TO FACULTY MANAGEMENT

- Changes on a specific page of the calendar must be made by means of “Track Changes” on an electronic copy of that page in a WORD document. The calendar is electronically available from the Administrative Manager.
- Changes on different pages of the calendar may be submitted in one WORD document, provided each relevant page of the calendar is found on a new page in the WORD document.
- Changes that refer to different qualifications, e.g. BSc and BSc in IT, must be submitted in different WORD documents.
- Undergraduate and postgraduate rule changes must be submitted in different WORD documents.
- A specific change occurring on several pages of the calendar only has to be submitted once. It is made on the page where it occurs the first time as described in 1 above. Together with the document indicating the change by way of “Track changes”, the school director submits a list containing the page numbers on which the change has been made every time, as well as the different curriculum numbers in which the change occurs. Example: If module FSKN111 would be replaced by module FSKN113, the change must be submitted by indicating it on the page of the calendar where the change is made the first time, as explained in 1 above. A list containing the page numbers on which the change must be made every time, as well as the curriculum numbers in which this change occurs, is submitted together with the document indicating the change by way of “Track changes”.
- All the different rule changes that a school wishes to submit in a specific year must be submitted simultaneously. If changes at any other time can truly not be avoided, they must be very clearly indicated in a later submission.
- The manuscript of the calendar in which all the changes approved by Faculty Management and ICAS appear will be submitted for control to all school directors, centre directors and research directors involved. It remains the responsibility of all of these directors to make sure that the rule changes that they have made and that have been approved appear in the correct changed version in the calendar.

3.3 AFRIKAANS AND ENGLISH COPIES

As the calendars of the Faculty are published in Afrikaans and English, each change, as described in 3.2, must be submitted in Afrikaans and English.

3.4 FORMATTING

The Administrative Manager is responsible for formatting the manuscript before it is submitted to the directors for control. In the submitted documents, the directors do not have to spend time on formatting, provided the submitted documents are unambiguous and not susceptible to different interpretations.

C TEMPLATE OF PROGRAMME DOCUMENT

During the time of distribution of this revised quality manual, the previous template for a programme document is not in use anymore. In the meantime the ICAS form 5 for programme alignment is used. This form is available on the website of academic support services.

D NOMINATION OF EXAMINERS AND MODERATORS

1 APPROPRIATE A-RULES

A.2.4.1 (Footnote)

- "Examiner" means the person who conducts the assessment of students' performance in an examination. In the case of a doctoral degree "examiner" means the person who conducts the assessment of a candidate's thesis.
- An "internal examiner" is the lecturer in the module concerned who also conducts the examination of that module. In the case of a master's degree an "internal examiner" is the lecturer in the module concerned who also conducts the examination of that module, or in the case of the examination of a dissertation or mini-dissertation, a person in the employ of the University who was not involved in the supervision of the candidate concerned. In the case of a doctoral degree an "internal examiner" is a person in the employ of the University who was not involved in the supervision of the candidate concerned.
- An "internal moderator" is in the employ of the University.

A.4.4.3.1 (Foot note)

An "external examiner" is a person not in the employ of the University and who conducts the examination of a module. In the case of a master's degree an "external examiner" is a person not in the employ of the University and who conducts the examination of a module, mini-dissertation or dissertation. In the case of a doctoral degree an "external examiner" is a person not in the employ of the University and who conducts the examination of a thesis.

A.1.8.1 (Foot note)

A "moderator" is a person who was not personally involved in the teaching of the module in question and who is asked to do one or more of the following, namely to assess whether the syllabi and study guides meet the required standards, assess whether the examination questions meet the required standard and are based on the syllabus and study guide of the module concerned, determine the degree in which the required outcomes have been achieved by the students who passed the examination, assess whether the awarding of marks in an examination was done in a fair and consistent manner, and make recommendations regarding the content, presentation and examination of a module.

A.1.8 Avoidance of conflict of interest

A.1.8.1 The dean must ensure, in consultation with the research director or research entity leader concerned, or where applicable, the school director concerned, that the risk of conflict of interest is limited to the minimum when examiners, supervisors, promoters and moderators are appointed, in particular at postgraduate level.

A.2.4.1 Examiners and moderators (First degrees, diplomas and certificates)

A.2.4.1.1 For every non-exit level module there is at least one internal examiner and at least one internal moderator.

A.2.4.1.2 Every exit-level module is moderated externally at least every second year by a person or persons with the required qualifications, provided that such a person or persons may not be a staff member or otherwise connected to the University by way of an extraordinary appointment.

A.3.4.1 Examiners and moderators (Honours degrees)

A.3.4.1.1 The provisions of A.2.4.1 apply adapted as required to honours programmes.

A.3.4.1.2 The supervisor of an honours mini-dissertation may not be an internal examiner of such a mini-dissertation

A.4.4.3 Examiners and moderators (Master's degrees)

A.4.4.3.1 For the examination of every dissertation or mini-dissertation at least two examiners, of which at least one must be an external examiner, must be appointed by the dean in accordance with the provisions of the applicable faculty rules and in consultation with the research director or research entity leader concerned, or where applicable, the school director concerned to conduct the assessment of the student's performance in an examination.

A.4.4.3.2 The names of the examiners are not made known to the candidate without the permission of the examiners concerned.

A.4.4.3.3 No examiner of a dissertation or mini-dissertation may in any manner have been involved in the supervision of the student.

A.5.4.3 Examiners (Doctoral degrees)

A.5.4.3.1 For the examination of every thesis at least three examiners must be appointed by the dean in accordance with the provisions of the applicable faculty rules and in consultation with the research director or research entity leader concerned, or where applicable, the school director concerned, of which the majority must be external examiners attached to different institutions.

A.5.4.3.2 The names of the examiners are not made known to the candidate without the permission of the examiners concerned.

A.5.4.3.3 No examiner of a thesis may in any manner have been involved in the supervision of the student

2 PROCEDURES

2.1 LECTURED MODULES

- The school director appoints a first internal examiner and a further internal examiner well in advance for each paper in each module that has to be examined during a specific examination opportunity (Note: During the distribution of this version of the Quality manual, the practice is still to appoint at least one internal examiner and an external or internal moderator until there is greater clarity on the implications of the new A-rule). For each exit-level module of

first degrees, the school director also appoints one examiner/moderator from outside the University with a moderating function. For each honours module the school director appoints one internal (first) and a further internal (second) examiner as well as an examiner/moderator external to the University (see A.5.4.2 and A.6.4.2) (The external moderating occurs interchangeably between the exit-level modules of the first semester and of the second semester from year to year.)

- As regards each examination opportunity the list of the examiners and moderators for each module in the school concerned must be available as part of the records of that school.
- The Dean may request a school director from time to time to make available the list of examiners for a specific examination opportunity.

[External moderating](#) occurs for the first examination opportunity of the exit-level modules. This applies to exit-level modules both on undergraduate and honours level.

2.2 MINI-DISSERTATIONS, DISSERTATIONS AND THESES

- The research director must nominate examiners on the prescribed form of the Faculty of Natural Sciences, as prescribed in rules A.4.4.3 and A.5.4.3 well in advance for the examination of each postgraduate mini-dissertation, dissertation and thesis in the research entity, in consultation with the appropriate school director. In these nominations, the document [Nomination of examiners for dissertations and theses](#) of the Faculty of Natural Sciences must be thoroughly consulted.
- Faculty Management decided that these nominations take effect only after the Dean has approved them.
- The Faculty Officer, who is responsible for the administration of postgraduate students of the Faculty, puts the signed nomination forms approved by the Dean into the files of the students concerned.
- There is a central budget for the honoraria of the external examiners.

E **MANAGING UNDERGRADUATE EXAMINATION RESULTS**

Faculty Management approved the work method set out below to ensure that thorough quality control is applied in managing undergraduate examinations.

1 **MANAGEMENT IN THE FACULTY**

Every lecturer first manages his/her students' marks (if necessary, in consultation with the moderator of the examination paper) in the light of the school's pass norm for the relevant module. Most (if not all) marginal cases are considered and finalised at this point. Problem cases and the possible adjustment of marks must be discussed with the Subject group chairperson.

If the lecturer is satisfied that the mark-sheet is in order he/she signs it and hands it over to the chairperson. The chairperson checks if deviations occur in respect of the normal expectations with regard to the pass norm and averages in the specific module and if marginal cases have not slipped through. If deviations occur, the lecturer must report briefly on their nature and the attempts made to correct them.

If the chairperson is satisfied that the mark-sheet is in order, he/she signs it and sends it to the school director. According to the A-rules, the final responsibility rests with the school director, who will examine the mark-sheet. If a deviation of 10% or more from the pass norm occurs, the director must consult the Dean before he approves the results. After the school director has approved the results, he sees that the marks are transferred to Examination Administration in the prescribed manner and that the results are placed on the notice board.

The school director makes sure that the target dates for finalisation of the examinations and for transfer of marks to Examination Administration is adhered to in his school. If anticipated, possible delays are discussed with Examination Administration beforehand.

After every examination opportunity, the school director compiles a report on the examinations conducted in his school. The reports of the school directors are sent to the Dean within one week after the examination has been completed.

These guidelines must be read together with the document [Pass norms](#) of the Faculty

2 **CONFIRMATION OF EXAMINATION RESULTS**

- The final examination results in each module are approved by the school director in consultation with the examiners of that module, as described above.
- After each examination opportunity the Administrative Manager receives the complete examination results of the Faculty and controls the results to –
 - identify students achieving degrees;
 - identify students achieving degrees with distinction;
 - identify students whose progress is not satisfactory and with whose parents an interview is conducted with a view to improving the student's achievement;

- identify students who continuously perform poorly, with a view to termination of such students' studies;
- determine if there are any significant tendencies in the examination results;
- report to the Dean on the outcome of the examinations as a whole.

F PASS NORMS, EXAMINATION RESULTS AND THROUGHPUT FIGURES

1 VIEWPOINT

Faculty Management accepts that it is not possible to formulate a policy on the throughput of students for the Faculty as a whole. Most of the students in the Faculty are from other faculties and they only take one or more service modules in the Faculty. The basic viewpoint of the Faculty is that pass norms should rather be determined separately for each module in the Faculty.

2 PASS NORMS

For purposes of reporting to the Dean in view of subsidies, a final combined pass norm is calculated for both examination opportunities in respect of the number of students enrolled on the day of count. The pass norms of the Faculty are: First year: 70%, Second year: 75%, Third year: 80%.

This document ought to be read together with the document [Procedural management of undergraduate examinations](#) of the Faculty.

3 PASS NORMS AND EXAMINATIONS RESULTS

The examination results of each module must be confirmed by the school director concerned BEFORE the marks are finally transferred. The school director examines the examination results according to the examination pass norms. If a negative deviation larger than 10% from this norm is found the relevant results are finalised in consultation with the Dean.

After the second examination opportunity at the end of every semester, the school director must send a list of the throughput rate for each module of the school to the Dean. This throughput rate is calculated for every module as follows:

$$\text{Throughput rate} = \frac{\text{Total number of students that passed both examination opportunities}}{\text{Number of students that are registered on the day of count}}$$

The school directors report to the dean on the following form.

FACULTY OF NATURAL SCIENCES: THROUGHPUT FIGURES UNDERGRADUATE

SUBJECT GROUP _____

EXAMINATION OPPORTUNITY: _____
 (Eg. July 2014)

Module code	Number of students registered on the official counting day (First semester - 15 March) (Second semester - 22 September) (Numbers available with the Administrative Manager)	Number of students passed in first examination opportunity	Number of students passed in second examination opportunity	Number of students passed - Total of first and second opportunities (In case a student wrote the exam in both opportunities only the second opportunity is counted. Compute by hand)	Pass figure % (Percentage passed after the second opportunity out of all enrolled on the official counting day)	Pass norm % (Percentages passed after the second opportunity out of number enrolled on the official counting day) First year: 70% Second year: 75% Third year: 80%	Deviation from norm (Indicate + or - in front of the figure)	Marks adjusted (YES or NO) (If YES give details in the next column)	Comments: Explain negative deviations (-) greater than 10%. Explain positive deviations (+) greater than 10%. In case of adjustment of marks indicate why and by how much). Other relevant comments.

SIGNATURE: SUBJECT GROUP CHAIRPERSON SIGNATURE: SCHOOL DIRECTOR

DATE: _____

DATE: _____

G ACHIEVING BACCALAUREUS DEGREES OF THE FACULTY WITH DISTINCTION

With reference to General Rule 2.5.2 a B-degree is conferred with distinction, where the student completes the degree in the minimum period of study and has achieved a weighted average of at least 75% in the modules of the major subjects designated by H in each curriculum (core modules). See N3.6.

For purposes of calculating the average, modules completed at other institutions and that are recognised as such by the NWU, must be taken into account.

H. POLICY FOR THE INTERNAL AND EXTERNAL MODERATING OF EXIT LEVEL MODULES

H1. Guidelines for the internal moderating of undergraduate modules

1 Stipulations of the A rules

According to A.2.4.1.1 there is, for each module which is not on exit level, at least one internal examiner and at least one internal moderator.

2 Procedures for the appointment of internal moderators

- The School Director appoints on time for each examination paper of each module which is examined during a specific examination opportunity, in addition to at least one internal examiner, also at least one internal moderator.
- For modules on the first level of which corresponding modules are presented at other campuses, the School Director appoints additionally, for each such campus, an internal moderator from that campus. The moderators from other campuses moderate only the examination papers and not the answer papers.
- For each examination, the list of the examiners and moderators of each examination paper of each module of the school involved, must be available as part of the records of the school.
- The dean may, from time to time, request the list of examiners and moderators of a school.

3 Availability of documentation

For each module to be moderated the lecturer must provide the internal moderators with the information / documentation listed below. This must be done in such good time that the examination papers may be handed in on time at the examination section. The documents are:

- a study guide of the relevant module;
- supporting study material **only if necessary** (e.g. name of prescribed textbook, CD/DVD etc.);
- copies of the examination papers;
- copies of the memorandums;
- the date on which the reports (I and II separately) ought to be submitted.

4 Moderation process

- Internal moderation occurs at both the first and second examination opportunities.
- The moderation of answer papers must be completed within the 7 working days which are available for marking. Special permission must be obtained from the administration of the Faculty of natural Sciences in cases where the marks will not be available within the 7 days after the examination.
- Examination results are not finalised or made known before the internal moderation has not been completed.

5 Guidelines/prescriptions to internal moderators

5.1 The examination papers

It is expected from the moderator –

- to comment on the extent to which an examination paper is a fair, just, representative and adequate test of the learning contents of the module;
- to determine whether the examination questions conform to the outcomes set in the study guide (and the level descriptor);
- to make certain that an examination paper is of such a length that it may be reasonably expected from the candidates to complete the examination paper within the allocated time;
- to make certain that the examination questions are clear and unambiguous;
- to make certain that the examination questions reflect the required standard;
- to evaluate the marks-value of the examination questions;
- to evaluate whether the memorandum correlates with the examination questions and the syllabus; and
- to complete internal moderator's report I, which covers the above points, and return it to the lecturer involved.

5.2 Answer papers

It is expected from the moderator –

- to mark a sample of the answer sets (at least 10 for small groups and at least 10% for larger groups) in full, including all borderline cases for pass or fail and for the achievement of a distinction;
- to compare the performance of the group in the examination with the participation marks of the group and to make recommendations;
- to take into account the faculty pass norms based on both examination opportunities of 70% for first year modules, 75% for second year modules and 80% for third year modules.
- to comment on the fairness, precision and consistency of the marking of the examination answers by completing the Internal Moderator's Report II.

6 Moderator's report

After possible corrections as recommended by the internal moderators, the completed reports I and II of the moderators are provided to the school director. The lecturer places copies of all documents in the module file.

H2. Interne Moderatorsverslag I / Internal Moderator's Report I

Moderering van vraestel en memorandum / Moderation of examination paper and memorandum

AFDELING 1 / SECTION 1

Vir voltooiing deur NWU (PK) interne eksaminator / To be completed by NWU (PC) internal examiner

Titel en naam van interne eksaminator / Title and name of internal examiner	
Titel en naam van interne moderator / Title and name of internal moderator	
Naam van module / Module name	
Modulekode / Module code	
Eksamendatum / Examination date	

Vir moderering / For moderation

Dokumentasie ter insae vir die interne moderator met die oog op verslagdoening / Documents attached for the attention of internal moderator with a view to reporting:

Trek 'n X waar van toepassing / Mark with an X if applicable	
Eksamenvraestel / Examination paper	
Nasienskema of memorandum / Marking scheme or memorandum	
Studiegids / Study guide	

Antwoord asseblief die volgende vrae deur 'n kruisie (X) in die gepaste blokkie te trek. / Please answer the following questions by making a cross (X) in the appropriate box.

- 1 Die vrae in die vraestel assesseer die module-uitkomste soos in die studiegids gestel. / The questions in the paper assess the module outcomes as set in the study guide.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 2 Die vrae in die vraestel assesseer kennis en vaardighede op die gepaste universiteitsvlak. (Die moeilikheidsgraad is gepas: assessering van 80% kennis en 20% hoërvlak denke op eerstejaarsvlak, 60 % kennis en 40% hoërvlak denke op tweedejaarsvlak en 40% kennis en 60% hoërvlak denke op derdejaarsvlak) / The questions in the paper assess knowledge and skills at the appropriate university level. (The degree of difficulty is appropriate: assessment of 80% knowledge and 20% higher level thinking on first year level, 60 % knowledge and 40% higher level thinking on second year level and 40% knowledge and 60% higher order thinking on third year level).

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 3 Die punttoekennings is gepas, die punte is duidelik sigbaar op die vraestel en is korrek opgetel. / The allocation of marks is appropriate, the marks are clearly visible on the examination paper and added correctly.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 4 Die tydsduur van die vraestel is gepas. / The time duration of the examination paper is appropriate.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 5 Die vrae is duidelik geformuleer en die taalgebruik en vertaling (korrektheid van spelling en grammatika asook duidelikheid van betekenis) is gepas. / The questions are clearly formulated and the language use and translation (correct spelling and grammar as well as clarity of meaning) are appropriate.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 6 Die memorandum is voldoende en sluit voorgestelde antwoorde / assesseringskriteria vir alle vrae in. /The memorandum is sufficient and includes suggested answers / assessment criteria for all questions.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 7 Is daar enige ander opmerkings wat u oor die vraestel en/of memorandum wil maak? / Are there any other remarks you would like to make on the examination paper and/or memorandum?

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Moderator se voorletters en van /
Initials and surname of moderator

Handtekening van moderator /
Signature of moderator

Datum/ Date

H3. Interne Moderatorsverslag II /Internal Moderator's Report II

Moderering van antwoordstelle / Moderation of answer papers

AFDELING 1 / SECTION 1

Vir voltooiing deur NWU (PK) interne eksaminator / To be completed by NWU (PC) internal examiner

Titel en naam van interne eksaminator / Title and name of internal examiner	
Titel en naam van interne moderator / Title and name of internal moderator	
Naam van module / Module name	
Modulekode / Module code	
Eksamendatum / Examination date	

Vir moderering / For moderation

Dokumentasie ter insae vir interne moderator met die oog op verslagdoening / Documents attached for attention of internal moderator with a view to reporting:

Trek 'n X waar van toepassing / Mark with an X if applicable	
Al die antwoordstelle / All the answer papers	
Eksamenvraestel / Examination question paper	
Nasienskema of memorandum / Marking scheme or memorandum	
'n Puntestaat (met name van studente, deelname-, eksamen- en finale punte, plus gemiddelde punte behaal in die module, aantal kandidate wat sak en aantal wat met onderskeiding slaag) / A mark-sheet (with names of students, their participation marks, examination marks and final marks, plus average marks obtained in the module, number of candidates that fail and number that pass with distinction)	

Antwoord asseblief die volgende vrae deur 'n kruisie (X) in die gepaste blokkie te trek. / Please answer the following questions by making a cross (X) in the appropriate box.

- 1 Die punte is korrek opgetel en verdere berekenings is korrek. / The marks are added correctly and further calculations are correct.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

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- 2 Die merker gebruik die memorandum/nasienskema gepas (diskresie word gebruik wanneer van toepassing) en daarom is die merkwerk konsekwent en billik. / The marker uses the memorandum/marketing scheme appropriately (discretion is used when applicable), and therefore the marking is consistent and reasonable.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 3 Dit is duidelik hoe die merker die punte toeken uit wat die merker op die antwoordstelle aanteken/ It is clear how the marker assigns the marks from what the marker writes on the answer papers.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 4 Die punteverspreiding vir die vraestel is gepas./The distribution of marks for the examination paper is suitable.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 5 Dui asseblief aan hoeveel antwoordstelle en/of vrae u gemodereer het / Please indicate the number of answer papers and/or questions you have moderated

--

- 6 Enige verdere opmerkings / Any further remarks

Moderator se voorletters en van
Initials and surname of moderator

Handtekening van moderator
Signature of moderator

Datum/Date

H4. Guidelines for the external moderation of exit level modules

1 Point of departure

According to A.2.4.1.2 each exit level module is externally moderated at least once in two years by a person or persons who have the applicable qualifications and with the understanding that the person or persons may not be a staff member and may also not be connected to the University through an extraordinary appointment.

2 Requirements set regarding the appointment of external moderators

An external moderator (from outside NWU) must be a senior academic, i.e. at least a senior lecturer with an appropriate PhD degree, or a person from the public sector / private sector / industry, with an appropriate qualification.

Moderators must at least be able to read and understand Afrikaans well. With a view to the preference of having the external moderator on campus, it is recommended that he or she should be connected to a nearby university/institution.

3 Procedures for appointing external moderators

Every lecturer involved approaches an appropriate external moderator. As soon as this person agrees to officiate as moderator, the lecturer forwards the person's details to the director. Directors present a list of appropriate external moderators to the Executive Committee of the relevant school. This name list must also contain the postal address, email address and telephone number(s) of each of the nominated external moderators.

For each module to be moderated the lecturer must provide the external moderators with the information / documentation listed below. This must be done in such good time that the examination papers may be handed in on time at the examination section. The documents are:

- a letter with detail about the requirements of the moderation process;
- a study guide of the relevant module;
- supporting study material only if necessary (e.g. name of prescribed textbook, CD/DVD etc.);
- a copy of the examination paper;
- a copy of the memorandum;
- the date on which the examination will take place;
- the date on which the reports (I and II separately) ought to be submitted; and
- an honorarium form HR/ADM 13A to be completed, and 13B to be only signed by the external moderator.

4 Moderation process

External moderation of a module takes place at the first examination opportunity of the exit level modules at undergraduate and honours level.

The moderation process may take place in one of two ways, either on campus or off-campus. If possible, moderation should be done on campus. Presently, it seems to be the most functional and obvious option.

External moderation preferably takes place on the NWU campus during the course of one day. The lecturer concerned establishes cooperation with the moderators. An effort must be made to finalise the examination marks (and therefore complete the moderation) within seven days after the examination. Should the marks not be ready within seven days after completion of the examination, special

permission must be obtained from the Administration of the Faculty of Natural Sciences to postpone the date on which the marks will be available.

Examination results are not finalised or made known before the external moderation has been completed.

5 Guidelines / Prescriptions to external moderators

5.1 The examination papers

It is expected from the moderator –

- to comment on the extent to which an examination paper is a fair, just, representative and adequate test of the learning contents of the module;
- to determine whether the examination questions conform to the outcomes set in the study guide (and the level descriptor);
- to make certain that an examination paper is of such a length that it may be reasonably expected from the candidates to complete the examination paper within the allocated time;
- to make certain that the examination questions are clear and unambiguous;
- to make certain that the examination questions reflect the required standard;
- to evaluate the marks-value of the examination questions; and
- to complete the External Moderator's Report I and return it to the lecturer concerned, as well as to complete and return the honorarium form 13A and the signed form 13B.

5.2 Answer papers

It is expected from the moderator –

- to mark a sample of the answer sets (at least 10%) in full;
- to evaluate whether the memorandum correlates with the examination questions and the syllabus; and
- to comment on the fairness, precision and consistency of the marking of the examination answers by completing the External Moderator's Report II.

5.3 Moderator's report and honorarium form

After the lecturer has made corrections that may have been recommended by the moderator, he or she submits the completed Moderator's Report I and II to the school director. The lecturer also completes the honorarium form 13B (only sections 1 to 2.1.1) and forwards the signed (moderator) form 13B (completed further by the lecturer) and honorarium form 13 A (completed by the external moderator) to the school director. The lecturer files copies of the documents in the module file. The school director forwards forms 13A and 13B to the Administration of the Faculty of Natural Sciences to be finalised.

5.4 Target date

After completion of the examination, all documentation with which the external moderator has been provided, together with his or her report, must be returned to the school director at the earliest possible opportunity.

6 Report on external moderation

The school director compiles a synoptic report for the administration of the Faculty of Natural Sciences. Where necessary the dean discusses the reports with the director. The evaluation report and the comments of the director are then presented to Faculty Management and preserved centrally by the Administrative Manager with a view to quality management.

H5. Eksterne Moderatorsverslag I / External Moderator's Report I

Moderering van vraestel en memorandum / Moderation of examination paper and memorandum

AFDELING 1 / SECTION 1

Vir voltooiing deur NWU (PK) interne eksaminator / To be completed by NWU (PC) internal examiner

Titel en naam van eksterne moderator / Title and name of external moderator	
Werkgewer van eksterne moderator / Employer of external moderator	
Kontakbesonderhede van eksterne moderator / Contact details of external moderator Posadres / Postal address Werkstelefoonnr. / Work telephone no. Selnr. / Mobile no. E-posadres / Email address	
Naam van module / Module name	
Modulekode / Module code	
Eksamendatum / Examination date	

Vir moderering / For moderation

Dokumentasie ter insae vir die eksterne moderator met die oog op verslagdoening / Documents attached for the attention of external moderator with a view to reporting:

Trek 'n X waar van toepassing / Mark with an X if applicable	
Brief aan moderator / Letter to moderator	
Eksamenvraestel / Examination paper	
Nasienskema of memorandum / Marking scheme or memorandum	
Studiegids / Study guide	
Honorariumvorm MH/ADM 13A / Honorarium form MH/ADM 13A	

Antwoord asseblief die volgende vrae deur 'n kruisie (X) in die gepaste blokkie te trek. / Please answer the following questions by making a cross (X) in the appropriate box.

1 Die vrae in die vraestel assesseer die module-uitkomste soos in die studiegids gestel. / The questions in the paper assess the module outcomes as set in the study guide.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

2 Die vrae in die vraestel assesseer kennis en vaardighede op die gepaste universiteitsvlak. (Die moeilikheidsgraad is gepas: assessering van 80% kennis en 20% hoërvlak denke op eerstejaarsvlak, 60 % kennis en 40% hoërvlak denke op tweedejaarsvlak en 40% kennis en 60% hoërvlak denke op derdejaarsvlak) / The questions in the paper assess knowledge and skills at the appropriate university level. (The degree of difficulty is appropriate: assessment of 80% knowledge and 20% higher level thinking on first year level, 60 % knowledge and 40% higher level thinking on second year level and 40% knowledge and 60% higher order thinking on third year level).

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

3 Die punttoekennings is gepas, die punte is duidelik sigbaar op die vraestel en is korrek opgetel. / The allocation of marks is appropriate, the marks are clearly visible on the examination paper and added correctly.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

4 Die tydsduur van die vraestel is gepas. / The time duration of the examination paper is appropriate.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

5 Die vrae is duidelik geformuleer en die taalgebruik en vertaling (korrektheid van spelling en grammatika asook duidelikheid van betekenis) is gepas. / The questions are clearly formulated and the language use and translation (correct spelling and grammar as well as clarity of meaning) are appropriate.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 6 Die memorandum is voldoende en sluit voorgestelde antwoorde / assesseringskriteria vir alle vrae in. /The memorandum is sufficient and includes suggested answers / assessment criteria for all questions.)

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 7 Is daar enige ander opmerkings wat u oor die vraestel en/of memorandum wil maak? / Are there any other remarks you would like to make on the examination paper and/or memorandum?

Moderator se voorletters en van /
Initials and surname of moderator

Handtekening van moderator / Datum/ Date
Signature of moderator

H6. Eksterne Moderatorsverslag II/External Moderator's Report II

Moderering van antwoordstelle / Moderation of answer papers

AFDELING 1 / SECTION 1

Vir voltooiing deur NWU (PK) interne eksaminator / To be completed by NWU (PC) internal examiner

Titel en naam van eksterne moderator / Title and name of external moderator	
Werkgewer van eksterne moderator / Employer of external moderator	
Kontakbesonderhede van eksterne moderator / Contact details of external moderator Posadres / Postal address Werkstelefoonnr. / Work telephone no. Selnr. / Mobile no. E-posadres / Email address	
Naam van module / Module name	
Modulekode / Module code	
Eksamendatum / Examination date	

Vir moderering / For moderation

Dokumentasie ter insae vir eksterne moderator met die oog op verslagdoening / Documents attached for attention of external moderator with a view to reporting:

Trek 'n X waar van toepassing / Mark with an X if applicable	
Al die antwoordstelle / All the answer papers	
Eksamenvraestel / Examination question paper	
Nasienskema of memorandum / Marking scheme or memorandum	
'n Puntetaal (met name van studente, deelname-, eksamen- en finale punte, plus gemiddelde punte behaal in die module, aantal kandidate wat sak en aantal wat met onderskeiding slaag) / A mark-sheet (with names of students, their participation marks, examination marks and final marks, plus average marks obtained in the module, number of candidates that fail and number that pass with distinction)	

Antwoord asseblief die volgende vrae deur 'n kruisie (X) in die gepaste blokkie te trek. / Please answer the following questions by making a cross (X) in the appropriate box.

- 1 Die punte is korrek opgetel en verdere berekenings is korrek. / The marks are added correctly and further calculations are correct.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 2 Die merker gebruik die memorandum/nasienskema gepas (diskresie word gebruik wanneer van toepassing) en daarom is die merkwerk konsekwent en billik. / The marker uses the memorandum/marketing scheme appropriately (discretion is used when applicable), and therefore the marking is consistent and reasonable.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 3 Dit is duidelik hoe die merker die punte toeken uit wat die merker op die antwoordstelle aanteken/ It is clear how the marker assigns the marks from what the marker writes on the answer papers.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 4 Die punteverspreiding vir die vraestel is gepas. / The distribution of marks is appropriate.

Ja / Yes	
Nee / No	

Opmerkings / Remarks:

- 5 Geen student of groep studente word deur die nasienwerk bevoordeel of benadeel nie. / No student or group of students are favoured or put at a disadvantage by the marking.

Ja / Yes	
Nee / No	

Opmerkings/ Remarks

--

6 Dui asseblief aan hoeveel antwoordstelle en/of vrae u gemodereer het / Please indicate the number of answer papers and/or questions you have moderated:

--

7 Enige verdere opmerkings / Any further remarks

Moderator se voorletters en van
Initials and surname of moderator

Handtekening van moderator
Signature of moderator

Datum/Date

I SECURITY IN ASSESSMENT AND DISCIPLINARY PROCEDURE FOR STUDENTS

I1. SECURITY

The Faculty Management decided that the following aspects should receive attention throughout the assessment process in order to ensure security in assessment:

1 HANDLING OF EXAMINATION PAPERS AND ANSWER SHEETS

- Locking of offices and cupboards where examination papers and answer sheets are handled.
- Use of passwords for examination papers which are in electronic form.
- Destruction of paper copies of draft examination papers.
- Forwarding of paper copies of examination papers in sealed envelopes.
- Printing of examination appears only inside the office where possible and under proper supervision at other printers or at the examination department.
- Storing and destroying answer books are handled according to the procedure for these purposes.

2 WORKING WITH MARKS

- Person who enters marks has access only to the module involved in the marks system. School directors regularly verify access in view of movement of staff.
- Control of marks list against answer sheets.
- Control that numbers shown on moderator reports are correct.
- Control of the correctness of pass and fail on marks lists.
- Adjustment of marks is done according to policy.
- Distinguish marks of students with the same surname through use of student numbers.
- Control that calculation of participation marks agree with prescription in study guides.

3 PROBLEMS CONCERNING FORMATIVE ASSESSMENT (TESTS)

- Language editing of examination papers by the lecturer involved and with help of the internal moderator.
- Moderating semester tests.
- Security arrangements when tests are written.
- Control over the number of students writing a test through control with the number of answer sheets.
- Control over the accuracy of marks without depending on complaints of students as control.

- Control arrangements concerning remarking and disputes about marks by drawing in, e.g. the marker involved.
- Control arrangements concerning the marking of tests by markers, such as where they do the marking and under what conditions.

4 ACADEMIC DISHONESTY

- Correct handling of all academic dishonesty and the following of disciplinary procedures by lecturers.

5 INTERNAL MODERATING

- There is a moderator’s report for each examination paper.
- Moderator’s reports are done using a standard form.

12. STORING AND DISPOSING OF OLD ANSWER BOOKS OF EXAMINATIONS

The disposal of old answer books is done according to paragraph 4 in the NWU document *Procedure for the disposal of records* which is available at the Institutional Office.

Answer books must be stored for a period of at least 3 years and in order to achieve uniform handling of records throughout the NWU, they may not be held for longer than 3 years and made available to students. Since space for storing old answer books is limited, the disposing of old answer books should be carried out every 6 months (end of each semester).

Complete Section 1 of the Destruction certificate which is contained in paragraph 4 of the Procedure (it is on page 8 of the procedure). Use the file plan number 8.1.7.2.3, followed by the module code, eg. 8.1.7.2.3-WISN211 and the disposal instruction D3. Choose and underline “Shredding” and indicate the contractor as “Technical Services”. Then it is not necessary to complete a reason for the destruction method. Send it to the Department Record Management and Administration (internal box number 211).

The Department Record Management and Administration provides a disposal destruction number and notes it in the Destruction Register of the NWU (this destruction register is a judicial document which indicates that the documents have been legitimately destroyed. Section 3 of the document is sent back to the applicant. The priority method for the destruction is that the person who requests the destruction then sends a request together with the destruction number for Technical Services to send a waste paper company to fetch the answer books and destroy them.

The person who hands over the answer books to the waste paper company, completes Section 3 of the procedure document and sends it, together with the destruction certificate which the waste paper company supplies to Technical Services/the person, to the Department Record Management and Administration.

It is important that this procedure will be followed accurately, since the lecturer and/or the administrative staff member could incur legal liability and be held responsible in terms of the NWU Record Management

Policy if the records are not destroyed in accordance with this procedure and there should come a request for access to information in terms of the Law for the Promotion of Access to Information (2 of 2000).

13. DISCIPLINARY MATTERS STUDENTS

1. DISCIPLINARY RULES AND DISCIPLINARY OFFICE FOR STUDENT

The [*Student Disciplinary Rules of the NWU*](#) is available on the NWU website.

The stipulation in 2 (1) reads as follows:

- Except for cases involving less serious offences at residence level, any charge concerning the behaviour of a student as contemplated in paragraph 81 of the Statute is laid with the person designated by the Vice-Chancellor for that purpose.
- At the Potchefstroom Campus There is a Disciplinary Office for Student Matters within the office of the Campus Registrar where these charges are laid in terms of the above mentioned stipulation.

2. WAY OF LAYING CHARGES IN CASE OF TRANSGRESSIONS BY STUDENTS

- The agreement with the Legal Office is that transgressions of students are reported directly to the Disciplinary Office for Student Matters and that there will be no preliminary processes in the Faculty. An important advantage of such action is that all the reported cases are then handled in the same way and the necessary record keeping is done centrally. Another advantage is that the staff member concerned is involved as little as possible in the disciplinary process, which prevents that the relationship with the student is harmed too much.
- Even smaller transgressions such as copying of homework assignments or dishonesty during class tests can be reported without hesitation. Since the Disciplinary Office for Student Matters is prepared to also handle such smaller matters. It is often not necessary to convene a full disciplinary committee and an office hearing by a single expert person takes place, a suitable punishment is allocated and an inscription is made in the academic record of the student (According to paragraph 4 of the disciplinary rules mentioned above, a summary hearing follows in cases where the student pleads guilty. If the student pleads not guilty, a hearing by a disciplinary committee follows).
- Lecturers report transgressions as soon as possible directly to the Disciplinary Office for Student Matters with notification to the School Director involved (and to the Research director in case this also affects postgraduate research).
- Reporting is done using a form which is available from the Disciplinary Office. If applicable documentary evidence are submitted with the form and names of witnesses provided. The staff member who submitted the report, receives acknowledgement of receipt. Further feedback concerning the matter will be sent from the Disciplinary Office for Student Matters to the Administrative manager, who will pass it on to the director and staff member concerned.

- In cases of dishonesty during long tests, the supervisor takes the answer sheet from the student and gives the student another answer book, in which the student then completes the test. In case of a very short test, the student may complete the test on the same answer sheet. In all cases the answer book or sheet should be submitted together with the submission form.

3. PREVENTATIVE ACTION BY STAFF

3.1 DISCUSSION WITH STUDENTS ON DISHONESTY

- Staff should, especially at the beginning of a semester, discuss with students the importance of academic integrity and honesty with reference to the [*Policy on Plagiarism and other forms of Academic Dishonesty and Misconduct*](#).
- During academic orientation of first year students, they will also be informed of this.
- In a discussion with students, a staff member should explain the policy on dishonesty and also provide examples of what will be seen as cheating and which kind of cooperation between students will be allowed and not be allowed. Here there should be reference to different kinds of assignments and accompanied ways of assessment. It is also useful to discuss with students how to prepare for examinations and tests, so that they will not feel a need for cheating.
- Staff members also should explain the rules and procedures of the University in case of alleged dishonesty. Students should know that, in such cases, they will be subjected to disciplinary procedures, but that these procedures are just and that they will be protected against false or unjust allegations.
- It is also important that students will know that education offered by universities, is scholarly in nature and that scholarly integrity is highly regarded. Students should simultaneously understand that, in future careers, dishonesty will not be tolerated and that they should prepare themselves for this while still at the university. Dishonesty at university level not only exposes the student, but also fellow students, future and past students, since dishonesty creates suspicion about the quality, credibility and recognition of degrees of the North-West University.

3.2 GUIDELINES TO REDUCE DISHONESTY DURING TESTS

The following can contribute to reduce opportunities for dishonesty during tests:

- Communicated clearly what students may bring with them to class during tests (pencil, pen, pocket calculator) and what they may not bring (headphones, cell phones, backpacks, pencil case).
- Provide clarity on allowable material in case of an open book test (text book, with or without written remarks, class notes or not).
- Try to know the names and faces of students, but if the class is too big, arrange for identification of each student through the showing of a student card, especially when handing in an answer sheet.
- Arrange for students not to sit directly next to each other and if this is not possible try to arrange for a bigger room. Or, alternatively, assign seats randomly, so that friends do not sit next to each other. Try to use a room with a flat floor.
- Wearing caps or hats which can hide wandering eyes should not be allowed.

- Arrange for at least two different question papers in case of large classes. It can be useful to use different colours for the different question papers.
- Get help with supervision, but ensure that the class lecturer is personally present.
- Ensure that there is a culture that tests are fair and just, so that students do not become desperate and turn to dishonesty. To achieve this, it will be helpful if the class lecturer will work through the tests beforehand in order to check the feasibility of the questions as well as the allotted time.

J PROCEDURES REGARDING ADMISSION OF STUDENTS

1 UNDERGRADUATE

Prospective students apply at the Admission Office of the University to be admitted to the Potchefstroom Campus of North-West University. This Office selects students and decides whether or not to accept them. Faculty Management or the Dean does not participate in this selection process.

The minimum requirements for admission to the Faculty of Natural Sciences are annually published in the calendar of the Faculty.

2 HONOURS AND POSTGRADUATE

Prospective honours students apply to the school director of the school under which the subject in which they want to further their studies falls. This selection takes place in accordance with the rules of the Faculty as published in die calendar of the Faculty and according to the document [*Procedural document: Selection of honours and postgraduate students*](#).

The selection for master's and doctoral degrees is performed by the research director in consultation with the school director concerned, taking into account article 3.2 of the Faculty's policy document [*Procedural document: Selection of honours and postgraduate students*](#).

3 EQUITY

If applications received for a programme are more than the subject group concerned is able to manage, the group of students who has the best prospect of success in the opinion of the school director is selected for the relevant programme. The background and potential of students are taken into account in this selection process.

K RECEPTION AND SUPPORT OF FIRST YEAR STUDENTS

1 GENERAL

The Faculty of Natural Sciences endeavours to give optimal support to every new student who reports at the Potchefstroom Campus of North-West University at the beginning of the year to ensure that the student starts his study in the best possible way.

The Administrative Manager, faculty counsellors, Subject group chairperson and school directors are available throughout the year to provide counselling to students, answer their questions and support them to manage their study programmes. Full details about the reception and introduction of students may be found in the document *Student matters* of the Faculty.

2 RECEPTION OF PARENTS AND STUDENTS

Within the framework of the *Programme for the reception and introduction of first years*, the Faculty of Natural Sciences organises a reception for new first years and their parents on the day the students have to report at the Potchefstroom Campus. During this occasion for making acquaintances, staff representing every subject is present to supply general information to parents and students.

3 CURRICULUM COUNSELLING

During following days, calendars and registration documents, timetable booklets and information about faculty counsellors are distributed to all first years and a counselling session takes place during which the Administrative Manager of the Faculty provides intensive counselling to students on matters such as the following:

- the structure of academic programmes in the Faculty;
- available programmes and curricula in each programme;
- how to go about in selecting an appropriate curriculum;
- completion of curriculum control forms of the Faculty.

Thereafter, the student receives the curriculum control form for the specific curriculum for which he/she has registered.

The Administrative Manager and faculty counsellors will be available in their offices during the whole week to give advice to individual students.

4 CURRICULUM CONTROL

On a following day, representatives of all schools and subjects in the Faculty are available in a central venue to make sure that each student's curriculum control form has been completed correctly. Opportunities are available to students to request individual counselling. If the curriculum control form has been completed correctly, a staff member signs it and the student may proceed to register.

5 DIVIDING PRACTICAL SESSIONS

In the *Programme for the reception and introduction of first years* one afternoon is set aside for dividing practical sessions among students. All students from faculties involved with natural sciences come together in designated venues for this important action. After this session, each student will know where to find his/her practical session on the timetable.

6 GENERAL STUDY ORIENTATION

As indicated in the *Programme for the reception and introduction of first years*, one morning before classes commence is also set aside for lecturers from different subjects to provide general study counselling to first year students. During these sessions, for example, the Physics lecturer will explain to the students what is expected from a student in a Physics class and he will also give advice on the way to approach the subject, ways of studying etc. Each student has the opportunity to listen to lecturers from the different subjects he/she will take during the first semester.

L PROCEDURES REGARDING STUDENT MATTERS

1 STUDENT REQUESTS

The following matters regarding undergraduate students must be dealt with by means of student requests under supervision of the Requests Committee:

- Curriculum changes
- Changes of prerequisites and parallel requirements
- Subject recognitions
- Class exemptions
- Taking extra subjects
- Enrolled simultaneously in two faculties or for two degrees
- Enrolled simultaneously at two universities

1.1 PROCEDURES

- Forms for student requests are available from the Administrative Manager and on the website of the Faculty.
- All student requests must be referred to the school director concerned, if necessary, for recommendations.
- In order to speed up finalisation of student requests, school directors have the capacity, in all cases where student requests can be clearly dealt with according to appropriate regulations (in the opinion of the Requests Committee), to delegate to Subject group chairperson the task of making recommendations to the Requests Committee.
- In all cases where doubt arises, the Requests Committee will consult the school director concerned.

2 CURRICULUM CHANGES

Students may only register for one of the fixed curricula in the calendar at the beginning of the year. Any deviation from the selected curriculum or a later change, however small, may only be requested by means of a student request. These requests are considered according to the following criteria:

- deviation from the published curriculum must be as small as possible;
- the proposed change must support the student's intended core subject combination as meaningful as possible;
- the proposed change must, subject to the above-mentioned criterion, be a solution to otherwise unsurpassable timetable or other problems so that the student may complete his/her degree earlier;
- a curriculum change that is only meant to be a replacement of a "difficult" by an "easy" subject will not be approved.

3 CHANGES IN REGISTRATION

The form for changing a module, which has to be completed by a student to change the subjects for which he/she is registered, is only signed by the Administrative Manager after the Requests Committee has approved the change. Lecturers must not sign these forms.

4 REQUIREMENTS REGARDING ASSUMED LEARNING

The requirements regarding assumed learning, which are published in the calendar, are strictly applied and deviations are only considered in cases of special merit after the school director concerned has made a recommendation.

5 SUBJECT RECOGNITIONS

Subjects passed at this University with a view to a specific degree are not automatically recognised for another degree if the student changes from one course to another. The student must direct an appropriate request to the Administrative Manager, who deals with these subject recognitions within the existing curricula.

When a student applies for recognition of subjects that he/she has passed at another university, he/she must supply full details of the contents of the subjects for which he/she requests recognition. Relevant calendars or certified copies of extracts from relevant calendars may be presented. In cases that are clearly covered by rules, the Administrative Manager will submit the information to the Subject group chairperson concerned to make a recommendation to the Requests Committee. In cases where interpretation of rules is necessary, the information will be submitted to the school director concerned.

Students who want to take one or more subjects at UNISA with a view to recognition of a degree of North-West University must get the necessary permission BEFOREHAND by means of a student request.

6 EXEMPTION FROM CLASS ATTENDANCE

General class exemption is not considered.

In cases where clashes in the timetable of a student occur because he/she is repeating a module, exemption from some scheduled classes may be considered. A request for exemption must be submitted to the Requests Committee on a *Student Request Form* and will only be considered subject to the following conditions:

- The student acquired proof of participation for the latest examination in the relevant module.
- The student will not be exempted for more than 50% of the scheduled classes.
- The student will accept explicit responsibility to attend ALL evaluation opportunities and to submit ALL tasks, assignments etc.
- The relevant clash in the timetable will extend the student's studies with at least a full semester.
- The school director concerned recommends approval of class exemption.

- The school director is entitled to endorse conditions to the approval of the request and if the student fails to conform to any of these conditions, he/she will not receive proof of participation for that module. The conditions will be supplied to the student in writing as part of the school director's recommendation to the Requests Committee.

7 CHANGES IN THE TIMETABLE

Class, test and examination timetables may only be changed under exceptional circumstances, after the changes have been discussed, WITH AMPLE TIME ON HAND, with everyone who is or may be affected by such changes (e.g. all students concerned, the Examination Division etc.), and the changes have been approved by the DEAN in WRITING on recommendation of the school director.

Individual lecturers may under no circumstances make any ad hoc changes to any official timetable.

8 EXAMINATION

Examinations are dealt with strictly according to the A rules.

A student who, having used one or both of the examination opportunities, has passed all modules but one required for a qualification, may apply to the dean concerned to be granted a final assessment opportunity in the outstanding module, provided that the student was registered for that module in that academic year and had a participation mark that admitted him / her to the examination. (A.2.4.4.5)

9 EXEMPTION FROM CLASS ATTENDANCE BECAUSE OF ORGANISED EVENTS

Students who are unable to attend one or more classes because of valid organised events (sports events, academic tours etc.) must apply for exemption BEFOREHAND.

- The student completes the prescribed form at the office of the Student Dean and submits substantiating documents at the office.
- The Student Dean sends valid applications to the Dean of Natural Science, who will approve them in final instance.
- The Administrative Manager sends copies of the approved applications to inform all lecturers concerned.

IMPORTANT: Lecturers in their own interest must make it very clear to students that exemption because of valid organised events must be obtained BEFOREHAND and that it will not be granted afterwards.

10 ABSENCE FROM CLASSES AND TESTS BECAUSE OF SICKNESS

These absences are dealt with and fully recorded in the schools.

- School directors see that the students are properly informed about the procedures that are followed in each school.
- Sickness absence is only granted if the student submits a legal medical certificate.

- A sickness certificate in which the medical practitioner declares, “According to information provided ... the student was sick”, is not acceptable.
- Only medical certificates that are issued by medical practitioners may be approved.
- Students who could not participate in the prescribed minimum class activities because of poor health may only in exceptional cases be allowed to the examination with the permission of the Dean. Students must be properly informed about these regulations.

M GUIDE FOR INTERNAL PROGRAMME EVALUATION

The “Guide for Internal Programme Evaluation” together with the needed questionnaires, appears on the website of the Institutional Quality Office and is updated yearly.

N RESEARCH POLICY OF THE FACULTY

1 RESEARCH AIMS

The Faculty pursues through research to –

- add new knowledge to natural sciences by publishing scientific articles in subject journals, to deliver talks on international and national congresses and to register patents;
- to create opportunities for educating post-graduate students in natural sciences;
- to enhance undergraduate education by applying new knowledge;
- to deliver service to research organisations and associations and contribute to the formulation of policy in this area;
- to reveal philosophical fundamentals and ethical aspects in the pursuit of natural sciences;
- to contribute to the economy of the country by means of operational projects.

By achieving these aims, the Faculty contributes to enhancing the work force capacity in the country and educates men and women that are able to think independently when they plan and conduct projects, and publish results.

The Faculty achieves its research aims by means of –

- a staff policy,
- a financial policy and
- managing research,

as set out further in this document.

2 STAFF POLICY AS REGARDS RESEARCH

- The Faculty expects academic staff to be active co-workers in approved research programmes within research entities, and sets a general productivity norm of one research article per year.
- In staff appointments and promotions, attention is given to the research record and potential of candidates.
- The Faculty takes measures to encourage staff to deliver research outputs.
- Research leave is allocated to staff and they are expected to use it regularly and purposefully.
- The position structure in the Faculty is used as an important instrument to achieve research aims.
- Support and guidance are given to young researchers to achieve their full potential (see also 3.2 below).

3 FINANCIAL POLICY AS REGARDS OF RESEARCH

The Faculty support staff financially to promote research by making provision for the following in the faculty budget:

3.1 STAFF SUPPORT

In the budget, provision is made to support staff in respect of the following:

- visits abroad;
- attending conferences in South Africa and abroad;
- visits of experts from abroad to staff;
- nomination of locums in support of research of staff;
- master's and doctoral bursaries;
- post-doctoral staff bursaries;
- master's and doctoral bursaries for students from abroad;
- publication costs.

3.2 RESEARCH SUPPORT

The Faculty gives support to research entities to supplement funds obtained from sources 2, 3 and 4, mainly to send young researchers on their way as regards running project costs, travelling costs for projects and assistants for projects.

3.3 ACADEMIC INFRASTRUCTURE SUPPORT

The Faculty gives support to research entities for purchasing expensive specialised apparatus, smaller capital items and computer equipment and software.

4 MANAGEMENT OF RESEARCH

Research in the Faculty is conducted in research entities. Directors, assisted by programme leaders, manage the entities.

The Dean liaises with the Institutional Committee for Research and Innovation to put matters regarding research and education of master's and doctoral students on its agenda.

4.1 RESEARCH ENTITIES

- Research in the Faculty is normally conducted in the programmes of the research entities and financial support from Faculty funds is only given to research done in this context.
- Identifying new research entities is a continuous process. A new research entity is established on the basis of available expertise and demand.
- The above-mentioned aspects are evaluated externally before a proposed research entity is established.

- Establishing a new research entity takes place under leadership of the Dean and Faculty Management in cooperation with the Director of Research Support.
- A research programme is drawn up by the prospective fellow-researchers under leadership of the Dean, who may make use of the services of an external expert in the field.
- Faculty Management approves the programme, in cooperation with other faculties if desired.
- A research director (director of a research entity) is appointed.
- The research director draws up a final five-year plan for research and postgraduate education. This plan will be subjected to a process of external peer evaluation.
- The research director is responsible for managing the research programme by –
- revising the research programme annually and adapt it for a period of five years;
- managing the strategic funds of the /research entity in such a way that the strategic aims are achieved;
- coordinating the programmes in the research entity in such a way that the joint aims are pursued;
- give guidance in accepting master's and doctoral students and to make sure that all research work of the students take place in approved programmes ;
- reflecting together with the Dean and school directors on the appointment of new staff;
- managing together with the Dean the task agreements of staff involved in the programmes of the research entity;
- reflecting together with the Dean and school directors on granting research leave;
- advising the Dean and the school directors when appropriating funds for establishing an infrastructure in schools
- helping with procurement of funds for research;
- encouraging staff to deliver service to subject associations, research bodies and journals;
- working closely with the directors of schools in which staff, who work in the research entity, also function;
- assigning master's and doctoral students to supervisors/promoters in the focus area/research unit and by forwarding the names of these supervisors/promoters in writing via the Research Committee to Faculty Council for general information;
- making sure that master's and doctoral students register in time every year;
- making sure that titles and research proposals for mini-dissertation, dissertations and theses are submitted to the Dean for approval ;
- making sure that in consultation with the school director examiners for mini-dissertations, dissertations and theses are nominated in good time.
- Research of focus research entities are evaluated every two years by the Research Support Commission and a research entity can, if research aims are not achieved, be terminated on recommendation of the Commission.

- The research part of master's and doctoral education in the Faculty usually takes place exclusively in the approved research programmes of the focus areas/research units. Faculty Management must approve exceptions.

4.2 EDUCATION OF MASTER'S AND DOCTORAL STUDENTS

4.2.1 AIMS OF MASTER'S AND DOCTORAL EDUCATION (RESEARCH SECTION)

The aims of master's and doctoral education are –

- to educate students as researchers;
- to stimulate and develop the research of focus areas/research units;
- to make it possible for research students to be co-authors of articles and conference talks.

(See also the document [Teaching and Learning Policy](#) of the Faculty.)

4.2.2 ADMISSION

- School directors and directors of research entities promote the recruitment of postgraduate students.
- Students must conform to the formal requirements for these studies as determined by the University rules.
- A student is usually only admitted to master's and doctoral studies if the student conducts the research part in an approved programme in a research entity.
- A supervisor(s)/promoters(s) is (are) appointed for each student by the research director in consultation with the school director, with written communiqué to Faculty Management.
- The research director signs the admission forms of the master's and doctoral students for purposes of registration.
- Research directors annually report to the Dean on the progress of the master's and doctoral students in their respective research entities.

4.2.3 REGISTRATION

- A student is only registered after the director of the research entity involved has approved the application.
- No services are rendered to a student if the student is not registered. Students who are registering for a degree for the first time must do so before 30 June of the relevant year. Re-registration for further study years must take place before 31 January of the relevant year.

4.2.4 RESEARCH PROPOSAL

- The research director must ensure that research proposals for doctoral studies are submitted to the Dean for discussion and recommendation to Faculty Management.

- Research students are personally responsible for compiling research proposals. It is strongly recommended that appropriate information technology be utilised during compilation of the proposal. Approval of a title
- The title of a mini-dissertation or dissertation must be approved by Faculty Management on recommendation of the Dean.
- For doctoral degrees, the title of the thesis is submitted together with the research proposal to the Dean, who will recommend it to Faculty Management.
- Changes in title are submitted to the Dean for recommendation to Faculty Management.

4.2.5 EXAMINATION

For evaluation of mini-dissertations, dissertations and theses the prescriptions of the A rules for the nomination of examiners apply.

O PROCEDURAL DOCUMENT: SELECTION OF HONOURS AND POSTGRADUATE STUDENTS AND APPOINTMENT OF SUPERVISOR/PROMOTOR

1 SELECTION

The purpose of selection of students for a programme is to admit only those students who on the basis of their academic record and other proven appropriate prior learning have a realistic prospect of success, taking into account the background and potential of the students.

1.1 HONOURS DEGREES

The school director in consultation with the subject group chairperson concerned performs the selection for honours degrees. Each school has own criteria for this purpose.

1.2 MASTER'S AND DOCTORAL DEGREES

The research director, in consultation with the school director concerned, performs the selection, taking into account item 3.2 of the policy document [Management of master's and doctoral students](#) of the Faculty:

“3.2 Under leadership of the research director, the research director and school director (together with the chairperson, if necessary) decide on a supervisor/promoter and research topic,

or the supervisor/promoter discusses the proposed research topic with the research director in consultation with the school director. Factors that are thoroughly considered include –

- availability of funds to finance the research;
- whether the research project may lead to a dissertation/thesis AND results suitable for publication within a realistic time;
- whether the proposed supervisor truly has the capacity to give constructive, expert guidance with regard to the research project – availability and accessibility of expert study guidance play a crucial role in selecting research topics - and in case of an inexperienced supervisor/promotor to insure that an experienced co-supervisor/co-promotor is also appointed;
- the work load of the supervisor/promoter;
- whether the project ties in with the focus area/unit programme.”

2 TARGET DATES

Target dates for (i) receiving applications (i.e. a closing date for receiving applications) and (ii) making known the results of the selection to prospective students are determined annually for –

- honours degrees by the school director in consultation with the subject group chairperson concerned;
- master's and doctoral degrees by the research director in consultation with the school director and subject group chairperson concerned.

The target date for making known the selection results must not be later than three weeks after the closing date for receiving applications.

The target dates must be published as prominently as possible in all school and focus area/unit brochures used for recruiting honours and postgraduate students.

Target dates must also be seen clearly and easily in advertisements for honours and postgraduate students.

3 ADMINISTRATION OF SELECTING APPLICATIONS

Applications for selection must be submitted in writing to the school director concerned (honours candidates) or research director (master's and doctoral candidates) and must include the full available academic record of the candidate and full details on other appropriate prior learning.

The reception of applications must be acknowledged in writing immediately. Additional information that may be necessary for selection is requested at the same time.

After selection has been completed according to the rules of the calendar and item 3.2 of the policy document [Management of master's and doctoral students](#) the candidates are immediately, but not later than the published target date, informed of the results of the selection. In the letter all conditions – if any – to which the candidate must conform with a view to accepting the selection must be clearly stated. Furthermore, the date on which the candidate has to report for his/her study for the first time, must also be clearly stated, with the instruction that the candidate must already have registered before this date.

Prospective students from abroad may not report at the campus before the date that their studies commence officially. At that time, they must already be in possession of a valid study permit.

For information in connection with the evaluation of international qualifications, the correct procedure to apply for a study permit and other conditions to which international students must conform, postgraduate administration may be contacted.

4 LATE APPLICATIONS

Late applications are considered if there is still space for an additional student in the relevant programme.

P PROCEDURES REGARDING ADMISSION OF STUDENTS AND RECOGNITION OF PRIOR LEARNING

1 UNDERGRADUATE

Prospective students apply at the Admission Office of the University to be admitted to the Potchefstroom Campus of North-West University. This Office selects students and decides whether or not to accept them. Faculty Management or the Dean does not participate in this selection process.

The minimum requirements for admission to the Faculty of Natural Sciences are published annually in the calendar of the Faculty.

2 HONOURS AND POSTGRADUATE

Prospective honours students apply to the school director of the school in which the subject in which they want to further their studies is found. This selection takes place in accordance with the rules of the Faculty as published in die calendar of the Faculty and according to the document [Procedural document: Selection of honours and postgraduate students](#).

3 EQUITY

The selection for master's and doctoral degrees is conducted by the research director in consultation with the school director concerned, taking into account article 3.2 of the Faculty's policy document *Management of master's and doctoral students* and according to the [Procedural document: Selection of honours and postgraduate students](#).

If applications received for a programme are more than the subject group concerned is able to handle, those students who has the best prospect of success in the opinion of the school director is selected for the relevant programme. The background and potential of students are taken into account in this selection process.

4 RECOGNITION OF PRIOR LEARNING

The Faculty of Natural Sciences accepts the principles of outcomes directed, resource-based and life-long learning, in which considerations of articulation and mobility play a significant role. The Faculty subscribes to the view that recognition of prior learning, whether acquired formally through teaching-learning programmes at this or another institution, or informally through experience, is an essential element in deciding on admission to a chosen teaching-learning programme and in awarding credits with a view to placement in the chosen teaching-learning programme.

Recognition of prior learning concerns the provable knowledge and learning that an applicant has acquired, either by completing formal teaching-learning programmes or through experience. At all times, the purpose is to consider the level of knowledge and skills, assessing it in the context of the exit level skills required for the intended teaching-learning programme or modules in the programme,

or for the status for which the applicant applies, and not only the experience that an applicant may put on paper.

Recognition of prior learning therefore takes place against the background of appropriate and demonstrable knowledge and skills of the applicant, taking into account the exit levels that must be achieved by the chosen teaching-learning programme.

The Faculty of Natural Sciences accepts that recognition of prior learning can and must take place within the normal, existing policy on admission of students and awarding credits to prospective and current students– whether they are from this or another institution – in a valid, trustworthy and fair manner.

5 PROCEDURES

Recognition of prior learning takes place by completing a student application form (attached) according to the relevant prescriptions, with a view to admission to a teaching-learning programme of the University, whether at entrance level or at some other level of a specific programme, or awarding the applicant a specific status that will enable him/her to further his/her studies at this University. A successful application for recognition of prior learning does result in the University conferring any qualification to such successful applicant.

The prior learning of an applicant is evaluated according to the following procedures:

- Applicants complete a student request form and supply all substantiating documents as may be requested to explain and give proof of their reputed prior learning to the subject counsellor/subject group chairperson and the school director.
- The subject counsellor/Subject group chairperson makes a recommendation to the school director in respect of RPL that must be confirmed by the school director, who will send a combined recommendation to the Administrative Manager.
- The Administrative Manager checks the recommendations and consults the Dean in cases of uncertainty. The Administrative Manager formulates an official formal decision that must be entered in the student record.
- The request form is sent to Academic Administration. Academic Administration enters the formal official decision in the student's record.

No distinction ought to be made between core and elective modules, or between so-called major and minor subjects with regard to RPL. Likewise, the credits awarded are not limited to any fixed percentage (for example, 50% currently) of the number of modules in a programme. If the applicant is found to be capable, the credits may be awarded in terms of the existing credit values of modules at the University in accordance with national prescriptions and faculty rules with regard to the appropriate curriculum.

6 POLICY ON RECOGNITION OF BTECH FOR ADMISSION TO THE MSc

- Prospective students should submit a complete academic record and the names of two referees to the research director.
- A mentor with a PhD degree who can serve as co-supervisor at the workplace of the prospective student should be identified beforehand. The mentor should confirm availability in writing.
- A complete project proposal should be submitted beforehand. The project proposal should consist of the following headings: title, purpose and goals, literature background with literature references (which support the purpose and goals), work plan and time schedule. The academic level of the envisioned study should clearly appear in the proposal. In case a project has not been identified, this should be discussed with the research director.
- Written proof should be supplied beforehand of the availability of access to facilities (laboratory(ies), analytical instruments, etc.) at the work place of the prospective student, in order to complete the MSc successfully in the prescribed time.
- Modules with a minimum total credit value of 32 from the Hons BSc programme should be completed successfully during the first 18 months of the MSc study.
- Final approval is subject to finding a suitable supervisor.

Q REGISTRATION OF TITLES AND SUBMISSION OF RESEARCH PROPOSAL

See the next four pages for the relevant forms.

FACULTY OF NATURAL SCIENCES

Registration and/or change of the title of the thesis/dissertation and/or appointment of supervisor(s)/promoter(s) and or examiners for a M.- or Ph.D. student.

GUIDELINES for the completion of this form:

- If a new title is registered or if a title is changed substantially, a **research proposal** on the prescribed form must be attached to this form. The student and his/her supervisor/promoter must consult the *Manual for Postgraduate Studies*, as well as the Faculty policy regarding the *Management of M and PhD students*, PRIOR to writing the research proposal. The proposal for a Ph.D should not be longer than 7 pages and for a M.Sc not more than 4 pages.
- **Mark all NEW information/items with an X in the applicable blocks.**
- Please complete information that has already been approved every time that information is changed or added, without marking the blocks.
- **Consult the postgraduate yearbook and fill in the correct curriculum number and curriculum name below.**
- Incomplete forms will not be processed by the faculty management.

Thesis Dissertation Mini dissertation In article format YES NO

New Title Change of Title Supervisor(s)/Promoter(s) Examiners Research proposal

Degree for which student is enrolled: M.Sc. M.A. M.Com.

M. Art. et Sci. (Planning) M. Env. Sciences M. Env. Man. Ph.D.

Curriculum name (see Calendar):

Curriculum number (see Calendar):

School (see Calendar):

Focus Area: (see Calendar)

Details of student: Mr Miss Mrs

Initials and surname: Student number:

PLEASE NOTE: The A-rules stipulate that a supervisor/promoter is an individual that is in the service of the University.

Supervisor / Promoter		E-mail:
Personnel number:	Tel/Extension:	Internal Box:
Address (if external):		
Co-supervisor / Co-promoter		E-mail:
Personnel number:	Tel/Extension:	Internal Box:
Address (if external):		
Assistant Supervisor / Assistant Promoter		E-mail:
Personnel number:	Tel/Extension:	Internal Box:
Address (if external):		

PLEASE NOTE: Titles are not written in capital letters. Only a proper name is written in capitals within a title.

Original title	
Revised title	

PLEASE NOTE: Title registrations should be requested by the student. The student thus signs on the indicated space. **THE REST OF THE FORM IS CONFIDENTIAL WITH REGARDS TO THE STUDENT.**

..... Student Supervisor/Promoter Director: School Director: Research Entity Date

Approved by Faculty management on:
Dean

THE APPOINTMENT OF EXAMINERS IS INDICATED ON THIS PAGE. If examiners are not being appointed now, the second page can be ignored. If examiners have already been appointed, the names and contact details must be listed IN FULL on the second page. Directors only have to sign the page(s) that contain NEW information.

An electronically completed paper copy that has been signed, AND an electronic copy of this form must be submitted to the administrative manager of the Faculty of Natural Sciences. Appointment of Examiners:

Applicable A-rule:

- 4.4.3.1 *Examiners and moderators*
- 4.4.3.2 *For the examination of every dissertation or mini-dissertation at least two examiners, of which at least one must be an external examiner¹, must be appointed by the dean in accordance with the provisions of the applicable faculty rules and in consultation with the research director or research entity leader concerned, or where applicable, the school director concerned to conduct the assessment of the student's performance in an examination.*
- 4.4.3.3 *The names of the examiners are not made known to the candidate without the permission of the examiners concerned.*
- 4.4.3.4 *No examiner of a dissertation or mini-dissertation may in any manner have been involved in the supervision of the student.*
- 5.4.3.1 *Examiners*
- 5.4.3.2 *For the examination of every thesis at least three examiners must be appointed by the dean in accordance with the provisions of the applicable faculty rules and in consultation with the research director or research entity leader concerned, or where applicable, the school director concerned, of which the majority must be external examiners attached to different institutions.*
- 5.4.3.3 *The names of the examiners are not made known to the candidate without the permission of the examiners concerned.*
- 5.4.3.4 *No examiner of a thesis may in any manner have been involved in the supervision of the student.*

Examiners:

Internal examiners (in service of NWU and NOT involved in the supervision of the candidate):	Title/Initials/Surname:	Personnel number:
		Internal Box:
		Extension:
		E-mail:
Examiners not in service of NWU with <i>complete mail, email and telephone numbers</i> : NB Please use the full space on the right in order for this form to fit in on a single page!	Title/Initials/Surname:	Title/Initials/Surname:
	Postal/courier Address:	Postal/courier Address:
	Tel: Cell: E-mail: ID/Passport: Date of Birth:	Tel: Cell: E-mail: ID/Passport: Date of Birth:

.....
Supervisor / Promoter

.....
Director: Research Entity

.....
Date

.....
Date

Approved on:

Dean

¹ An "external examiner" is a person not in the employ of the University and who conducts the examination of a module. In the case of a masters degree an "external examiner" is a person not in the employ of the University and who conducts the examination of a module, mini-dissertation or dissertation. in the case of a doctoral degree an "external examiner" is a person not in the employ of the University and who conducts the examination of a thesis should be submitted to the management of the Faculty of Natural Sciences. Reviewed 2012-10-31

FACULTY OF NATURAL SCIENCES

Research Proposal for M or D study

If a new title is registered or if a title is changed substantially, a research proposal must accompany the submission. The student and the supervisor/promoter must consult the *Manual for Master's and Doctoral Studies*, as well as the Faculty policy regarding the *Management of M and PhD students*, prior to writing the research proposal. The *Manual for Master's and Doctoral Studies* explains in detail what is expected at each of the subheadings below. The proposal for a Ph.D. should not be longer than 7 pages and for a M.Sc. not more than 4 pages.

The Faculty requires that the research proposal will be submitted through the use of this form and in the format below. Please complete using a computer.

1 Student initials, surname and student number

Initials Surname Student number

2 Degree for which student is registered

Indicate by way of a cross in the appropriate block.

M PhD

3 Name of supervisors/promoters

Initials and surnames

4 Proposed title

Title (preferably not more than 12 words)

5 Problem statement and substantiation

Provide the theme and link with gaps in the literature and recent research in the area. Indicate the research question, its actuality and how the research will endeavour to answer the question. Avoid the inserting of definitions.

6 Research aims and objectives

Provide the different general as well as the specific aspects which will form part of the research.

7 Basic hypothesis (where applicable)

8 Method of investigation

8.1 Literature study

Indicate which literature will be used in the study and how. Provide a summary of the literature as required for ethics approval. However, in cases of “no risk” a summary of the literature is not required, but only a short list of key publications.

8.2 Methods of investigation

Describe the proposed design, data acquisition, procedures, data processing, funding sources (but not a budget), mathematical methods, computer methods, etc.

9 Provisional chapter division

Here it should be clear that there was proper reflection on the appearance of the final product (dissertation, mini dissertation, thesis). Provide provisional titles of the various chapters, with a brief outline of the planned content of each.

10 Literature references

Provide complete references to the literature referenced to in this proposal only.

Further requirements (completed by supervisors/promoters)

- **Research ethics**

Each research proposal must be accompanied by a completed form of the scientific committee involved. The recommendation in the form is as follows (mark the applicable block):

No Risk (NR)

Refer to Natural Sciences Research Ethics Committee (NS-REC)

Refer to the Committee for Animal Care (VA)

Refer to Committee for Health Care (HREC)

- **Statistical Advice** (Mark the applicable block)

Statistical advice must be obtained from the Statistical Consulting Service

Yes	No

.....
Supervisors/Promoters

.....
Research Director

.....
Date

R MANAGEMENT OF MASTER'S AND DOCTORAL STUDENTS

1 INTRODUCTION

1.1 RESPONSIBILITY AND LIABILITY

The basic point of departure in the managerial assignment of school directors and research directors with regard to education and research is the following: The school director manages the programmes in respect of undergraduate and honours studies, as well as the lectured sections of master's programmes, as applicable to his school. The research director manages the research programmes of the research entity, which includes the research parts of master's and doctoral students who work in the programmes of the research entity. In the Faculty of Natural Sciences, a basic managerial principle applies that the school director and research director *concerned* accept joint responsibility for the success of each other's programmes. As staff members of one school may be involved in research programmes in different research units, the number of staff members of a specific school who are working in the programmes of both the school director and a research director determine the directors to whom the term *concerned* refers. Activities are further performed according to agreement. Where deviations occur, for example from the relevant A or Faculty rules, the final liability belongs to the person as formally prescribed by the University.

1.2 PURPOSE OF THIS DOCUMENT

The formal policy and procedures of the University in respect of the management of master's and doctoral studies is found in the A-rules and the *Manual for Master's and Doctoral Studies*. This addendum is based on the *Manual for Master's and Doctoral Studies* and its purpose is to establish a uniform managerial system in the Faculty in order to formalise the aims of the policy and procedures of the University. For this reason, a few procedures that are not clear in the A-rules and the *Manual for Master's and Doctoral Studies* are set out in this addendum.

2 THE DOCUMENT: MANUAL FOR MASTER'S AND DOCTORAL STUDIES

Every school director and research director must make sure that all academic staff in the school and research entity are thoroughly informed about the contents of the *Manual for Master's and Doctoral Studies*. The registration, research and examination process is summarised in a flow diagram in the *Manual* and explained in detail later on. A few important matters are briefly attended to below.

3 ADMISSION OF STUDENTS

3.1 The student reports to the Subject group chairperson/school director/research director **or** the prospective supervisor/promoter recruits the student.

3.2 With the research director as leader, the research director and school director (together with the chairperson, if necessary) decide on a supervisor/promoter and research topic,

or the supervisor/promoter discusses the proposed research topic with the research director in consultation with the school director. Factors that are thoroughly considered include –

- availability of funds to finance the research;
 - whether the research project may lead to a dissertation/thesis AND results suitable for publication within a realistic time;
 - whether the proposed supervisor truly has the capacity to give constructive, expert guidance with regard to the research project – availability and accessibility of expert study guidance play a crucial role in selecting research topics;
 - the work load of the supervisor/promoter;
- whether the project ties in with the research entity programme.

4 REGISTRATION

The student reports at Academic Registration for formal admission, registration and payment of registration fees.

5 COMMENCEMENT OF STUDY

Rule A.1.3.4 stipulates that a student may only use a facility of the University after his/her registration has been completed. In the light of this rule, it is important to note that *a student is only admitted to commence with his/her studies after he/she has registered.*

6 TITLE AND RESEARCH PROPOSAL

The student formulates a title for the mini-dissertation/dissertation/thesis in collaboration with the supervisor/promoter and compiles a research proposal according to the guidelines in paragraph 1.7 and 1.8 of the *Manual for Master's and Doctoral Studies*.

The student submits the title and research proposal to the research director to be considered in collaboration with the school director.

The research director submits the title and research proposal, in the prescribed format of the Faculty and properly signed by him-/herself and the school director, to Faculty Management for approval.

7 GUIDING THE STUDENT

The student's studies are supervised from day one by the supervisor/promoter under supervision of the research director, in accordance with the *Code of conduct for supervisors and promoters* in the *Manual for Master's and Doctoral Studies*. In addition to guiding research and writing down the research process and results, the following managerial tasks are included:

- The supervisor/promoter must ensure that the student registers before study is commenced and that the student re-registers every year.
- The supervisor/promoter must ensure that the student submits a title and research proposal within six months after registration or completion of the last exam to the Faculty Management, which usually meets once per month, on the prescribed forms. (See A.4.3.1.1 and A.5.3.1.1)
- The supervisor/promoter must propose examiners to the school director and research director well in advance (at least three months before submission). These two directors will then submit the names of the examiners on the prescribed form to Faculty Management for approval.
- The supervisor/promoter must be informed about the target dates for submitting dissertations/theses for the different graduation ceremonies and must manage completion of a student's study in view of these dates.
- With the submission of any thesis the candidate, with the concurrence of the promoter, must submit proof that a research article was submitted to an accredited journal. (A.5.4.2.6) This requirement must be checked by the directors on the submission of theses.
- The supervisor/promoter must ensure the student give notice of his intention to submit the dissertation/thesis at least three months in advance.
- The supervisor/promoter must ensure that the student complies with requirements for language and technical editing.

8 MANAGEMENT OF THE STUDY PROCESS

- 8.1 An internal procedure for the effective management of continuous guidance of students is worked out by each pair of directors concerned, i.e. a pair consisting of a school director and a research director.
- 8.2 The supervisors/promoters in a research entity and the appropriate research director (and the appropriate school director as well, if necessary) come together in a meeting during which the following items with regard to each student are discussed:
- Control that the formal matters with regard to the following are in order: registration, appointment of a supervisor/promoter, approval of a title and research proposal, appointment of examiners and notification of submission, and especially the necessity to re-register.
 - Do contact and discussions between student and supervisor/promoter take place regularly?
 - Does the student have free and unimpeded access to his/her supervisor/promoter?
 - Is the progress of the student's study since the previous evaluation satisfactory?
 - Can something be published already?
 - Target date for completion of the studies.
 - Are there potential internal circumstances or factors that may have an adverse effect on the study of the student? In what way can these circumstances or factors be managed so that the student will not be adversely affected?
 - Are there external factors (work circumstances, marriage problems etc.) that have an adverse effect on the student's study? Can something be done about it?

- Will the student submit the dissertation/thesis on time or must special arrangements be made to make sure that the study does not spill over to the following year?
 - During these meetings, master's students whose achievements are exceptional must be identified in time with a view to possible upgrading to a Ph.D. enrolment.
- 8.3 A process to obtain progress reports with respect to postgraduate students, starts towards the end of July annually and leads to reporting to the dean and Faculty Management Committee.

S PROCEDURE FOR THE PROGRESS REPORTS ON MASTER'S AND DOCTORAL STUDENTS

S1 PROCEDURE PROGRESS REPORTS FOR M AND D STUDENTS

Procedure Progress Reports Postgraduate Students

Date	Administrative Manager	Research Directors	Dean
21 July	Obtains the details of all M and D students per research entity from the research directors.	Provide a list of all M en D students in the research entity to the administrative manager.	
31 July	Sends the forms for the progress reports via Postgraduate Administration to the M and D students and also to the supervisors and promotor in each research entity for return to the administrative manager before the end of August. Clearly states that students for whom both forms are not received back on time will be refused reregistration for the next year.		
31 August	Hands over all the report forms received per research entity to the research director concerned. Ensures that students of whom the progress report from either the student or the supervisor/promotor has not been received by the research director, is system wise not allowed to register at the registration opportunity in the next academic year. Reregistration will only be allowed after both reports have been received and checked to the satisfaction of the research director and the dean.	Receive the progress reports of the supervisors and promotor and the M and D students in the research entity from the administrative manager.	
31 August	Reports to the Faculty Board on which postgraduate students exceed their study period and provides the list to the research directors as well.	Check the list of postgraduate students who exceed their study period and is provided by the administrative manager and consider this together with the progress reports.	
15 November		T Ensure that the progress reports which are not returned to the administrative manager before the end of August are indeed obtained.	
30 November		Provide a report on the relevant form to the dean on each M and D student: Which progress reports of students were received and which not, Which progress reports from supervisors or promotor were received and which not, Which progress reports indicated problems, How the problems were handled, Which students should receive a warning letter before the registration opportunity in the next academic year about possible termination of study. In order to ensure that students will confirm the receipt of the warning letter, the administrative manager blocks the reregistration system wise and their registration is only allowed after approval of a request form by the research director.	Ensures that each research director submits a report.

31 December	<p>Sends, via Postgraduate Administration, a warning letter on possible termination of study to the students who have been identified for this by the research directors in their November report on grounds of unsatisfactory progress or exceeding the study period. This letter is necessary documentation in case of termination of study at a later stage. Ensures that the registration of such students is blocked by the system.</p>		<p>Checks whether the problem cases named in the reports were handled in a satisfactory way. Contacts research directors on the handling of specific problem cases if necessary.</p>
28 February			<p>Reports per research entity by form to the Faculty management Committee on the number of progress reports not received by the research directors, the number of problem cases handled and the number of warning letters which were sent out.</p>
31 March	<p>Reports to the first meeting of the Faculty Board in the new academic year on the decision taken about every postgraduate student who exceeds the study period (as reported to the Faculty Board of August in the previous year), or who received a warning letter based on the progress reports.</p>		

S2 PROGRESS REPORT FROM STUDENT ON M OR PHD STUDY

FACULTY OF NATURAL SCIENCES

Student progress report on M or PhD study

Year of Report	
Date of completion of this report	

The office of the dean sends out forms to all M and PhD students for completion at the beginning of August. Please complete the form electronically. Type your full comments in the spaces provided. The form may be lengthened to further pages as needed.

Send the completed form before the end of August by email to the dean at Heleen.Swart@nwu.ac.za. The dean and the research director undertake to handle your report form as confidential and it will not be disclosed to your supervisor/promoter.

If this form is not completed and submitted, the student will not be allowed to reregister.

SECTION 1

1	Name and initials of student:			
2	University number:			
3	Research entity:			
4	Degree registered for:			
5	Curriculum code:			
6	Date of first registration:			
7	Full-time:		Part-time:	
8	Supervisor/Promoter:			
9	Co-supervisor/Co-promoter (if applicable)			
10	Assistant supervisor(s) / Assistant promoter(s) (if applicable):			
11	Is your title registered and has your supervisor/promoter been appointed? (Must be done within 6 months after registering for the degree)	Yes	No	
12	Have you already given notice that you intend to submit your mini-dissertation/dissertation/thesis? (Notice must be given at least 3 months in advance)	Yes	No	

Have you carefully read the MANUAL FOR MASTER'S AND DOCTORAL STUDIES in which the code of conduct (role and responsibilities) of supervisors/promoters is also described?

YES: NO:

THIS FORM IS ALSO AVAILABLE IN AFRIKAANS

SECTION 2

1. Which of the following situations is applicable to your M/PhD programme?
- A. There are no coursework modules in the programme.
 - B. The coursework modules must be completed before the research part commences.
 - C. The coursework modules and the research part run simultaneously.

A B C

2. Are you doing coursework only at the moment (in other words, the research part of the programme has not yet started)? YES NO

If you answer NO on any of the following questions, you should comment further in the indicated spaces.

3. How frequently do you have formal contact (lectures, seminars, etc.) with the lectures of the coursework modules? (If applicable)

Weekly Fortnightly Monthly Other (please specify)

Other:

4. How frequently do you have formal contact (discussions, meetings, correspondence, etc.) with your supervisor/promoter?

Weekly Fortnightly Monthly Other (please specify)

Other:

5. Do you consider this amount of contact to be satisfactory? YES NO

If NO, please comment:

6. Are you satisfied with the standard of supervision (or lecturing in the case of coursework) you are receiving? YES NO

If NO, please comment:

7. Would you describe your progress this past six months as

Satisfactory Unsatisfactory Non-existent

Comments:

8. Have you had any personal, financial, academic difficulties or difficulties with your research which may have affected your progress? YES NO

If YES, please comment:

9. If you are studying **on campus**, do you have adequate access to library, computing, laboratory and other campus facilities?

YES

NO

If NO, please comment:

Off-campus students: Please comment on the general level of support from your research entity.

11. Please indicate the number (if any) of papers which originated directly from your study that have been published or have been accepted for publication (in press):

Published:

In Press:

N/A

Comments:

Please specify any presentations made at national or international conferences and/or seminars:

13. What is your anticipated mini-dissertation/dissertation/thesis completion date?

Completion date:

14. Other comments such as on activities/meetings of your research entity which directly support your research (or the lack of such activities):

S3 PROGRESS REPORT ON MASTER'S OR DOCTORAL STUDIES (SUPERVISOR/PROMOTER)

FACULTY OF NATURAL SCIENCES

Supervisor's/Promoter's progress report on master's or doctoral studies

Year of Report	
Date of completion of this report	

The office of the dean sends, at the beginning of August, to all M and PhD students forms for completion. Please complete electronically. Type your complete comments in the spaces provided. Send the completed form before the end of August by email to the dean at Heleen.Swart@nwu.ac.za. If this form is not completed and submitted, the student will not be allowed to reregister.

SECTION 1

1	Name and initials of student:			
2	University number:			
3	Research entity:			
4	Degree for which registered:			
5	Curriculum code:			
6	Date of first registration:			
7	Fulltime: <input type="checkbox"/>	Part-time: <input type="checkbox"/>		
8	Supervisor / Promoter:			
9	Co-Supervisor / Co-Promoter (if applicable)			
10	Assistant supervisor(s)/Assistant-promoter(s) (if applicable):			
11	Are the student's title and supervisor/promoter registered already? (Must be done within 6 months after registering for the degree)	Yes	No	
12	Have the examiners already been appointed for the student? (Must take place six months before submission.)	Yes	No	
13	Has the student given notice that he/she is going to submit his/her mini-dissertation/dissertation/thesis? (Must take place three months before submission.)	Yes	No	

Have you (and the co-supervisor/co-promoter, if applicable) read the *Manual for Master's and Doctoral Studies* AND taken cognisance of the code of conduct for supervisors/promoters described in the manual?

YES: NO:

If not, please supply a reason:

THIS FORM IS ALSO AVAILABLE IN AFRIKAANS

SECTION 2: Master's/doctoral examination papers

1 (Ignore this section if your programme consists only of a dissertation/thesis without examination papers.)

1. Which of the following situations apply to this student?
- A. There are not examination paper modules in the programme.
 - B. The examination paper modules are completed before the research section commences.
 - C. The examination modules and the research are completed simultaneously.

A B C

2. Does the student **only** attend classes at the moment (i.e. the research section has not commenced yet)? YES NO

If you answer NO to any of the following questions, you must please comment briefly on the reasons for your answer every time.

3. Was the progress satisfactory in the examination paper module component of the programme? YES NO

Comments:

4. How frequently did the student have formal contact (lectures, seminars, discussions, meetings, correspondence etc.) with you or other lecturers who offer the examination paper modules?

Weekly Every two weeks Monthly Other (specify, please)

Other:

5. Do you consider this contact frequency to be sufficient? YES NO

Comments:

6. Describe the progress of the student during the previous six months:

Satisfactory Unsatisfactory

Comments:

Section 3: Master's/Doctoral research

(Ignore if the research section of the programme has not commenced yet.)

1. The student is writing a (tick also the last box if the research is going to be submitted in the format of an article):

Mini-dissertation Dissertation Thesis In article format

2. How frequently did the student have formal contact (discussions, meetings, correspondence etc.) with you or the co-supervisor/co-promoter?

Weekly Every two weeks Monthly Other (specify, please)

Other:

3. Do you consider this contact frequency to be sufficient? YES NO

Comments:

4. Describe the progress of the student during the previous six months:

Satisfactory Unsatisfactory

Comments:

5. Are you aware of any personal, financial, academic or research problems that could have had an adverse effect on the student's progress? YES NO

Comments:

6. What is the target date for completion of the student's mini-dissertation/dissertation/thesis?

Target date:

7. What do you recommend with regard to the continuation of this student's studies (tick off one of the following):

Completes studies Continues Continues conditionally Terminates studies

8. Other comments

S4 REPORT OF THE RESEARCH DIRECTOR TO THE DEAN ON THE PROGRESS OF MASTER'S AND DOCTORAL STUDENTS

The report form appears on the next page.

**S5 PROGRESS REPORT OF POSTGRADUATE STUDENTS:
REPORT FORM FOR THE DEAN TO FACULTY MANAGEMENT
COMMITTEE**

Master’s students

Research Entity	Number of students in the report	Number of students from whom the student report was not received	Number of students from whom the supervisor’s report was not received	Number of students where a problem emerged	Number of students who receive a warning letter

Doctoral students

Research Entity	Number of students in the report	Number of students from whom the student report was not received	Number of students from whom the promotor’s report was not received	Number of students where a problem emerged	Number of students who receive a warning letter

T PRESCRIPTIONS AND GUIDELINES FOR A DISSERTATION OR THESIS THAT IS SUBMITTED IN ARTICLE FORMAT

1 INTRODUCTION

The A-rules of NWU also allows a dissertation or thesis to be submitted in article format.

The Faculty is of the opinion that it is important that master's students must acquire skills to write an extensive research report. In view of this, a master's student judges, together with the supervisor, and in consultation with the research director, on the use of the article format in the specific study.

In the submission of the title and research proposal to the Faculty Management Committee it is required that the student marks the applicable block in case use of the article model is planned. This must then be reflected in the proposed chapter division. If the student should decide at a later stage not to use the article model any more, the title and research proposal must be submitted anew. Examiners receive additionally an [explanatory document](#) about the article format.

This document must be read in close connection with the guidelines for the use of the article format in the *Manual for Master's and Doctoral Studies*. Unless appearing otherwise from the context, the prescriptions that apply to a dissertation will also be valid for a thesis.

2 FORMAL PRESCRIPTIONS

2.1 APPROPRIATE A-RULES

2.1.1 DISSERTATIONS AND MINI-DISSERTATIONS

A.4.4.4.2 The examiners of a dissertation or mini-dissertation are requested to provide an assessment of the question whether the dissertation or mini-dissertation contains proof of the candidate's independent ability to do research in the relevant field of study and to report such research results satisfactorily.

A.4.4.2.9 Where a candidate is allowed to submit a dissertation or mini-dissertation in the form of a published research article or articles or as an unpublished manuscript or manuscripts in article format and more than one such article or manuscript is used, the dissertation or mini-dissertation must still be presented as a unit, supplemented with an inclusive problem statement, a focused literature analysis and integration and with a synoptic conclusion, and the guidelines of the journal concerned must also be included.

A.4.4.2.10 Where any research article or manuscript and/or internationally examined patent is used for the purpose of a dissertation or mini-dissertation in article format to which other authors and/or inventors than the candidate contributed, the candidate must obtain a written statement from each co-author and/or co-inventor in which it is stated that such co-author and/or co-inventor grants permission that the research article or manuscript and/or patent may be used for the stated purpose

and in which it is further indicated what each co-author's and/or co-inventor's share in the relevant research article or manuscript and/or patent was.

A.4.4.2.11 Where co-authors or co-inventors as referred to in 4.4.2.9 above were involved, the candidate must mention that fact in the preface and must include the statement of each co-author or co-inventor in the dissertation or mini-dissertation immediately following the preface.

2.1.2 THESES

5.4.4.1 The examiners of a thesis are requested to provide an assessment of the question whether the thesis contains proof that the candidate has made a distinct scholarly contribution to the knowledge and insight in the field and of originality, either by way of the pronouncement and dissemination of new facts or by means of the exercise of independent critical skills.

5.4.2.7 Where a candidate is permitted to submit a thesis in the form of a published research article or articles or as an unpublished manuscript or manuscripts in article format and more than one such article or manuscript is used, the thesis must still be presented as a unit, supplemented with an inclusive problem statement, a focused literature analysis and integration and with a synoptic conclusion, and the guidelines of the journal concerned must also be included.

5.4.2.8 Where any research article or manuscript and/or internationally examined patent is used for the purpose of a thesis in article format to which other authors and/or inventors than the candidate contributed, the candidate must obtain a written statement from each co-author and/or co-inventor in which it is stated that such co-author and/or co-inventor grants permission that the research article or manuscript and/or patent may be used for the stated purpose and in which it is further indicated what each co-author's and/or co-inventor's share in the relevant research article or manuscript and/or patent was.

5.4.2.9 Where co-authors or co-inventors as referred to in 5.4.2.8 above were involved, the candidate must mention that fact in the preface and must include the statement of each co-author or co-inventor in the thesis immediately following the preface.

REMARK: This rule implies unambiguously that the thesis must be suitable for publication.

2.2 PRESCRIPTIONS FROM THE MANUAL FOR MASTER'S AND DOCTORAL STUDIES

The *Manual for Master's and Doctoral Studies* gives the guidelines below for submission of a dissertation or thesis in article format.

In particular, it will contain the following elements:

- A title page as prescribed above
- Acknowledgements
- A table of contents of the dissertation/thesis
- An abstract with 5-10 keywords
- A preface comprising the following:

- A statement that the article format has been selected
- An indication of the student's share in the research if there are co-authors for the article(s)/manuscript(s)
- An indication of the journal to which the article(s)/manuscript(s) was/were submitted if it/they has/have not yet been published
- Permission from co-authors that the article(s)/manuscript(s) may be submitted for degree purposes
- Permission from the editor of the technical journal if any copyright is involved
- If more than one article/manuscript is used, the dissertation/thesis must be presented in a scientific unit format.
- Depending on the study field involved, the supervisor/promoter may also require other items like a literature review. Each article must be preceded by a copy of the guidelines for authors for the journal concerned.
- When a dissertation or mini-dissertation or a part or summary or an adaptation thereof by the student is published, mention must be made of the fact that it results from a master's degree study at the University and, where applicable, the name of the supervisor(s) as co-author(s) must also be mentioned.

3 GUIDELINES OF THE FACULTY OF NATURAL SCIENCES

In the following paragraphs, the most important matters that are mentioned in the formal prescriptions are discussed and motivated somewhat more extensively. To avoid walking into a trap a few guidelines are suggested below:

3.1 MINIMUM GUIDELINE

In addition to the guidelines that appear in the *Manual for Master's and Doctoral Studies*, the Faculty of Natural Sciences also formulated a guideline that at least one of the articles must ALREADY have been APPROVED for publication by an accredited journal on the day that the dissertation or thesis is submitted for examination.

As the style and extent of research articles differ considerably from subject field to subject field and from journal to journal within a subject field, the Faculty of Natural Sciences does not pose further prescriptions for the number of articles that ought to be bound. The guideline in 3.3 applies, however.

3.2 STUDENTS WHO OUGHT TO BE PERMITTED TO USE THE ARTICLE FORMAT

Only students who are capable to write the final copies of the articles that are submitted for publication or are going to be submitted for publication, ought to be permitted to make use of this format. A student who still has to rely on his supervisor/promoter to finalise his article(s) for publication, ought not to be permitted to make use of this format.

3.3 ARTICLES THAT MAY BE SUBMITTED

In addition to other requirements that are stated in the formal prescriptions, **only** articles that flow forth directly from the student's research **after** registration for the master's or doctoral degree at NWU, for a dissertation or thesis, under supervision of his supervisor/promoter, may be submitted in article format.

3.4 QUANTITY AND QUALITY

The number of articles submitted must convince the examiners in terms of the number and/or extent that the candidate has truly complied with the requirements for a master's or doctoral degree.

The quality, nature and extent of the research that is described in the articles may not differ from that of a traditional dissertation/thesis. The difference is only found in the presentation of the results.

3.5 METHODS

Many writers define scientific knowledge as knowledge that has been acquired through **appropriate methods**. Expert examiners of dissertations/theses therefore give meticulous attention to the candidate's description of the research method(s) he used. They also examine whether the method(s) is (are) stereotyped and standard methods in the relevant field or new methods. In the case of standard methods, only a brief reference will probably be made to the methodology in the articles. In such cases the candidate must describe his standard method(s) sufficiently and discuss and motivate its (their) appropriateness to his problem to such an extent that the examiners are able to decide if he understands and used the method(s) correctly.

3.6 LITERATURE

The literature review that is presented in an article is less comprehensive than in a traditional dissertation. However, it must still be taken into account that especially in a dissertation the student must provide proof that he is familiar with and in control of the appropriate subject literature. Rule A.7.5 therefore prescribes that a focussed literature analysis must form part of the dissertation. Such a review may also be in the form of a review article. Paragraph 3.7 applies.

3.7 STYLE DIFFERENCES

The style in which a research article is written differs (sometimes drastically) from the style in which a traditional dissertation is written. Long descriptions of measuring instruments and other methodological aspects, for example, or the presentation of definitions is largely avoided. It is important to realise that an article is written for the informed specialist, which makes such descriptions and definitions unnecessary.

Students and their supervisors, however, must be aware that the examiner must not get the impression that the concise style of an article may be a disguise or try to be a disguise of a lack of knowledge and insight of the student. Especially in the case where a master's student presents an article he has written together with more experienced scientific co-workers, the degree of difficulty of

the article may easily create doubt in the mind of the examiner if the student has truly been in control of every aspect of the research described in the article. Just like a referee of a research article, the examiner of a dissertation does not allow the author or student the benefit of the doubt.

The guidelines in 3.4 and 3.5 will help the student and his supervisor not to stumble into this trap.

3.8 SUITABLE FOR PUBLICATION

In presenting a dissertation in article format the question whether it is suitable for publication involuntarily arises. An important focus in evaluating a dissertation in article format will therefore be if the article(s) that has (have) not yet been accepted for publication will indeed be suitable or ready for publication.

Students and supervisors must therefore avoid to present research results of a dissertation in article format if they do not really intend to publish such articles.

To be accepted for publication is not a requirement with which a dissertation must comply. However, in the case of a thesis this requirement does apply.

3.9 FINISHING OFF ARTICLES

When an article is included before publication in a journal, it must be in the form in which it will be published, if accepted for publication. This means that tables, diagrams pictures, etc. which, according to requirements of some journals are placed at the end of a manuscript on submission or are sent in separately, must be moved to the correct places in the article.

3.10 A SHORTCUT?

Writing a compact research article is a much more advanced skill than writing a traditional dissertation. It is therefore no shortcut! Only experienced supervisors/promoters ought to guide master's or doctoral students on this road.

U UPGRADING OF MASTER'S REGISTRATION TO DOCTORAL REGISTRATION

1 APPROPRIATE A-RULES

The A-rules below apply.

A.4.4.9 Upgrade of master's degree study to doctoral study

A.4.4.9.1 A candidate registered for a master's degree study who, in the unanimous opinion of the supervisor concerned, the research director or research entity leader concerned, or where applicable, the school director concerned, has achieved outcomes of a quality and extent acceptable for a doctoral degree, may apply to the faculty board concerned to convert the registration for a master's degree to that for a doctoral degree.

A.4.4.9.2 A candidate to whom such a concession is made:

A.4.4.9.2.1 must, where applicable, successfully complete the paper component of the master's degree examination before the thesis may be submitted;

A.4.4.9.2.2 must comply with all the rules and requirements set by the University regarding a doctoral degree; and

A.4.4.9.2.3 only receives the doctoral degree after the number of credits for the master's degree papers, where applicable, have been attained and the minimum period required for the registration of the doctoral degree, has expired.

2 INTERPRETATION OF FACULTY MANAGEMENT

Faculty Management decided that the appropriate A-rule is interpreted in such a way in the Faculty of Natural Sciences that a registration for a master's degree cannot anymore be changed to a registration for a doctoral degree once the master's dissertation has been examined.

3 PROCEDURE

3.1 Upgrading of masters' study to doctoral study must satisfy the requirements stated in the A rules (A.4.4.9)

3.2 There should have passed at least a time period of 1 year after registration for the Masters' degree before upgrading to a doctoral degree can be considered.

3.3 Upgrading can be considered only if there is clear and acceptable proof provided that the study is of such quality that new knowledge has been added to science.

3.4 The study leader (and thus the potential promoter) must provide convincing proofs that the student has attained the necessary development and preparedness in the first phase of the masters' degree training and will be able to write a submission.

3.5 The following documentation must be submitted to the research committee or applicable management committee for evaluation and recommendation to the faculty council for approval:

- (1) Request and motivation of the supervisor for upgrading (letter to dean/research committee).
- (2) Research proposal written by the student which includes amongst others the title, problem statement/hypothesis, literature, motivation, planned methodology, processing of results, structure of the planned thesis and possibly all collaborators, budget, etc. In other words, the usual motivational document (research proposal) which is expected of all doctoral students.
- (3) Articles already published or manuscripts submitted for publication.
- (4) Proposed promoter, co-promoters and assistant promoters as well as examiners on the required forms.

3.6 According to the requirements of the Higher Education Quality Framework, a student must be registered for at least two years for a doctoral degree before the degree can be awarded.

V NOMINATION OF EXAMINERS FOR DISSERTATIONS AND THESES

1 APPROPRIATE A-RULES

Examiners for master's students must satisfy the requirements of A.4.4.3, which are as follows:

A.4.4.3.1 For the examination of every dissertation or mini-dissertation at least two examiners, of which at least one must be an external examiner, must be appointed by the dean in accordance with the provisions of the applicable faculty rules and in consultation with the research director or research entity leader concerned, or where applicable, the school director concerned to conduct the assessment of the student's performance in an examination.

A.4.4.3.2 The names of the examiners are not made known to the candidate without the permission of the examiners concerned.

A.4.4.3.3 No examiner of a dissertation or mini-dissertation may in any manner have been involved in the supervision of the student.

Examiners for the doctoral degree must satisfy the requirements of A.5.4.3 which are as follows:

A.5.4.3.1 For the examination of every thesis at least three examiners must be appointed by the dean in accordance with the provisions of the applicable faculty rules and in consultation with the research director or research entity leader concerned, or where applicable, the school director concerned, of which the majority must be external examiners attached to different institutions.

A.5.4.3.2 The names of the examiners are not made known to the candidate without the permission of the examiners concerned.

A.5.4.3.3 No examiner of a thesis may in any manner have been involved in the supervision of the student.

2 GUIDELINES

In the light of greater emphasis on demonstrable quality control, Faculty Management approved the following guidelines for nominating examiners for master's and doctoral degrees. In order to allow the Faculty Management to judge recommendations for external examiners accordingly, a recent CV of a nominated external examiner is required together with the nomination for a first appointment. After 3 years since a first appointment, an updated shortened CV is required for other appointments of the same examiner.

2.1 REQUIREMENTS REGARDING EXAMINERS

- Examiners ought to be experienced, active academics/scientists.
- Examiners must be familiar with the field of study and the topic of the dissertation or thesis and must be able to assess the dissertation/thesis thoroughly. Examiners must be nominated on the grounds of their specialist knowledge of the topic of a dissertation/thesis.

- Retired staff of North-West University are not nominated as external examiners.
- Retired staff of other universities may be used as external examiners, if they are still academically (i.e. in research) active.
- Retired staff of North-West University may be used as internal examiners, if they are still active researchers.
- If a staff member of another institution than North-West University is involved with the supervision of a student, another staff member of that University does not qualify to be nominated as an external examiner.

2.2 FACTORS THAT OUGHT TO BE CONSIDERED IN NOMINATING EXTERNAL EXAMINERS

- Where local circumstances have played a crucial role in delivering a dissertation or thesis, the Dean must make sure that that an examiner from abroad is informed about these circumstances. If necessary, an appropriate memorandum may be supplied to the Dean to be sent to the examiner abroad together with the examination document.
- External examiners from practice, i.e. people who do not act as supervisors regularly, frequently deliver unilateral reports that may disrupt the examination process. Being a good examiner does not only require sound subject knowledge and/or practical experience, but also recent knowledge of and recent experience in research practices and educating master's and doctoral students. One must therefore be careful when nominating persons as examiners if they are not involved in active research careers, or if they have not published in a subject journals of good standing during the previous five years
- This principle also applies to colleagues at our own or other universities.

2.3 PRACTICES THAT OUGHT TO BE AVOIDED

- The same examiner(s) ought not to be nominated twice in a row for the students of the same supervisor/promoter.
- The repeated use of the same external examiner ought to be avoided.
- Fine discretion ought to be exercised when ex-students of a supervisor/promoter are nominated as examiners.
- A staff member of North-West University who has resigned during the previous five years ought not to be nominated as external examiner.
- External examiners who have not achieved a Ph.D. themselves ought only to be nominated as external examiners in highly exceptional cases – also for master's students.
- Even the slightest semblance of intimidation in the examination process must definitely be avoided.

2.4 ADMINISTRATIVE

- Examiners must be nominated on the latest edition of the prescribed form that is available at the Administrative Manager. An electronic copy must be sent to the Administrative Manager and a paper copy that is properly signed by the research director, must be handed in at the Administrative Manager for approval by the Dean.
- Examiners must be appointed at least THREE months before the candidate submits his dissertation/thesis so that a replacement may be appointed if an examiner does not accept the nomination.

W GUIDELINES TO EXAMINERS TO EVALUATE A DISSERTATION/MINI-DISSERTATION FOR THE MASTER'S DEGREE

1. GENERAL

1.1 Contents of master's studies

Master's studies usually follow upon an honours degree and comprise research for a dissertation or mini-dissertation under the guidance of a supervisor. In some cases, passing examination papers is required as well. The required number of credits to be obtained is 180, which is in accordance with 1800 study hours.

On the recommendation form to be completed by examiners, the number of credits for the dissertation or mini-dissertation is indicated, as well as the number of credits for the examination papers, if applicable. The allocation of credits indicates the scope of the dissertation or mini-dissertation relative to the examination papers. A mini-dissertation must comply with the same requirements than those set for a dissertation, except that it is of smaller scope.

1.2 Appointment and role of examiners

The Dean appoints at least two examiners of whom at least one must be external to the University. None of the examiners may have been involved with the studies and the external examiners may not be from the same institution. Examiners must be experienced and active academics or other scientists, and preferably have a PhD. They must evaluate the dissertation or mini-dissertation according to international scientific standards.

1.3 Confidentiality

In order to ensure the independence of the examiners in writing the reports, they may not discuss the dissertation or mini-dissertation with each other. After the dissertation or mini-dissertation has been submitted, no communication may take place between the examiners and the supervisor, except through the Dean or his delegated.

1.4 Postgraduate Examination Committee

On receiving the examiners' reports, the supervisor compiles a synoptic report and passes it on to the research director concerned, who presents a recommendation with regard to the result to the Postgraduate Examination Committee of the Faculty of Natural Sciences. The recommendation of this committee is submitted to Faculty Management, who has final decision ability in this regard. Should the examiners not be unanimous of opinion regarding the evaluation of the dissertation or mini-dissertation, the Dean takes the steps he deems necessary to get a result.

2. EXCERPTS FROM A-RULES FOR MASTER'S DEGREE

A.4.4.4.2 The examiners of a dissertation or mini-dissertation are requested to provide an assessment of the question whether the dissertation or mini-dissertation contains proof of the candidate's independent ability to do research in the relevant field of study and to report such research results satisfactorily.

A.4.4.4.8 A dissertation or mini-dissertation may only once be referred back to a candidate and after revision be re-submitted for examination.

3 GUIDELINES FOR EXAMINATION OF DISSERTATION/MINI-DISSERTATION

3.1 Requirements for dissertation/mini-dissertation

To have his/her dissertation or mini-dissertation approved the candidate must provide proof of compliance with the requirements listed in 4.1 below.

A master's study is essentially a training course to equip the candidate with skills for employment in the relevant field or for further independent research. Therefore, the dissertation or mini-dissertation does not need to be an original contribution to the field of research.

The scope and duration of master's studies tend to expand beyond the expectations for the degree. Based on the point of view that the PhD degree is the most appropriate opportunity for more in-depth research, the Faculty makes a concerted attempt to narrow down the scope of master's studies.

In terms of the general academic rules of the University, candidates are allowed to submit a dissertation/mini-dissertation in article format. In addition to the general guidelines in this document, there also appear further explanatory guidelines for this case in the appendix below.

3.2 Requirements for awarding a distinction

A candidate must obtain at least 75% for a dissertation or mini-dissertation to pass it with distinction. Conferring a distinction comprises that the examiner must be convinced of the outstanding quality of the dissertation or mini-dissertation at master's level, taking into account the available time, the complexity of the methodology and the degree of difficulty of the relevant subject material.

Compliance with the following criteria may serve as a guideline:

- The subject content is of high quality.
- The structure of the document complies with high standards.
- The presentation is excellent. Less significant editorial errors regarding typing or spelling do not need to be a disqualification, but repeated errors indicating carelessness and a lack of accuracy may contribute to disqualification of a distinction.

Although an original contribution to the subject area is not a requirement, it may be taken into consideration in awarding a distinction.

4 EXAMINER'S REPORT

The examiner is requested to submit a general, written examiner's report and to submit it together with the synoptic report form. Guidelines for the written report follow below.

4.1 Explanation of the extent of compliance with requirements

The examiner is required to comment in detail on compliance or non-compliance of the candidate to the following criteria:

- 4.1.1 Understanding the nature and objectives of the study, as well as the scientific principles that form the basis of the study
- 4.1.2 Sufficient knowledge of related literature
- 4.1.3 Demonstrating mastery of the appropriate techniques and analytical methods
- 4.1.4 Thorough, logical and coherent evaluation of the meaningfulness of the findings
- 4.1.5 Critical and independent thought demonstrating insight
- 4.1.6 Report writing on the studies and on the attainment of the objectives in an acceptable scientific format that is systematic, logical and persuasive
- 4.1.7 An original contribution to the field of study (not a requirement to pass)

4.2 Unacceptable aspects

Comment on unacceptable aspects or sections of the dissertation or mini-dissertation, the nature of these shortcomings and what the candidate could do to rectify the shortcomings.

5 RECOMMENDATION OF EXAMINER

Write the recommendation on the result of the examination, as well as the marks allocated, on the attached synoptic report form.

6 SUBMISSION OF THE REPORT

Either mail the report together with the FORM, **Recommendation of examiner regarding master's dissertation/mini-dissertation** to:

The Registrar, Potchefstroom Campus, North-West University, Private Bag X6001, POTCHEFSTROOM, 2520 (**For attention: Ms M van Deventer**),

or fax it to 018-293-5242 (**For attention: Ms M van Deventer**),

to reach the registrar NOT LATER THAN

In cases where time is lacking a report may also be sent by e-mail to ([email postgraduate administration](#)) but the e-mail must be followed up by a signed copy of the report.

7 FEEDBACK TO CANDIDATE

After the final decision on the result, the adjustments required in the reports by the examiners are supplied to the candidate without revealing the identities of the examiners.

If it is decided that the degree will be conferred, the names of the examiners are usually also revealed to the candidate, provided the examiners give their permission.

8 ACKNOWLEDGEMENT

The Faculty of Natural Sciences puts a high value on the opinion of examiners of the master's dissertations and mini-dissertations and appreciates the time and energy the examiners spend towards maintaining and improving the standard of the master's degree.

APPENDIX

EXPLANATORY NOTES ON THE ARTICLE MODEL FOR MASTER'S DISSERTATIONS, MINI-DISSERTATIONS AND DOCTORAL THESES IN THE FACULTY OF NATURAL SCIENCES

1 BACKGROUND

The Faculty of Natural Sciences adopted the article model for the submission of the research component of postgraduate studies in terms of the general rules of the North-West University, which make provision for this model. Advantages are that this encourages publication of the research results in scientific journals and also that students are trained in article writing in the course of their postgraduate studies.

This note provides a short explanation of the requirements, rules and guidelines for the use of this model.

2 REQUIREMENTS OF MASTER'S AND DOCTORAL TRAINING

The basic quality and scientific requirements for Master's and Doctoral students, who prefer the article format, are the same as for the traditional model concerning completion of a dissertation, mini-dissertation or a thesis.

The General Rules of the University contain the following requirements for dissertations and mini-dissertations in article format:

4.4.2.9 Where a candidate is allowed to submit a dissertation or mini-dissertation in the form of a published research article or articles or as an unpublished manuscript or manuscripts in article format

and more than one such article or manuscript is used, the dissertation or mini-dissertation must still be presented as a unit, supplemented with an inclusive problem statement, a focused literature analysis and integration and with a synoptic conclusion, and the guidelines of the journal concerned must also be included.

4.4.2.10 Where any research article or manuscript and/or internationally examined patent is used for the purpose of a dissertation or mini-dissertation in article format to which other authors and/or inventors than the candidate contributed, the candidate must obtain a written statement from each co-author and/or co-inventor in which it is stated that such co-author and/or co-inventor grants permission that the research article or manuscript and/or patent may be used for the stated purpose and in which it is further indicated what each co-author's and/or co-inventor's share in the relevant research article or manuscript and/or patent was.

4.4.2.11 Where co-authors or co-inventors as referred to in 4.4.2.9 above were involved, the candidate must mention that fact in the preface and must include the statement of each co-author or co-inventor in the dissertation or mini-dissertation immediately following the preface.

The same requirements apply to a thesis for a doctoral degree (general rules 5.4.2.7 – 5.4.2.9).

3 STRUCTURE AND CHARACTERISTICS OF THE ARTICLE MODEL

3.1 Structure

Typically, the structure of the document will include the following (from a description in the University's Manual for Postgraduate Studies):

- Title page
- An abstract
- Acknowledgements
- Table of contents
- A preface comprising the following:
 - A statement that the article format has been selected
 - The student's share in the research in the case of co-authors for the article(s)/manuscript(s)
 - For each article which was submitted, but not yet published, the name of the journal concerned.
 - Permission from co-authors that the article(s)/manuscript(s) can be submitted for degree purposes
 - Permission from the editor of the journal if any copyright is involved
- Literature review.
- Methods (optional, depending on the type of articles/manuscripts)
- Manuscripts
 - Unpublished manuscripts or
 - Published articles
- Each article must be preceded by a copy of the guidelines for authors for the journal concerned.
- Conclusion.
- Bibliography.
- Addenda.

3.2 Literature review and introduction

The literature review that is presented in an article is less comprehensive than in a traditional dissertation or thesis. However, it must still be taken into account that in a dissertation or thesis the student must provide proof of being familiar with and in control of the appropriate subject literature. A focussed literature analysis must be included. Such a review may also be in the form of a review article.

The introduction can be integrated with the literature review, depending on the nature of the research subject. It will, amongst others, give some brief background and motivation of the research, the questions asked and will explain the structure of the document to the reader. The introduction has to contextualise the research in a logical and coherent manner.

3.3 Conclusion

The conclusion at the end of the document is written specifically to provide an integrated summary and discussion of the relevant conclusions and should contain specific recommendations for practice and/or further research. Some of the content in the conclusion could be repetition of what has been discussed in the individual manuscripts.

4 ARTICLES THAT MAY BE USED

In addition to other requirements that are stated in the formal prescriptions, unless the student provides an acceptable motivation, only articles that flow forth directly from the student's research after registration for the master's or doctoral degree at NWU, for a dissertation or thesis, under supervision of the appointed supervisor/promoter, may be submitted in article format.

5 QUANTITY AND QUALITY

There is no prescribed number of articles in this model. However, the number of articles submitted must convince the examiners in terms of the number and/or extent that the candidate has truly complied with the requirements for a master's or doctoral degree.

The quality, nature and extent of the research that is described in the articles may not differ from that of a traditional dissertation or thesis. The difference is only found in the presentation of the results.

6 MANUSCRIPTS VERSUS PUBLISHED ARTICLES

- Students must indicate to which peer reviewed journal they intend to submit any unsubmitted manuscripts. In the case of submitted publications, students must indicate to which journal it was sent.
- The publication of the manuscripts that are included in the document is not a prerequisite for the examination of the document. However, the Faculty requires that, in case of a master's dissertation or a mini-dissertation, at least one of the manuscripts should have been submitted for publication, and in the case of a doctoral thesis, that at least one of manuscripts should have been accepted for publication, before submission of the document for examination.
- The submission of the manuscript(s) for publication will be left to the discretion of the study leader / supervisor to determine readiness.
- A guideline for students and supervisors is to avoid presenting research results in article format if they do not really intend to publish such articles.

7 CO-AUTHORSHIP

In some cases, students participate in research conducted by teams. Most of the articles from this kind of research are co-authored. Students, who are part of these research teams, must therefore indicate what their own contribution to the research was, and also include the permission that was obtained from the co-authors to use an article as part of their document.

ADMINISTRATIVE PROCESS FOR EXAMINATION OF MINI-DISSERTATIONS IN BUSINESS MATHEMATICS AND INFORMATICS (BMI)

A. STEPS IN THE PROCESS

1. The Director of the Centre submits the titles of the mini-dissertations together with the research proposals, leaders and examiners to the Faculty Management for approval. (Note: The Faculty Management decided that it is sufficient that the research proposals are approved within the well described process of the Centre for BMI by the committee involved and that they need not be submitted to the Faculty Management as well).
2. The Director of the Centre sends the applications for classification as confidential via the Administrative Manager with the signature of the Dean to the committee involved.
3. Academic Administration sends the letters of appointment to the examiners.
4. The supervisor gives consent in the usual manner for the submission of the mini-dissertation and submits it then directly to the Director of the Centre.
5. The Director of the Centre ensures that each mini-dissertation is delivered to the external examiner involved, together with the Faculty guidelines for examination of mini-dissertations and dissertations as well as the Faculty recommendation form for examiners. A paragraph with additional information for the examiners appears in the accompanying letter.
6. The internal and external examiners complete their examiners reports by using the prescribed table independently of each other and send the reports directly to the Director of the Centre.
7. The Director of the Centre compiles a synoptic report based on the reports of the internal and external examiners and taking into account the process mark, which was awarded at several stages of the progress with the project. This happens through the prescribed table, which was also used by the examiners. The Director of the Centre also completes the summative report form of the Faculty.
8. The Director of the Centre for BMI together with the Director of the Research Unit for BMI approves the result and completes the final result form.
9. The Director of the Centre gives the final result form to the Administrative manager for submission to the Dean and thereafter to the Faculty Management.
10. Academic Administration makes known the outcome as soon as the Faculty Management has approved it.

Note: Unlike in a BMI Quantitative Risk Management project, a BMI Business Analytics project is done by a team of students, where the members of the team work on the same business problem. Each mini-dissertation completed within the team context will have a different title, which will express the focus of each student's individual research contribution, which may consist of work concerning a sub-problem of the overall business problem or may consist of work done through a specific problem solving methodology. The introduction to the mini-dissertation will contain a statement that the work reported, forms part of a team project and represents the contribution of the student to the project.

B. PRESCRIBED FORM

Evaluation Form for BMI mini-dissertations

Please use the guidelines provided to evaluate the mini-dissertation of the student using the following scale. Examiners are encouraged to use decimals (e.g. 3.5) to indicate performance in between the levels described here.

SCALE

1	2	3	4	5
Unacceptable	Poor	Average	Very Good	Outstanding
<i>Total lack of effort - Consistently failed to meet any expectations.</i>	<i>Hardly any effort – failed to meet most expectations.</i>	<i>Met some expectations and failed to meet others in equal proportions.</i>	<i>Great effort – exceeded most expectations.</i>	<i>Consistently made extraordinary efforts and far exceeded all expectations.</i>

Please see the section below for further clarification of scales for individual criteria, in cases where ambiguity may arise.

Criterion	Weight	Maximum Mark	Student Mark	Maximum Weighted Mark	Weighted Student Mark
Formulation of problem	1	5		5	
Command of research techniques	2	5		10	
Deductions, conclusions and evaluation thereof	3	5		15	
Spelling and Grammar	2	5		10	
Logical Flow of Document	3	5		15	
Document Structure	1	5		5	
Executive Summary	1	5		5	
Literature Study	3	5		15	
Complexity / Scope of Study	2	5		10	
Perceived Value Added	2	5		10	
TOTAL (Weighted Student Mark)				100	

Clarification of Criteria:

Formulation of the Problem:

This criterion assesses the student's understanding of the business context of the problem.

A low mark would show that the student failed to formulate clearly and realistically how it developed and what the business impact is.

A high mark would indicate that the student understood the essence of the problem and its implications for business environment, with a very high mark indicating exceptional insight.

Command of Research Techniques:

This criterion assesses whether a reader with some understanding or practical experience of the technical aspects of the work would agree with the description or implementation of these aspects, or the interpretation of any results obtained. A reader with little knowledge of a specific technical concept should be able to obtain a reasonable degree of insight from reading the document.

A low mark would indicate that the student conveyed a poor understanding of a concept or technique, that the descriptions given were inadequate or incorrect, or that the student was unable to successfully convey knowledge to the reader.

A high mark would indicate that the student demonstrated a clear understanding of the concepts and research techniques.

Deductions, Conclusions and Evaluation Thereof:

This criterion assesses the ability of the student to draw sensible, relevant conclusion, to understand the impact of such conclusions and to relate them back to the original problem description and business context.

A low mark would indicate that the student drew misguided or irrelevant conclusions, or was unable to demonstrate insight into the implications of the conclusions drawn.

A high mark for this criterion would indicate that the student justified the conclusions drawn in every section of the document to an extent that convinced the reader of the validity and relevance of those conclusions.

Spelling and Grammar:

Students are required to have their final reports professionally reviewed by a language specialist and as such any obvious spelling or grammatical errors should be strictly penalized.

A low mark for this criterion will be for a document containing errors that could have been prevented by using a standard spelling and grammar checker.

A high mark will be given for a student who has mastered the art of technical report writing.

Logical Flow:

This criterion assesses whether the content of the document allows the reader to envisage the sequence of events as problems were identified, addressed and resolved.

A low mark would indicate that the document contained sections or paragraphs assuming knowledge of concepts not yet introduced, or seemingly unrelated to the topic at hand. A low mark would also be appropriate if at any given time the reader felt unsure what the project was about, how and why the student chose a particular approach, or in what way the work done addressed the problem.

A high mark would indicate that the student painted a clear sequential picture of each stage of the project and was able to relate how and why any approaches or techniques were chosen or implemented.

Document structure:

This criterion assesses whether the document layout was clearly communicated and adhered to, allowing the reader to quickly establish an understanding of the document layout and to easily find any section of interest by briefly paging through the document.

A low mark would indicate that the student submitted a poorly structured document that left the reader unable to navigate the report easily on the basis of headings, page numbers, and chart or table captions.

A high mark would indicate that headings followed a logical sequence as indicated by the table of contents, and that footers clearly indicated correct page numbers as applicable to subsections or appendices.

Executive Summary:

This criterion assesses whether the executive summary allowed the reader to ascertain at a glance the nature of issues addressed by the project, the nature of the approach followed, and the conclusions drawn in the process.

A low mark would indicate that the executive summary section of the report did not give an adequate overview of project.

A high mark would indicate that the executive summary consisted of a succinct but adequately informative “one page” summary of the entire document.

Literature Study:

This criterion assesses the quality of the literature study produced as part of the research phase of the project.

A low mark would show that the extent of coverage was inadequate, that the student misunderstood the material or poorly communicated key concepts, or that irrelevant material was included.

A high mark for a literature study would indicate that the student did comprehensive research related to the focus area of the project and in compiling the literature study illustrated thorough command of the subject matter.

Complexity / Scope of Study:

This criterion assesses the level of effort required to complete the project in terms of the depth of the understanding (i.e. project completion required the student to obtain very specific business domain knowledge or detailed, in-depth understanding of a collection of complex concepts) or the scope of study (i.e. working knowledge of a wide variety of concepts or the understanding of a wide-ranging business domain) that was required in order to complete the project successfully. The mark for this criterion should aim to make a realistic assessment taking into account the time frame available for project completion.

A low mark would indicate that the project consisted of a straightforward task requiring little creative thinking ability or research prowess.

A high mark would indicate that the proposed solution required significant creative thinking ability and research prowess.

Perceived Value Added:

From the perspective of an academic external examiner, this criterion refers to the level of contribution of the work to the field of study. From the perspective of an industry external examiner, the criterion assesses whether the work adds value to the industry as a useful business deliverable.

A low mark would indicate that the work was of little consequence, either in terms of publication potential or as a business deliverable, depending on the perspective of the examiner.

A high mark from an academic perspective would indicate that the work has publication potential, or that the report provided significant insight into the practical application of theory in the particular field. A high mark from a business representative would indicate that the work has contributed significantly towards the understanding or resolution of a business problem.

C. FACULTY GUIDELINES FOR THE EXAMINERS OF MINI-DISSERTATIONS FOR THE MASTER’S DEGREE

Faculty of Natural Sciences

GUIDELINES FOR EXAMINERS TO EVALUATE A DISSERTATION/MINI-DISSERTATION FOR THE MASTER’S DEGREE

1. GENERAL

1.1. Contents of master’s studies

Master’s studies usually follow upon an honours degree and comprise research for a dissertation or mini-dissertation under the guidance of a supervisor. In some cases, passing examination papers is required as well. The required number of credits to be obtained is 180, which is in accordance with 1800 study hours.

On the recommendation form to be completed by examiners, the number of credits for the dissertation or mini-dissertation is indicated, as well as the number of credits for the examination papers, if applicable. The allocation of credits indicates the scope of the dissertation or mini-dissertation relative to the examination papers. A mini-dissertation must comply with the same requirements than those set for a dissertation, except that it is of smaller scope.

1.2. Appointment and role of examiners

The Dean appoints at least two examiners of whom at least one must be external to the University. None of the examiners may have been involved with the studies and the external examiners may not be from the same institution. Examiners must be experienced and active academics or other scientists, and preferably have a PhD. They must evaluate the dissertation or mini-dissertation according to international scientific standards.

1.3. Confidentiality

In order to ensure the independence of the examiners in writing the reports, they may not discuss the dissertation or mini-dissertation with each other. After the dissertation or mini-dissertation has been submitted, no communication may take place between the examiners and the supervisor, except through the Dean or his delegated.

1.4. Postgraduate Examination Committee

On receiving the examiners' reports, the supervisor compiles a synoptic report and passes it on to the research director concerned, who presents a recommendation with regard to the result to the Postgraduate Examination Committee of the Faculty of Natural Sciences. The recommendation of this committee is submitted to Faculty Management, who has final decision ability in this regard. Should the examiners not be unanimous of opinion regarding the evaluation of the dissertation or mini-dissertation, the Dean takes the steps he deems necessary to get a result.

2. EXCERPTS FROM A-RULES FOR MASTER'S DEGREE

A.4.4.4.2 The examiners of a dissertation or mini-dissertation are requested to provide an assessment of the question whether the dissertation or mini-dissertation contains proof of the candidate's independent ability to do research in the relevant field of study and to report such research results satisfactorily.

A.4.4.4.8 A dissertation or mini-dissertation may only once be referred back to a candidate and after revision be re-submitted for examination.

3. GUIDELINES FOR EXAMINATION OF DISSERTATION/MINI-DISSERTATION

3.1. Requirements for dissertation/mini-dissertation

To have his/her dissertation or mini-dissertation approved the candidate must provide proof of compliance with the requirements listed in 4.1 below.

A master's study is essentially a training course to equip the candidate with skills for employment in the relevant field or for further independent research. Therefore, the dissertation or mini-dissertation does not need to be an original contribution to the field of research.

The scope and duration of master's studies tend to expand beyond the expectations for the degree. Based on the point of view that the PhD degree is the most appropriate opportunity for more in-depth research, the Faculty makes a concerted attempt to narrow down the scope of master's studies.

3.2. Requirements for awarding a distinction

A candidate must obtain at least 75% for a dissertation or mini-dissertation to pass it with distinction. Conferring a distinction comprises that the examiner must be convinced of the outstanding quality of the dissertation or mini-dissertation at master's level, taking into account the available time, the complexity of the methodology and the degree of difficulty of the relevant subject material.

Compliance with the following criteria may serve as a guideline:

- The subject content is of high quality.
- The structure of the document complies with high standards.
- The presentation is excellent. Less significant editorial errors regarding typing or spelling do not need to be a disqualification, but repeated errors indicating carelessness and a lack of accuracy may contribute to disqualification of a distinction.

Although an original contribution to the subject area is not a requirement, it may be taken into consideration in awarding a distinction.

4. EXAMINER'S REPORT

The examiner is requested to submit a general, written examiner's report and to submit it together with the synoptic report form. Guidelines for the written report follow below.

4.1. Explanation of the extent of compliance with requirements

The examiner is required to comment in detail on compliance or non-compliance of the candidate to the following criteria:

- 4.1.1. Understanding the nature and objectives of the study, as well as the scientific principles that form the basis of the study
- 4.1.2. Sufficient knowledge of related literature
- 4.1.3. Demonstrating mastery of the appropriate techniques and analytical methods
- 4.1.4. Thorough, logical and coherent evaluation of the meaningfulness of the findings
- 4.1.5. Critical and independent thought demonstrating insight
- 4.1.6. Report writing on the studies and on the attainment of the objectives in an acceptable scientific format that is systematic, logical and persuasive
- 4.1.7. An original contribution to the field of study (not a requirement to pass)

4.2. Unacceptable aspects

Comment on unacceptable aspects or sections of the dissertation or mini-dissertation, the nature of these shortcomings and what the candidate could do to rectify the shortcomings.

5. RECOMMENDATION OF EXAMINER

Write the recommendation on the result of the examination, as well as the marks allocated, on the attached synoptic report form.

6. FEEDBACK TO CANDIDATE

After the final decision on the result, the adjustments required in the reports by the examiners are supplied to the candidate without revealing the identities of the examiners.

If it is decided that the degree will be conferred, the names of the examiners are usually also revealed to the candidate, provided the examiners give their permission.

7. ACKNOWLEDGEMENT

The Faculty of Natural Sciences puts a high value on the opinion of examiners of the master's dissertations and mini-dissertations and appreciates the time and energy the examiners spend towards maintaining and improving the standard of the master's degree.

D. ADDITIONAL CONTENT IN THE ACCOMPANYING LETTER FOR EXAMINERS

The mini-dissertation of BMI master's degree students is the final deliverable of the BMI industry directed research projects. Unlike classical theses, the primary focus of the industry directed research projects is to add value to industry rather than to create new knowledge. The

BMI industry directed research projects are subject to a detailed project-based evaluation process which is documented in study guide BWIN826. The mark obtained in this process, together with that of the internal and external examiner, will be used to determine the final mark. The industry directed research projects are unique in the sense that students have to complete the mini-dissertation and project in a 6 to 7 month period for a specific company in industry.

Each examiner is expected to submit a written report within two weeks after receiving the mini-dissertation. This report must consist of an evaluation of the mini-dissertation in respect of the specific aspects in the GUIDELINES FOR EXAMINERS TO EVALUATE A DISSERTATION/MINI-DISSERTATION FOR THE MASTER'S DEGREE and by way of the attached EVALUATION FORM FOR BMI MINI-DISSERTATIONS. The report should be accompanied by the EXAMINER'S RECOMMENDATION FORM and be mailed to:

The Director, Centre for BMI, Potchefstroom Campus, North-West University, Private Bag X6001, Potchefstroom, 2520, South Africa (For attention: Prof PJ de Jongh)

Fax: (+27-18) 299-2584 (For attention: Prof PJ de Jongh) not later than 29 January 2009.

When the examiner is pressed for time, the reports may be sent by electronic mail to Riaan.deJongh@nwu.ac.za.

E. RECOMMENDATION FORM FOR EXAMINERS

FACULTY OF NATURAL SCIENCES

Recommendation of examiner regarding master's dissertation/mini-dissertation

(To be completed by the Faculty Officer before dispatching)					
Dissertation / Mini-dissertation (Delete that which is not applicable)					
Candidate:			Examiner:		
Degree:			Curriculum number:		
Title:					
Total of credits for examination papers:			Credits for dissertation/mini-dissertation:		
					Number of examination papers:

MAKING KNOWN THE EXAMINER'S IDENTITY

Do you agree that, if the outcome would be that the candidate passes, your name may be made known to the candidate? (Except for the adjustments you recommend, your report will not be made known to the candidate.)

Yes	
No	

RECOMMENDATION

I have examined the above mentioned dissertation/mini-dissertation and my recommendation agrees with the option indicated by an "X" in the appropriate box.

- The dissertation/mini-dissertation passes unconditionally and less significant language, typing and technical errors found are left to the candidate for correction under the supervision of the supervisor.
- The dissertation/mini-dissertation passes, but too many typing, language and/or technical errors and/or minor errors in the scientific content occur for option 1; therefore an edited copy must first be submitted to the Research Director for final approval.
If you mark this option, please attach to this form a complete list of the errors to be corrected.
- The dissertation/mini-dissertation does not pass in its present form and is referred back to the candidate with one opportunity only for comprehensive revision and/or amplification and re-submission for re-examination.
The aspects which need attention are described in detail in the attached written report.
- The dissertation/mini-dissertation does not pass and the candidate fails.

Mark for dissertation/mini-dissertation:%

(Award a mark in agreement with your recommendation above.)

.....
Signature of examiner

.....
Date

**X RECOMMENDATION OF EXAMINER REGARDING
 MASTER'S DISSERTATION/MINI-DISSERTATION
 FACULTY OF NATURAL SCIENCES
 Recommendation of examiner regarding Master's
 dissertation/mini-dissertation**

(To be completed by the Faculty Officer before dispatching) Dissertation / Mini-dissertation (Delete that which is not applicable)					
Candidate:			Examiner:		
Degree:			Curriculum number:		
Title:					
Total of credits for examination papers:			Credits for dissertation/mini-dissertation:		
					Number of examination papers:

EVALUATION

Assess the extent to which the candidate has complied with each of the criteria below by marking the appropriate box with an "X" every time. Furthermore, you are also requested to submit a general, written examiner's report.

Criterion	Insufficient	Acceptable	Good	Outstanding
• Understanding the aim and objectives of the study as well as the principles on which it is based				
• Sufficient knowledge of the relevant literature				
• Demonstrating mastery of the appropriate techniques and analytical methods				
• Thorough, logical and coherent assessment of the significance of the findings				
• Critical and independent thought that demonstrates insight				
• Reporting on the study and achievement of the objectives in an acceptable scientific format that is systematic, logical and persuasive				

MAKING KNOWN THE EXAMINER'S IDENTITY

Do you agree that, if the outcome would be that the candidate passes, your name may be made known to the candidate? (Except for the adjustments you recommend, your report will not be made known to the candidate.)

Yes	
No	

RECOMMENDATION

I have examined the above mentioned dissertation/mini-dissertation and my recommendation agrees with the option indicated by an "X" in the appropriate box.

- The dissertation/mini-dissertation passes unconditionally and less significant language, typing and technical errors found are left to the candidate for correction under the supervision of the supervisor.
- The dissertation/mini-dissertation passes, but too many typing, language and/or technical errors and/or minor errors in the scientific content occur for option 1; therefore an edited copy must first be submitted to the Research Director for final approval.
If you mark this option, please attach to this form a complete list of the errors to be corrected.
- The dissertation/mini-dissertation does not pass in its present form and is referred back to the candidate with one opportunity only for comprehensive revision and/or amplification and re-submission for re-examination.
The aspects which need attention are described in detail in the attached written report.
- The dissertation/mini-dissertation does not pass and the candidate fails.

Mark for dissertation/mini-dissertation:%

(Award a mark in agreement with your recommendation above.)

.....
Signature of examiner

.....
Date

Y GUIDELINES FOR THE EXAMINATION OF A THESIS FOR A DOCTORAL DEGREE

1 GENERAL

1.1 Contents of PhD studies

PhD studies usually follow upon a master's degree and comprise research for a thesis under the guidance of a promoter with a view to obtaining 360 credits in accordance with 3600 hours of study.

1.2 Appointment and role of examiners

The Dean appoints at least three examiners of whom the majority must be external to the University. None of the examiners may have been involved with the studies and the external examiners may not be from the same institution. Examiners must be experienced and active academics or other scientists, and must, except for exceptional cases, have a PhD. They must evaluate the thesis according to international scientific standards.

1.3 Confidentiality

In order to ensure the independence of the examiners in writing their reports, they may not discuss the thesis with each other. After the thesis has been submitted, no communication may take place between the examiners and the promoter, except through the Dean or his delegated.

1.4 Procedures on receiving the reports of the examiners

On receiving the examiners' reports, the promoter compiles a synoptic report and passes it on to the research director concerned, who presents a recommendation with regard to the result to the Postgraduate Examination Committee of the Faculty of Natural Sciences. The recommendation of this committee is submitted to Faculty Management, who has final decision ability in this regard.

Should the examiners not be unanimous of opinion regarding the evaluation of the thesis, the Dean takes the steps he deems necessary to get a result.

2 EXCERPTS FROM THE A-RULES FOR THE DOCTORATE

A.5.4.4.1 The examiners of a thesis are requested to provide an assessment of the question whether the thesis contains proof that the candidate has made a distinct scholarly contribution to the knowledge and insight in the field and of originality, either by way of the pronouncement and dissemination of new facts or by means of the exercise of independent critical skills.

A.5.4.4.7 A thesis may only once be referred back to a candidate and after revision be re-submitted for examination.

3 THE THESIS AS ORIGINAL CONTRIBUTION TO KNOWLEDGE

The examiner is specifically required to judge whether the thesis conforms to the requirement of being an original contribution to existing knowledge in the subject area and whether it provides proof of independent critical ability in handling material from subject literature as well as the new contribution.

4 EXAMINER'S REPORT

The examiner is requested to submit a formal, written examiner's report on the thesis. The guidelines below are to be followed in writing the report.

4.1 Explanation of extent to which the thesis complies with requirements

Comment in detail on the compliance or non-compliance of the candidate with the following criteria:

- 4.1.1 Original contribution to knowledge of the subject area
- 4.1.2 Insight into the nature and objectives of the study as well as into the scientific principles that form the basis of the study
- 4.1.3 Sufficient knowledge of relevant literature
- 4.1.4 Demonstrating mastery of the appropriate techniques and analytical methods
- 4.1.5 Thorough, logical and coherent assessment of the significance of the findings
- 4.1.6 Critical and independent thought demonstrating insight
- 4.1.7 Report writing on the studies and on the achievement of the objectives in an acceptable scientific format that is systematic, logical and persuasive

4.2 Strong and weak points

Comment on the weak and strong points of the thesis.

5 THESIS IN ARTICLE FORMAT

In terms of the general academic rules of the University, candidates are allowed to submit a thesis in article format. In addition to the general guidelines in this document, there also appear further explanatory guidelines for this case in the appendix below.

6 RECOMMENDATION OF EXAMINER

Write the recommendation on the result of your examining the thesis on the attached synoptic report form.

7 SUBMISSION OF THE REPORT

Either mail the report together with the FORM, **Recommendation of examiner regarding thesis for PhD** to:

The Registrar, Potchefstroom Campus, North-West University, Private Bag X6001, POTCHEFSTROOM, 2520 (**For attention: Ms M van Deventer**),

or fax it to (018) 293-5242 (**For attention: Ms M van Deventer**),

to reach the registrar NOT LATER THAN

In cases where time lacks a report may also be sent by e-mail to ([email postgraduate administration](#)) **but it must be followed up by a signed copy of the report.**

8 FEEDBACK TO CANDIDATE

After the final decision on the result the adjustments required in the reports by the examiners are supplied to the candidate without revealing the identities of the examiners.

If it is decided that the degree will be conferred, the names of the examiners are usually also revealed to the candidate, provided the examiners give their permission.

9 ACKNOWLEDGEMENT

The Faculty of Natural Sciences puts a high value on the opinion of examiners of theses and appreciates the time and energy they spend on maintaining and improving the standard of the doctorate.

APPENDIX

EXPLANATORY NOTES ON THE ARTICLE MODEL FOR MASTER'S DISSERTATIONS, MINI-DISSERTATIONS AND DOCTORAL THESES IN THE FACULTY OF NATURAL SCIENCES

1 BACKGROUND

The Faculty of Natural Sciences adopted the article model for the submission of the research component of postgraduate studies in terms of the general rules of the North-West University, which make provision

for this model. Advantages are that this encourages publication of the research results in scientific journals and also that students are trained in article writing in the course of their postgraduate studies.

This note provides a short explanation of the requirements, rules and guidelines for the use of this model.

2 REQUIREMENTS OF MASTER'S AND DOCTORAL TRAINING

The basic quality and scientific requirements for Master's and Doctoral students, who prefer the article format, are the same as for the traditional model concerning completion of a dissertation, mini-dissertation or a thesis.

The General Academic Rules of the University contain the following requirements for dissertations and mini-dissertations in article format:

4.4.2.9 Where a candidate is allowed to submit a dissertation or mini-dissertation in the form of a published research article or articles or as an unpublished manuscript or manuscripts in article format and more than one such article or manuscript is used, the dissertation or mini-dissertation must still be presented as a unit, supplemented with an inclusive problem statement, a focused literature analysis and integration and with a synoptic conclusion, and the guidelines of the journal concerned must also be included.

4.4.2.10 Where any research article or manuscript and/or internationally examined patent is used for the purpose of a dissertation or mini-dissertation in article format to which other authors and/or inventors than the candidate contributed, the candidate must obtain a written statement from each co-author and/or co-inventor in which it is stated that such co-author and/or co-inventor grants permission that the research article or manuscript and/or patent may be used for the stated purpose and in which it is further indicated what each co-author's and/or co-inventor's share in the relevant research article or manuscript and/or patent was.

4.4.2.11 Where co-authors or co-inventors as referred to in 4.4.2.9 above were involved, the candidate must mention that fact in the preface and must include the statement of each co-author or co-inventor in the dissertation or mini-dissertation immediately following the preface.

The same requirements apply to a thesis for a doctoral degree (general rules 5.4.2.7 – 5.4.2.9).

3 STRUCTURE AND CHARACTERISTICS OF THE ARTICLE MODEL

3.4 Structure

Typically, the structure of the document will include the following (from a description in the University's Manual for Postgraduate Studies):

- Title page
- An abstract
- Acknowledgements
- Table of contents
- A preface comprising the following:
 - A statement that the article format has been selected
 - The student's share in the research in the case of co-authors for the article(s)/manuscript(s)
 - For each article which was submitted, but not yet published, the name of the journal concerned.
 - Permission from co-authors that the article(s)/manuscript(s) can be submitted for degree purposes
 - Permission from the editor of the journal if any copyright is involved
- Literature review.
- Methods (optional, depending on the type of articles/manuscripts)
- Manuscripts
 - Unpublished manuscripts or
 - Published articles

- Each article must be preceded by a copy of the guidelines for authors for the journal concerned.
- Conclusion.
- Bibliography.
- Addenda.

3.5 Literature review and introduction

The literature review that is presented in an article is less comprehensive than in a traditional dissertation or thesis. However, it must still be taken into account that in a dissertation or thesis the student must provide proof of being familiar with and in control of the appropriate subject literature. A focussed literature analysis must be included. Such a review may also be in the form of a review article.

The introduction can be integrated with the literature review, depending on the nature of the research subject. It will, amongst others, give some brief background and motivation of the research, the questions asked and will explain the structure of the document to the reader. The introduction has to contextualise the research in a logical and coherent manner.

3.6 Conclusion

The conclusion at the end of the document is written specifically to provide an integrated summary and discussion of the relevant conclusions and should contain specific recommendations for practice and/or further research. Some of the content in the conclusion could be repetition of what has been discussed in the individual manuscripts.

4 ARTICLES THAT MAY BE USED

In addition to other requirements that are stated in the formal prescriptions, unless the student provides an acceptable motivation, only articles that flow forth directly from the student's research after registration for the master's or doctoral degree at NWU, for a dissertation or thesis, under supervision of the appointed supervisor/promoter, may be submitted in article format.

5 QUANTITY AND QUALITY

There is no prescribed number of articles in this model. However, the number of articles submitted must convince the examiners in terms of the number and/or extent that the candidate has truly complied with the requirements for a master's or doctoral degree.

The quality, nature and extent of the research that is described in the articles may not differ from that of a traditional dissertation or thesis. The difference is only found in the presentation of the results.

6 MANUSCRIPTS VERSUS PUBLISHED ARTICLES

- Students must indicate to which peer reviewed journal they intend to submit any unsubmitted manuscripts. In the case of submitted publications, students must indicate to which journal it was sent.
- The publication of the manuscripts that are included in the document is not a prerequisite for the examination of the document. However, the Faculty requires that, in case of a master's dissertation or a mini-dissertation, at least one of the manuscripts should have been submitted for publication, and in the case of a doctoral thesis, that at least one of manuscripts should have been accepted for publication, before submission of the document for examination.
- The submission of the manuscript(s) for publication will be left to the discretion of the study leader / supervisor to determine readiness.
- A guideline for students and supervisors is to avoid presenting research results in article format if they do not really intend to publish such articles.

7 CO-AUTHORSHIP

In some cases, students participate in research conducted by teams. Most of the articles from this kind of research are co-authored. Students, who are part of these research teams, must therefore indicate what their own contribution to the research was, and also include the permission that was obtained from the co-authors to use an article as part of their document.

Z EXPLANATORY NOTES ON THE ARTICLE MODEL FOR MASTER'S DISSERTATIONS, MINI-DISSERTATIONS AND DOCTORAL THESES IN THE FACULTY OF NATURAL SCIENCES

1 BACKGROUND

The Faculty of Natural Sciences adopted the article model for the submission of the research component of postgraduate studies in terms of the general rules of the North-West University, which make provision for this model. Advantages are that this encourages publication of the research results in scientific journals and also that students are trained in article writing in the course of their postgraduate studies.

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The General Rules of the University contain the following requirements for dissertations and mini-dissertations in article format:

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4.4.2.10 Where any research article or manuscript and/or internationally examined patent is used for the purpose of a dissertation or mini-dissertation in article format to which other authors and/or inventors than the candidate contributed, the candidate must obtain a written statement from each co-author and/or co-inventor in which it is stated that such co-author and/or co-inventor grants permission that the research article or manuscript and/or patent may be used for the stated purpose and in which it is further indicated what each co-author's and/or co-inventor's share in the relevant research article or manuscript and/or patent was.

4.4.2.11 Where co-authors or co-inventors as referred to in 4.4.2.9 above were involved, the candidate must mention that fact in the preface and must include the statement of each co-author or co-inventor in the dissertation or mini-dissertation immediately following the preface.

The same requirements apply to a thesis for a doctoral degree (general rules 5.4.2.7 – 5.4.2.9).

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- An abstract
- Acknowledgements
- Table of contents
- A preface comprising the following:
 - A statement that the article format has been selected
 - The student's share in the research in the case of co-authors for the article(s)/manuscript(s)
 - For each article which was submitted, but not yet published, the name of the journal concerned.
 - Permission from co-authors that the article(s)/manuscript(s) can be submitted for degree purposes
 - Permission from the editor of the journal if any copyright is involved
- Literature review.
- Methods (optional, depending on the type of articles/manuscripts)
- Manuscripts
 - Unpublished manuscripts or
 - Published articles
- Each article must be preceded by a copy of the guidelines for authors for the journal concerned.
- Conclusion.
- Bibliography.
- Addenda.

3.2 LITERATURE REVIEW AND INTRODUCTION

The literature review that is presented in an article is less comprehensive than in a traditional dissertation or thesis. However, it must still be taken into account that in a dissertation or thesis the student must provide proof of being familiar with and in control of the appropriate subject literature. A focused literature analysis must be included. Such a review may also be in the form of a review article.

The introduction can be integrated with the literature review, depending on the nature of the research subject. It will, amongst others, give some brief background and motivation of the research, the questions asked and will explain the structure of the document to the reader. The introduction has to contextualise the research in a logical and coherent manner.

3.3 CONCLUSION

The conclusion at the end of the document is written specifically to provide an integrated summary and discussion of the relevant conclusions and should contain specific recommendations for practice and/or further research. Some of the content in the conclusion could be repetition of what has been discussed in the individual manuscripts.

4 ARTICLES THAT MAY BE USED

In addition to other requirements that are stated in the formal prescriptions, unless the student provides an acceptable motivation, **only** articles that flow forth directly from the student's research **after** registration for the master's or doctoral degree at NWU, for a dissertation or thesis, under supervision of the appointed supervisor/promoter, may be submitted in article format.

5 QUANTITY AND QUALITY

There is no prescribed number of articles in this model. However, the number of articles submitted must convince the examiners in terms of the number and/or extent that the candidate has truly complied with the requirements for a master's or doctoral degree.

The quality, nature and extent of the research that is described in the articles may not differ from that of a traditional dissertation or thesis. The difference is only found in the presentation of the results.

6 MANUSCRIPTS VERSUS PUBLISHED ARTICLES

- Students must indicate to which peer reviewed journal they intend to submit any unsubmitted manuscripts. In the case of submitted publications, students must indicate to which journal it was sent.
- The publication of the manuscripts that are included in the document is not a prerequisite for the examination of the document. However, the Faculty requires that at least one of the manuscripts should have been accepted for publication, before submission of the document for examination.
- The submission of the manuscript(s) for publication will be left to the discretion of the study leader / supervisor to determine readiness.
- A guideline for students and supervisors is to avoid presenting research results in article format if they do not really intend to publish such articles.

7 CO-AUTHORSHIP

In some cases, students participate in research conducted by teams. Most of the articles from this kind of research are co-authored. Students, who are part of these research teams, must therefore indicate what their own contribution to the research was, and also include the permission that was obtained from the co-authors to use an article as part of their document.

AA RECOMMENDATION OF EXAMINER REGARDING A DOCTORAL THESIS

FACULTY OF NATURAL SCIENCES Recommendation of examiner regarding PhD thesis

(To be completed by Faculty Officer before dispatching)	
THESIS	
Candidate:	Examiner:
Degree:	Curriculum number:
Title:	

RECOMMENDATION

I have examined the above mentioned thesis and I recommend the option indicated by an "X" in the appropriate box below:

1. The thesis passes unconditionally and less significant language, typing and technical errors found are left to the candidate for correction under the supervision of the promoter.

2. The thesis passes, but too many typing, language and/or technical errors and/or minor errors in the scientific content occur for option 1; therefore an edited copy must first be submitted to the Research Director for final approval.
If you mark this option, please attach to this form a complete list of the errors to be corrected.

3. The thesis does not pass in its present form and is referred back to the student with one opportunity only for comprehensive revision and/or amplification and re-submission for re-examination.
The aspects which need attention are described in detail in the attached written report.

4. The thesis does not pass and the candidate fails.

MAKING KNOWN THE EXAMINER'S IDENTITY

Do you agree that, if the result would be that the candidate passes, your name may be made known to the candidate? (Except for the adjustments you recommend, your report will not be made known to the candidate.)

Yes	
No	

.....
Signature of examiner

.....
Date

**BB SUMMATIVE REPORT TO THE RESEARCH DIRECTOR
REGARDING A MASTER'S DISSERTATION/MINI-DISSERTATION
AND ORAL AND/OR WRITTEN EXAMINATION**

FACULTY OF NATURAL SCIENCES
**Summative report to the research director regarding a
Master's dissertation/mini-dissertation and oral and/or
written examination**

DISSERTATION		MINI-DISSERTATION		MARK APPROPRIATE BOX
CANDIDATE:				
DEGREE:				CURRICULUM NUMBER:
Descriptive name of curriculum as found in the calendar:				
Focus Area/Research Unit:				
School Director:			Research Director:	
Title:				

A The undersigned declares as the supervisor of the above-mentioned candidate that all of the examiners have examined the dissertation/mini-dissertation. The undersigned makes the recommendation indicated by an "X" in the appropriate box below:

1. The dissertation/mini-dissertation passes unconditionally and less significant language, typing and technical errors found are left to the candidate for correction under the supervision of the supervisor.
2. The dissertation/mini-dissertation passes, but too many typing, language and/or technical errors and/or minor errors in the scientific content occur for option 1; therefore an edited copy must first be submitted to the Research Director for final approval.
If you mark this option, please attach to this form a complete list of the errors to be corrected.
3. The dissertation/mini-dissertation does not pass in its present form and is referred back to the candidate with one opportunity only for comprehensive revision and/or amplification and re-submission for re-examination.
The aspects which need attention are described in detail in the attached written report.
4. The dissertation/mini-dissertation does not pass and the candidate fails.

B	Dates of oral and written examinations:
Average mark awarded to dissertation/mini-dissertation:	
Average mark achieved in oral/written examination(s):	
Final mark calculated according the ratio below: Examination papers: Dissertation/Mini-dissertation = :	

RESULTS:	
Fail	<input type="checkbox"/>
Pass	<input type="checkbox"/>
Pass with distinction	<input type="checkbox"/>

.....
Signature supervisor

.....
Date

**CC SUMMATIVE REPORT TO THE RESEARCH DIRECTOR REGARDING
A DOCTORAL THESIS**

FACULTY OF NATURAL SCIENCES

Summative report to the research director regarding a doctoral thesis

Candidate:			
Subject area:		Curriculum number:	
Title:			

The undersigned as the promoter of the above-mentioned candidate declares that all of the examiners have examined the thesis. The undersigned makes the recommendation indicated by an "X" in the appropriate box below:

1. The thesis passes unconditionally and less significant language, typing and technical errors found are left to the candidate for correction under the supervision of the promoter.
2. The thesis passes, but too many typing, language and/or technical errors and/or minor errors in the scientific content occur for option 1; therefore an edited copy must first be submitted to the Research Director for final approval.
If you mark this option, please attach to this form a complete list of the errors to be corrected.
3. The thesis does not pass in its present form and is referred back to the student with one opportunity only for comprehensive revision and/or amplification and re-submission for re-examination.
The aspects which need attention are described in detail in the attached written report.
4. The thesis does not pass and the candidate fails.

.....
Signature: Promoter

.....
Date

DD GUIDELINES FOR MANAGING MASTER'S AND DOCTORAL RESULTS

Faculty Management accepts the following guidelines for managing master's and doctoral results:

1. If the recommendation of every examiner is option 1 (i.e.: "The dissertation/mini-dissertation/thesis is accepted unconditionally and minor language, typing and/or technical mistakes that may occur are left to the candidate to correct under supervision of his/her supervisor/promoter."), the supervisor/promoter may continue to have the mistakes corrected without consulting the directors.
2. See rules A.4.4.5.1, A.4.4.5.4, A.5.4.5.1, A.5.4.5.3 in the case of a difference in opinion between the examiners. The Dean follows the necessary procedures to obtain a decision on results. These may include –
 - that the majority vote on recommendations is accepted; or
 - that a discussion under leadership of the Dean takes place between the examiners and other persons who may be helpful in obtaining clarity; or
 - that further examiners are nominated.
3. If the research director in consultation with the school director is of the opinion that it is necessary to have discussion(s) with the examiner(s) to obtain a decision on differences, it **MUST** take place through the Dean.
4. If the recommendations of the examiners do not agree and one or more of them recommend option 2 ("The dissertation/mini-dissertation is accepted, but there are too many typing, language and/or technical mistakes for option 1. A corrected copy must therefore first be presented to the Faculty Board for approval. **The corrections have no effect on the scientific contents of the dissertation/mini-dissertation.** *Please do not mark this box if you are of the opinion that the candidate can correct the mistakes in cooperation with his or her supervisor without further examination.*"), the supervisor/promoter must first submit his summative report to the research director **BEFORE** a list of recommended corrections handed over to the student.
5. **If the examiners have recommended option 2 and the Postgraduate Examination Committee on recommendation of the research director in consultation with the school director accepts this option, the research director must ensure that a revised copy of the dissertation/thesis is submitted and the research director must inform the Administrative manager when the corrections have been made in a satisfactory way.**
6. If the Postgraduate Examination Committee on recommendation of the research director in consultation with the school director decides to refer the dissertation/thesis back to the student, and that it must be re-submitted and examined (option 3), the same examiners are retained, except in the following cases:
 - An examiner is not available anymore and a new examiner must be nominated as a replacement.
 - Additional examiners are deemed necessary and are therefore nominated.
7. By signing the results form, the research **director in consultation with the school director declare that they have studied the reports of all the examiners thoroughly and that the summative**

report is a just representation of the reports and viewpoints of the different examiners. Thus, they also put their decision in writing for presentation to Faculty Management.

8. In the case of the summative report for master's degrees, the supervisor only has to fill in the summative results form if the results are unanimously accepted and such a procedure is acceptable to the research director. When the examiners do not agree, the supervisor must submit a written summative report (see item 9 below). For a doctoral summative report, the promoter must submit a written summative report in all cases (see 9 below).
9. A summative report must be more than a mere summary (synopsis) of the different examiners' reports in the case of diverse recommendations. The supervisor/promoter must argue the differences of the examiners briefly (give an objective evaluation of the differences!) to guide the research director in consultation with the school director to deal with the differences. Eventually, the supervisor/promoter is the expert on the topic of the dissertation/thesis.
10. The research director must ensure that the required brief CV and the brief summary of the thesis are already in the file of the candidate on presenting the results to Faculty Management.

EE RESULTS OF THE MASTER'S EXAMINATION

FACULTY OF NATURAL SCIENCES

Results of the Master's examination of:

Dissertation		Mini-dissertation		Mark appropriate box	
Candidate:				University number:	
Degree:				Curriculum number:	
Descriptive name of curriculum as in calendar:					
Focus Area/Research Unit:					
Title:					

A The undersigned as the school director and research director concerned notify Faculty Management that the results of the master's examination of the above-mentioned candidate are as follows:

1. The dissertation/mini-dissertation passes unconditionally and less significant language, typing and technical errors found are left to the candidate for correction under the supervision of the supervisor.
2. The dissertation/mini-dissertation passes, but too many typing, language and/or technical errors and/or minor errors in the scientific content occur for option 1; therefore an edited copy must first be submitted to the Research Director for final approval. **We have examined the corrected copy, the dissertation is finally accepted and the candidate passes.**
3. The dissertation/mini-dissertation does not pass in its present form and is referred back to the candidate with one opportunity only for comprehensive revision and/or amplification and re-submission for re-examination.
A recommendation on examiners for this second examination will be made to Faculty Management.
4. The dissertation is not accepted and the candidate fails.

B	MARK	RESULTS
Average mark awarded to dissertation/mini-dissertation:		Fail
Average mark achieved in oral/written examination(s):		Pass
Final mark calculated according to the ratio: Credit total examination papers: Credit total dissertation/mini-dissertation = :		Pass with distinction

.....
Research Director

.....
School Director

.....
Date

FF RESULTS OF THE DOCTORAL EXAMINATION

FACULTY OF NATURAL SCIENCES

Results of the doctoral examination of:

Candidate:		University number:	
Degree:		Curriculum number:	
Descriptive name of the curriculum as in calendar:			
Focus Area/Research Unit:			
Title:			

The undersigned as the school director and research director concerned notify Faculty Management that the results of the doctoral examination of the above-mentioned candidate are as follows:

- The candidate passes and the thesis is accepted unconditionally. The minor language and/or technical mistakes that occur are left to the candidate to be corrected under supervision of the promoter.
- The thesis passes, but too many typing, language and/or technical errors and/or minor errors in the scientific content occur for option 1; therefore an edited copy must first be submitted to the Research Director for final approval. **We have examined the corrected copy, the dissertation is finally accepted and the candidate passes.**
- The thesis does not pass in its present form and is referred back to the student with one opportunity only for comprehensive revision and/or amplification and re-submission for re-examination. A recommendation on examiners for this second examination will be made to Faculty Management.
- The dissertation is not accepted and the candidate fails.

.....

Research Director

.....

School Director

.....

Date

GG NOMINATIONS FOR THE S₂A₃ MEDAL AND THE VICE-CHANCELLOR'S MEDAL

FACULTY OF NATURAL SCIENCES

PROCEDURE FOR NOMINATIONS FOR THE S₂A₃ MEDAL AND THE VICE-CHANCELLOR'S MEDAL

1. The Faculty may, according to the rules for the awarding of the medal, submit one nomination for each of the two medals. Proposals for nominations should be subjected to this selection process and may not be send in directly to Research Support.
2. After the graduation ceremony in September, the Administrative Manager invites each of the research directors to submit one nomination for the medals. The letter is accompanied by the following:
 - A list of graduates who received an M degree in the Faculty with distinction at the May and September graduation ceremonies.
 - The rules for the awarding of the medals.
 - The nomination form as provided by Research Support.
3. Each research director considers the different graduates of the research entity who received the M degree with distinction according to the list that was provided and decides whether there is a suitable candidate to nominate for the medals and if so, which one. The research director ensures that the supervisor involved prepare the nomination form and supporting documentation and send it to the Administrative Manager.
4. During the March meeting of the Faculty Management Committee part of the meeting is spent on the selection of a single candidate for each of the two medals from the side of the Faculty. For this part of the meeting, the supervisors of those nominated are invited in turn to explain the nomination of the nominated candidate involved and members of the meeting may then pose questions. The supervisor then leaves the meeting each time. Then a vote takes place during which each member of the meeting, including the supervisors, completes a ballot paper by placing all the candidates in order of preference. The result of this vote determines the nomination of the Faculty as follows: The candidate who comes first in the voting is the candidate for the S₂A₃ medal and the one who comes second is the candidate for the vice-chancellor's medal.
5. After the selection meeting the supervisors of the nominated candidates have the opportunity to finalize the documentation, taking into account the discussions during the meeting.
6. The Administrative Manager ensures that the Faculty nominations together with the required documentation are sent in on time.

GUIDELINES FOR THE COMPILATION OF THE NOMINATION DOCUMENTS FOR THE S2A3 MEDAL AND THE VICE-CHANCELLOR'S MEDAL

1. The rules for the awarding of the medals require the following documentation:
 - the completed nomination form
 - examiner's reports
 - copies of research outputs and
 - other supporting documentation
2. Since the full study history of the nominated graduate often plays a role, it is necessary that the full study record from the first undergraduate study year up to the completion of the M degree be attached as supporting documentation.
3. In the designated space on the nomination form the statements by the examiners in short summary form, highlighting key words from their reports and with emphasis on the external examiners.
4. In the motivation of maximum 500 words on the nomination form, give a summary of the strong points provided in the remainder of the form, as well as an own view of the achievements of the student.
5. Since the selection committee has representatives from all campuses, it is necessary that the documentation will be in English.

HH ADMINISTRATIVE ARRANGEMENTS FOR MANAGING MASTER'S AND DOCTORAL EXAMINATION RESULTS

In order to implement the guidelines of Faculty Management for managing master's and doctoral results, as contained in the document *Guidelines for managing master's and doctoral results*, in an orderly manner in consultation with Postgraduate Administration, Faculty Management approved the following administrative procedures:

1. After all the reports on a candidate's dissertation/thesis have been received, i.e. as soon as the last report has been received, Postgraduate Administration sends copies of ALL examiners' reports to the research director involved. The research director transmits the reports to the supervisor or promoter. (See A.4.4.4.4 and A.5.4.4.3).
2. The supervisor/promoter writes a summative report and completes the summative report form for a dissertation or thesis in which the results of the examination are recommended. This summative report and the summative report form are handed over to the research director.
3. The research director deals with the results and makes a decision according to the prescriptions of the A-rules and the document *Guidelines for dealing with master's and doctoral results* of the Faculty in consultation with the school director (and the Dean, if necessary).
4. After a decision on the results has been made by the research director in consultation with the school director (and the Dean, if applicable), the research director completes the final results form. The research director sends this properly signed form and the full file to the Administrative Manager for submission to the Postgraduate Examination Committee (consisting of the dean and research directors) and confirmation by Faculty Management.
5. The results are made known by Postgraduate Administration after confirmation by Faculty Management.

II DEVELOPMENT OF PROMISING YOUNG RESEARCHERS

Faculty management is of the opinion that the development of top potential young people is so important that everyone in the Faculty would like to accept joint responsibility for it.

Faculty Management approves the following strategy in this regard:

1. Where a young staff member who has already demonstrated promising abilities during his/her master's studies, registers for doctoral studies, the relevant school director and research director must assign him/her a promoter who has the experience and capability to guide this young staff member securely on the NRF evaluation course during his/her study. Step 2 is only important to identify researchers blossoming later in life. Step 3 is already implemented in the case of these candidates three months after he/she has registered for doctoral studies.
2. The research directors report to the Dean after the doctoral graduation ceremony if one or more of the staff members in their focus areas who have obtained a doctorate clearly have the potential to acquire a Y or P evaluation from NRF in the next five years.
3. The school director and the research director concerned, and the Dean, must compile a detailed staff development plan together with the staff member for that staff member within three months after identification of the staff member. In this plan, target dates must be clearly determined. The intention is to guide the staff member to submit his first evaluation application well in time to the NRF. The research director takes the lead in this process.
4. The school director and research director of the candidates who are already in the development process meet once a year with the Dean as chairperson. They review the progress of the candidate and make adjustments where necessary.

JJ POLICY DOCUMENT ON OFFERING SHORT COURSES AT NWU

This policy is available on the website of the University.

KK JOINT (COTUTELLE) DOCTORAL DEGREES

1. NWU Policy

Die NWU approved a “Policy on joint and double degrees at master’s and doctoral level with foreign universities” (Cotutelle). The next paragraphs contain a short explanation of the kind of training and the most important aspects in the approved policy with focus on the doctoral degree of two collaborating universities, as well as specific arrangements of the Faculty of Natural Sciences.

2. What is meant by a joint doctoral degree

A joint doctoral degree is a qualification awarded to a candidate after completion of a collaborative programme in partnership between two universities in different countries. The French word “Cotutelle” is used here because this practice apparently originated in France. Characteristics of this are as follows:

- Compliance with the legal requirements of both countries;
- The existence of a collaboration agreement between the two universities involved;
- Compliance with the academic requirements of both universities.
- Joint supervision for each candidate as agreed;
- Awarding of a doctoral degree based on a single thesis with the right to use the corresponding title in both countries;
- Each of the two universities issues an own degree certificate, which indicates that there was joint supervision thus making clear that two degrees were not awarded.

3. Written agreement

Such study of each specific student is done in terms of an official written agreement between the two collaborating universities, between which there already exists a general collaboration agreement. The specific agreement for a specific student normally states the following:

- That the student must satisfy the admission requirements and academic requirements of both universities;
- Arrangements about finances, visas, accommodation and related matters for each student separately;
- The study is done under the supervision of a promoter from each of the two universities, appointed according to the requirements of each. They must support each other and have regular discussions;
- That the two universities state as target to provide approximately equal inputs to the study;
- The target is that the student spends approximately equal periods of time at the two universities and that these periods will be lengthy. The promoters jointly determine these periods of time;
- Arrangements concerning joint authorship;

- The two universities will normally be equal partners with respect to intellectual property that derives from the study;
- The two universities appoint, after the necessary negotiations, a joint examining committee which satisfies the requirements of both universities. A full professor from a related subject area which is a member of the committee acts as chair person. The applicable academic bodies of both universities approve the composition of the committee. The joint committee is responsible for the examination process and the preparation of a recommendation which will serve at the Senates (or equivalent academic bodies) of the participating universities.

4. Faculty arrangements

The following arrangements are applicable in the Faculty of Natural Sciences:

- i. Negotiations between the two universities lead to an official agreement for the study of each specific student, which is supported by the international offices of both the universities. The framework of such an agreement is contained in the approved policy of the NWU as an appendix.
- ii. The process for registration of title, appointment of promoter and appointment of examiners is as usual for doctoral students in the Faculty.
- iii. The language of the thesis is English, with summaries in the other relevant languages as applicable.
- iv. The front page of the thesis contains the names of the two collaborating universities and the names of both promoters. An example appears below.
- v. Examination must satisfy the requirements of each of the two universities as stated in the NWU policy. The examiners, as appointed by the NWU, form part of the examination committee (at some overseas universities it is usual to appoint an examination committee for an oral examination, consisting of usually 6 to 8 members) and written reports of these examiners, with a summative report by the promoter, are submitted to the Faculty postgraduate examination committee.

**PARASITE DIVERSITY WITHIN NATIVE AND
INVASIVE TERRAPINS: IMPLICATIONS FOR CONSERVATION**

By

Leon Nicolaas Meyer

THESIS

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Doctor of Philosophy (Ph.D.)

in

ZOOLOGY

as a *cotutelle* study between the Potchefstroom Campus of
the North-West University and the University of Perpignan, France

Promoter: Prof. Louis du Preez

Co-promoter: Prof. Olivier Verneau

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