



Higher Degrees Guide

CONTENTS

Preface		2
A	THE HIGHER DEGREE PROGRAMME	3
1.	The registration process	3
2.	Appointment of supervisors and promoters	6
3.	Responsibilities of research supervisors/promoters and students	6
4.	Appointment of the examination panel	7
5.	Examination and marking procedures	7
6.	Plagiarism	12
7.	Grievance procedure for students	12
8.	Submission and acceptance process of the research proposal	12
9.	Vaal University of Technology Grant	13
10.	Exco of Senate (SENEX)	15
B	THE RESEARCH PROPOSAL	
1.	Research Proposal	15
1.1	Selection of a topic	17
1.2	Requirements of a good topic	18
1.3	Scope of the research	18
1.4	Formulating the title	19
1.5.1	Format of the research proposal	20
1.5.2	Format for a qualitative research proposal	20
1.5.3	Format for a basic scientific research proposal	21
2.	General guidelines and technical requirements	22
3.	Graduation	22
C	ANNEXURES	
Annexure	1	Personal Contract
Annexure	2	Student versus Supervisor/Promoter
Annexure	3	Supervisor's report on Higher Degree student progress
Annexure	4	Criteria for a postgraduate qualification
Annexure	5	Guidelines for the format of the thesis/dissertation
Annexure	6	General guidelines for examiners
Annexure	7	Example 1 - Examiners Report – Master's Dissertation
Annexure	8	Example 2 - Examiners Report – MTech Dissertation
Annexure	9	Example 3 – Examiners Report - Doctoral Thesis
Annexure	10	Example 4 - Summary of Examiners Report MTech
Annexure	11	Example 1 – Mark Sheets: Evaluation of Postgraduate Research
Annexure	12	Example 2 – Mark Sheet: MTech

Preface

The successful completion of a higher degree (Masters or Doctoral degrees) qualification is the result of sustained intellectual activity on the part of the candidate, under the expert supervision of a member of the academic staff within a Faculty and where necessary a Consulting Professor. The University provides appropriate resources and support to the candidate as well as the supervisor. The overall administration of the candidature is guided by policies developed by the Research Committee and the Academic Senate.

This Guide is intended as a reference source, providing information and guidelines on the responsibilities of those involved. It is intended to provide guidelines appropriate to the most typical situations encountered during a research higher degree programme.

Admission requirements

(A) APPLICATION AND REGISTRATION PROCEDURE

1. The Application Process

Candidates for a higher degree should normally apply for admission at the University at the beginning of the academic year.

- All South African students apply directly at the Higher Degrees Unit
- All International students apply directly at the International Relations Department

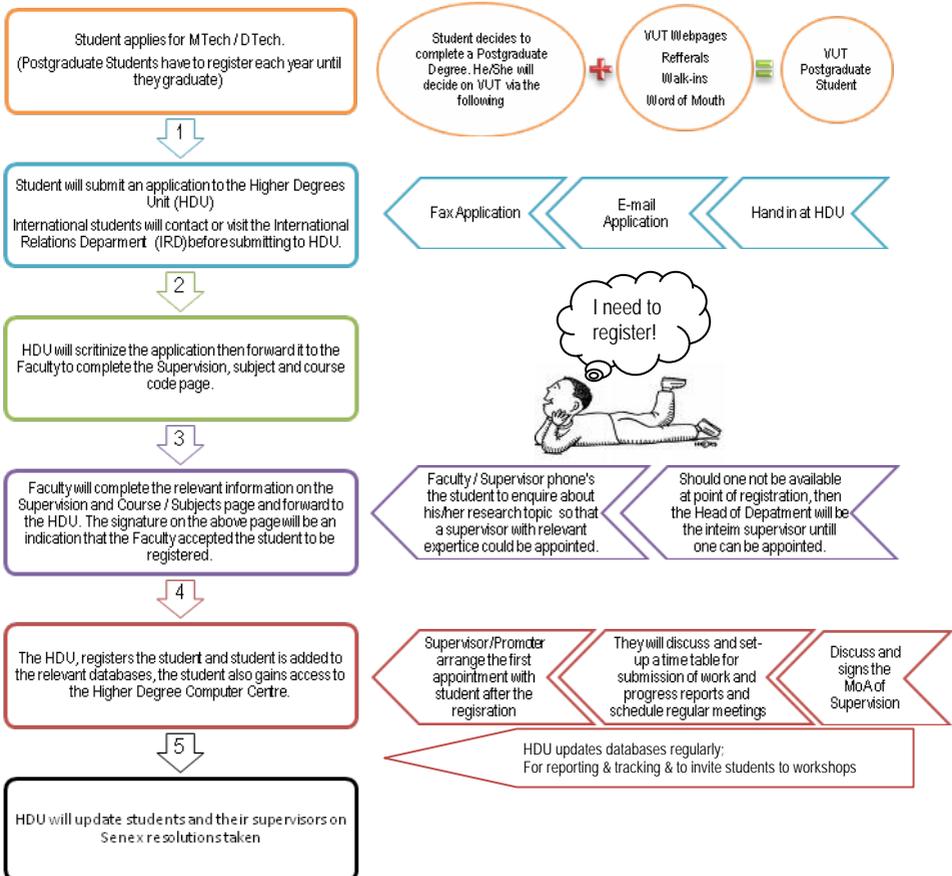
- 1.1 The Masters and Doctorate application form is obtainable on the Vaal University of Technology (VUT) website (www.vut.ac.za) under Higher Degrees / Research, or you could collect an application directly at the Higher Degrees Unit (HDU) on Campus.
- 1.2 Application for registration forms should be submitted to the Higher Degrees Unit (HDU).
- 1.3 Applications will be screened by the HDU, this entails that candidate's full academic record and certified copies of all degree certificates would be scrutinized.
- 1.4 Applications will be screened by the HDU, this entails that candidate's full academic record and certified copies of all degree certificates would be scrutinized.
- 1.5 These applications will then be forwarded to the Head of Department's office for his/her approval/referral to the relevant supervisor.
- 1.6 After scrutiny the application will be returned by the Head of Department (HoD) to the HDU.
- 1.7 The postgraduate registrations officer will then contact the student to inform him of the outcome.

International students should also take note of the following requirements.

2.1 The Registration Process

- 2.1.1 Successful candidates will be required to pay the registration fee. Details for payment are on the application for admission forms and on the HDU Website.
- 2.1.2 The Higher Degrees Unit register the student and proof of registration is forwarded to the student. The student will receive a letter from the Higher Degrees Unit to inform him/her of his/her application status and contact details of his/her supervisor/promoter.
- 2.1.3 Upon registration the student have access to the Higher Degrees Computer Centre.
- 2.1.4 The student will complete the Memorandum of Agreement (MoA) for Postgraduate Supervision (*Annexure 1*), after the Supervisor/Promoter has sign the MoA the student/supervisor/promoter will hand it in at the HDU to be placed on his/her student file.
- 2.1.5 The student's name and contact details will be added to a postgraduate database so that he/she could receive notices of workshops and other correspondence from the Higher Degrees Unit.

Steps in the Application and Registration Process



Special requirements for International students

Please note that the submission of the following certified documents is compulsory and your application will not be processed if the required documentation is not submitted.	
<ul style="list-style-type: none">• Grade 12 or equivalent certificate (matric certificate)• Any other formal qualifications you have obtained• Statement of results from previous tertiary institution, if applicable• * Certificate of conduct from previous tertiary institution, if applicable• South African Qualifications Authority Certificate• Draft proposal (outline of a research proposal)• Certified copy of your passport/refugee permit• English Proficiency Certificate (should you not be sure if you require an English Proficiency Certificate.	
<u>English Proficiency Certificate</u> <ul style="list-style-type: none">• International Applicants Students without English at A-level or O-level for whom English is a second language are required to submit one of the following:• A recent score on TOEFL score = 550 minimum (Test on English as a Foreign Language)• A recent score on IELTS = 6.5 minimum (International English Language Testing System)• For more information on TOEFL please visit http://www.toefl.org	The following applicants are exempted from the English Proficiency Certificate: <ul style="list-style-type: none">• Foreign students who have successfully completed at least one year of academic studies at a college or university in an English speaking country.• Applicants with a university degree with a major in English.• Applicants who have completed studies for whom English has been the language of instruction (letter from institution compulsory).• Applicants from countries that are members of the European Council/UNESCO-Cepes, who have had English as their first international language, and can, provide documentation that serves as proof of this from the institution they studied at.
NOTE: <p>All of the documentation provided must be in English as this University is English speaking. The prospective student must use an officially authorised translator. Applications will be rejected if documents are not translated by an authorised translator.</p> <p>International students are responsible for the <u>renewal of their study permits</u> before they lapse.</p>	

2.2 The Re-registration Process

- 2.2.1 All students are required to re-register each year until graduation, and are required to pay the yearly registration fee.
- 2.2.2 Re-registration will only be approved if June & November's progress reports have been submitted to the HDU.
- 2.2.3 Failure to re-register before the end of March in a given year will result in the cancellation of registration and such a defaulter may be required to re-apply for admission as a candidate for the degree.

1.4 Suspension of registration

Should there be *bona fide* reasons for a break in study for higher degree research; a candidate may apply for a suspension of registration. Registration may only be suspended under exceptional circumstances, and is rarely done retrospectively. An application must be made to the Head of Department and is subject to the HOD's recommendation, as well as that of the Dean, and the approval of the Faculty Board, and the Senate in the case of a DTech. Any obligation to sponsors should be taken into account when considering suspension of registration. Candidates wishing to discontinue or suspend their registration must give notice in writing to the Higher Degrees Unit before the end of March. VUT will

then forward a formal cancellation form for approval by faculty management (*Annexure 2*). You may only apply for a suspension of registration for one year in the first instance.

1.5 Maximum period of registration and completion of a higher degree

MTech degree = in total 4 years of study
DTech degree = in total 6 years of study

- If a student fails to comply with the above-mentioned requirements, such a student will not be allowed to continue his/her studies.
- A student who fails to comply with the above mentioned requirements might apply for continuation of studies. This may be done by writing a letter, motivating why the Vaal University of Technology should allow the student to continue. The letter should be submitted to the Higher Degrees Unit.
- The motivation will then be forwarded to SENEX for approval and the Higher Degrees Unit will inform such a student of the outcome.

3. Commencement of studies

Once candidates have been registered, they may commence their studies immediately.

The Supervisor/Promoter will schedule a meeting with the new student to discuss:

- The roles and responsibilities of the student and supervisor
- Submission of progress reports
- The Higher Degrees Guide
- Time table for submission of work
- Schedule regular meetings. Please note that scheduling of all further appointments is the responsibility of the student.

The HDU requires the student to submit the Memorandum of Agreement between Supervisor & Student, refer to Annexure 1.

Within 12 months the following **prerequisites must be met**:

- Proof of having completed a research methodology course.
- A research proposal approved by SENEX.

The proposal has to be approved by Senex within 6-8 months after the first registration for the degree, if the proposal is approved in this time the student will be eligible for the first payment (50%) of the Vaal University of Technology (VUT) grant. This grant will immediately pay the full course fee.

If not approved as above, after 12 months the student will be required to pay the full fee for the degree, and the student will also forfeit the VUT award.

(B) THE HIGHER DEGREE PROGRAMME

4. Responsibilities of research supervisors/promoters and students

4.1 Roles and Responsibilities of the supervisor/promoter

The supervisor's/promoter's roles and responsibilities include:

- Undertakes to provide guidance for the student's research project in relation to the topic, the design and scope of the project, the relevant literature and information sources, research methods and techniques and methods of data analysis.
- Ensuring that the thesis/dissertation proposal is within his/her field of expertise.
- Has a responsibility to be accessible to the student.
- Will be prepared for meetings with the student. This includes being up to date on the latest work in his/her area of expertise.
- Will expect written work as jointly agreed, and will return that work with constructive criticism within a timeframe (a suggestion of 2-4 weeks) jointly agreed at the outset of the research.
- Will provide advice that can help the student to improve his/her writing. This may include referrals for language training and academic writing. The supervisor will provide guidance on technical aspects of writing such as referencing as well as on discipline specific requirements. Detailed correction of drafts and instruction in aspects of language and style are not the responsibility of the supervisor.
- Will support the student in the production of a research project, dissertation or thesis. Facilitating submission to the Faculty Research Committee & Senex.
- Provision should be allowed for adequate, mutually respectful, discussion around recommendations made.
- Facilitating the submission of the proposal via the Faculty Research Committee to SENEX within six months after registration.
- Will assist with the construction of a written time schedule which outlines the expected completion dates of successive stages of the work, within the time frame as stipulated in the Continuation of Studies policy. Keeping comprehensive records of all formal meetings. These records should include dates, actions agreed upon and deadlines set, for reporting purposes and accountability.
- Will ensure the student has the opportunity to present work at postgraduate/ staff seminars/ national / international conferences as appropriate.
- Will assist with the publication of research articles as appropriate.
- Will ensure that the student is made aware in writing of the inadequacy of progress and/or of any work where the standard is below par. Acceptability will be according to criteria previously supplied to the student.
- Has a duty to refuse to allow the submission of sub-standard work for examination, regardless of the circumstances. If the student chooses to submit without the consent of the supervisor, then this should be clearly recorded and the appropriate procedures followed.
- Will discuss the ownership of research conducted by the student in accordance with the University guidelines and rules on intellectual property, co-authorship and copyright.
- Will ensure that the research is conducted in accordance with the University's policy on plagiarism. Before the Examination Panel is approved at Senex the Supervisor will run a Turnitin report to ensure that the dissertation/ thesis has not been plagiarized, a copy of this report will be submitted to Senex upon requesting approval of the Examination Panel.

- Ensuring the submission of a progress report to the Higher Degrees Unit at the end of the second VUT semester (June) and at the end of the fourth VUT term (year-end/November).
- Assist in appointing an Examination Panel to access the Dissertation/ Thesis.

4.2 Roles and responsibilities of the student

The student should ensure that:

- The thesis/dissertation produced is first and foremost an original work, albeit achieved with the benefit of advice and guidance from the supervisor/promoter.
- Undertakes to work independently under the guidance of the supervisor. This includes reading widely to ensure that the literature pertinent to his/her chosen topic has been identified and consulted. Is obliged to make appointments to see the supervisor and will arrange meeting times well in advance. Supervisors are contacted should additional meetings be considered necessary.
- Will think carefully about how to derive maximum benefit from these contact sessions by planning what he/she wants in these sessions.
- Should submit written work for discussion with the supervisor well in advance of a scheduled meeting. The kind and frequency of written work should be agreed with the supervisor at the outset of the research.
- Undertakes to submit written work that is relatively free of basic spelling mistakes, incorrect punctuation and grammatical errors. Responsibility for the accuracy of language, the overall structure and coherence of the final research proposal, dissertation or thesis rest with the student.
- Undertakes to heed the advice given by the supervisor and engage in discussion around suggestions made. Ultimately the student has to take responsibility for the quality and presentation of the work.
- Should strive, within reasonable bounds, to maintain focus on his/her research area and to work in the agreed time schedule.
- Will prepare material for presentations at seminars and conferences.
- Undertakes to submit papers for publication.
- Agrees to honor agreements about ownership of the research and in accordance with the University's guidelines and rules in relation to co-authorship, copyright and intellectual property.
- Will ensure that the work contains no instances of plagiarism and that all citations are properly referenced and that the list of references is accurate, complete and consistent.
- Agrees to work in accordance with the criteria of acceptability as supplied by the supervisor.
- Undertakes not to place the supervisor under pressure to submit work for examination until the supervisor is satisfied that it has reached an acceptable level of quality.
- Proof of language editing by an accredited language editor is handed in when the dissertation/thesis is submitted for examination.
- An electronic copy of the dissertation/thesis is submitted to the Higher Degrees Unit to be loaded on the Electronic Dissertation / Thesis system of the NRF.
- A progress report is submitted within the agreed timeframes to the Higher Degrees Unit.

More information on 4.1 and 4.2 is provided in Annexure 1.

4.3 Progress reports

Candidates and supervisors are required to submit a report on a standard form to the Higher Degrees Unit (*Annexure 2*).

The report should be submitted at the end of June and end of November.

The reports will be reviewed by the Executive Director: Research. The Executive Director will then address problems/inconsistencies with the Executive Dean after which it will be reviewed by the Supervisor and/or Head of Department.

5. Appointment of the Examination Panel

The supervisor and Head of Department will submit a proposed list of examiners to the Faculty Research Committee for approval before an agreed examination panel will be submitted to SENEX for final approval.

The HOD and Supervisor/Promoter will decide on a suitable examination panel consisting of:

- Chairperson
- Supervisor
- Co-Supervisor
- External Examiner

Approval of the Examination Panel from SENEX must be obtained not less than three (3) months before submission of the completed dissertation/thesis.

After SENEX approval the Supervisor will contact the relevant person in the Examinations Department to formally appoint the examiners.

Ring-bound copies will be submitted to the Examinations Department. The Examinations Department will forward these copies to the relevant examiners. These examiners will return the copies with their reports and mark-sheets to the Examinations Department, who will return them to the Executive Dean for SENEX approval.

6. Examination and Marking Procedures

6.1. Criteria for Examination

The thesis/dissertation will be assessed by supervisors/promoters and examiners appointed by the Vaal University of Technology. The identity of examiners, other than the supervisor/promoter, will remain confidential. Violation of confidentiality could expose the examiners to undue pressure from a candidate (student). If this requirement is violated, the examination report will be disqualified and new examiners will be appointed.

6.2. Assessment of theses/dissertations as full or partial completion of MTech and DTech

6.2.1 Initiation of the examination process:

The supervisor must sign a declaration that the dissertation/thesis is ready for examination (*Annexure E*). Attached to this declaration by the supervisor, must be a completed mark sheet with a proposed/expected mark plus additional comments on the thesis.

In the event of a significant discrepancy in marks between the supervisor and examiners, the EXCO of the Faculty Board should use its discretion in allocating a mark or initiating re-examination.

The purpose of this is to ensure quality control regarding a dissertation/thesis before it is subjected to external examination, and to give experience in dissertation/thesis examination to VUT staff.

In the event of the absence of the supervisor or of a dispute between the student and the supervisor, a student may approach the Head of Department and/or Executive Dean with the request that the thesis/dissertation be examined. Final approval for examination in these cases shall reside with the Exco of the Faculty Board.

6.2.2 Number of Examiners:

Assessment of full and partial MTech dissertations shall be done by two examiners of which at least one must be external. The supervisor and co-supervisor should also assess the dissertation.

Assessment of a DTech thesis shall be done by three examiners of which at least two must be external. One of the external examiners should preferably be from a reputable academic institution outside South Africa. The promoter and co-promoter will also assess the thesis.

6.2.3 Identification of, approval of and correspondence with examiners:

The proposed examiners for each thesis/dissertation shall be identified by the relevant academic Head of Department in consultation with the supervisor/promoter where feasible, for approval by the Exco of the Faculty Board and SENEX.

All correspondence with the examiners shall be done through the Examinations Department.

6.2.4 Qualifications of supervisors/promoters and assessors:

Supervisors/promoters and assessors should be in possession of a qualification at least equivalent to or preferably higher than that of the candidate. Should a supervisor/promoter or assessor not possess an equivalent or higher qualification, it should be established whether they possess the necessary specialised knowledge and experience in the field of study concerned to be appointed an examiner.

6.2.5 Pass and Failure:

A candidate passes when all members of the assessments panel award a mark of 50% or more for an MTech calculating the average of all the marks awarded by the members of the assessment panel. A '*pass*' instead of the allocation of a mark is required in case of a D-Tech.

Should one of the members of the panel fail the dissertation/thesis, an additional external assessor shall be appointed to remark the dissertation/thesis. This assessor shall be identified by the academic Head of Department and approved by Exco of the Faculty Board. Should this assessor award a pass mark, the candidate shall pass but should a fail be given, the candidate shall fail.

6.2.6 A candidate's final mark is calculated as follows:

Masters Degree: For a pass the arithmetical average of the allocated marks is calculated. For a failure no final mark is calculated, it is only indicated that the candidate has failed.

Doctoral Degree: No final mark is calculated. It is only indicated that the candidate passed or failed.

Should two or more members of the assessments panel fail the candidate, the candidate fails, and no final mark is calculated, it is only indicated that the candidate has failed.

The final examination marks shall be submitted to Exco of the Faculty Board for final approval and SENEX for ratification.

6.3 Marking Procedure

The following should be submitted before the dissertation/thesis is forwarded to examiners:

- Proof that the dissertation/thesis has been evaluated for Plagiarism using the Turnitin software.
- Proof that the dissertation/thesis has been language edited by an accredited language editor.

Every examiner must receive:

- One ring-bound copy of the thesis/dissertation.
- A copy of the Vaal University of Technology Higher Degrees Guidelines. Included should be:
 - ✓ General Guidelines for Examiners (*Annexure 3.1*)
 - ✓ Examples of the Examiner's reports (*Annexure 3.2.1 - 4*), and
 - ✓ Mark-sheets (*Annexure 3.2.1 - 2*) in a format that could be utilized by the examiners.
- Examination copies, which will be returned together with the examiner's report to the Faculty Research Committee after the examination process for changes to be made before the final hard-bound copies are made.

NOTE: Submission of bound copies

- After editorial and other amendments have been made and the panel of examiners is satisfied, the student will be instructed to hand in the prescribed numbers of obligatory hardbound copies of the thesis/dissertation to his supervisor.
- Two (2) hard-bound copies of the thesis/dissertation must be handed in by the student's supervisor at the examination office before graduation.
- An electronic copy on CD should be submitted to the Higher Degrees Unit to be forwarded to the Library for the National Research Foundation's ETD system.
- The examination results will be disclosed to the student by the Examinations Department as per their schedule.
- The Examinations Department will contact the student to inform him/her, when graduation will take place.
-

The thesis/dissertation will be examined against the following criteria:

MTech The dissertation is aimed at instructing and guiding the student in research methodology. The research undertaken by the student should be of an original and authentic nature, which can lead to publication in an academic publication.

A dissertation is acceptable if it clearly provides proof that the student:

- is familiar with the nature and purpose of his/her research;
- possesses a satisfactory knowledge of the literature concerned;
- has mastered the techniques relevant to his/her research;
- has properly mastered the scientific/scholarly method of the relevant discipline;
- is able to evaluate the scientific/scholarly significance of his/her findings.

An examiner should:

- In addition to judging the academic standard of the content and the ability of the student to work independently, pay attention to correctness of language, the ability of the student to express himself/herself, the technical style of the dissertation (such as quotations, footnotes, bibliography) and typing errors.
- Ensure that the dissertation contains the required abstract.

DTech This advanced qualification is usually grounded on a research project and a thesis, which has to testify to original and creative thinking and problem solving. It should form an essential contribution towards the solution of a specific problem at which the research is directed. No percentage mark is allocated to a Doctoral thesis, because the acquisition of a doctorate is viewed as a distinction in itself.

A thesis is acceptable, should the student clearly provide evidence that she/he:

- is acquainted with the nature, purpose and scope of his/her research and the formulation of the problem;
- possess an advanced level of knowledge within the specific field of study;
- is acquainted with the relevant literature;
- makes an original contribution to the field.

The research methodology and techniques applied should testify to:

- independent and creative problem-solving activities and research skills;
- originality;
- advanced scientific/scholarly and academic standards;
- thorough scientific/scholarly research methodology, analytical abilities, critical attitudes and insights;
- academic insights, depth and skills should contribute towards solving the specific problem;
- an ability to document and evaluate the scientific/scholarly impact of his/her findings.

The examiners should, in addition to evaluating the academic standard of the content and the ability of the student to work independently, be acquainted with the usual technical requirements and rules relating to the scope, quality and layout thereof. The examiner should also ensure that the following are in place:

Correctness of language, the ability of the student to express himself/herself, technical quality and editing of the thesis/dissertation (such as quotations, bibliography), and typing errors, of which there should be an absolute minimum, if any.

- The thesis/dissertation contains the necessary abstract.

Additional information is provided in *Annexure 4*. Guidelines for the format of the thesis/dissertation are set out in *Annexure 5*.

6.4 Allocation of Performance Marks and Examination Reports

Examiners will be asked for a formal report on the thesis/dissertation, which should be sufficiently detailed to allow SENEX to make an informed judgment. (*Annexure 3.2.1-4*)

- Each examiner must compile a written report and award a performance mark in the case of a dissertation. Reasons must be provided why the thesis/dissertation is accepted or not. The examined ring-bound copy plus a copy of the examiner's written report is to be returned to the Higher Degrees Unit. It is the supervisor's responsibility to ensure that the student makes critical changes.
- Examiners are required to compile their reports independently of each other and award a mark.
- The report on a thesis/dissertation, as well as any other additional commentary, must be forwarded to the Higher Degrees Unit.
- The supervisor/promoter is required to compile a comprehensive report, which will then be discussed and approved at a Faculty Research Committee/Faculty Board meeting before it is submitted to SENEX for approval.
- Should an examiner find that a thesis/dissertation is not acceptable as presented, but that it could be resubmitted, she/he could recommend that the student revise the thesis/dissertation. In such an event he/she must, on a separate page, briefly indicate to the supervisor what amendments are proposed.
- No member of the panel of examiners shall make any mark awarded available to a student.
- A composite final mark will be made known to the student by the Examinations Office of the Vaal University of Technology after approval by the SENEX.

6.5 Dissertation/Thesis referred back to candidates for major revision

If the examiners indicate that the degree should not be awarded and that it should be referred back to the candidate for major revisions, the Executive Dean/Chairperson of the Faculty Research Committee will send letters clearly indicating that revisions are required to the candidate, the Head of Department and the supervisor.

The candidate may be required to re-register for the duration of the process (a pro rata fee will be charged where appropriate). Once completed, the original examiners may be required to re-examine the thesis/dissertation after revision, or new ones may be appointed, and the thesis/ dissertation will once again be examined following normal procedures.

Loose-leaf copies of the revised thesis/dissertation must be submitted to the Faculty Board by a date published for the next meeting in order to graduate that year. Failure to submit revised copies of theses within six months of the result of the examination will result in the degree not being awarded.

General guidelines for examiners are set out in Annexure 3.1. This is followed by examples of examiner's reports in *Annexures 3.2.1 – 4*. Two samples of marksheets are contained in *Annexure 3.3.1 & 3.3.2*.

6.6 Thesis/Dissertation Rejected (failed)

In cases where the examiners recommend that a thesis/dissertation is rejected, it should be noted that an application for resubmission shall not be entertained. SENEX may, on the advice of the examiners, invite a candidate to resubmit a revised/extended thesis/dissertation.

Candidates taking up the latter offer to resubmit need to inform the Executive Dean of the Faculty in writing of their anticipated date of handing in the revised thesis and complete the relevant forms afresh.

6.7 Awarding of the degree

MTech may be awarded Cum Laude to the candidate when she/he:

- Passes all the subjects with an average of 75% and passes the dissertation with 75% in the subject and dissertation option.
- Obtains an average mark of 75% or more in the dissertation only option.

MTech may be awarded Magna Cum Laude to the candidate:

- Where a mark of 85% or more is obtained (dissertation only).

D-Tech is not awarded Cum Laude. It is only indicated whether the candidate passed or failed.

6.8 Procedure on receipt of examiners' reports

When all examiners' reports have been received, the Examination Department will collate and send them to the relevant Executive Dean or Dean's nominee who shall summarise these and forward the reports and summaries to SENEX for recommendation. The Examination Department should report to the Executive Dean within two weeks of receipt of the examiners' reports. The report should list one of the following recommendations:

- (a) the degree be awarded;
- (b) the degree be awarded but minor corrections are made to the thesis/dissertation.

- (c) the candidate should be awarded the degree subject to the completion of any specified changes to the thesis/dissertation to the satisfaction of the relevant supervisor and/or Head of Department with the final approval by the Chair of SENEX;
- (d) although the thesis/dissertation does not meet the required standard, the candidate is invited to do further work/revisions and resubmit for re-examination by the examiners (it must be pointed out to the candidate that this may be done only once);
- (e) the degree should not be awarded to the candidate in the event of major disagreement between the examiners. The Chair of SENEX should explore the possibility of reaching consensus, if necessary by sending all the (unnamed) examiners' reports to each examiner for further consideration. If consensus appears unlikely, SENEX may recommend one or more of the following procedures.
- (f) SENEX may recommend one or more of the following:
 - (i) the appointment of a fourth examiner, who would be invited following approved procedures;
 - (ii) the appointment of an external assessor who would read the thesis and all the (unnamed) examiners' reports and would report on the thesis;
 - (iii) the candidate should submit to an examination on the subject of their thesis/dissertation and on the whole field of study which it covers;
 - (iv) the thesis/dissertation be revised and re-examined by the dissenting examiner(s);
 - (v) the degree not be awarded.

The report, together with the examiners' reports, must be submitted by the Executive Dean to SENEX for approval. Neither the result nor the names of examiners should be divulged to candidates until Senate has taken a final decision. Examiners' names and their reports, edited where appropriate, may be revealed where applicable to candidates. Candidates, who are required to make minor corrections to their thesis/dissertation, must do so prior to submission of the loose-leaf library copies.

6.9 Procedures for dealing with corrections

A letter clearly indicating the revisions that are required will be sent to the candidate by the Executive Dean/Head of Department. Copies will be sent to the Head of Department and supervisor depending on who is required to approve the corrections.

The person appointed by the Executive Dean to supervise corrections will liaise with the candidate to indicate which corrections or amendments to the thesis/dissertation are necessary, after which it should be submitted for approval at the Faculty Board/Research Committee for approval and then SENEX.

5.10 Submitting the final result to the Examinations Department

After the Examination results are approved by SENEX, the SENEX secretary will forward the outcome to the Higher Degrees Unit.

The Higher Degrees Unit will notify the Head of Examinations Department of the SENEX outcome. Thereafter, the Examinations Department will carry out the necessary procedures for the graduation.

6. Plagiarism

All sources consulted and used in the study should be acknowledged through proper referencing. The following are regarded as plagiarism:

- Copying words or ideas without acknowledging.

- Failing to put a quotation in quotation marks and acknowledging the source and page number.
- Giving incorrect information about the source of information.
- Submitting someone else's work as your own.

Plagiarism is construed as an act of fraud and is treated as a serious crime. It may lead to serious consequences such as disqualification or deregistration.

7. Steps postgraduate students should follow if they have a grievance.

Students are encouraged to discuss problems related to their study with their own supervisors/promoters and co-supervisors/co-promoters in the first instance.

Should attempts to resolve the problem with their own supervisors/promoters and co-supervisors/co-promoters fail, they should take up the matter with the relevant Head of Department and/or Executive Dean. All unresolved issues at Department level may then be referred to the Research Directorate.

8. Submission and acceptance process of the research proposal

A student must be registered for the degree before starting with the research proposal and submitting to SENEX. A supervisor/promoter must be appointed to assist the prospective researcher with the selection of a topic and the development of the proposed research plan to be followed. The supervisor/promoter must be selected by the Principal Lecturer or Head of Department of the relevant Faculty.

8.1 Selecting a topic

The prospective student selects a topic and discusses the merits of that topic with a subject lecturer or the Head of Department.

8.2 Selecting a supervisor

The student may suggest a supervisor/promoter of his/her choice within the relevant subject field. The Head of Department will then approach that person and make the request on behalf of the student and the department. The supervisor/promoter must be in possession of at least an equivalent or higher qualification. The final appointment of a supervisor/promoter is, however, the prerogative of the Head of Department, and such a person must usually be affiliated to an institution of higher education. Supervisor will sign a acceptance of Supervisor /Co-supervisor form. (*Annexure X*)
NOTE. The student is expected to sign a study agreement with the relevant department, and appointments with the supervisor must be scheduled on a regular basis (*Annexure 1*).

8.3 Writing the research proposal

Once the topic has been accepted, the student writes the research proposal according to the suggested guidelines of the Vaal University of Technology as per Annexure X.

8.4 Submission of the proposal to the Head of Department

Once the supervisor /promoter and the student are satisfied with the proposal, an original copy of the

proposal must be submitted to the Head of Department along with the following:

- Documentary proof, (a computer printout) obtained from the library database on completed and current research on the same topic. Keywords must be used for this search. (*Topics that have been previously or currently researched are unacceptable*).
- An abstract of up to 30 words summarizing the main purpose of the research.
- Proof that a Research Methodology course has been successfully completed by the candidate.
- Proof of registration and language editing being done.

Please note: Some Academic Faculties may skip this step as the Faculty Research Committee (FRC) serves as the first selection committee. Once the Head of Department is satisfied with the proposal, it is then submitted for Faculty approval.

8.5 Acceptance of the proposal by the Faculty Research Committee/Faculty Board

The Head of Department must present the proposal/summary to the required Faculty Board (FB) or Faculty Research Committee (FRC) for approval. This approval can be granted at an *ad hoc* meeting held for this purpose. Copies must be submitted in typed format and supplied to all committee members at least two (2) weeks prior to the meeting. The supervisor/promoter and the student may be required to be present at this meeting. Should the committee recommend changes to the title and/or content, it is the student's responsibility to attend to the changes and resubmit the proposal in collaboration with the supervisor/promoter.

8.6 Submission to SENEX

After the Faculty Research Committee/Faculty Board has accepted the proposal, copies must be submitted to the Executive Committee of Senate (SENEX).

(Please refer to SENEX guidelines for submission)

8.7 Submission to Senate

Once SENEX has accepted the proposal, minutes of the meeting are submitted to Senate for ratification. The student and the supervisor/promoter receive a notice of acceptance of the research proposal from the Head of Department.

10. Exco of Senate (SENEX)

All research proposals, examination panels and examination results are approved at the SENEX meeting.

SENEX meets four times a year (once in every quarter)

The office of the Executive Dean will submit agenda items and documentation to SENEX for approval.

11. Research Proposal

Embarking on any research project without a plan inevitably leads to failure. Would you attempt driving to an unfamiliar destination without a roadmap? Most of us would not. A research proposal is a roadmap or a plan of action that leads to an intended destination.

A research proposal is compiled before we begin to carry out the actual research project. It is a formal way to communicate ideas about a proposed project/ study/ experiment/ scientific investigation in order to obtain approval to conduct the study and/or to gain funding for the project. In some cases a certain amount of progress on the research (preliminary data) is needed before the research proposal can be formulated.

The purpose of the proposal is to:

- Present the problem and its importance;
- Discuss the research efforts of others who have worked on related problems;
- Suggest data necessary for solving problems and how the data will be gathered, processed and interpreted.

A well-planned and well-documented proposal indicates:

- **What** will be done?
- **Why** it will be done?
- **How** it will be done?
- **Where** it will be done?
- To **whom** it will be done?
- **Who** will conduct the research (individually or in collaboration)?
- **When** it will be done?
- The **benefit/s** of doing the research.
- The **costs** involved.

Resources available

- Library

Finding relevant and recent information is one of the most time consuming aspects of doing research. Try to complete this process with a thorough, quality literature search.

Remember to write down the bibliographical details of all information sources you have consulted, to be tabled in your Bibliography. You need to quote the exact bibliographical information for each information source according to the *Postgraduate guidelines: Bibliographical referencing for theses, dissertations and project reports. Revised ed. 2004 revised by L.R. Rajmakers.* (Available in the Gold Fields Library - 001.42 POS).

Contact persons for individual database training:

Ms Zodwa Thomas	Faculty of Applied & Computer Sciences	016 - 950 9650
Mr. Musa Khomo	Faculty of Engineering: Electrical	016 – 950 9286
Mr. Freeman Zulu Mr. Sam Mudau	Faculty of Management Sciences (Educity) Faculty of Management Sciences (Main)	016 – 950 5020 016 – 950 9654
Ms Karien Du Bruyn	Faculty of Engineering: Mechanical	016 – 950 9651
Vacant	Faculty of Human Sciences	016 – 950 9658

Group training sessions are done when arranged beforehand between lecturers and librarians. Individual training can be arranged with the relevant librarian.

Electronic Databases

In addition to the book collection, the library subscribes to the following electronic databases, which can be used to supplement the printed resources in the library. The Gold Fields Library homepage provides access to all the electronic databases to which the library subscribes.

The following is the list of all the available databases the library subscribes to:

Access Science	Access Science covers online articles from the McGraw-Hill Encyclopedia of Science & Technology, Research updates, definitions, illustrations, graphs, bibliographies etc.
ACS (American Chemical Society)	ACS is the leading publisher of peer-reviewed research in the chemical and related sciences, serving scientific communities worldwide.
COMPENDEX/Engineering Village	Compendex is the most comprehensive interdisciplinary engineering database in the world, including engineering journals and conference materials dating from 1969. The database is updated weekly
Digital Engineering Library	Digital Engineering Library features content from world-renowned McGraw-Hill publications, covering mechanical engineering, chemical engineering and electrical engineering fields.
EBSCO-Host	EBSCO-HOST consist of several databases, covering management information, newspaper clips, business information, medical, education and engineering articles.
EMERALD/MCB	MCB/Emerald primarily provides access to full-text managerial information, management reviews, etc. Abstracts available: International civil engineering abstracts, computer abstracts international database, and computer communications and security abstracts.
ECS (Electrochemical Society)	ECS covers a broad range of phenomena relating to electrochemical and solid-state science and technology
INGENTA/Uncover	Ingenta offers one of the most comprehensive collections of bibliographic multidisciplinary academic and professional research articles online.

INSPEC	Inspec is a leading bibliographic database, covering scientific and technical information from journals, conference proceedings, books, dissertations, patents and reports.
IOP (Institute of Physics)	IOP covers journal titles on physics, mathematics, measurement science, chemistry, biological sciences, materials science, etc.
LexisNexis	LexisNexis covers superior local and international content from the followings sectors: legal, tax, accounting, financial services and the health and safety and environment
NEXUS/NRF	Nexus includes South African dissertations and theses. It provides information on all fields of science
SAe-Publications	Provides full-text access to journals published in South Africa, and covers all subject areas since 1919. Also including forthcoming conferences and SA professional associations
Science Direct	ScienceDirect contains over 25% of the world's science, technology and medicine full text and bibliographic information.
SpringerLink	SpringerLink covers information on biomedicine, life sciences, clinical medicine, physics engineering, mathematics, computer science, humanities and economics.

To access electronic databases within the institution, enter the following URL:

<http://www.vut.ac.za>

- Click on: **Library**
- Click on E-Resources (Databases, e-journals)

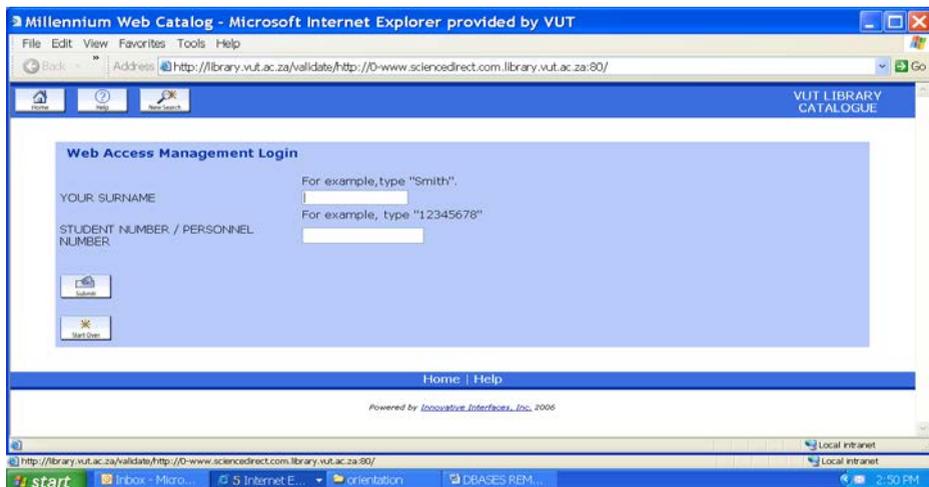
How to Access Online Databases (E-resources) from OUTSIDE the VUT campus

- Go to www.vut.ac.za
- Click Library Link
- Click on E-Resources (Databases, e-journals)
- Click on Databases.
- Select the database that you want by Clicking on the "*Outside Campus click here*" link next to the database.



Science Direct- The world's largest electronic collection of science, technology and medicine full-text and bibliographic information. (*Outside campus click here*)

- In the following screen, type your Surname and Staff/Student number in the spaces provided, and click Submit.



- This will take you to the database you have chosen, and you can do your search as per procedure.

11.1 Selection of a topic

The first step in the research process is the selection of a topic that is relevant to the subject field or discipline in which the researcher is registered. It is the responsibility of the researcher to select the topic and to then discuss the merits of the chosen topic with a subject specialist, research lecturer or the Head of Department, before writing the research proposal.

The selection of a topic depends on a student's short- and medium-term career plans. The student should find the topic interesting and worthwhile, and it should provide lasting intellectual stimulation.

11.2 Requirements of a good topic

- Must have enough scope and depth for a BTech/MTech/DTech study.
- Depth of scholarship must be scientifically acceptable for the qualification.
- The topic must fall into a broad scholarly field, that is, there must be textbooks and scientific journal literature available on the topic.

The following should be taken into consideration when selecting a research topic:

Time limitations	Time required for the completion of the project must be taken into account.
Project difficulty	Pick a simple but sound project to develop research skills.
Subject availability	Be sure that the type of research required is available
Testability	Must be able to turn the problem into operationally definable or measurable terms.
Relevance/Topicality	Research must be relevant. To test the topicality of the research, ask the questions: So what? Who will benefit? Relevance and topicality are often indicated by the abundance of recent literature, although this does not necessarily mean there is practical/economic/social value and address a specific need.
Originality	The topic must be original within reason. One does not need to re-invent the wheel. However, one can design (and make) a new type of wheel from new materials, with enhanced properties and for special applications. The research need not generate radically new knowledge, but it must increase and/or consolidate existing knowledge.
Cost Feasibility	Equipment required must be available, either on or off campus, at a reasonable cost. Some research projects may require the setting up of a laboratory worth millions. This is clearly not feasible. Funds for running costs must be available. Some of these costs are borne by the department, but others by the student.
Technical Expertise	Expertise in the field must be available (supervisor/promoter) while the student's educational and experiential background must be suited to the research project in mind.

11.3 Scope of the research

The scope of the research is determined by the level at which the research takes place, that is, the qualification that is to be obtained as a result of the research undertaken. At the Vaal University of Technology, research is usually undertaken for the purpose of obtaining a BTech, MTech or DTech qualification.

In general the scope must not be too broad:

- The student should be able to complete the research within two to three years (not applicable to BTech projects).
- The topic must be focused and the problem statement clearly defined, that is, the student must know what he/she aims to prove and whether the research can be completed within the time allowed and resources available.
- It is recommended that the student should read widely on the topic, think about it and then focus more narrowly until the topic becomes more specific and researchable.

A research project can either be of a theoretical or practical nature.

Outlined below is a general overview of the scope and depth required of research projects conducted for qualification purposes:

<i>MTech (Dissertation)</i>	Investigate several sub-problems to reach an outcome concerning the research problem. Limited in scope but not trivial, the student must demonstrate that he/she is capable of doing research via: <ul style="list-style-type: none">▪ logical problem formulation and analysis,▪ design or development of a process/fieldwork/implementation or evaluation of an intervention and/or invention,▪ the drawing of logical conclusions or diagnosis, as well as▪ the capacity to address/eliminate/contribute to the solution of a problem.
<i>DTech (Thesis)</i>	Investigate several sub-problems in order to make a valuable contribution to the body of knowledge in the specific field. The research must be original, and make a significant contribution to the discipline. It can include design, development, implementation and evaluation of an intervention and/or invention.

11.4 Formulating the title

The title of the research project is a brief statement of the contents of the proposed proposal/dissertation/thesis. The wording of the title is important for descriptive as well as information retrieval purposes, as the key concepts in the title are also used for compiling the entries in the index and abstracts of journals.

The Higher Degrees Guide, approved by Senate, should be followed when formulating the title of the research, based on the chosen topic:

- The title has to be explicit and indicative of the subject (topic).
- The title must provide a clear and appropriate description of the focus of the proposal/ dissertation/ thesis.
- The title should be concise while unambiguously reflecting the exact topic of the thesis/dissertation.
- Fifteen words or less are normally sufficient.
- Verbs are not always necessary in a title.
- Do not use single word titles for formal research writing.
- The more restricted the area of the investigation, the more adequately the researcher needs to describe it in the title.
- If the title is too long to fit along the spine of the binding, appropriate abbreviations may be used.
- The title must be linguistically correct.
- The title must be:
 - Relevant,
 - Appropriate,
 - Current, and

- Sensibly demarcated.
- Where possible, avoid unnecessary phrases, for example:
 - 'An investigation of...'
 - 'A study of...'
 - 'An examination of...'
 - 'Analysis of...'
 - 'Discussion of...'
 - 'Consideration of...'

These phrases are viewed as 'deadwood' as they:

- are vague,
- provide the introductory wording in the title, but serve no purpose in a literature search,
- state a logical and obvious fact,
- can lead to wordiness.

11.5.1 Format of the research proposal

The research to be conducted should be applied, scientific and developmental in nature and can be qualitative and/or quantitative. Outlined in the tables below are the suggested inclusions for a research proposal within each context. (It is recommended that the student confer with the specific Faculty regarding exact requirements and layout).

(Mostly applicable to research conducted within the field of Social Sciences and Applied and Developmental Research)

Section	Description
	Table of contents
Introduction	General background of the study Purpose of the study Significance of the study
Objectives	Specific research aims. Specific sub/objectives. Problem statements. Scope /definitions/ limitations of the study.
Methodology	<ul style="list-style-type: none"> • Description of study population (Who? When?). • Sampling technique and population size. • Data collection method/s. <ul style="list-style-type: none"> ○ The data needed. ○ The location of the data. • Data capturing. • Data processing. • Data analysis and hypothesis testing. • Presentation of results. • The specific treatment of the data for each sub-problem.

Outline of the proposed study	The proposed chapters of the completed project/ dissertation/ thesis are outlined in brief.
Bibliography	Only those sources referred to in the proposal itself should be included.
Time frame	A step-by-step outline of the research plan linked to expected times for the completion of each step.
Cost feasibility (Budget)	An estimate of the projected costs that could be incurred during the research.

11.5.2 Format for a qualitative research proposal

(Mostly applicable to research conducted within the field of Social Sciences)	
Section	Description
	Table of Contents
Introduction	General background of the study. Purpose of the study. Guiding questions. Delimitations and limitations. Significance of the study.
Methodology	Theoretical framework. Type of design – assumptions of the specific qualitative design. Role of the researcher – assumptions. Selection and description of site and participants. Data collection strategies (primary or secondary data). Data analysis strategies. How the results will be presented. Methods of achieving trustworthiness.
Findings	Relationship to literature. Relationship to theory. Relationship to practice.
Research plan, timeline and feasibility	A step-by-step outline of the research plan, linked to expected times for the completion of each step, as well as an estimate of the projected costs that could be incurred during the research.
Bibliography	Only those sources referred to in the proposal itself are to be included.

11.5.3 Format for a basic scientific research proposal

(Mostly applicable to research conducted within the field of Applied and Computer Sciences,

12.

General Guidelines and Technical Requirements

A candidate must follow a consistent and recognised style for the layout, referencing method and bibliography. Departments

Engineering and Developmental Research)	
Section	Description
	Table of Contents
Introduction	<ul style="list-style-type: none"> • General background of the study. • Purpose of the study. • Significance of the study.
Objectives	<ul style="list-style-type: none"> • Specific research aims/Problem statements/Research questions. • The scope of the research. • Limitations.
Methodology	Outline of how data will be collected and analysed, that is, will it involve mathematical modelling, laboratory and/or industrial experiments, prototype design, artefact development and/or field observations? The design of laboratory or field experiments must be briefly explained.
Research plan	<p>A broad outline of the research plan linked to possible time frames. If an artefact or prototype is the envisaged outcome of the research, the developmental steps that will be followed must be explained. Typical steps could include any combination and sequence of mathematical modelling, computer simulation and experimental verification.</p> <p>In the case of a field-based natural science study, the expected duration of fieldwork (if any) must be stated. The nature of the fieldwork must be explained (that is, mapping, behavioural observation, sample collecting, etc.). The laboratory methods of studying the samples collected must be stated (that is, chemical analysis, microscopic analysis, etc.).</p>
Budget	An estimate of the projected costs that could be incurred during the research.
Expected outcomes	<p>A rephrasing of the aims and value of the research, including concrete results that will be achieved:</p> <ul style="list-style-type: none"> • Higher degree qualification. • Patents. • Publications. • Artefacts. • Industrial processes. • New SMMEs. • Improved performance/predictions/profits and so forth.

may require candidates to adopt the style of a particular professional journal or to conform to the practice laid down by the Department. All dissertation/ thesis writers should ascertain such requirements at the start of their research project to avoid unnecessary revision of work.

If a candidate's Department does not specify a preferred style, the candidate should adopt an appropriate style from professional journals or guides to thesis writing. A full narrative style is required with detailed literature reviews, methodology and results sections. Theses comprised of collection of published or submitted papers are not acceptable.

Candidates who require assistance with aspects of thesis writing or production should consult their supervisors, Heads of Department or the Librarians.

Attention should be given to the following:

- Typed on A4 paper, font size 11 in Times New Roman or Arial.
- Pages must be *numbered* and *fully justified*, with *left justification for the source list and bibliography*.
- Every *heading* must be numbered in a logical order and in bold type.
- No unnecessarily *large spaces* at the bottom of pages.
- No longer than *five pages* if it is a SENEX submission (this excludes the title page and the bibliography).
- Must be a *discussion of the theme*, not a summary of a textbook or article. The researcher's own point of view must be clearly evident. The gap in current research and need for research should be evident.
- *Effective use of language*. Information must be presented clearly, precisely, logically and unambiguously. The reader of the proposal must be able immediately to understand what the writer is saying. Do not use sentences or words that are too long. Have the proposal language edited prior to **final** submission to the faculty.
- Base your writing on the principle of *one idea per paragraph*.
- Ensure that there is *continuity*. One paragraph must proceed smoothly into another.

13. Graduation

Graduation ceremonies take place during March and September.

Full particulars about graduation, including academic dress, are forwarded to successful candidates by the examinations department, following the letter from the examinations department announcing approval of the award of the degree. All enquiries about graduation should be directed to the Examinations Department.