PhD guide

Contents

1. Introduction and objective of doctoral studies

A PhD graduate has an in-depth and broad knowledge of a specialized area of the discipline, is well versed in the scientific method and has proven through independent and guided research that he/she can apply the scientific method in a scientific study to make an original contribution to the discipline. Therefore, the objective of the doctoral study is to guide students to do original research.

The thesis should be an original contribution towards knowledge and insight of the discipline. The research should be suitable for at least two publications in an accredited scientific journal. The thesis must show clearly that the candidate

- is familiar with the nature and objective of his/her study;
- has satisfactory knowledge of the relevant literature;
- has mastered the research methods used in the study;
- has a good knowledge of the underlying theory/ies and the application of the scientific method;
- is able to evaluate the scientific implications and meaning of the finding.

2. Degrees offered

A PhD degree in either Engineering Management, Technology and Innovation Management or Project Management is offered.

3. Research areas

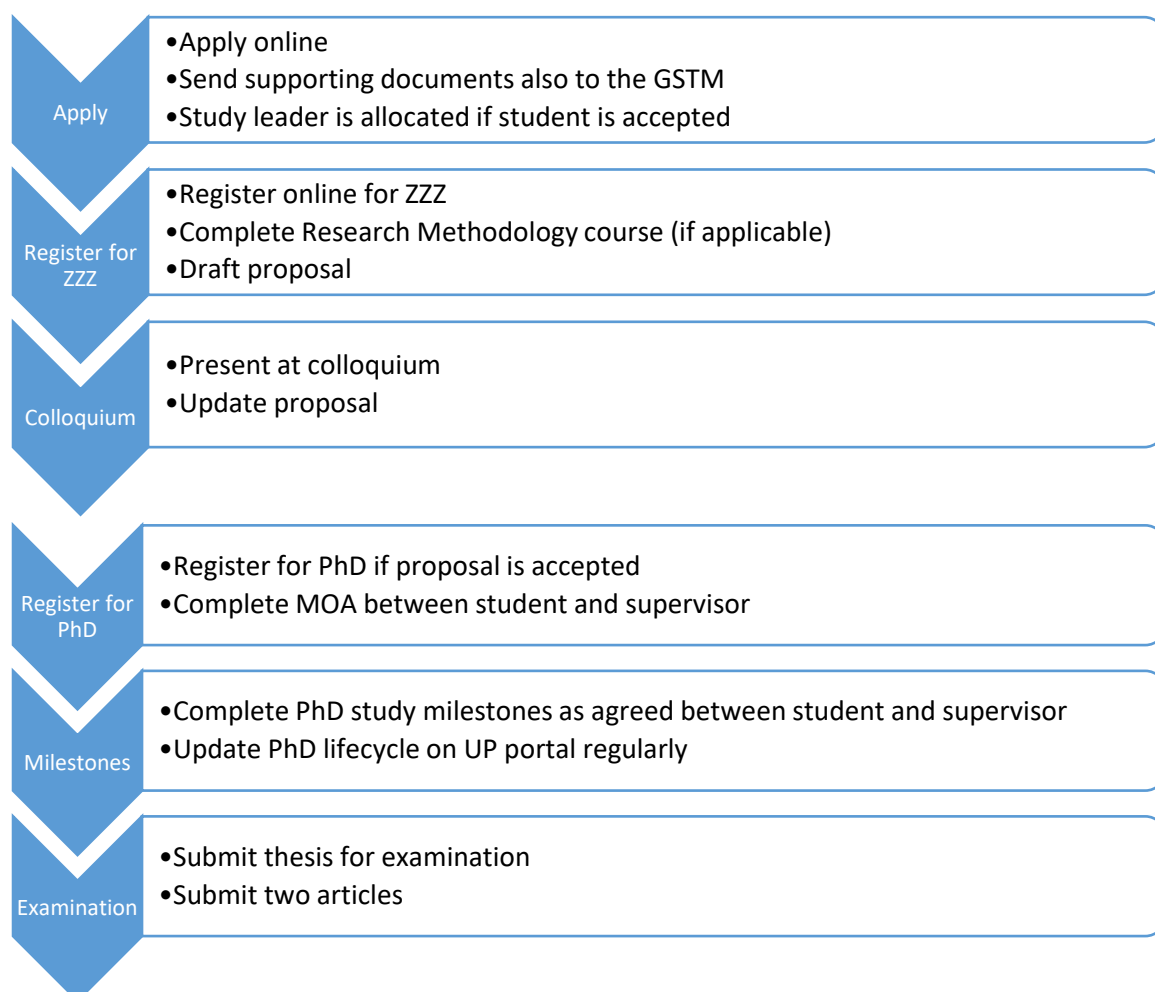More information on the research areas is available at:

- **Project Management Group**
- **Engineering Management Group**
- **Energy Systems Analysis Group**
- **Technology and Innovation Management Group**

4. Academic requirements and procedures

- A recognized and applicable full research MEng/applicable MSc degree with at least 70%; or a recognized and applicable taught Master's degree with an average of at least 70% for the coursework and at least 70% for the mini-dissertation.
- The departmental Postgraduate Committee will evaluate the application and if the academic record is acceptable and the research idea falls within the departmental research areas a supervisor will be allocated to the applicant. The GSTM research focus areas are indicated on the GSTM website under Research. As these are the areas that the study leaders specialize in, students should ideally work on a topic in any of these focus areas. An applicant may also suggest a study leader as the brochure indicates the focus areas per study leader. However, it is not always possible to allocate the suggested study leader, due to various reasons, e.g. study leader's availability, etc.
- The applicant must demonstrate sufficient background knowledge of engineering/project/technology management, must have mastered the relevant content of the proposed research field, can perform independent scientific research, and can analyze results logically.
- A TOEFL (Test of English as a foreign language - www.ets.org/toefl) or IELTS (International English Language Testing System - www.ielts.org) test will be required of candidates who have not studied the pre-requisite degree through the medium of English.

- Applicants who did not study at a South African University need to submit a SAQA certificate. http://www.saqa.org.za. More info available at https://www.up.ac.za/international-cooperation-division
- The applicant has 6 months to prepare a full proposal in line with the prescripts on the departmental website. (The applicant then register for non-degree purposes for a maximum period of 6 months to prepare the proposal). ZZZ fee payable. The proposal will be evaluated by the departmental Postgraduate Committee. The applicant will have to present his proposal at a colloquium.
- The applicant may register for PhD after the research proposal has been accepted.
- The status of the application will be updated on the UP portal.

5. Application and registration overview

Apply
- Apply online
- Send supporting documents also to the GSTM
- Study leader is allocated if student is accepted

Register for ZZZ
- Register online for ZZZ
- Complete Research Methodology course (if applicable)
- Draft proposal

Colloquium
- Present at colloquium
- Update proposal

Register for PhD
- Register for PhD if proposal is accepted
- Complete MOA between student and supervisor

Milestones
- Complete PhD study milestones as agreed between student and supervisor
- Update PhD lifecycle on UP portal regularly

Examination
- Submit thesis for examination
- Submit two articles

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6. Application procedures

Apply online: http://www.up.ac.za/online-application or on the UP portal if you were a UP student the previous year.

Further, email the following documents to Marlene Mulder at marlene.mulder@up.ac.za :

- Your CV
- Research idea for PhD. (Please see the attached document).
- Full academic record (or UP student number)
- Copy of your master's degree certificate.
- Copy of your research report for your master's degree.

Codes to use when applying online (Yearbook website)

PhD Engineering Management (Engineering)	12261072
PhD Engineering Management (Non- Engineering)	12263214
PhD Project Management (Engineering)	12261092
PhD Project Management (Non- Engineering)	12263216
PhD Tech & Innovation Management (Engineering)	12261082
PhD Tech & Innovation Management (Non- Engineering)	12263215

7. Suitability requirements

The postgraduate committee has to decide whether the candidate stands a reasonable chance to successfully complete the doctoral programme. The following are taken into account:

- the personal profile and motivation of the candidate;
- the academic record;
- the supervision of postgraduate students is a time consuming process, thus, the Department reserves the right to limit the number of students accepted into the programmes. All reasonable measures will be undertaken to ensure that students who meet the minimum requirements are accepted. In the event that department capacity cannot accommodate the number of students who meet the minimum requirements, the Department will rank the students according to the above averages, and the top performing students will be admitted to the programme, up to the limit of department teaching and supervision capacity.

8. Registration

Students register online at the beginning of each year on the UP portal (student centre)

The holds need to be cleared in order to register. (Holds appear in a block on the right of the registration page) Examples are shown in table hereunder.

HOLDS/ REGISTRATION	SA STUDENTS/ SADEC & SA PERMANENT RESIDENTS	INTERNATIONAL COUNTRIES	NOTES
INITIAL PAYMENT	• Pay the initial payment or upload Bursary letter	• Pay the initial payment or upload bursary	See attached Banking details document Bursary letters can be scanned and e-mailed to rose.malinga@up.ac.za

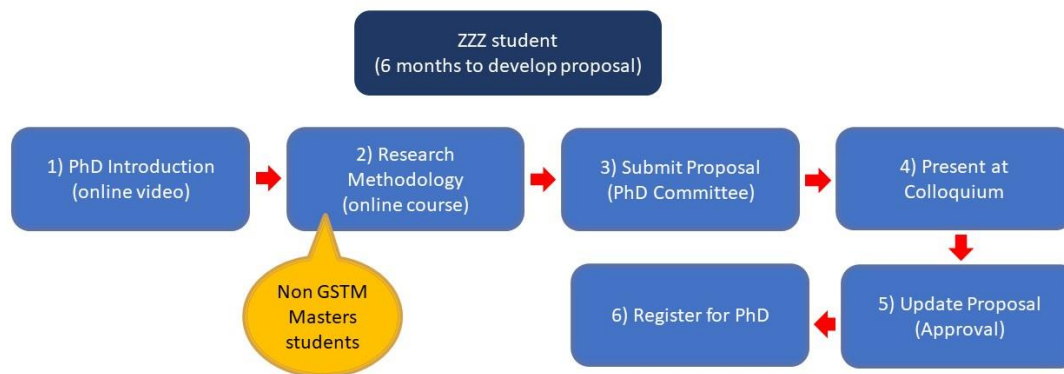| HOLDS/ REGISTRATION	SA STUDENTS/ SADEC & SA PERMANENT RESIDENTS	INTERNATIONAL COUNTRIES	NOTES
INTERNATIONAL REQUIREMENTS	(Permanent Residents & SADEC) • Copy of ID/Passport • No payment required	• Copy of passport • Proof of payment of International fee (subject to change)	E-mail all to isd@up.ac.za with Student number in subject line
CONTRACT	• Complete Online Contract • Complete hard copy of UP Contract • Enquiries regarding the contract – verona.demas@up.ac.za	• Complete Online Contract • Complete hard copy of UP Contract • Enquiries regarding the contract – verona.demas@up.ac.za	Courier/submit original contract to: The Client Services Centre, University of Pretoria, Room 2-12 Engineering 2 Building Cnr Lynnwood & Roper Str Hatfield 0028
REGISTRATION (Final Step)	• Register online the thesis	• Register online for the thesis	Register at http://www.up.ac.za/online-registration

9. Registration/Degree requirements

STUDY PERIOD	Registration needs to be continuous. The minimum duration of the PhD degree is one year and the maximum is four uninterrupted years. PhD students must complete their studies within four years after first registering for the degree, thereafter, continuation is subject to approval by the Dean of the faculty.
LEAVE OF ABSENCE	If it is impossible for a registered student to continue with his/her studies/research in the following year, but student is intent on continuing in the subsequent year, the student must apply in writing for Dean's approval for leave of absence for that following year, by no later than May of the year you would like to take Leave of Absence. Students will pay a fee. Please note LOA cannot be processed unless your account is settled before the end of April.
FEES/FUNDING	Fees are paid annually. Subject to annual increases Please refer to the Fees website Contact Student Services Centre at ssc@up.ac.za (e-mail) for information regarding fees and bursaries, and/or visit the Fees/Funding website

10. ZZZ process

ZZZ PhD Process

1) Idea Submission – PhD Committee
2) Register for ZZZ – (+- R2k registration fee - access to library)

ZZZ student
(6 months to develop proposal)

| 1) PhD Introduction (online video) | → | 2) Research Methodology (online course) | → | 3) Submit Proposal (PhD Committee) | → | 4) Present at Colloquium |

Non GSTM Masters students

| 6) Register for PhD | ← | 5) Update Proposal (Approval) |

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11. Research methodology module (part of ZZZ registration)

Refer to the clickUP page Advanced Topics in GSTM research

Click on the "My Grades" folder on clickUP will indicate if you have to complete the Research Methodology (RM) module as part of your ZZZ registration. Students who have to complete this module, will only be allowed to present at the colloquium after completing the RM module. This will also be shown in the "My Grades" folder.

12. Research guide

Please refer to the GTSM Research Guide for more detail information on, *inter alia,* Constructing your research design, structure of your thesis, Harvard Referencing Method, etc.

13. UP portal - ClickUP

PhD students

As soon as you are registered you will have access to the PhD thesis module on ClickUP.
You can access it either-

- Through the UP portal and then click on New ClickUP Home page; **or**
- Sign in directly on ClickUP (www.clickup.up.ac.za) by using your portal login information.

You will find additional information/links/support on this module. The study guide is available on the main page on ClickUP.

Use the Turn-it-in software to check your report for similarities to other material before e-mailing it to your study leader.

Check the announcements on the ClickUP page.

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ZZZ students

Inform Marlene (marlene.mulder@up.ac.za) as soon as you are registered. She will arrange access to the module Advanced Topics in GSTM Research. The Research Methodology module is part of the ClickUP module.

You can access it either-
- Through the UP portal and then click on New ClickUP Home page; **or**
- Sign in directly on clickUP (www.clickup.up.ac.za) by using your portal login information.

You will find additional information/links/support on this module. The study guide is available on the main page on ClickUP.

Use the Turn-it-in software to check your report for similarities to other material before e-mailing it to your study leader.

Check the announcements on the ClickUP page.

14. Operational aspects

Important websites	- GSTM Research - Previous PhD thesis completed at the Department (The PhD's are indicated at the bottom of the page with links to the full thesis) - UP General rules and regulations (In specific G42-G54). - Fees Website - EBIT post graduate lifecycle - Code of ethics for research - Policy for the Preservation and Retention of Research Data - Intellectual Property Policy - Plagiarism Prevention Policy
Assessment	Unless otherwise decided by the Dean, on the recommendation of the supervisor, the PhD degree is awarded on the basis of a thesis examination and submission of two articles. Examination is conducted by two external and one internal examiner. A student, before or on submission of a thesis, must submit proof of submission of two articles issued by an accredited journal. The submitted articles should be based on the research that the student has conducted for the thesis and be approved by the supervisor. The supervisor shall be responsible for ensuring that the article is taken through all the processes of revision and resubmission, as may be necessary.
Colloquiums	Please take note that the attendance of the colloquiums is compulsory. See the ClickUP link for detail information. All students need to present at least twice during the duration of the PhD study. The last presentation will count as a public defence. Colloquiums are arranged by Ms M van Niekerk (marie.vanniekerk@up.ac.za) and she will communicate colloquium details. If you cannot attend a specific colloquium, you need to obtain the Head of Department's approval via Ms Van Niekerk.

Research Milestones	You need to complete your research milestones on the UP portal in conjunction with the EBIT Postgraduate lifecyle. (especially from phase 3 on the website)
Memorandum of Agreement (MOA)	MOA available of the UP portal needs to be signed between the student and study leader. See also section 15 hereunder.
Ethics	As research student, it is required that you complete and sign the ethics forms to obtain approval from the University's Ethics Committee for your research. Please refer to the EBIT Ethics webpage
Hand-in dates for final examination	To ensure that the examination process is completed in time to graduate at the next graduation ceremony, your final report must be submitted as indicated hereunder: April Graduation: End of August September Graduation: End of April
Technical editing of the thesis	Please refer to the General Regulations (G.50)
Research Data Management	The University policy on Research Data Management (S 4417/17) states that researchers (academic staff and postgraduate students) should upload the final **research datasets** that underpins the research outputs (articles and theses and dissertations) onto the UP Research Data Repository (which runs on a Figshare platform). Postgraduate students (Masters and Doctoral) must upload their **research datasets (final/processed datasets and not raw data sets)** that underpins their theses/dissertations and articles, onto the University Research Data Repository (Figshare). The process of how to upload a dataset onto the UP Research Data Repository is explained in the powerpoint presentation You can also contact the Research Data Management Team in the Library at rdm@up.ac.za for assistance. The Library has also created a Research Data Management Guide (on all aspects of Research Data Management (RDM) that can be a helpful tool on all aspects of RDM. Please note that the UP research Data Repository (Figshare) is only used for research datasets and software code. The UPSpace repository is still used to publish research articles, theses and dissertations and other creative outputs. We will also be conducting weekly online training sessions on how to upload datasets onto Figshare. Please feel free to contact us to arrange sessions for specific groups of your students. You are welcome to contact us at rdm@up.ac.za or you can e-mail me directly at johann.vanwyk@up.ac.za.

15. Supervision and the role of the supervisor/student

The success of the PhD studies depends to a large extent on the successful partnership between the student and supervisor. A Memorandum of Agreement (refer to the Research milestones on the EBIT Postgraduate lifecyle.) has to be undersigned by both parties at the beginning of the study which will be provided by the postgraduate administrator. Each of the role players has certain responsibilities as described in the Memorandum of Agreement.