Postgraduate Brochure

Faculty of Engineering,
Built Environment and
Information Technology
Fakulteit Ingenieurswese, Bou-omgewing en
Inligtingtegnologie / Lefapha la Boetšenere,
Tikologo ya Kago le Theknolotši ya Tshedimošo

UNIVERSITEIT VAN PRETORIA
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DEPARTMENT OF INFORMATICS

PHD (INFORMATION TECHNOLOGY) INFORMATION SYSTEMS

PHD (INFORMATION TECHNOLOGY)

BROCHURE 2025

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1. Research in Informatics (Information Systems)

1.1 Informatics (Information Systems) as discipline

Modern organisations cannot function without information and the technology with which they gather, store, compute and make information available. The successful application of technology is however more than just writing computer programs. Yes, computer programs are essential, but an understanding of the business within which the organization functions, and an understanding of the use of information and information technology to support the objectives of the organization, are far more important. This can clearly be seen in the description of the discipline:

> *Informatics (Information Systems) is a multi-disciplinary subject, where information, information systems, and the integration thereof into the organization, are studied for the benefit of the entire system (individual, organization and community).*

1.2 Research Areas in the Department of Informatics

In general, the department's research focuses on the fundamental concepts of information and information systems, the role of humans within these systems, and the application of information systems to benefit organisations and the broader community.

The five focus areas are:

A detailed summary of each faculty member's research interest can be found at [Faculty Members' research interests](#).

1.3 Objective of a Doctoral study

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 publication 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/theories and the application of the scientific method.
- is able to evaluate the scientific implications and meaning of the findings.
- is able to structure and organize the research material in a logical way.

2. Supervision

The success of the PhD studies depends to a large extent on the successful partnership between the student and supervisor. A **Memorandum of Understanding** (MOU) must be undersigned by both parties.

All students will receive a copy of the Memorandum of Understanding (MOU) required by UP via email from Faculty Administrators. The MOU must be signed by both the supervisor and the student once the student is successfully registered for the PhD degree.

According to the MOU and departmental rules, each role player has specific responsibilities as outlined below:

2.1 The role of the supervisor

- The supervisor's primary role is to guide the student rather than provide active assistance.
- The supervisor expects regular contact (either face-to-face or via email) at least once every three months. It is the student's responsibility to arrange these sessions and report on their progress.
- Research reports must be clearly written in an acceptable standard of English. The supervisor is not responsible for "rough editing" and will focus solely on content and structure.
- The supervisor will provide feedback on any submitted work within one month.
- The supervisor has to provide motivation to faculty administration for continuation of the PhD study if its duration exceeds four years.

2.2 The role of the student

- The student is responsible for arranging sessions (either in-person or virtual) with the supervisor and submitting written reports for discussion.
- The student must ensure that no similar study has already been undertaken.
- The student is responsible for arranging language editing and applying the correct referencing styles.
- The student must write the research proposal and final report under the guidance of the supervisor and other lecturers.

- The student should have access to a laptop/PC and internet off-campus to complete the research report.

3. PhD(Information Technology) Information Systems versus PhD(Information Technology)

The Department of Informatics offers two PhD degrees:

- **PhD(Information Technology) Information Systems (Code:12264012)**, and
- **PhD(Information Technology) (Code: 12264010)**

Both degrees are administered by the Engineering, Built Environment, and Information Technology (EBIT) Faculty. We recommend registering for the **PhD (Information Technology) Information Systems** degree. However, if your research topic is highly technical and doesn't align well with "Information Systems", you may choose to register for the **PhD (Information Technology)**. If you are uncertain about which degree to select, please contact our postgraduate manager, Prof Machdel Matthee at: machdel.matthee@up.ac.za, for guidance.

4. Application and Registration process for a PhD Degree

4.1 Academic requirements

A prospective PhD student must be in possession of a Master's degree in IT/IS. In addition, the student must have had extensive working experience in the information systems field. An attainment of at least **65%** (average of all the courses and/or dissertation) for the Master's degree in IT/IS (or equivalent) is required. In addition, we expect the **research component of the Master's degree to contribute to at least 50% of the credits** of the degree.

For international students:

1. Provide proof of SAQA accreditation. Visit the SAQA website on: www.saqa.org.za
2. In some cases the following tests might be required:
   - Test of English as a foreign language (TOEFL): www.ets.org/toefl
   - International English Language Testing System (IELTS): http://www.ielts.org

[For more information visit: https://www.up.ac.za/international-cooperation-division]

All PhD candidates must do preparatory work in the form of a 1-year INF Seminar (including two 6-month courses) and pass both courses with at least 70% before they will be allowed into the Department's PhD programme.

Possible scenarios:

1. Students who **have not done their MCom or MPhil with the Department of Informatics at UP**, will have to complete **both courses of the INF Seminar** as doctoral preparatory students before they will be allowed to register for a PhD. The two

courses, which makes up the INF Seminar, are :1. 'Advanced topics in IS Research' and 2. 'Preparation for PhD studies in IS'. The first course is presented in the first semester of the year whereas the second course is presented in the second semester. Candidates must obtain at least **70%** for the first course to continue with the second course. Only those with at least **70%** for the second course will be allowed to register for a PhD in the following year. Note: If you do not meet the required 70%, you will not be allowed to continue with the second course or a PhD. You will also not be allowed to improve your mark the following year or years. More information about the two courses in the INF Seminar is given in Section 4.6 below.

2. Students who **completed the first course of the INF Seminar** as prospective Master's students **more than 5 years before the date of application for a PhD**, will have to **redo the first semester INF seminar course** and obtain at least **70%** for it, after which they will be allowed to complete the second INF Seminar course. **Both semester courses** have to be completed with at least **70%** before they will be allowed to register for a PhD in the following year.

3. Students who **completed the first course of the INF Seminar as prospective Master's students within the last 5 years from the date of application for a PhD**, obtained at least **70%** for it, and continued to complete their Master's degree, **do not have to repeat the INF Seminar**. Such students can **register for the ZZZ888 module for non-degree purposes** after which they need to compete their PhD preparatory work. The supervisor may ask the student to attend the second semester course of the INF Seminar and use the guidelines presented in this course to complete their preparatory work. The final assignment for the second course of the INF Seminar (the PhD research proposal and presentation) must be presented to the postgraduate committee for evaluation. If the assignment satisfies the minimum requirements (see Section 4.2 below), the student will receive permission to register for a PhD degree. Important to note is that even though a supervisor did not require the prospective student to attend the second semester course of the INF Seminar, ALL prospective PhD students need to **submit and present** their research proposals to the postgraduate committee for evaluation, before they can officially start with their PhD journey.

4.2 Suitability requirements

The postgraduate committee will decide whether the prospective PhD candidate stands a reasonable chance to successfully complete the PhD programme. The following aspects are taken into account: the candidate's personal profile and motivation for doing the PhD; the candidate's academic record; and the quality of the assignments done during the INF Seminar courses (or the PhD proposal – for students not attending the second course of the INF Seminar). Important to note is that **obtaining a mark of at least 70% for the INF Seminar courses does not automatically grant the candidate admittance to the Department's PhD**

programmes. Also important to note is that **the INF Seminar may not be repeated if the minimum requirement of 70% was not met.**

Supervision of postgraduate students is a time-consuming process; thus, the Department **reserves the right to limit the number of students** accepted into the PhD programme. All reasonable measures will though be undertaken to ensure that students who meet the minimum requirements are accepted.

4.3 Application dates

The official closing date for PhD applications for 2025 is: **31 May 2025**
We cannot guarantee the processing of PhD applications for candidates who apply online after this date. However, these applications will be considered in 2025 for the 2026 intake.

4.4 Steps to Apply for a PhD

1. **Step 1**: Familiarise yourself with the research areas of possible supervisors in the Department of Informatics, as only topics in line with these areas will be considered. You can find information on a possible supervisor and their research focus areas/topics of interest here: Department of Informatics Individual Research Focus Areas.

2. **Step 2**: Email a potential supervisor and inform him/her of your intend to apply for a PhD (either the PhD(Information Technology) Information Systems or the PhD (Information Technology) degree) and the topic you want to pursue, to seek their approval of taking you on as a possible PhD student. Keep their email confirmation reply on file as you will need to submit this with your Master's application.

3. **Step 3**: Complete the online Google Form PhD Application Questionnaire at: Online PhD Application Questionnaire.

4. **Step 4**: Apply online for the PhD degree (see Section 3 for details on the possible two PhD degrees) at: https://www.up.ac.za/online-application.
   [Watch this video if you need more information on the registration process: https://www.youtube.com/watch?v=TpuOW48BfD4.]

5. **Step 5**: Send the following information/documents to Mrs Rhona van der Merwe via email: rhona.vandermerwe@up.ac.za. [Note: she is our administrative post-graduate liaison within the Department of Informatics and your direct link to information should you have any administrative questions related to the **academic side** of your application].

   1. Your Name and Surname
   2. The name of the PhD degree that you have applied for i.e. **PhD(Information Technology) Information Systems** or **PhD(Information Technology)**
   3. An electronic copy of your Master's Research Paper in .pdf format
   4. The name of your potential PhD supervisor

5. A copy of the email you received back from your potential PhD supervisor (indicating that s/he is willing to take you on as a PhD student, should your application be successful).

6. A confirmation that you've completed the online Google Form PhD Application Questionnaire (you can merely state in your email that you've completed it – we will be able to locate it online).

6. **Step 6**: The University's online application system will route your application to the post graduate coordinator for consideration once you've applied online. (Make sure that you understand the **possible scenarios** as described in Section 4.1, so that you know whether you need to register for the INF Seminar first.) Once a decision is made by the Department's post-graduate committee, the decision will be captured on the system and you will be informed whether you've been provisionally accepted as a doctoral student. **Note**: The committee will not be able to process your application if there are any outstanding information or documents (see step 5 above), so please assist us in providing everything that's needed at once.

4.5   Registration for doctoral preparatory work

All provisionally accepted doctoral students will receive an email from our Departmental Post Graduate Coordinator, Prof Machdel Matthee, in January of the next year, to confirm that your application was approved for either the **INF seminar** OR for **doctoral preparatory work** (depending on the scenario you fit into – see Section 4.1 for the **Possible scenarios**).

Once you've received this email, all provisionally accepted doctoral students need to register online by following these steps:

1. **Step 1**: Login to your student portal.
2. **Step 2**: In the middle of the page you will find the block **Student Centre**. Click on this block.
3. **Step 3**: Follow the steps to register for the program **EN003 Engineering PG, plan 12290001 Non-examination purposes, Class No 8610**. The module code **ZZZ888 Doctoral preparatory** will appear on your academic record. This will give you access to the campus, the UP library, and the **INF seminar** ClickUP page.
4. **Step 4**: Complete the **Student Contract** and **upload** it onto the system as indicated. **Note**: You ALSO have to submit a **hard copy** of the original contract. It can be submitted in one of the following ways:
   - **Hand in printed contract** at the **Student Service Centre (SSC)**; *or*
   - **Courier a printed contract** to the University of Pretoria (Courier address: Student Contracts, University of Pretoria, University Road, Hillcrest, 0002); *or*
   - **Drop a printed contract physically into the post box** located at the **Engineering Entrance 3** in University Road.
5. **Step 5**: E-mail a copy of the contract to Ms Demas (verona.demas@up.ac.za).

Note: Until both copies of the contract (the **hard copy** and the **electronic copy**) are received, you will not be able to register as there will be a block on your student account.

6. **Step 6**: Pay the fee of about R2000 (the 2024-amount was R1655) and send a copy of the proof of Payment (POP) to Ms Rose Malinga at: rose.malinga@up.ac.za to waive the balance on your student account. Remember to always use your UP student number in all correspondence with the University.

    Note: **You do NOT have to pay the full UP registration fee**. Use your **student number** as the **reference number** when you make the payment. UP's Banking details (ABSA or Standard Bank) are available here: [UP Banking details](#).

7. **Step 7**: Once both formats of your contract were sent and your payment was done, please send an email to Mr Kenneth Nkanyana at: kenneth.nkanyana@up.ac.za and ask him to assist you with the 'block lift' on your registration. Admin will then register you. Please copy Mrs Rhona van der Merwe in your email to Kenneth at: rhona.vandermerwe@up.ac.za. Remember to always use your UP student number in all correspondence with the University. You will now be registered for the doctoral preparatory module and the module code **ZZZ888 Doctoral preparatory** will appear on your academic record.

If you need to attend and complete the **INF Seminar** (see scenarios' 1 & 2 under **Possible Scenario's** in Section 4.1), you will now be added to the **INF Seminar S1 2025** ClickUP page. This is where you will find all the information regarding the seminar such as the class and assessment schedule and the course content. **Note**: We do NOT make use of the **ZZZ888** ClickUP page for the INF seminar, so you can ignore this page.

4.6   INF Seminar module details

4.6.1   Advanced Topics in IS research (Semester 1)
Preliminary dates
Please note that classes will be presented on a Thursday.

Date THURSDAY	Activity	Time	Venue
6 March 2025	Seminar class	08:00 – 15:30	IT 5-56
10 April 2025	Seminar class	08:00 – 15:30	IT 5-56
8 May 2025	Seminar class	08:00 – 15:30	IT 5-56
29 May 2025	Seminar class	08:00 – 15:30	IT 5-56
27 June 2025	Due date final assignment		

Learning content

1. The philosophy behind the main research paradigms in IS research. Students are challenged to become aware of and question the underlying assumptions in IS thinking.
2. A discussion of various Information Systems Theories. This includes systems and social and information theory as applied in Informatics.
3. Research methods and approaches in Information Systems.

Assessment

Assignments in preparation for PhD studies.

4.6.2 Preparation for PhD studies in IS (Second semester)

Preliminary dates

Please note that classes will be presented on a Thursday.

Date THURSDAY	Activity	Time	Venue
31 July 2025	Seminar class	9:00 – 13:00	IT 5-56
28 August 2025	Seminar class	9:00 – 13:00	IT 5-56
25 September 2025	Seminar class	9:00 – 13:00	IT 5-56
Friday, 21 November 2025	Submit and present final assignment	08:30 – 15:30	IT 5-56

Learning content

Supervisors will work individually with their students towards the final PhD proposal. The contact sessions will be presented by the course coordinator and INF Seminar lecturers.

Assessment

The final assignment (Presentation of PhD research proposal) will be marked by the course coordinator, INF-Seminar lecturers and the supervisor.

Application for ethical clearance once your research proposal has been accepted

Applications should be submitted online. Go to: EBIT Faculty Research Ethics Committee

INF Seminar Module coordinator contact details

Coordinator	Phone number	Email Address
Prof Machdel Matthee	012 420 3365	machdel.matthee@up.ac.za

4.7   Registration and re-registration for PhD(IT)IS or PhD(IT)

Registration is done after you have completed and passed the two INF Seminar courses with at least 70% respectively, OR after the preparatory doctoral work (for those students who did not need to do the INF seminar – see **Possible scenarios** in Section 4.1) has been approved.

You will receive an Official Admissions letter by e-mail. The letter will also be available on your Student Portal – Student Centre - Communication. Thereafter, you must re-register annually for your PhD degree. Beginning in the fourth year of registration, you will need a permission letter from your supervisor confirming satisfactory progress before you will be allowed to re-register.

You will follow the same procedure to register (as stipulated in section 4.5), but you need to now pay the full university required registration fee. Once you've paid and submitted your contract (both copies – electronic and hard copy), you can complete your on-line registration on your student portal under 'registration'.

Note:
- If you applied for the **PhD(Information Technology)Information Systems (Code: 12264012)** degree you need to register for the **ISY 990** module
- If you applied for the **PhD(Information Technology) (Code: 12264010)** degree you need to register for the **SIT 990** module

For access to campus, take a printout of the "Proof of registration" to the Student Centre to obtain your student card.

Any registration problems (e.g. *'Financial unsuitable', 'Hold', 'Change of modules'*), must be directed to Faculty Administration:

FACULTY ADMINISTRATION:

Mr Kenneth Nkanyana	Eng. Building1 Room 6-8	012 420 6735	kenneth.nkanyana@up.ac.za
Ms Monicca Makena	Eng. Building 1 Room 6-8	012 420 4095	monicca.makena@up.ac.za

International Queries & '*Hold*':

Mrs Jenny Lambinon	012 420 4024	jenny.lambinon@up.ac.za
Mrs Wiida le Roux	012 420 5107	wiida.leroux@up.ac.za
Mr Smart Maqubela	012 420 6610	smart.maqubela@up.ac.za

5. Submission of the Final Dissertation

The following dates are important when the student considers submission of the final dissertation:

- **30 June or 27 February**: The student informs the supervisor that s/he plans to submit before 31 August or 30 April.
- **31 August or 30 April**: The student submits a signed submission form and 2 examination copies (both ring bound and electronic copies).

- **15 January or 15 June**: The student submits e-copies with corrections (as suggested by external examiners); the supervisor checks that all corrections have been done; the student submits his/her UPeTD upload form.
- **22 January or 22 June**: the student submits hardbound copies of his/her final dissertation.
- For **April Graduation** – submit **before end of August**.
- For **September graduation** – submit **before end of April**.

6. Study Fees

Please visit the following page on the UP website for more information on study fees: Postgraduate Tuition Fees

Or email the SSC at: ssc@up.ac.za

Mrs Sophy Seefane	sophy.seefane@up.ac.za
Ms Rose Malinga	Rose.malinga@up.ac.za
Ms Komane Lehong	komane.lehong@up.ac.za

7. Financial Enquiries

Full financial information is available at: https://www.up.ac.za/student-fees. This includes information on payment arrangements, banking details, 2,5% discount, family rebate, UP residences, discontinuation of studies, students studying with a bursary, etc.

Information on how to view your account is available at:
https://www.up.ac.za/student-fees/article/2735975/statement-of-account

Information on how when to pay what is available at:
https://www.up.ac.za/student-fees/article/2735925/when-to-pay-what-

For payments made which are not reflecting on your account, please forward the proof of payment (POP) to: payments@up.ac.za. Note: Payments may take up to 5 days to reflect.
International students have to provide proof of SAQA accreditation. In some cases TOEFL (Test of English as a foreign language) www.ets.org/toefl and IELTS (International English Language Testing System) www.ielts.org tests may be required.

8. Financing of Studies

Contact Student Services Centre at ssc@up.ac.za for information regarding fees and bursaries, and/or visit https://www.up.ac.za/article/2749200/fees-and-funding

| Ms Leanne van Zyl | Leanne.vanzyl@up.ac.za |
| Ms Marieka Schoeman | Marieka.schoeman@up.ac.za |

9. General Information

- Compare Enterprises@UP for information on certificate courses.
- Information Science Department: https://www.up.ac.za/information-science
- Computer Science Department: https://www.up.ac.za/computer-science
- For academic information regarding postgraduate courses in Informatics, contact Mrs Rhona van der Merwe at: rhona.vandermerwe@up.ac.za

10. Contact Details

Postgraduate Coordinator	Prof Machdel Matthee	012 420 3365	machdel.matthee@up.ac.za
Postgraduate Administrator	Mrs Rhona van der Merwe	012 420 6321	rhona.vandermerwe@up.ac.za