

Department of
Computer Science & Informatics

Postgraduate Application Process and Study Information

2024



NATURAL AND
AGRICULTURAL SCIENCES
UFS

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UFS
NATURAL AND
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COMPUTER SCIENCE
AND INFORMATICS

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A. ONLINE APPLICATIONS

Visit the UFS website and follow the applications link (<https://apply.ufs.ac.za/>) to complete and submit your application form. Please ensure that you upload all the required supporting documents as requested. Terms and Conditions apply.

As soon as you have applied, please send an email to Mr Jaco Marais at csi@ufs.ac.za to allow him to keep track of your application.

B. INTERNATIONAL APPLICATIONS

- Applicants, who are in possession of a degree from non-South African universities, **must include the South African Qualifications Authority (SAQA) evaluation** letter with their application.
- Non-South African certificates/degrees must be assessed by SAQA prior to applying to the UFS. This process can take anything from 2 – 3 months. Please visit www.saqa.org.za for more information.
- The application process must be completed online at <https://apply.ufs.ac.za>, and you must receive a letter of admission, before you arrive for registration at the university. For this reason, adhering to closing dates is extremely important. You must also ensure that you provide all details and documents regarding qualifications that you have obtained to facilitate the application process.
- Students transferring from other universities must include a certificate of conduct as well as a study record from their previous university with their applications. The application closing date for students transferring from other universities is 30 September.
- International postgraduate students must attach certified copies of degrees/certificates to their applications. Degrees/certificates that are not certified will delay the processing of applications.
- Ensure that your application form is completed correctly and that all necessary documents are attached before submitting it. You should expect to receive feedback from the University within 3 weeks of applying. **However, as soon as you have applied, please send an email to our programme director, Mr Marais at csi@ufs.ac.za to allow him to keep track of your application.**
- All enquiries regarding applications: Tel: +27(0)51 401 2929.

If your application is successful, you will receive a letter of admission from the admissions office, as well as a letter from the Office for International Affairs for the study permit. Visit the South African Embassy in your home country with the above letters, as well as your passport, to apply for your permit. Please be advised that your study permit application can take up to six weeks to be finalised.

All international students must provide proof of membership to a medical-aid, registered with the South African Medical Council. Hospital plans and travel insurance will not be accepted as medical-aid.

Visit <http://www.medicalschemes.com/MedicalSchemes.aspx> for more information on registered medical aids.

International students may also contact the Office for International Affairs for further assistance:

For application, visa, and immigration enquiries, contact:

Jeanne Niemann: +27 51 401 3219 niemannaja@ufs.ac.za

For institutional reporting and office projects, contact:

Chevon Slambee: +27 51 401 2501 JacobsCS@ufs.ac.za

For scholarships and funding, contact:

Mbali Moiketsi: +27 51 401 3403 MoiketsiMV@ufs.ac.za

For international student activities, contact:

Bulelwa Moikwatthai: +27 51 401 3397 MaloB@ufs.ac.za

The International Office is situated in the Mabaleng Building on the Bloemfontein campus.
Email: internationalenquiries@ufs.ac.za.

C. FEES 2024

For any financial queries, please contact:

Tuition fees

Tel: +27 51 401 3003 or Email: tuitionfees@ufs.ac.za.

For an online quotation, you can also visit: <https://kovsielife.ufs.ac.za/quote/quote.aspx>.

The Department of Computer Science and Informatics does not handle queries regarding tuition fees.

D. GUIDELINES FOR ACCEPTING POSTGRADUATE STUDENTS

1. Postgraduate applicants who apply for a research Masters or PhD, have to slot into the existing research areas within the Department of Computer Science & Informatics, namely:
 - Human-Computer Interaction (HCI),
 - Computer Science Education (CSE),
 - Eye-tracking Applications,
 - Blockchain Technologies, and
 - Business Intelligence and Text Mining.
2. If the original topic/proposal does not have any links with the Department's research areas from the offset, the applicant cannot be accommodated. If the applicant's topic/study proposal, however, closely relates to one of the Department's research areas, the applicant should attempt to adapt it so that it fits in totally.
3. If the applicant is not willing to change his/her topic/proposal, the Department will not be able to accommodate the applicant.

E. APPLICATION GUIDELINES FOR MASTER'S & Ph.D. STUDENTS

1. Applicants (including applicants who did not complete their previous degree at the UFS) must apply online via the UFS website (<https://apply.ufs.ac.za>). After successfully applying, please send an email to our programme director, Mr Marais, at csi@ufs.ac.za to allow him to keep track of your application.
2. All relevant documents related to the applicant's previous qualifications must (as specified in the UFS application form) be uploaded to accompany the application when it reaches the UFS Administration. This includes a SAQA evaluation certificate for non-RSA previous qualifications (it is the applicant's own responsibility to request this certification beforehand). As soon as the application is complete, Administration will send it through to the Department of Computer Science & Informatics for academic consideration.
3. If the choice of the prospective departmental research area it is not clear from the applicant's documentation, the Department may contact the applicant in order to clarify.
4. If the application was unsuccessful (not including incomplete applications), the Department will communicate the reasons and specify what will be expected of the applicant to be successful when re-submitting an application in future (if applicable).

5. If the applicant's:
 - a. Application form is complete and correctly filled in;
 - b. NQF (SAQA) level of the previous degree is correct;
 - c. In the case of a module-oriented previous qualification, the study records indicate previous modules on the correct NQF-level with the majority of modules within Computer Science; and
 - d. Minimum average of 65% (Master's) or 65% (PhD) has been met, and
 - e. The Department of Computer Science & Informatics has the capacity to accept new students in the specific research area,the applicant will be *conditionally* accepted.
6. The applicant will be referred to a relevant research area coordinator who will evaluate the proposed research idea/topic. Based on the relevancy/potential of the proposed idea and the Department's supervision capacity, a decision will be made as to whether the applicant will be allowed to register.
7. As soon as the student is registered, an official supervisor/promotor will be allocated based on the research area and topic. It is the responsibility of the applicant, in collaboration with the allocated supervisor/promotor, to prepare a research proposal.
8. The final proposal must be presented *within 3 months of registration*.
9. After physically presenting the research proposal to the staff during a research talk in the Department of Computer Science & Informatics, the Department will make a final decision on whether the student will be allowed to continue with his/her studies, or whether the registration of the student will be terminated.
10. If the student fails to adhere to the 3 month time restriction, Administration will be notified to terminate the registration.

F. HONOURS 2024

1. Compulsory Sessions for All Prospective Honours Students

- **Honours Information session**

A compulsory information session will be held early in 2024 before classes commence. Please note the following:

- It will take place online via Blackboard Collaborate (BB Collab).
- All relevant information on the degree will be provided during this session to assist students with their module choices and registration.
- Each lecturer will present a brief overview of his/her module.
- It is compulsory to attend for first time Honours students. DO NOT MISS THIS SESSION!!!

- **Honours Project (CSIS6809 / BCIS6809) Information Session**

The Honours project (CSIS6809 / BCIS6809) is a *compulsory* module in order to obtain your Honours degree. It is presented as a year module.

- An information session on the Honours project (year module) will take place in the week following the Honours Information Session.
- This session is compulsory for all students who intend to register for their Honours project in 2024. Non-attendance will prevent you from registering for the project.
- This session will be presented online via BB Collab.
- All relevant information pertaining the Honours project will be explained and discussed.
- Please make arrangements with your employer well in advance to attend.

- **CSIS6813 Contact Sessions**

CSIS6813 (Introduction to Research) is a *compulsory* module in order to obtain your Honours degree.

- The contact sessions for CSIS6813 (Introduction to Research), will take place during a once-off block week in the week following the Project Information Session, **from 08:00 – 17:00 daily**.
- These sessions will be presented online via BB Collab.
- Please make arrangements with your employer well in advance to attend.
- These contact sessions are compulsory if you intend to register for CSIS6813 in 2024 and will not be repeated in 2024. Assignments will also be handed out during these sessions.

The rest of the Honours classes will commence in the following week in February 2024. Registrations will end about 2 weeks after that – dates will be confirmed at a later stage.

2. Honours Degree Codes

- BSc Honours (Computer Science and Informatics) = BC460022
- BSc Honours (Data Science) = BC460095
- BCIS Honours (Computer Information Systems) = BC460156

3. Full time vs. Part time

Our Department's meaning of full/part time Honours:

- Full time
 - Compulsory face-to-face class attendance on campus (Mondays to Fridays)
 - Honours degree must be completed in **1 year**.
- Part time
 - Compulsory face-to-face class attendance on campus (Mondays to Fridays)
 - Allowed to complete Honours over **2 years**.

International Office interpretation in terms of a study permit:

- Full time: Attend classes face-to-face on Bloemfontein campus
- Part time: Attend classes online.

4. Duration and Scope of Honours Studies

- Honours degree = 8 modules in total, comprising of:
 - 7 modules *plus* project year module
- Choice of 1 year (full time) or 2 years (part time)
One year (full time):
 - Project module = year module
PLUS
 - 4 modules 1st semester; 3 modules 2nd semester;
 - OR
 - 3 modules 1st semester; 4 modules 2nd semester;
- Two years (part time):**
 - Spread modules above over 2 years
 - Select to do the project year module in either 1st or 2nd year

5. Honours Admission Requirements

- **BSc Honours (Computer Science & Informatics) degree:**
 - Minimum of 65% average for the four UFS (or closely related) 3rd year (NQF 7) Computer Science modules
 - (UFS: Database Design, Internet Programming, Networks, Software Engineering).

- **BSc Honours (Data Science) degree:**
 - Minimum of 65% average for the five UFS (or closely related) 3rd year (NQF 7) Computer Science modules
 - (UFS: Database Design, Internet Programming, Networks, Software Engineering and Data Science)
 - Statistical Inference and Probability Theory, Linear Algebra, Data Structures and a foundational Data Science background.

- **BCIS Honours (Bachelor of Computer Information Systems) degree:**
 - Minimum of 65% average for the four UFS (or closely related) 3rd year (NQF 7) BCIS and Computer Science modules
 - (UFS: Database Design, Information Systems in Organisations, Networks and Software Engineering)
 - An average mark of at least 60% for at least six undergraduate Business Management modules, but not less than 55% in each module; of which 64 credits need to be at NQF level 5 and/or NQF level 6 and 32 credits at NQF level 7.

6. Honours Modules

- ***BSc Honours (Computer Science and Informatics) degree (BC460022):***
 - Compulsory:
 - CSIS6809: Honours Project (36 credit year module)
 - CSIS6813: Introduction to Research.
 - 6 Electives (excluding BCIS modules)
 - See modules on page 9.
- ***BSc Honours (Data Science) degree (BC460095):***
 - Compulsory
 - CSIS6809: Honours Data Science Project (36 credit year module)
 - CSIS6813: Introduction to Research
 - CSID6853: Data Warehousing
 - CSIA6823: Advanced Data Science
 - CSID6823: Business Intelligence
 - CSIA6843: Analytical Programming
 - Electives
 - Two of the remaining modules on page 9.
- ***BCIS Honours degree (BC460156):***
 - Compulsory
 - BCIS6809: Honours BCIS Project (36 credit year module)
 - CSIS6813: Introduction to Research
 - CSIE6863: IT Project Management
 - From the Faculty of Economic and Management Sciences
 - 1st Semester:
 - ❖ EFMN6814: Financial Management for Managers
 - 2nd semester: Choose one of the following:
 - ❖ EOCC6824: Omni-Channel Commerce
 - ❖ EVEN6824: Venture Creation
 - Electives
 - CSII6833: Human-Computer Interaction
 - CSII6813: Information Security
 - CSII6883: Forensics
 - CSID6853: Data Warehousing
 - CSIA6843: Analytical Programming
 - CSID6843: Advanced Databases
 - CSIN6843: Advanced Networks
 - CSIP6853: Advanced Programming.

7. Honours Preliminary Modules 2024

1st Semester 2024

MODULE	DESCRIPTION	LECTURER
CSII6833	Human-Computer Interaction	Prof Lizette de Wet
CSII6813	Information Security	Dr Wynand Nel
CSIP6853	Advance Programming I (Mobile)	Dr Pakiso Khomokhoana
CSID6853	Data Warehousing	Prof Eduan Kotzé
CSIS6813	Introduction to Research (Presented as block session)	Prof Lizette de Wet and Colleagues
CSIP6833	Advanced Internet Programming	Prof Liezel Nel
EFMN6814	Financial Management for Managers (BCIS Hons Students only)	Prof Van Aardt Smit

2nd Semester 2024

MODULE	DESCRIPTION	LECTURER
CSID6823	Business Intelligence	Prof Eduan Kotzé
CSID6843	Advanced Databases	Prof Tanya Stott
CSII6883	Forensics	Dr Wynand Nel
CSIA6843	Analytical Programming	Mr Leon Grobbelaar (CUT)
CSIE6863	Project Management	Mr Henry Deacon
CSIN6843	Advanced Networks	Mr Serf Serfontein
CSIA6823	Advanced Data Science	Mr Jaco Marais
EOCC6824	Omni-Channel Commerce (BCIS Hons Students only)	Prof Jacques Nel
EVEN6824	Venture Creation (BCIS Hons Students only)	Prof Van Aardt Smit

For BSc Honours, a maximum of 2 **approved** related Honours modules may be taken from other departments within the Faculty of Natural and Agricultural Sciences. It is, however, the student's own responsibility to make sure that these modules fit into our department's timetable. No changes to the timetable will be made from our side to accommodate other departments' modules.

8. Honours Class Times 2024

Will be communicated during the Honours Information Session in February 2024.

9. Honours Textbooks 2024

Will be communicated during the Honours Information Session in February 2024.

10. Honours Contact Sessions

As mentioned, the contact sessions for the compulsory Introduction to Research module (CSIS6813) will take place from Tuesday until Friday, from 08:00 – 17:00 daily, in the week following the Honours Information Session, early in February 2024.

The rest of the Honours classes will commence in the following week.

Attending contact sessions face-to-face for all modules is compulsory and these sessions generally take place weekdays between 17:10 and 21:00. Depending on the modules presented, a module could also be presented between 07:00 and 08:00 in the morning or 14:30 – 16:30 in the afternoon. Your lecturers will specify the venue for each module.

11. Communication

Email: DWetL@ufs.ac.za or csi@ufs.ac.za

Blackboard: for CSIS6809 / BCIS6809.

12. Applying for Honours

All current UFS students and new applicants:

- Apply online via UFS website (<https://apply.ufs.ac.za>)
 - Deadline: 30 September 2023 (but apply as soon as possible)
 - Ensure that you upload ALL the required supporting documents. Applications without the required supporting documents will be seen as incomplete.
 - Inform Mr Marais, our programme director, via email (csi@ufs.ac.za) that you have applied online.
- Final notice of acceptance / rejection of application can only be given once the final marks are available at the end of 2023. Final 2023 marks for pre-graduate degrees should be sent to Mr Marais (csi@ufs.ac.za) as soon as they are available.
 - Applicants will be selected based on academic merit and available space.

New applicants from outside the UFS or who have not studied at the UFS for the last 6 months:

- Apply online via the UFS website (<https://apply.ufs.ac.za>)
- Closing date: 30 September 2023.

13. Honours Registration in 2024

Registration can be finalised during the week after the Honours information session in 2024. The registration deadline will be communicated.

G. MASTERS – 2024

1. Master's Admission Requirements

- B.Sc. Hons Degree (with IT or Data Science as major) on SAQA level 8.
- Minimum 65% average for the Honours degree.
- Should the applicant not have the required background for the Master's degree in a certain research field, he/she may be required to register for one or more pre-graduate, Honours or Master's modules before being accepted for the Master's degree.
- Applications received between 1 April 2023 and 30 September 2023, will only be processed after 30 September 2023. Applications received after 1 October 2023, will only be processed after 31 March 2024.

2. Duration of Research Masters

- Full time: Minimum 1 year & maximum 3 years
- Part time: Minimum 2 years & maximum 4 years

3. Research Master's Degree and Module Codes

Programme codes: BC480022 (Computer Science & Informatics)
BC480056 (Computer Information Systems)
BC480095 (Data Science)
Module code: CSIS8900 (Dissertation (180 credits))

4. Departmental Research Areas

Your topic must fit into at least one of the Department's research areas:

- ***Human-Computer Interaction (HCI)***
The focus of HCI research is Usability and User Experience (UX) evaluation. Different evaluation methods may be applied, with emphasis on physiological testing involving brain-computer interfaces.
- ***Business Intelligence and Text Mining***
The research focus is on Digital Text Analysis where we combine natural language processing (practical applications on textual data), data science (data analysis and practical data visualization from large document collections) as well as machine and deep learning.

GitHub: <https://github.com/eduankotze/BITM>

- **Computer Science Education (CSE)**

The aim of the Computer Science Education (CSE) research area is to promote research and scholarship both in the field of Computer Science Education and the application of Computer Science to improve teaching and learning. CSE research typically focuses on finding more effective approaches to teach Computer Science to a larger and more diverse audience, or the development of software that can impact upon the teaching and learning environment.

- **Eye-tracking Applications**

This research area is aimed at promoting eye tracking applications research. This means that eye-tracking is used as a tool to collect data or as part of a proposed solution, such as eye gaze interaction. The focus of the research is currently on eye gaze interaction and reading research.

- **Blockchain Technologies**

The research area focusses on blockchain technologies. The digital transformation of industries, known as Industry 4.0 has already started and blockchain forms part of the digital revolution. The research areas include blockchain algorithms and data structures, blockchain security, blockchain applications and crypto assets.

5. Master's Proposal

A detailed proposal should be prepared after registration with the assistance of the allocated supervisor.

The proposal should at least address the following: Introduction, Literature review, Problem statement, Research question(s) & goals, Hypotheses, Research design & methodology, Reliability and validity, Contributions, Limitations and Future research.

The proposal must be presented in person or online to the staff of the Department of Computer Science and Informatics within 3 months of registration. Failure to do so would result in the revoking of the registration.

❖ *Final acceptance of student is subject to acceptance of proposal.*

H. PhD - 2024

1. PhD Admission Requirements

- An acceptable Master's degree in Computer Science or IT or Data Science on SAQA level 9.
- Minimum 65% average for the Master's degree.
- Should the applicant not have the required background for the PhD in a certain research field, he/she may be required to register for one or more pre-graduate, Honours or Master's modules before being accepted for the PhD.
- Applications received between 1 April 2023 and 30 September 2023, will only be processed after 30 September 2023. Applications received after 1 October 2023, will only be processed after 31 March 2024.

2. Duration of PhD

- Full time: Minimum 2 years & maximum 4 years
- Part time: Minimum 4 years & maximum 6 years

3. PhD Degree and Module Codes

Programme codes: BC490022 (Computer Science & Informatics)

BC490056 (Computer Information Systems)

BC490095 (Data Science)

Module code: CSIS9100 (Thesis (360 credits))

4. Departmental Research Areas

The topic should fall within the research areas of the department:

- ***Human-Computer Interaction (HCI)***

The focus of HCI research is Usability and User Experience (UX) evaluation. Different evaluation methods may be applied, with emphasis on physiological testing involving brain-computer interfaces.

- ***Business Intelligence and Text Mining***

The research focus is on Digital Text Analysis where we combine natural language processing (practical applications on textual data), data science (data analysis and practical data visualization from large document collections) as well as machine and deep learning.

GitHub: <https://github.com/eduankotze/BITM>

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5. PhD Proposal

A detailed proposal should be prepared after registration with the assistance of the supervisor.

The proposal should at least address the following: Introduction, Literature review, Problem statement, Research question(s) & goals, Hypotheses, Research design & methodology, Reliability and validity, Contributions, Limitations and Future research.

The proposal must be presented in person or online to the staff of the Department of Computer Science and Informatics within 3 months of registration. Failure to do so would result in the revoking of the registration.

❖ *Final acceptance of student is subject to acceptance of proposal.*