national
e-science
postgraduate teaching
and training platform

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

nicis
NATIONAL INTEGRATED
CYBERINFRASTRUCTURE SYSTEM

APPLY BEFORE
31 OCTOBER 2021

Master
of Science by
Coursework
and Research
Report in the field
of e-Science

The National e-Science Postgraduate Teaching & Training Platform (NEPTTP)

ANALYSIS

RESEARCH

Are you interested in big data, data analytics or data science?

## Apply to join this prestigious national programme in an exciting, cutting-edge field!

This Masters programme trains postgraduate students in computational, mathematical and statistical methods to solve data-driven problems. The programme creates opportunities for students to gain an interdisciplinary perspective in the field of Data Science.

Students register with their Home Institution, but attend coursework at Wits University, Johannesburg, in the first year of their study. On completion of the coursework, students return to their Home Institutions for the second year of study: a research report in Data Science.

The programme forms part of the DSI-NICIS funded National e-Science Postgraduate Teaching and Training Platform (NEPTTP). This Platform is implemented by a Consortium of Universities from around South Africa working together to deliver joint curricula in e-Science.

ENTRY REQUIREMENTS

Applicants are required to have a Bachelor with Honours degree (NQF level 8 qualification) from a relevant discipline in Science (Computer Science, Mathematics, Physics, and Statistics) or Engineering OR a relevant NQF level 8 qualification or a relevant Professional Engineering Degree with demonstrable knowledge of basic principles of Computing, Calculus, Linear Algebra, Probability and Statistics. Applicants require a minimum of 65 percent in their NQF level 8 qualification and fulfil any additional application requirements of the institution through which they are applying, and must be co-approved by the Consortium.
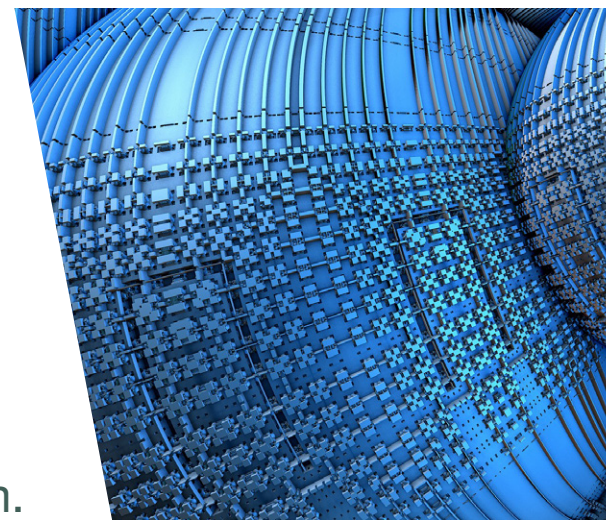
DEGREE INFORMATION

The Masters programme extends over twenty-four months of full-time study. The first year of the programme comprises taught modules. The second year involves a cross-disciplinary data-driven project, either from the home university or one of a wide range of industry partners. A candidate must successfully complete the required modules and the research report to obtain the degree.

Coursework Modules (Year 1 at Wits University) 2 Compulsory Courses

- Research Methods and Capstone Project in Data Science
- Data Privacy and Ethics

Any 4 Elective Courses

- Adaptive Computation and Machine Learning
- Data Visualisation and Exploration
- Large Scale Computing Systems and Scientific Programming
- Large Scale Optimisation for Data Science
- Mathematical Foundations of Data Science
- Statistical Foundations of Data Science
- Special Topics in Data Science

*** *Not all elective courses will be offered in every year.*

Research Report (Year 2 at Home Institution)

- Research Report: Data Science

FUNDING

Competitive DSI-NICIS Masters bursaries (covering tuition, accommodation and stipend) are made available to qualifying students with a record of excellent academic achievement. Priority for bursaries is given to South African Citizens and Permanent Residents.

APPLICATIONS

Students are advised to apply as early as possible due to the competitiveness of the programme. For more information, see: www.escience.ac.za. For any additional queries, please contact us.

CAREERS

Graduates of the programme have taken up a wide range of data-oriented roles within academic institutions, technology and healthcare companies, and the finance sector.

CONTACT US:

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