

BSc Geoinformatics

This degree programme focuses on the theoretical, methodological, and practical aspects of geographic information science, also known as GIScience or geospatial data science, and its associated technologies. Geoinformatics operates at the intersection of computer science, analytical cartography, remote sensing, and imagery science.

The BSc Geoinformatics degree is followed by the one-year BSc Hons Geoinformatics degree. After the successful completion of this, a graduate can register as a Candidate Professional in Geographical Information Science (CGPr GISc) (as stipulated by the South African Geomatics Profession Act 19 of 2013).

Major/s

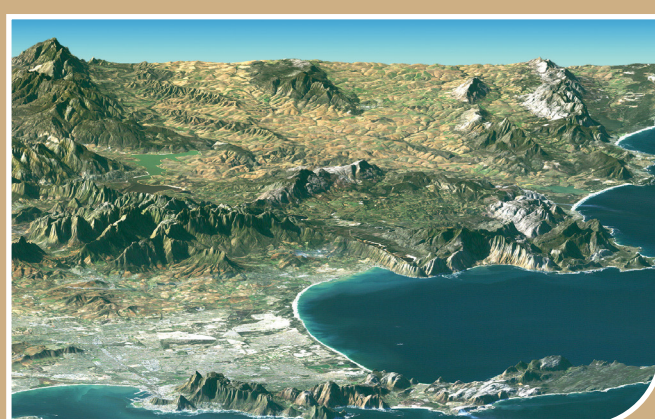
Geographic Information Technology with Computer Science OR Socio-informatics

NB: Consult the Faculty of Science Yearbook for detailed information on subjects and modules.

Do I qualify?

Minimum admission requirements

- A NSC average of **65%** (excluding Life Orientation)
- English OR Afrikaans
(Home Language or First Additional Language): **50%**
- Maths: **60%** Or **70%** (depending on subject choice)
- Physical Sciences: **50%**



Focal areas explained:

Geographical Information Technology

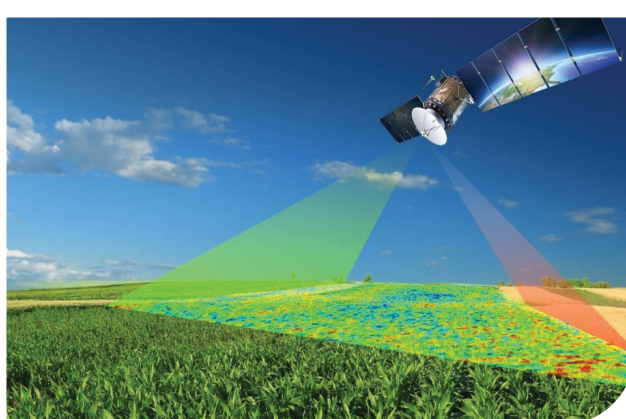
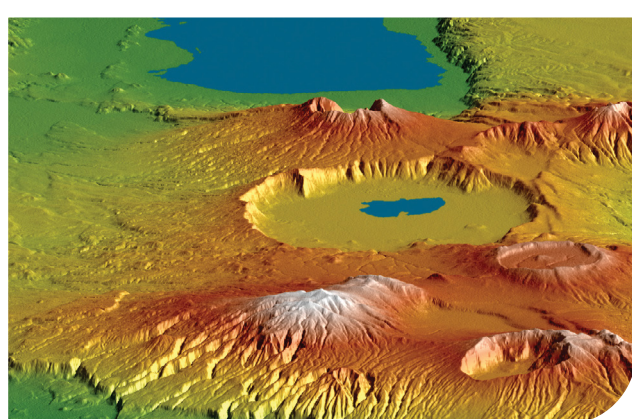
GIT is concerned with the use of geographical data to address problems with a spatial component. It involves collecting, manipulating, analysing, and presenting spatial data using algorithms and data structures in sciences and technologies such as geographical information systems (GIS), satellite earth observation (remote sensing), geodesy, global navigation satellite systems (GPS), aerial photogrammetry, spatial statistics, spatial analysis and modelling, big data, web mapping, and cartography.

Socio-informatics

Socio-informatics pertains to the interplay between Information Technology and the organisational or societal contexts in which it is applied. It involves the design, development, adoption, use and effects of information and communication technologies in individual, organisational and societal contexts.

Computer Science

Computer Science is the primary option for students who want to pursue a career in software development. Many disciplines now require some knowledge of how to write computer code and students learn to use particular software in many programmes.



Why study Geoinformatics?

- Geoinformatics stands in the cross-section between data science, mathematical modeling, and geography.
- Registered geomatics practitioners exercise skills and competencies in the science of measurement, the collection and assessment of geographic information and the application of that information in the efficient administration of land, the sea, and structures thereon or therein.
- Geographic Information Systems (GIS) provides a powerful platform for integrating, analysing, visualising, and making decisions based on geospatial information such as remotely sensed data.
- Remote sensing has a wide range of applications in many different fields which includes coastal applications, ocean applications, hazard assessment, natural resource management, land cover mapping, weather predictions, large forest fires mapping, cadastral and building information management.
- Many organisations use GIS to help make spatially linked decisions such as, for example, comparing population statistics to resources such as drinking water.

Why study Geoinformatics at Stellenbosch University?

- The Department of Geography and Environmental Studies' vision is to be the recognised training and research centre for Africa in the field of spatial information to enable understanding and management of geographical phenomena and processes to the advantage of the Southern African community.
- We are also home to the Centre for Geographical Analysis (CGA), the Centre for Regional and Urban Innovation and Statistical Exploration (CRUISE), and the Small Town Research Unit (STRU).



What can I do with a BSc-degree in Geoinformatics?

Earth Observation specialist
Spatial Data analyst
Geospatial scientist

GIS consultant
GIS specialist
Geospatial software developer

"Knowing where things are, and why, is essential to rational decision making"

– Jack Dangermond, Environmental Systems Research Institute (ESRI)

Contact details

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Website: <https://www.su.ac.za/en/faculties/arts/departments/geography>
Facebook: www.facebook.com/SUGeoinformatics

Contact our Coordinator: Academic and Student Affairs

at scienceadmin@sun.ac.za

Deadline: Apply with your grade 11 marks by 31 July

General admission and selection criteria

www.su.ac.za/ugrequirements

BSc Geoinformatika

Hierdie graadprogram gaan oor die teoretiese, metodologiese en praktiese aspekte van geografiese inligtingswetenskap, ook bekend as GIScience of georuimtelike datawetenskap, en die tegnologieë wat daarmee gepaardgaan. Geoinformatika werk op die koppelvlak waar rekenaarwetenskap, analitiese kartografie, afstandswaarneming en beeldwetenskap bymekaarkom.

Die BSc Geoinformatika-graad kan opgevolg word met die een jaar lange Honneurs-BSc-graad in Geoinformatika. Ná die suksesvolle voltooiing hiervan kan 'n gegradueerde registreer as GIS Professionele Persoon-in-Opleiding (soos bepaal deur die Suid-Afrikaanse Wet op Geomatikaberoepe) (GPA wet van 2013).

Hoofvakke

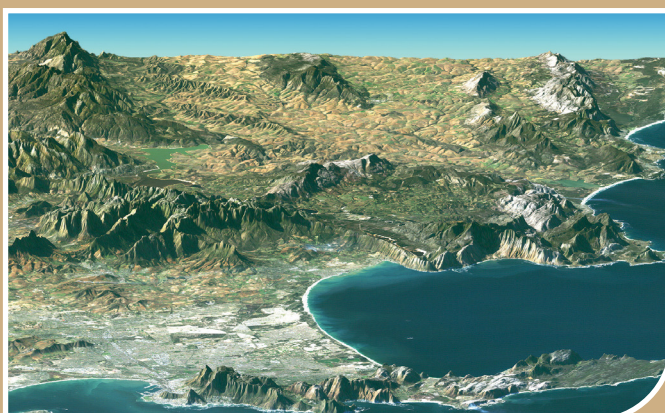
Geografiese Inligtingstegnologie met Rekenaarwetenskap OF Sosio-informatika

NB: Raadpleeg die nuutste Jaarboek van die Fakulteit Natuurwetenskappe (Deel 5) vir inligting oor vakke, modules en programspesifieke toelatingsvereistes.

Voldoen ek aan die vereistes?

Minimum toelatingsvereistes

- NSS-gemiddeld van **65%** (Lewensoriëntering uitgesluit)
- Engels OF Afrikaans (Huistaal of Eerste Addisionele Taal) **50%**
- Wiskunde **60% OF 70%** (na gelang van jou vakkeuse)
- Fisiese Wetenskappe **50%**



Fokusareas uiteengesit:

Geografiese Inligtingstegnologie

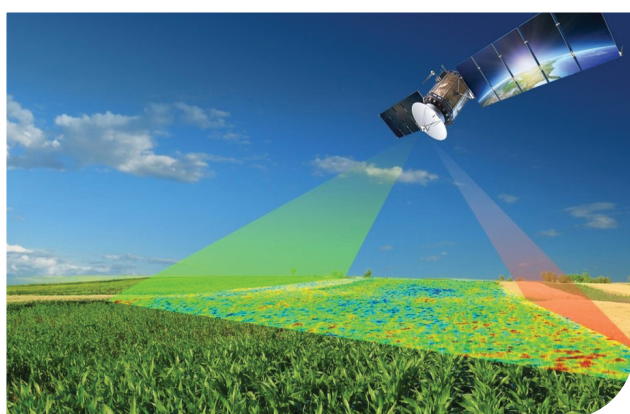
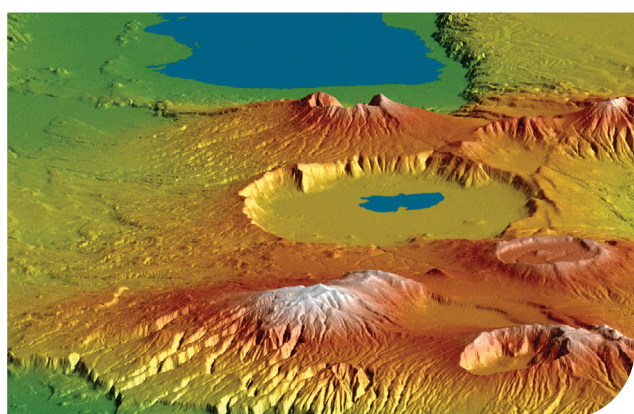
GIT gaan oor die gebruik van geografiese data om probleme met 'n ruimtelike komponent op te los. Dit behels die insameling, manipulerende, ontleding en aanbieding van ruimtelike data deur die gebruik van algoritmes en datastrukture in wetenskappe en tegnologieë soos geografiese inligtingstelsels (GIS), satelliet aardwaarneming (afstandswaarneming), aardmeetkunde (geodesie), globale navigasie-satellietstelsels (GPS), lugfotogrammetrie, ruimtelike statistiek, ruimtelike analise en modellering, groot data, webkartering en kartografie.

Sosio-informatika

Sosio-informatika gaan oor die wisselwerking tussen Inligtingstegnologie en die organisatoriese of samelewingskonteks waarbinne dit toegepas word. Dit behels die ontwerp, ontwikkeling, aanvaarding, gebruik en effek van inligtings- en kommunikasietegnologieë in individuele, organisatoriese en samelewingskontekste.

Rekenaarwetenskap

Rekenaarwetenskap is die primêre opsie vir studente wat 'n loopbaan in sagteware-ontwikkeling wil volg. Baie dissiplines vereis nou basiese kennis van kodering en studente leer hoe om spesifieke sagteware in baie programme te gebruik.



Waarom BSc Geoinformatika studeer?

- Geoinformatika staan by die konvergensiepunt waar datawetenskap, wiskundige modellering en geografie bymekaarkom.
- Geregistreerde geomatika-praktisyns beoefen vaardighede en bevoegdhede in die wetenskap van meting, die versameling en assessering van geografiese inligting en die toepassing van daardie inligting in die doeltreffende bestuur van grond, die see, en strukture daarop of daarin.
- Geografiese Inligtingstelsels (GIS) bied 'n kragtige platform vir integrasie, analisering, visualisering, en besluitneming gebaseer op afstandswaarnemingsdata.
- Afstandswaarneming het 'n wye reeks toepassings in baie verskillende velde wat kusgebied-toepassings, oseaantoeppassings, gevaarbepaling, natuurlike hulpbronbestuur, kartering van grondbedekking, weervoorspellings, kartering van groot bosbrande insluit.
- Baie organisasies gebruik GIS om hulle te help om ruimteverwante besluite te neem, soos om byvoorbeeld populasiestatistiek te vergelyk met hulpbronne soos drinkwater.

Waarom BSc Geoinformatika by die Universiteit Stellenbosch studeer?

- Die Departement Geografie en Omgewingstudies se visie is om dié erkende opleidings- en navorsingsentrum vir Afrika op die vakgebied van ruimtelike inligting te wees, ten einde begrip en bestuur van geografiese verskynsels en prosesse tot voordeel van die Suider-Afrikaanse gemeenskap moontlik te maak.
- Ons huisves ook die Sentrum vir Geografiese Analise, die Sentrum vir Streeks- en Stedelike Innovasie en Statistiese Eksploratie (CRUISE), en die Klein Dorpie Navorsingseenheid (STRU).



Wat kan ek doen met 'n 'n BSc-graad in Geoinformatika?

Aardobservasiespesialis
Ruimtelike Data-analis
Georuimtelike wetenskaplike

GIS konsultant
GIS spesialis
Georuimtelike sagteware ontwikkelaar

“Knowing where things are, and why, is essential to rational decision making”

– Jack Dangermond, Environmental Systems Research Institute (ESRI)

Kontak ons

Departement Geografie en Omgewingstudies

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E-pos: catherine@sun.ac.za

Webwerf: <https://www.su.ac.za/en/faculties/arts/departments/geography>

Facebook: www.facebook.com/SUGeoinformatics

Kontak ons Koördineerder: Studente- en Akademiese Sake

by scienceadmin@sun.ac.za

Sperdatum: Doen aansoek met jou graad 11-punte voor 31 Julie

Algemene toelatings- en keuringskriteria

www.su.ac.za/ugrequirements