

BSc Earth Science

The programme combines observational and field skills with the necessary scientific background in geology, geo-environmental science, computing, and modelling. Our students develop critical thinking skills and improve their problem-solving toolkit. You will be taught essential skills to understand the earth and its related processes as a system. Teamwork and presentation skills that enable the earth scientist to communicate across different fields of expertise – engineering, the finance and legal sector – are essential.

Focal areas	Majors
Applied Earth Science	Geology & Geographical Information Technology
Geo-environmental Science	Geology, Geochemistry, Geography and Environmental Studies & Geographical Information Technology

Do I qualify?

Minimum admission requirements

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



NB: Please consult the latest Faculty of Science Yearbook (Part 5) for detailed information on subjects, modules, and specific minimum admission requirements.

Focal areas explained:

Applied Earth Science:

South Africa is a mineral-rich country with a unique geological history that spans over three billion years. It is the ideal work environment and training ground for any geologist. Our hands-on and theoretical training ensures that students are sought after by industry.

Geo-environmental Science:

South Africa faces unique geo-environmental challenges such as climate change, air pollution, water scarcity, acid mine draining and hazardous waste sites. Through a combination of field, laboratory and classroom-based learning, students develop a strong understanding of drivers and impacts of these issues. This integrated approach equips them to design innovative, science-based strategies for mitigation.

All BSc Earth Sciences students acquire key knowledge in both areas, regardless of which focal area they chose. In both focal areas, a comprehensive foundation of earth and basic sciences, combined with computing, analytical and critical problem-solving skills, equip our students for a wide range of careers in diverse fields such as mining and exploration, research laboratories or environmental consultancies.

Both focal areas lead to a BSc Honours in Earth Science programme, which is the minimum requirement for registration as a professional geologist. After the Honours year, students can pursue an MSc and a PhD degree in Earth Sciences in diverse research fields such as structural and economic geology, petrology, palaeontology, air quality, marine biogeochemistry, or hydrogeology.



Why study Earth Sciences?

- Are you curious about natural processes and how the Earth's systems (geosphere, hydrosphere, microbiosphere, and/or atmosphere) function and interact?
- Do you enjoy hands-on experiences and integrating different applications, whether it is in the field, the research laboratory or the computer lab?
- Do you seek to integrate transferable skills in your training, such as communication, IT, problem solving, numerical skills, and project management?
- Do you enjoy opportunities to travel and work in different environments?
- Earth science is listed as a "scarce skill", reflecting the urgent need for experts to develop green metals, cleaner energy, sustainable water resources, and responsible environmental management, especially in South Africa.



Why study Earth Sciences at Stellenbosch University?

- We have a closely knit student body and undertake many field trips and activities.
- We are one of the top and award-winning Earth Science departments in the country, with world-class analytical facilities and highly sought after graduates.
- Our degrees are internationally recognised.
- Our researchers work worldwide, from Antarctica to Greenland, Brazil, Europe, Mongolia, and Saldanha.
- We work closely with various industry partners and therefore offer many bursary opportunities for postgraduate studies.



What can I do with a degree in Earth Sciences?

Air quality assessor
Atmospheric modeler
Cartographer
Diamond placer exploration
Earth observation analyst
Environmental consultant
Exploration geologist
Geochemist
Geological consultant

Geophysicist
Geospatial software engineer
Geotechnical geologist
GIS consultant
Government policy advisor team
Groundwater specialist and/or consultant
Hydrogeologist
Land-use rehabilitator

Marine environmental assessor
Remote sensing specialist
Software developer
Soil scientist
Spatial information officer
Structural geologist
Sustainability specialist
Water quality assessor

Our graduates are also sought after in other career fields such as investment and insurance environments.

Contact details

Tel: 021 808 3219

E-mail: gstrydom@sun.ac.za

Website: www.su.ac.za/earthsciences

Contact our Coordinator:

Student and Academic 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 Aardwetenskap

Hierdie program kombineer waarnemings- en veldvaardighede met die nodige wetenskaplike agtergrond in geologie, geo-omgewingswetenskap, rekenaars en modellering. Ons studente ontwikkel kritiese denkvaardighede en verbeter hul probleemoplossings gereedskapskis. Jy sal noodsaaklike vaardighede aanleer om die aarde en sy verwante prosesse as 'n sisteem te verstaan. Spanwerk en aanbiedingsvaardighede wat die aardwetenskaplike in staat stel om oor verskillende kundigheidsvelde te kommunikeer – ingenieurswese, die finansiële en regssektore – is noodsaaklik.

Fokusareas	Hoofvakke
Toegepaste Aardwetenskap	Geologie & Geografiese Inligtingstegnologie
Geo-omgewingswetenskap	Geologie, Geochemie, Geografie en Omgewingstudie, & Geografiese Inligtingstegnologie

Voldoen ek aan die vereistes?

Minimum admission requirements

- 'n 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%**



NB: Raadpleeg die nuutste Jaarboek van die Fakulteit Natuurwetenskappe (Deel5) vir inligting oor vakke, modules, en spesifieke toelatingsvereistes.

Fokusareas uiteengesit:

Toegepaste Aardwetenskap:

Suid-Afrika is 'n mineraalryke land met 'n unieke geologiese geskiedenis wat oor drie biljoen jaar strek. Dit is die ideale werksomgewing en opleidingsterrein vir enige geoloog. Ons praktiese en teoretiese opleiding verseker dat studente gesog is in die industrie.

Geo-omgewingswetenskap:

Suid-Afrika staar unieke geo-omgewingsuitdagings in die gesig soos klimaatsverandering, lugbesoedeling, waterskaarste, suurmyndreinerig en gevaarlike afvalterreine. Deur 'n kombinasie van veld-, laboratorium- en klaskamergebaseerde onderrig ontwikkel studente 'n diepgaande begrip van die drywers en impak van hierdie kwessies. Hierdie geïntegreerde benadering rus hulle toe om innoverende wetenskapsgebaseerde strategieë te ontwerp vir die tempering daarvan.

Alle BSc Aardwetenskap-studente verkry sleutelkennis in beide gebiede, ongeag watter fokusarea hulle kies. In beide fokusareas rus 'n omvattende grondslag van aard- en basiese wetenskapskennis, gekombineer met rekenaar-, analitiese en kritiese probleemoplossingsvaardighede, ons studente toe vir 'n wye verskeidenheid loopbane in diverse velde soos mynbou en eksplorاسie, navorsingslaboratoriums of as omgewingskonsultante.

Beide fokusareas lei tot 'n Honneurs-BSc-program in Aardwetenskappe, wat die minimum vereiste is vir registrasie as 'n professionele geoloog. Ná die suksesvolle voltooiing van die honneursjaar, kan studente 'n MSc- en dan 'n PhD-graad in Aardwetenskappe volg in diverse navorsingsvelde soos strukturele en ekonomiese geologie, petrologie, paleontologie, luggehalte, mariene biogeochemie, of hidrogeologie.



Waarom Aardwetenskappe studeer?

- Is jy nuuskierig oor natuurlike prosesse en hoe die aarde se stelsels (geosfeer, hidrosfeer, mikrobiosfeer, en/of atmosfeer) funksioneer en onderling verband hou?
- Geniet jy praktiese ervarings en die integrasie van verskillende toepassings, hetsy in die buitelug, die navorsingslaboratorium of rekenaarlaboratorium?
- Wil jy graag oordraagbare vaardighede soos kommunikasie, IT probleemoplossing, syfervaardighede en projekbestuur in jou opleiding integreer?
- Geniet jy geleenthede om te reis en in verskillende omgewings te kan werk?
- Aardwetenskap word as 'n "skaars vaardigheid" gelys, wat die dringende behoefte aan kundiges weerspieël om groen metale, skoner energie en volhoubare waterbronne en verantwoordelike omgewingsbestuur te ontwikkel, veral in Suid-Afrika.



Waarom Aardwetenskappe by die Universiteit Stellenbosch studeer?

- Ons het 'n hegte studentekorps en onderneem baie veldekskursies en aktiwiteite.
- Ons is een van die top, en bekroonde Aardwetenskapsdepartemente in die land, met wêreldklas analitiese fasiliteite en baie gesogte gegradueerdes.
- Ons grade word internasionaal erken.
- Ons navorsers werk oor die hele wêreld, van Antarktika tot Groenland, Brasilië, Europa, Mongolië, en Saldanha.
- Ons werk nou saam met verskeie industrievenote en bied dus baie beursgeleenthede vir nagraadse studies.



Wat kan ek doen met 'n graad in BSc Aardwetenskappe?

Aardwaarnemingsontleder	Geo-ruimtelike sagteware-ingenieur	Mariene omgewingsassessor
Afstandswaarnemingspesialis	Geotegniese geoloog	Omgewingskonsultant
Atmosferiese modelleerder	Grondgebruikrehabiliteerder	Regeringsbeleidsadviseurspan
Eksplorasiegeoloog	Grondkundige	Sagteware-ontwikkelaar
Geochemikus	Grondwaterspesialis en/of konsultant	Ruimtelike inligtingsbeampte
Geofisikus	Hidrogeoloog	Strukturele geoloog
Geografiese Inligtingstegnologie (GIT)-konsultant	Kartograaf	Volhoubaarheidskundige
Geologiese konsultant	Luggehalte assessor	Watergehalte-assessor

Ons gegradueerdes is ook gesog in ander beroepsrigtings soos die beleggings- en versekeringsomgewings.

Kontak ons

Tel: 021 808 3219

E-pos: gstrydom@sun.ac.za

Webwerf: www.su.ac.za/earthsciences

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