

# UNIVERSITY OF THE FREE STATE

## FACULTY OF NATURAL AND AGRICULTURAL SCIENCES



# UNDERGRADUATE PROGRAMMES 2021

T: +27 51 401 3000 | E: [ufsmarketing@ufs.ac.za](mailto:ufsmarketing@ufs.ac.za) | [www.ufs.ac.za](http://www.ufs.ac.za)

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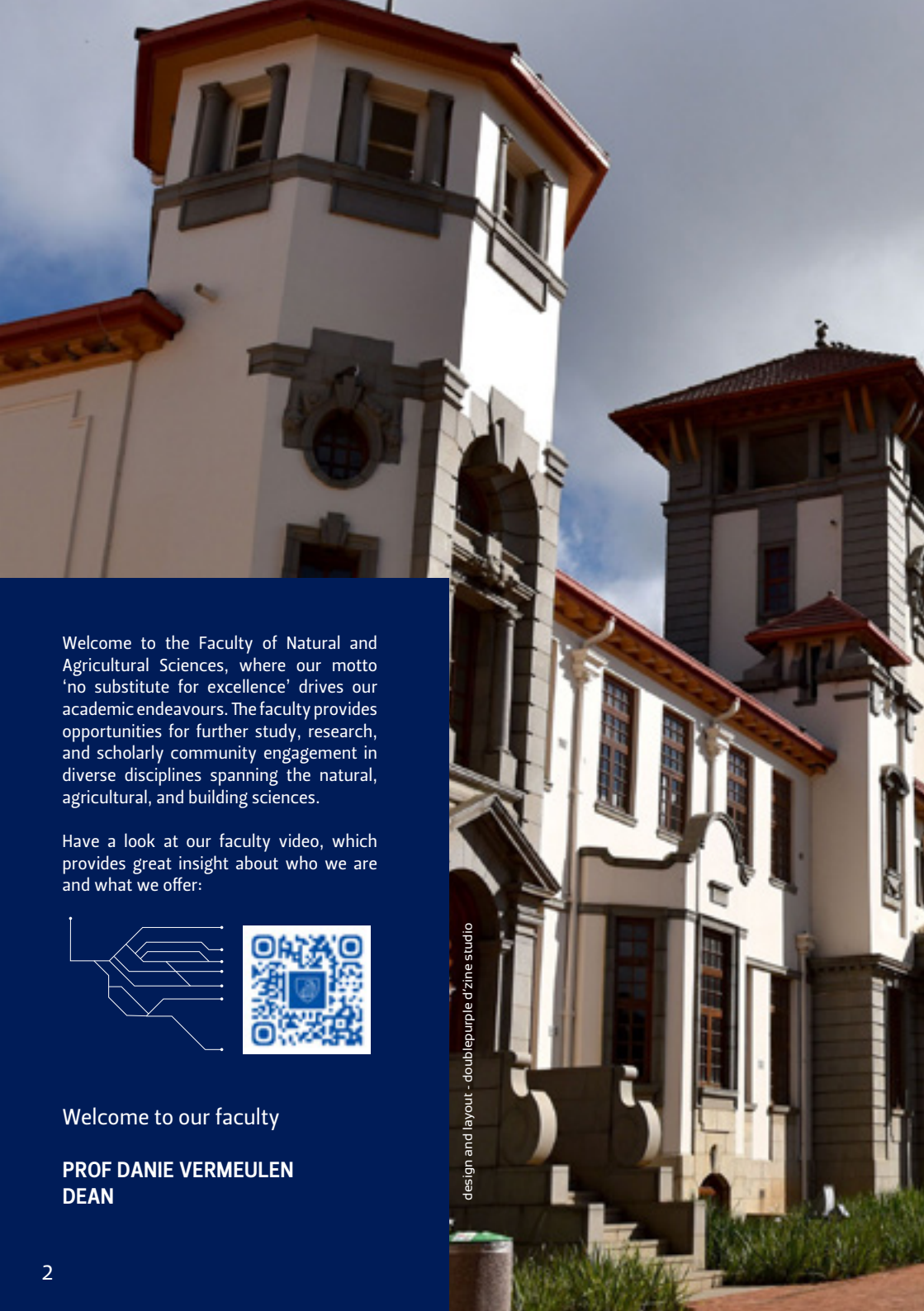
*Inspiring excellence. Transforming lives.*

**Kovsie  
2B**

UNIVERSITY OF THE  
FREE STATE  
UNIVERSITEIT VAN DIE  
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FREISTATA

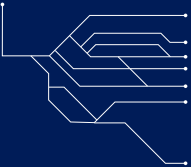


**UFS**  
STUDENT RECRUITMENT  
SERVICES



Welcome to the Faculty of Natural and Agricultural Sciences, where our motto 'no substitute for excellence' drives our academic endeavours. The faculty provides opportunities for further study, research, and scholarly community engagement in diverse disciplines spanning the natural, agricultural, and building sciences.

Have a look at our faculty video, which provides great insight about who we are and what we offer:



Welcome to our faculty

**PROF DANIE VERMEULEN  
DEAN**

design and layout - doublepurple d'zine studio



# FACULTY OF NATURAL AND AGRICULTURAL SCIENCES



The faculty has three broad areas of training and research:

- **AGRICULTURAL SCIENCES**

The choice of Agricultural Science (BScAgric) degrees comprises disciplines such as Animal Science, Wildlife Production, Agrometeorology, Agronomy, Grassland Sciences, Soil Science, Agricultural Economics, Plant Breeding and Plant Pathology. The Bachelor of Agriculture (BAgric) degrees include Agricultural Extension, Agricultural Management, Animal Production Management, Crop Production Management, Mixed Farming Management, Irrigation Management, Wildlife Management and Agricultural Economics. The UFS is located in the heart of the food basket of South Africa – the agricultural hub. Our wide variety of agricultural programmes reflects the role of the UFS in creating sustainable food production and food security for our country.

- **NATURAL SCIENCES**

Our expertise in the Natural Sciences includes Mathematics, Mathematical Statistics, Actuarial Science, Chemistry, Physics, Engineering Sciences, Geography, Geology, Biological Sciences, Computer Science and Informatics, and Consumer Science.

- **BUILDING SCIENCES**

In the Building Sciences you can study towards Construction Economics and Management, as well as Architecture.

Our faculty is a vibrant place that attracts both national and international students as a result of its stimulating curriculum, and to which scholars are lured because of our exciting research agenda. We are an engaged faculty whose interaction with its community is integrated with research and teaching.

Visit the webpages of our faculty, departments, and centres to see which study opportunities are available in the Natural, Agricultural, and Building Sciences: [www.ufs.ac.za/natagri](http://www.ufs.ac.za/natagri)

### THIS FACULTY IS THE RIGHT CHOICE:

- Market-orientated programmes designed for a number of job opportunities.
- Quality control to ensure that your degree is in demand.
- A unique faculty with a large variety of disciplines.
- Postgraduate programmes designed for easy access to advanced degrees.
- Research of high quality, which is a prerequisite for quality teaching.
- Contact teaching is in English.
- Our students are our important clients.
- We proudly offer programmes on all three campuses, i.e. South Campus (SC), Bloemfontein Campus (BC), and Qwaqwa Campus (QC).

# BECOME A #KOVSIIE IN 7 EASY STEPS

In just seven steps you can fulfill your dream of studying at an institution where we transform lives and inspire excellence:

1

## STEP 1

Apply online. Visit <https://apply.ufs.ac.za>

2

## STEP 2

Your application is submitted. You will receive a student number and acknowledgement of your application. If you have not submitted the required documents, you will be requested to do so in order to finalise your application.

3

## STEP 3

Your application is evaluated by the university. Should your evaluation be positive, you will receive a conditional offer to study – SUBJECT TO AVAILABILITY OF SPACE. Selection programmes are excluded. If you have indicated in your application that you require on-campus residence, you will also receive correspondence from Housing and Residence Affairs. Note that qualifying for your programme of choice, does not guarantee admission.

4

## STEP 4

You need to source and secure financial support for your studies.

5

## STEP 5

When the final Grade 12 results are released in January 2021, all applications will be re-evaluated; should your evaluation be positive, you will receive a final offer. Take note that meeting the minimum admission requirements for your programme of choice does not guarantee admission.

6

## STEP 6

You have to complete the acceptance process for the offer online within the stipulated timeframe. If you fail to complete the acceptance process for the offer before the deadline, the offer will be withdrawn, and you will lose your space. Note that limited spaces are available.

7

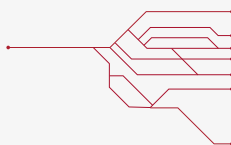
## STEP 7

Pay the prescribed first payment before registration. You can move into the residence on campus where you have been placed, or into off-campus accommodation, and then start your academic activities, including orientation, academic advice, and registration.

**REMEMBER TO WRITE THE NBTs BEFORE THE END OF 2020**

# APPLICATION TO STUDY AT THE UFS IS FREE

You can apply **online**



## IMPORTANT APPLICATION OPENING AND CLOSING DATES

Date	Programmes for which application opens
1 April 2020	Applications to study any undergraduate programme offered on the Bloemfontein and Qwaqwa Campuses in 2021
1 September 2020	Applications to study any University Access Programme (UAP) offered on the South Campus in 2021
Date	Programmes for which application closes
31 July 2020	Architecture
	Construction Economics and Management
31 August 2020	International undergraduate applications
30 September 2020	Actuarial Science
	All non-selection programmes
	Engineering Science
	Forensic Sciences
30 November 2020	Geology
30 November 2020	All University Access Programmes on the South Campus

## ONLINE APPLICATION

Go to [www.ufs.ac.za](http://www.ufs.ac.za). Follow the link <https://apply.ufs.ac.za/> – online application. Keep your mobile phone and an active email address ready, as you require both to access and complete the online application form.

- Proceed through all the steps and submit your electronic application. Make sure that you complete the application form properly, e.g. if you need on-campus accommodation or financial aid, indicate this in the relevant section.
- Upload copies of the following in PDF or JPEG format when you apply for undergraduate studies:
  - Your ID if you are a South African citizen
  - Your passport if you are an international student
  - Your parent's ID or passport if you are younger than 18 years
  - National Senior Certificate if you have already matriculated
  - Your final Grade 11 results with the school's stamp
  - Your Grade 12 June results with the school's stamp as soon as it becomes available. It can also be emailed to [studentadmin@ufs.ac.za](mailto:studentadmin@ufs.ac.za) as soon as it is available
  - Your academic record, only if you are a current student at another institution of higher learning
  - USAf accreditation is the examination board for South African universities. Apply to [mb.usaf.ac.za](mailto:mb.usaf.ac.za) for conditional exemption, foreign conditional exemption, or mature age conditional exemption.

The online application is quick and easy – no hassle, no fuss! It has a modern design and is mobile- and tablet-friendly. You can apply using any device. You can expect a quicker response time if you apply online.

For assistance, contact +27 51 401 9666 or studentadmin@ufs.ac.za

## ADMISSION TO STUDIES AT THE UFS IN 2021

Academic excellence is what the UFS is about – the higher your AP score, the better your chances of being chosen and finally admitted to study. Meeting the minimum admission requirements for your chosen/intended programme of study does not guarantee selection and admission, as all programmes have a limited number of spaces available. Applicants with the highest AP scores are chosen first and the admission continues until all spaces have been filled. If you do not meet the minimum admission requirements for your intended/chosen programme of study, you will not be selected. Consult the faculty-specific admission requirements for all the programmes you qualify for and apply for the two programmes that best fit your personality, purpose, and passion.

Due to limited space available, it is advised that prospective students maintain an AP score of at least 32 (besides other admission requirements) to gain entrance into non-selection programmes.

Students need to pass modules in the first semester of study according to the faculty rules and regulations in order to continue with studies in the second semester.

## IMPORTANT INFORMATION

- The UFS reserves the right to change the minimum requirements of each programme or any other information without notifying you.
- There are specific admission requirements that you should meet if you want to study at any South African university. If you finished school in or after 2008 and have a National Senior Certificate (NSC), you need a performance level of at least 4 (50%) in four (4) of the seven (7) subjects included in your NSC subject package.
- Admission to study at the UFS is furthermore dependent on the following:
  - Your application should meet all the minimum requirements for the programme
  - The programme must have available space and capacity to admit students
  - You have to submit valid school results with your application
- All admission requirements apply to first-year students in 2021.
- **A minimum admission point (AP) of 32 is required, unless stated otherwise.**
- Language of instruction on level 4 (50%).
- A minimum performance level of 5 (60%) in Mathematics. Depending on the programme you are interested in, a higher performance level in Mathematics will be required.
- Both Life Sciences and Physical Science will be required for admission to most BSc programmes; however, there are programmes where you require either Life Sciences or Physical Science. Consult the Faculty Rulebook for more information.
- Participation in the NBT tests for Language and Mathematics is required.

The admission requirements are a broad indication for entrance into the Faculty of Natural and Agricultural Sciences. Make sure you know the admission requirements of the programme you are interested in.

**Note: It is very important that you study the Faculty Rulebook at [www.ufs.ac.za/natagri](http://www.ufs.ac.za/natagri) or contact the specific programme director or the faculty manager, as any one of the minimum admission requirements of any programme can be changed without prior notification.**

An admission point (AP) consisting of seven levels is used. Points will be awarded for six academic modules.

Note: No points will be awarded for achievement levels lower than 30%:

<b>Percentage</b>	7 (90–100%)	7 (80–89%)	6 (70–79%)	5 (60–69%)	4 (50–59%)	3 (40–49%)	2 (30–39%)
<b>AP</b>	8	7	6	5	4	3	2

One point is awarded for Life Orientation (LO) from achievement level 5 (60%) or higher.

## CONFIDENTIALITY CLAUSE

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The UFS confirms that all personal information provided on your application form will be treated confidentially and will not be sold to a third party or used for commercial or related purposes.

The UFS further confirms that your personal information will only be used for purposes relating to your potential relationship with the UFS as a student, including, but not limited to the processing of your application to study at the UFS, effecting registration at the UFS, and for any communication purposes related to your application and/or registration to study at the UFS.

## DISCLAIMER – IMPORTANT NOTICE

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Kindly take note that this faculty programme booklet is aimed at prospective undergraduate students wishing to apply for a place at the University of the Free State (UFS) and who wish to start their studies at the UFS during the **2021 academic year**. The faculty programme booklet accordingly describes and outlines the programmes and services offered by the UFS, as well as the minimum admission requirements for each programme, but must be read in conjunction with the policies, rules, and regulations of the UFS (as may be amended from time to time). In order to be considered for selection in a programme, an applicant is required to comply with the programme's minimum admission criteria in respect of the total AP score, subject-specific requirements (as determined per programme), and faculty/department-specific requirements. However, due to limited space, fulfilling all the minimum entry (admission) requirements does not guarantee acceptance to study at the UFS, or admission to any particular programme offered by the UFS.

The UFS makes every effort to ensure that the information provided in this faculty programme booklet is accurate and up to date at the time of going to press. However, it may be necessary for the UFS to make some changes to the information presented in the faculty programme booklet following publication – for example, where it is necessary to reflect changes in policy, practice or theory, or if an accrediting body necessitates requirements to be amended. Furthermore, certain programmes may only be offered if there are a sufficient number of applicants.

The UFS undertakes to implement all reasonable steps to provide the services (including, but not limited to, presentation of the programmes) described in the faculty programme booklet. However, it does not guarantee the provision of such services or the presentation of any or all programmes described herein. Should circumstances beyond the control of the UFS interfere with its ability to provide the services or presentation of any programme described herein, the UFS undertakes to use all reasonable measures to minimise any disruption to the services.

Furthermore, the UFS reserves the right to make amendments to admission requirements if and when necessary. It reserves the right to withdraw, wholly or in part, the delivery of programmes. Applicants and students in affected programmes will be informed before the commencement of their studies for the academic year concerned.

## ABBREVIATIONS

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From this point forward, we will use these abbreviations instead of the full terms:

**NSC:** National Senior Certificate

**AP:** Admission point

**APC:** Academic Plan Code

**LOI:** Language of Instruction

**MATHS:** Mathematics

**MATHS LIT:** Mathematical Literacy

**PS:** Physical Sciences

**LS:** Life Sciences

**AS:** Agricultural Sciences

**NBT:** Compulsory National Benchmark Tests

**AL:** Academic Literacy Test (NBT)

**QL:** Quantitative Literacy Test (NBT)

**MT:** Mathematics Test (NBT)

**BC:** Bloemfontein Campus

**QC:** Qwaqwa Campus

**SC:** South Campus

The Bachelor's Degree (B) makes provision for four fields of study, namely:	<ul style="list-style-type: none"> <li>• Architecture</li> <li>• Agricultural Sciences</li> <li>• Consumer Sciences</li> <li>• Computer Information Systems</li> </ul>
The Bachelor of Science (BSc) and the Bachelor of Science Honours Degrees make provision for seven fields of study, namely:	<ul style="list-style-type: none"> <li>• Biological Sciences</li> <li>• Building Sciences</li> <li>• Chemical and Physical Sciences</li> <li>• Consumer Science</li> </ul>
	<ul style="list-style-type: none"> <li>• Geosciences</li> <li>• Computer Science and Informatics</li> <li>• Mathematical Sciences</li> </ul>
The Bachelor of Science in Agriculture (BSc (Agriculture)) degree makes provision for three fields of study, namely:	<ul style="list-style-type: none"> <li>• Animal, Wildlife and Grassland Sciences</li> <li>• Plant Breeding and Plant Pathology</li> <li>• Soil, Crop and Climate Sciences</li> </ul>

**THE FOLLOWING IS APPLICABLE TO PROSPECTIVE STUDENTS WHO COMPLETED THE NATIONAL SENIOR CERTIFICATE DURING OR AFTER 2008** (also visit the following link on the webpage for full detail regarding the faculty rules and regulations: [https://apps.ufs.ac.za/dl/yearbooks/320\\_yearbook\\_eng.pdf](https://apps.ufs.ac.za/dl/yearbooks/320_yearbook_eng.pdf)):

- NSC or NCV with an endorsement that allows entrance to degree studies or an equivalent qualification.
- A minimum AP of 32 for most programmes.
- A performance level 4 (50%) in an official language of tuition.
- Mathematics on level 5 (60%). Alternatively, at least a pass mark in MATD1564 or MATD1534 or MATM1584 is required.
- If STSM1614 is included in the learning programme, a level 6 (70%) is required for Mathematics. Alternatively, a pass mark of at least 80% in MATD1564 or at least 70% in MATM1584 or a pass in MATM1534 is required if you are a senior student.
- Both Life Sciences and Physical Science must be included.
- Take note that not all BSc programmes require both Life and Physical Sciences.
- Life Sciences level 5 (60%) and Physical Science level 5 (60%). Alternatively, at least 60% is required in the modules CHEM1552, CHEM1532, CHEM1622, and CHEM1642 if you are a senior student.
- Participation in the National Benchmark (NBT) tests for Language.
- Participation in the National Benchmark (NBT) tests for Mathematics.

## GENERAL REGULATIONS

This information should be used in addition to the Rulebook of the Faculty of Natural and Agricultural Sciences, available at [www.ufs.ac.za/natagri](http://www.ufs.ac.za/natagri)

During the orientation week at the beginning of the academic year, the programme directors will discuss curriculum compositions with students to clear up any uncertainties. It is VERY important that first-year students attend this orientation.

### GENERAL ENQUIRIES

Webpage: [www.ufs.ac.za/natagri](http://www.ufs.ac.za/natagri) | [natagri@ufs.ac.za](mailto:natagri@ufs.ac.za)

Elfrieda Lötter: +27 51 401 2531 | [lottere@ufs.ac.za](mailto:lottere@ufs.ac.za) (Marketing Manager)

Elzmarie Oosthuizen: +27 51 401 2934 | [oosthuizenem@ufs.ac.za](mailto:oosthuizenem@ufs.ac.za) (Teaching and Learning Manager)

Velaphi Makgwahla: +27 51 401 3199 | [makgwahlamvt@ufs.ac.za](mailto:makgwahlamvt@ufs.ac.za) (Faculty Manager)

*Isn't it amazing how working with the smallest elements in the universe, we at the **Faculty of Natural and Agricultural Sciences** can make you understand the bigger picture in the **Agricultural, Natural, and Building Sciences?***



## AGRICULTURAL SCIENCES

In terms of agriculture, the faculty offers a wide variety of specialised programmes that will give you access to careers in agricultural management, agricultural economics, animal sciences, agrometeorology, agronomy, soil sciences, grassland sciences, wildlife production, plant breeding, plant pathology, crop production, mixed farming, and irrigation management.

**Research focus areas in the following departments of Agricultural Sciences are:**

**ANIMAL, WILDLIFE and GRASSLAND SCIENCES:**

Animal breeding / Monogastric nutrition / Ruminant nutrition / Animal physiology / Grassland science / Wildlife science.

**AGRICULTURAL ECONOMICS:**

Production economics / Environmental issues such as water allocation, scarcity, and drought / Livestock economics / Agricultural entrepreneurship / Agricultural marketing.

**PLANT BREEDING:**

Molecular plant breeding / Conventional breeding / Wheat-quality and crop-nutritional value research.

**PLANT PATHOLOGY:**

Cereal-rust diseases / Soil microbial ecology / Mycology / Epidemiology / Disease resistance and quality of field crops (SARChI Chair).

**SOIL, CROP and CLIMATE SCIENCES:**

Hydro-physical properties of selected ecotopes / Water footprint of beer (barley) / Management of salinisation of irrigated land / Risk-based, site-specific irrigation-water quality guidelines / Geographical distribution and utilisation of soil / Sustainable cultivation of plants / Effect of weather and climate on crops.

**SUSTAINABLE AGRICULTURE, RURAL DEVELOPMENT and EXTENSION:**

Agricultural extension / Food security / Urban agriculture / Sustainable agriculture / Rural development.

In Agriculture, we offer the following qualifications: a three-year Bachelor of Agriculture degree (BAgric), a three-year Bachelor of Science degree in Agricultural Economics, and a four-year Bachelor of Agricultural Science degree (BScAgric).

Apart from this, we also offer University Preparation and Access (UPP) Programmes for BAgric/BScAgric on the South Campus. If the admission requirements for the BAgric or BScAgric programmes on the Bloemfontein Campus are not met, students can also enrol for these programmes on the South Campus; if students pass all the subjects offered, they can continue on the Bloemfontein Campus.

Please check the admission requirements for these programmes.

## UNIVERSITY ACCESS PROGRAMME AND EXTENDED CURRICULUM PROGRAMMES

**Duration of studies:** Four years

**Enquiries: UAP and Extended Curriculum Programmes:**  
**Elrich Jacobs:** +27 51 401 3726 | jacobses@ufs.ac.za or  
**Elzmarie Oosthuizen:** +27 51 401 2934 | oosthuizenem@ufs.ac.za

## UNIVERSITY ACCESS PROGRAMME (UAP) FOR BAGRIC PRESENTED ON THE SOUTH CAMPUS:

Programme Description		Minimum Admission Requirements					
Programme	APC	AP	LOI	MATHS	MATHS LIT	NBT	Campus
UAP in Agricultural Sciences for BAgric*	50001	20	3 (40%)	2 (30%)	5 (60%)	N/A	SC
*For the UAP in Agricultural Sciences for BAgric, either Mathematics or Mathematical Literacy will be accepted. However, if you have Mathematical Literacy, your AP score must be 24 or higher. This programme gives you access to the BAgric Extended Curriculum Programme, which is a four-year programme.							

This programme extends over one year and gives the successful student a chance to enter the BAgric/ BScAgric programmes on the Bloemfontein Campus. The programme offers students the opportunity to enjoy general formative and vocationally directed studies at various further- and higher-education institutions after the successful completion of a bridging year.

## EXTENDED CURRICULUM PROGRAMMES

Prospective students who do not meet the minimum requirements to enrol in the above mainstream programmes, will be placed in the Extended Curriculum Programme (ECP). Placement is subject to the availability of space.

The ECP is designed to equip students who do not meet the minimum requirements with the necessary competencies to be successful in their studies. Academic support and skills development are integrated with regular academic work. To be considered for placement in the ECP, prospective students have to apply for the mainstream programmes.

**Contact: Elrich Jacobs:** +27 51 401 3726 | [jacobses@ufs.ac.za](mailto:jacobses@ufs.ac.za) or  
**Elzmarie Oosthuizen:** +27 51 401 2934 | [oosthuizenem@ufs.ac.za](mailto:oosthuizenem@ufs.ac.za)  
for the different options available in Agricultural Sciences and Natural Sciences and the curricula offered in the Extended Curriculum Programmes.

## BAGRIC DEGREES

**Duration of studies:** Three years

The objective of the degree is to train students who will be able to apply agricultural knowledge practically at farm level, as well as in agriculture-related organisations. The BAgric qualification will allow individuals to apply their knowledge in the fields of resource utilisation, agricultural production, processing, management, and communication.

### CAREERS/FIELDS OF STUDY:

- Agricultural adviser, extension and training officer.
- Managerial positions in a wide range of agri-businesses and farmer enterprises.
- Representatives in agrochemical (pharmaceuticals, fertilisers, pesticides, etc.) and animal-feed companies.

THE FOLLOWING PROGRAMMES IN AGRICULTURE ARE PRESENTED ON THE BLOEMFONTEIN CAMPUS:

**Due to limited space available, it is advised that prospective students maintain an AP score of at least 32 (besides other admission requirements) to gain entrance into non-selection programmes.**

**Students need to pass modules in the first semester of study according to the faculty rules and regulations in order to continue with studies in the second semester.**

**All Agricultural programmes enquiries:****Soil, Crop and Climate Sciences:**

Dr Elmarie van der Watt: +27 51 401 2713 | vdwatte@ufs.ac.za | www.ufs.ac.za /scc

**Animal, Wildlife and Grassland Sciences:**

Dr Mike Fair: +27 51 401 9056 | fairmd@ufs.ac.za | www.ufs.ac.za /awgs

**Agricultural Economics:**

Dr Janus Henning: +27 51 401 9713 | henningjif@ufs.ac.za | www.ufs.ac.za /agricecon

**Agricultural Extension:**

Dr Johan van Niekerk: +27 51 401 3765 | vniekerkja@ufs.ac.za | www.ufs.ac.za /sarde

## BACHELOR OF AGRICULTURE (BAgric) WITH THE FOLLOWING MAJORS:

Programme Description		Minimum Admission Requirements				
Programme	APC	AP	LOI	MATHS	NBT	Campus
BAgric majoring in Agricultural Extension	BC530147	30	4 (50%)	3 (40%)	AL, QL, MT	BC
The BAgric majoring in Agricultural Extension is a new specialisation programme that develops agricultural extension specialists who could support sustainable agricultural practices, guidance, and support to ensure food security and socio-economic development.						
BAgric majoring in Agricultural Management	BC530152	30	4 (50%)	3 (40%)	AL, QL, MT	BC
BAgric majoring in Animal Production Management	BC530101	30	4 (50%)	3 (40%)	AL, QL, MT	BC
BAgric majoring in Crop Production Management	BC530102	30	4 (50%)	3 (40%)	AL, QL, MT	BC
BAgric majoring in Irrigation Management	BC530172	30	4 (50%)	3 (40%)	AL, QL, MT	BC
BAgric majoring in Mixed Farming Management	BC530103	30	4 (50%)	3 (40%)	AL, QL, MT	BC
BAgric majoring in Wildlife Management	BC530190	30	4 (50%)	3 (40%)	AL, QL, MT	BC
For the above listed programmes, Mathematical Literacy on level 7 (80%) will also be accepted IF the AP is 31 or above (excluding BAgric majoring in Agricultural Economics).						
BAgric majoring in Agricultural Economics	BC530111	30	4 (50%)	4 (50%)	AL, QL, MT	BC

## BSc AGRICULTURAL ECONOMICS

**Duration of studies:** Three years

Programme Description		Minimum Admission Requirements				
Programme	APC	AP	LOI	MATHS	NBT	Campus
BSc majoring in Agricultural Economics	BC431100	32	4 (50%)	5 (60%)	AL, QL, MT	BC

The learning programme in Agricultural Economics offers only ONE option. It focuses mainly on Agricultural Economics and Statistics as majors. In the first year, Mathematics, Statistics, Biology, and Agricultural Economics are compulsory, with a choice between three electives: Soil Science; Animal, Wildlife and Grassland Sciences; and Biology. In the second year, Agricultural Economics, Economics, Statistics, and Computer Literacy are compulsory, with a choice between the electives: Agronomy, Soil Science, Animal Science, and Grassland Science. In the third and final year, Agricultural Economics and Statistics are compulsory. The electives to choose from are: Agronomy, Animal Science, Soil Science, and Grassland Science.

**CAREERS/FIELDS OF STUDY:**

- Animal, Wildlife and Grassland Sciences: animal breeder, animal physiologist, animal nutritionist, grassland scientist, agricultural adviser, private consultant, farmer, academic, teacher, extension officer, and researcher.
- Soil, Crop and Climate Sciences: agronomist, soil scientist, horticulturist, agro-meteorologist, researcher, agricultural adviser, and consultant.
- Plant Sciences: plant pathologist or plant breeder at private or public institutions involved in crop research and development in the agricultural, horticultural, and forestry industries.

## BSc (AGRICULTURE) DEGREES

**Duration of studies:** Four years, unless indicated otherwise

This degree must be considered if you are interested in qualifying as an agricultural scientist who, through research and practically orientated development, wants to expand your knowledge. There are different learning programmes for the BScAgric degree, with combinations between the following fields of specialisation: Agricultural Economics, Agronomy, Agrometeorology, Animal Science, Food Science, Grassland Science, Irrigation Science, Plant Breeding, Plant Pathology, Soil Science, etc. These study fields will enable you to qualify for one of the following careers:

### CAREERS/FIELDS OF STUDY:

- Entomologist · Soil Scientist · Agricultural Economist (through BSc Agricultural Economics only) · Agricultural Manager · Plant Breeder · Agro-meteorologist · Animal Physiologist
- Plant Pathologist · Animal Nutritionist · Animal Breeder · Grassland Scientist · Food Scientist
- Agronomist or Plant Production Specialist · Irrigation Scientist

The following programmes are available:

- Learning programmes in **AGROMETEOROLOGY**,
- **ANIMAL, WILDLIFE AND GRASSLAND SCIENCES**,
- **AGRONOMY, SOIL SCIENCE**,
- **PLANT BREEDING AND PLANT PATHOLOGY**.

Programme Description		Minimum Admission Requirements							
Programme	APC	AP	LOI	MATHS	LS	PS	AS	NBT	Campus
BSc (Agriculture) majoring in Agrometeorology	BC540012	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Agriculture) majoring in Agronomy	BC540013	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Agriculture) majoring in Animal Sciences	BC540015	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Agriculture) majoring in Grassland Sciences	BC540036	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Agriculture) majoring in Plant Breeding	BC540041	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Agriculture) majoring in Plant Pathology	BC540042	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Agriculture) majoring in Soil Science	BC540044	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Agriculture) majoring in Wildlife Production	BC540089	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC

**VERY IMPORTANT: TWO of either Life Sciences / Agricultural Sciences / Physical Science WITH Mathematics, are required for all BSc Agriculture programmes, excluding only BSc Agricultural Economics.**

## NATURAL SCIENCES

Here, the frontiers of knowledge are constantly shifted through fundamental research and new technology development in support of our efforts to stay in step with the challenges of an ever-changing world. Our expertise in the Natural Sciences includes Mathematics, Mathematical Statistics, Actuarial Science, Chemistry, Physics, Geography, Geology, Biological Sciences, Information Technology and Computer Science, and Consumer Science.

Research focus areas in the following departments in Natural Sciences are:

### CHEMISTRY:

Analytical Chemistry / Inorganic Chemistry / Organic Chemistry / Physical Chemistry / Polymer Science.

### **COMPUTER SCIENCE AND INFORMATICS:**

Computer Science education / Eye-tracking research / Human-computer interaction / Natural language processing (machine-learning) / Virtual reality.

**CONSUMER SCIENCE:** Food security / Consumer awareness of sustainability practices / Recycling / Clothing and Culture / Product development.

**GENETICS:** Behavioural Genetics / Conservation and Population Genetics / Human Genetics / Molecular Systematics / Plant Molecular Genetics and Genomics / Forensic Genetics / Forensic Science (including Forensic Entomology and Forensic Chemistry).

**GEOGRAPHY:** Afromontane research / Physical Geography, GIS / Remote sensing / Human Geography.

**GEOLOGY:** Bushveld Complex research / Environmental Geology and Geochemistry research / Karoo Sedimentology research / Mineral resource-management research / Namaqua Metamorphic Province research / Planetary processes research / Ventersdorp LIP research / Drone-based Photogrammetric research.

**MATHEMATICAL STATISTICS AND ACTUARIAL SCIENCES:** Bayesian analysis / Extreme value theory / Big data / Actuarial and Finance / Multivariate analysis / Biostatistics / Reliability theory / Multiple imputation.

**MATHEMATICS AND APPLIED MATHEMATICS:** Bijective matrix maps / Congruence preserving functions / Embedding of Grassmann algebras into matrix algebras / Cardinalities of symmetric differences of certain finite sets / Endomorphisms of infinite symmetric groups / Construction of infinite zero-symmetric simple near-rings with identity.

### **MICROBIAL, BIOCHEMICAL AND FOOD BIOTECHNOLOGY:**

Safe and novel food products and processes / Biocatalysis and bioremediation / Improvement of human and animal health / Pathogenic yeasts (SARChI Chair).

**PHYSICS:** Energy sustainability (SARChI Chair) / Material Science / Nanoscience / Photoluminescence / Luminescent solar concentrators / Quantum dot synthesis / Astrophysics / also including two observatory projects: Boyden Observatory and Science Centre; and the Naval Hill Digital Planetarium (Old Lamont-Hussey Observatory).

### **PLANT SCIENCES:**

**Botany:** Plant physiology, biochemistry and molecular biology / Phytomedicine and ethnobotany / Plant taxonomy and molecular systematics / Palaeobotany and ecology

**Plant Breeding:** Molecular plant breeding / Conventional plant breeding / Wheat-quality and crop-nutritional value research (SARChI Chair)

**Plant Pathology:** Cereal-rust diseases / Soil microbial ecology / Mycology / Epidemiology / Disease resistance and quality of field crops.

**ZOOLOGY AND ENTOMOLOGY:** Applied Agricultural Entomology / Arachnology / Aquatic Ecology / Aquatic Parasitology / Vertebrate Haemoparasite Biology / Etho-ecology / Nematology / Environmental Entomology / Dipterology / Applied Entomology / Herpetology / Veterinary Ectoparasitology.

### **WE HAVE BEEN AWARDED THREE SARChI (SOUTH AFRICAN RESEARCH CHAIRS INITIATIVE – NATIONAL RESEARCH FOUNDATION) CHAIRS IN THE FACULTY, NAMELY:**

Wheat-quality and Crop-nutritional Value Research | Energy Sustainability | Pathogenic Yeasts

**ALSO VISIT: [www.nrf.ac.za/division/rcce/instruments/research-chairs](http://www.nrf.ac.za/division/rcce/instruments/research-chairs)**

- This information should be used in addition to the Rulebook of the Faculty of Natural and Agricultural Sciences.
- During the orientation week at the start of the academic year, the programme directors will discuss curriculum compositions with students to clear up any uncertainties.
- **Due to limited space, it is advised that prospective students maintain an AP score of at least 32 (besides other admission requirements) to gain entrance into non-selection BSc programmes.**
- Students need to pass modules in the first semester of study according to the faculty rules and regulations in order to continue with studies in the second semester.

Candidates who do not comply with the Faculty of Natural and Agricultural Sciences' entry requirements for mainstream BSc studies, can gain admission to the university through the University Access Programme (UAP) or the BSc Extended Curriculum Programme. The programmes provide students an opportunity to improve their skills and competencies with the aim of gaining access to mainstream studies after successful completion of the first year. These programmes also address, through courses in Skills and Competencies in Lifelong Learning, the student's wider needs with regard to quality of personal life, study and reading skills, self-assertiveness, problem solving, and other generic competencies. Students also attend an academic language course in English to improve reading and writing skills for higher-education purposes. Please check the admission requirements for these programmes. For more information on this, please contact the programme director on +27 51 401 2934.

The following University Access Programme (Natural Sciences) is offered:

**Enquiries: Pieter Bothma:** +27 51 505 1381 (Bfn) | bothmapj@ufs.ac.za  
**Elzmarie Oosthuizen:** +27 51 401 2934 (Bfn) | oosthuizenem@ufs.ac.za  
**Elrich Jacobs:** +27 51 401 3726 (Bfn) | jacobses@ufs.ac.za

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Site
UAP Natural Sciences	40001	20	3 (40%)	3 (40%)	3 (40%)	3 (40%)	N/A	South Campus, Sasolburg, Welkom

Either Life Sciences or Physical Science will be accepted.

## BACHELOR OF SCIENCE (BSc) DEGREES IN THE FOLLOWING PROGRAMMES LEARNING PROGRAMMES IN BIOLOGICAL SCIENCES

Duration of studies: Three years

**Enquiries: Programme Directors:**  
**Genetics, Behavioural Genetics: Zurika Murray:**  
 +27 51 401 2776 | murrayz@ufs.ac.za | www.ufs.ac.za /genetics  
**Botany, Plant Breeding, Plant Pathology, Plant Health Ecology: Prof Botma Visser:**  
 27 51 401 3278 | visserb@ufs.ac.za | www.ufs.ac.za /plant  
**Zoology, Entomology: Dr Candice Jansen van Rensburg:**  
 +27 51 401 9357 | jvrensc@ufs.ac.za | www.ufs.ac.za /ze  
**Biochemistry: Dr Frans O'Neill:**  
 +27 51 401 7553 | oneillfh@ufs.ac.za | www.ufs.ac.za /mbfb  
**Microbiology: Prof Koos Albertyn:**  
 +27 51 401 2223 | albertynj@ufs.ac.za | www.ufs.ac.za /mbfb  
**Forensic Sciences: Dr Karen Ehlers:**  
 +27 51 401 3978 | ehlersk@ufs.ac.za | www.ufs.ac.za/genetics



**THE FOLLOWING PROGRAMMES ARE PRESENTED ON THE BLOEMFONTEIN CAMPUS:**

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Campus
BSc majoring in Behavioural Genetics	BC433118	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Genetics and Microbiology	BC433139	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Genetics and Physiology	BC433180	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Genetics and Zoology	BC433149	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Biochemistry and Botany	BC431920	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Biochemistry and Entomology	BC431927	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Biochemistry and Genetics	BC431931	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Biochemistry and Microbiology	BC431939	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Biochemistry and Physiology	BC431980	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Biochemistry and Statistics	BC431946	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Biochemistry and Zoology	BC431949	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Botany and Entomology	BC432027	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Botany and Genetics	BC432031	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Botany and Microbiology	BC432039	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Botany and Plant Breeding	BC432041	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Botany and Plant Pathology	BC432042	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Botany and Zoology	BC432049	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Entomology and Genetics	BC432731	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Entomology and Microbiology	BC432739	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Entomology and Zoology	BC432749	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Microbiology and Statistics	BC433946	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Microbiology and Zoology	BC433949	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Plant Health Ecology	BC432182	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Rangeland and Wildlife Ecology	BC433689	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC

## THE FOLLOWING PROGRAMMES IN BIOLOGICAL SCIENCES ARE PRESENTED ON THE QWAQWA CAMPUS:

Enquiries: Dr Tom Okello: +27 58 718 5478 | okellotw@ufs.ac.za

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Campus
BSc majoring in Botany and Life Sciences	QC432065	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	QC
BSc majoring in Life Sciences	QC436500	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	QC
BSc majoring in Zoology and Life Sciences	QC434965	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	QC

### CAREERS/FIELDS OF STUDY:

- **Genetics:** Technicians in agricultural, forestry, seed, pest control, and medical research institutes, as well as forensic institutions (e.g. police services).
- **Plant Sciences:** Careers in the educational, agricultural, environmental, and biotechnological sectors as botanist, plant breeder, plant pathologist, researcher, teacher, environmental consultant, conservationist, laboratory or research assistant, and entrepreneur.
- **Microbial, Biochemical and Food Biotechnology:** Analysts, technicians, researchers, academics, and entrepreneurs in research and development for the production and analysis of vaccines and drugs, as well as diagnostic tests for use in human, animal, and plant health, whether in industry, academia, or research institutes. Laboratory and production assistants and managers working in product development, production, quality and pollution control in the food, medical, and chemical sectors (e.g. breweries, meat, dairy, and grain industries, vaccine, drug, chemicals and paper manufacturing, as well as water purification).
- **Zoology and Entomology:** Laboratory or research assistant, academic, researcher, environmental consultant, conservationist in environmental or agricultural sectors; education and medical institutes or as an entrepreneur.

## BEHAVIOURAL GENETICS (BC433118) DIFFERS FROM THE ABOVE BIOLOGY PROGRAMMES:

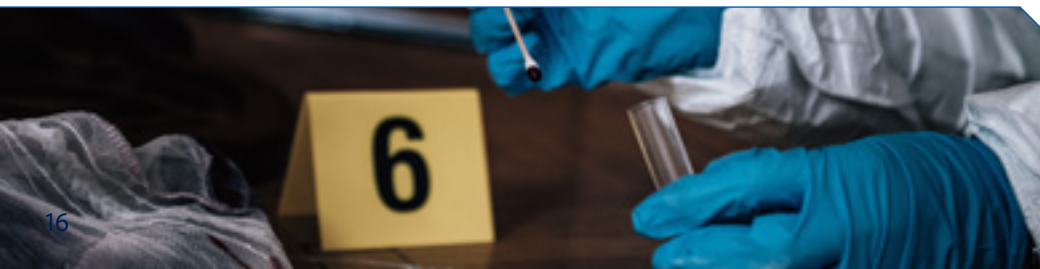
Duration of studies: Three years

Enquiries: Mrs Zurika Murray: +27 51 401 2776 | murrayZ@ufs.ac.za | www.ufs.ac.za /genetics

Behavioural Genetics is a combination of Psychology and Genetics. The main purpose of this subject area is to study the interaction between the environment and hereditary behavioural patterns. After completion of this study, the student will have a thorough basic knowledge of Behavioural Genetics. The student will be capable of specialising on postgraduate level (up to PhD) in Behavioural Genetics, Genetics or Psychology. Postgraduate training is essential in order to work as a behavioural geneticist.

### CAREERS/FIELDS OF STUDY:

Technicians in medical research and diagnostic institutes. A postgraduate qualification is highly recommended.





## FORENSIC SCIENCES

**Duration of studies:** Three years

**Enquiries:** Dr Karen Ehlers: +27 51 401 3978 | ehlersk@ufs.ac.za | www.ufs.ac.za /genetics

Admission is subject to selection. This programme focuses on how science can be used to analyse and interpret different crime scenes. This includes Chemistry, Physics, Genetics, and Entomology. After completion of this study, the student will have a thorough basic knowledge of the physical and biological science aspects of Forensic Sciences. The student will be able to specialise on postgraduate level (up to PhD) in Forensic Sciences, Forensic Genetics, Forensic Chemistry, Forensic Entomology, (depending on final-year majors). This programme is presented only on the Bloemfontein Campus.

### CAREERS/FIELDS OF STUDY:

Crime-scene investigators and analysts in forensic laboratories. A postgraduate qualification is highly recommended.

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Campus
BSc majoring in Forensic Sciences	BC433031	34	4 (50%)	A cumulative AP score of at least 17 for these three subjects is compulsory.			AL, QL, MT	BC

Admission to BSc majoring in Forensic Sciences is subject to selection. A minimum AP of **34** is required, **with a cumulative AP score of at least 17 for Mathematics, Life Sciences, and Physical Science**. NBT results will be used for selection and admission purposes. No person with a criminal record will be admitted to this programme. Closing date for applications is 30 September 2020.

## LEARNING PROGRAMMES IN CHEMICAL AND PHYSICAL SCIENCES

**Duration of studies:** Three years

**Enquiries:** Dr Johan Venter: +27 51 401 3336 | venterja@ufs.ac.za | www.ufs.ac.za/chem | www.ufs.ac.za/physics

### Learning programmes in Chemical and Physical Sciences offer the following options:

- Physics and Chemistry
- Physics and Astrophysics
- Physics and Agrometeorology
- Physics and Engineering subjects
- Chemistry in combination with biological subjects as the other majors:
  - o Chemistry and Botany
  - o Chemistry and Microbiology
  - o Chemistry and Biochemistry

In other programmes, Physics can also be taken in combination with Mathematics, Geology, and Computer Science. In similar programmes, Chemistry can be taken in combination with Forensic Science, Mathematics, Geology, and Computer Science.

### Physics:

This learning programme makes provision for the student who is interested in Physics. Careers include working in industry, research laboratories, and teaching at schools or universities. This programme is well suited to careers in many manufacturing industries (mining, agriculture, and metallurgy) or engineering firms concerned with mechanical, civil, telecommunication and/or electronic and electrical activities. Careers in design, energy production, computer sciences, advanced instrumentation development, and modelling are also possible. Postgraduate studies can be pursued in Physics, provided that the necessary prerequisites are met. Combined career directions, for example, combinations of Physics and Law (e.g. patent lawyer) or Physics and economic fields (e.g. financial modelling or risk assessment) can also be considered after further studies in these directions.

## Chemistry:

This learning programme makes provision for the student who is interested in Chemistry. Careers include working in industry, research laboratories, and teaching at schools or universities. Postgraduate studies can be pursued in Chemistry, if the prerequisites are met.

### CAREERS/FIELDS OF STUDY:

- **Careers in research laboratories**, e.g. CSIR and Sasol; academia, e.g. university lecturing and research; industry, e.g. petrochemical, rubber, manufacturing, paint, food, mining, water purification, etc.
- **Careers in research laboratories**, e.g. CSIR and Mintek; academia, e.g. university lecturing and research; industry, e.g. manufacturing, energy, nuclear, telecommunications, instrumentation, modelling, Bureau of Standards.

### THE FOLLOWING PROGRAMMES ARE OFFERED ON THE BLOEMFONTEIN CAMPUS:

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Campus
BSc majoring in Chemistry and Biochemistry	BC432119	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Chemistry and Botany	BC432120	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Chemistry and Microbiology	BC432139	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Chemistry and Physics	BC432140	32	4 (50%)	5 (60%)	N/A	5 (60%)	AL, QL, MT	BC

#### Notes:

- If Biological subjects are the second major, Life Sciences at level 5 (60%) is required.
- If you intend to register for Chemistry as a major, take note that only 80 students in the second year and only 60 students in the third year will be admitted, based on academic excellence.

## ASTROPHYSICS

**Duration of studies:** Three years

**Enquiries:** Dr Johan Venter: +27 51 401 3336 | venterja@ufs.ac.za | [www.ufs.ac.za/physics](http://www.ufs.ac.za/physics)

In this learning programme, Astrophysics is presented together with Physics on the Bloemfontein Campus. Students who have successfully completed their studies, can pursue postgraduate studies in Physics with Astrophysics modules, which can lead to an MSc and a PhD in Physics, specialising in Astrophysics.

### CAREERS/FIELDS OF STUDY:

Careers at research institutes, e.g. SAAO, SKA, HarRAO, and HMO; academia, e.g. university lecturing and research; space science (satellite applications) or public education centres, e.g. planetariums or museums.

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	PS	NBT	Campus	
BSc majoring in Physics and Astrophysics	BC434017	32	4 (50%)	6 (70%)	5 (60%)	AL, QL, MT	BC	

## PHYSICS AND AGROMETEOROLOGY

**Duration of studies:** Three years

**Enquiries:** Dr Johan Venter: +27 51 401 3336 | venterja@ufs.ac.za | www.ufs.ac.za/physics

By combining Physics with Agrometeorology, students get the opportunity to apply numerous physical principles to agrometeorological applications, such as remote sensing, developing and calibrating instrumentation, numerical model refinement, thermodynamical and microphysical processes in the atmosphere, and weather forecasting in general. This is a popular combination with potential employers.

### CAREERS/FIELDS OF STUDY:

Careers at research institutions, e.g. ARC and SAWS; private consultation, e.g. irrigation scheduling; meteorological instrumentation companies, e.g. Campbell Scientific; academia, e.g. university lecturing and research.

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Campus
BSc majoring in Physics and Agrometeorology	BC434012	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC

## PHYSICS WITH ENGINEERING SUBJECTS

**Duration of studies:** Three years

**Enquiries:** Dr Johan Venter: +27 51 401 3336 | venterja@ufs.ac.za | www.ufs.ac.za/ensci

This is a great option, which provides an alternative route into Engineering studies at other academic institutions.

In this learning programme, the basic building blocks for Engineering are presented together with Physics. In the last semester (third year), students will have to choose between Physics and Engineering. Students who have successfully completed the programme in the Engineering option, will be able to apply for integration into the third year of study in certain Engineering degree programmes (civil, mechanical, electrical / electronic) at universities offering BEng or BScEng degrees. Integration will be subject to the availability of space in these degree programmes, the selection processes, and other requirements prescribed by the particular collaborating university.

### CAREERS/FIELDS OF STUDY:

Engineering assistant or construction site manager; or the Physics option – this will enable graduates to either enter workplaces requiring a physics focus, or continue with postgraduate studies in Physics should they meet the entrance requirements; or the Engineering option – this will enable graduates to pursue further discipline-specific Engineering studies at other universities, such as: Agricultural Engineering, Civil Engineering, Electrical Engineering, Electronic Engineering, Mechanical Engineering, Mechatronic Engineering.

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	PS	NBT	Campus	
BSc majoring in Physics and Engineering subjects	BC434026	30	4 (50%)	6 (70%)	5 (60%)	AL, QL, MT	BC	
For BSc majoring in Physics and Engineering, a minimum cumulative point of 11 must be achieved for Mathematics and Physical Science.								

THE FOLLOWING PROGRAMMES IN CHEMISTRY AND PHYSICS ARE PRESENTED ON THE QWAQWA CAMPUS:

## CHEMISTRY IN COMBINATION WITH BIOLOGICAL SUBJECTS

**Duration of studies:** Three years

**Enquiries:** Dr Richard Ocaya: +27 58 718 5301 | ocayaro@ufs.ac.za

This learning programme makes provision for a student who is interested in Chemistry and the Biological Sciences where the foundation of Biological systems and Chemistry is involved. It includes careers in any manufacturing industry, as well as in fields such as medicine, the pharmaceutical industry, agriculture (including livestock, crops, pest control, soil, and water), forestry, environmental, waste and pollution management, and various careers in the marine environment. Postgraduate studies may be continued in Chemistry or any of the Biological Sciences if the necessary prerequisites are met.

### CAREERS/FIELDS OF STUDY:

Careers in industry, e.g. food and beverage, brewing, mining, water purification, pharmaceuticals, agriculture, forestry, pollution.

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Campus
BSc majoring in Chemistry and Botany	QC432120	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	QC
BSc majoring in Chemistry and Physics	QC432140	32	4 (50%)	5 (60%)	N/A	5 (60%)	AL, QL, MT	QC

## LEARNING PROGRAMMES IN CONSUMER SCIENCE

**Duration of studies:** Three years

**Enquiries:** Dr Ismari van der Merwe: +27 51 401 2598 | ivnmerwe@ufs.ac.za | www.ufs.ac.za/consumer

Consumer Science is the study of people's needs regarding housing, clothing and food, and the management of resources to satisfy these needs. After completion of this programme, the BConsSc student will be capable of following a career as a consumer scientist, e.g. consumer consultant, designer, buyer, marketer, or quality-control inspector of consumer products. The student should also be capable of advising consumers on the management of time, energy, and other resources. The major subjects are Foods, Consumer Science, and Textiles. After completion of the BSc Consumer Science programme, the student will be able to follow a career in the food industry. The major subjects are Foods and Food Science. Learning programmes in the Consumer Science field of interest offer one option.

### CAREERS/FIELDS OF STUDY:

Consumer consultant, designer, buyer, marketer or quality controller of consumer and food products, product developer, quality controller, consultant or researcher in the food industry.

THE FOLLOWING PROGRAMMES ARE PRESENTED ONLY ON THE BLOEMFONTEIN CAMPUS:

Programme Description		Minimum Admission Requirements				
Programme	APC	AP	LOI	MATHS	NBT	Campus
Bachelor of Consumer Science*	BC430123	30	4 (50%)	3 (40%)	AL, QL	BC

\*For Bachelor of Consumer Sciences, Mathematical Literacy on level 5 (60%) will also be accepted.

# LEARNING PROGRAMMES IN GEOSCIENCES

## A. GEOLOGY

Duration of studies: Three years

**Enquiries: Programme Director:**  
**Justine Magson:** +27 51 401 2373 | markramj1@ufs.ac.za | www.ufs.ac.za /geology

Learning programmes in GEOLOGY are subject to selection and offer SIX main options with either:

- Geology specialisation
- Geochemistry
- Environmental Geology
- Geology and Chemistry
- Geology and Geography
- Geology and Physics

**GEOLOGY:** Upon completion of this learning programme, you may be granted access to honours studies in geology, which will serve as a stepping-stone towards professional registration as a geologist, with job opportunities in mining, exploration, and research.

**GEOCHEMISTRY:** Upon completion of this learning programme, you may be granted access to honours studies in geology/geochemistry, which will serve as a stepping-stone towards professional registration as a geologist, with job opportunities in industry and academia.

**ENVIRONMENTAL GEOLOGY:** Upon completion of this learning programme, you may be granted access to honours studies in geology, which will serve as a stepping-stone towards professional registration as a geologist, with job opportunities in industry and academia.

**GEOLOGY AND CHEMISTRY:** Upon completion of this learning programme, you may be granted access to honours studies in geology/geochemistry/chemistry, which will serve as a stepping-stone towards professional registration as a geologist / chemist, with job opportunities in industry and academia.

**GEOLOGY AND GEOGRAPHY:** Upon completion of this learning programme, you may be granted access to honours studies in geology/geography, which will serve as a stepping-stone towards professional registration as a geologist, with job opportunities in industry, government, and academia.

**GEOLOGY AND PHYSICS:** Upon completion of this learning programme, you may be granted access to honours studies in geology/physics, which will serve as a stepping-stone towards professional registration as a geologist/physicist, with job opportunities in industry and academia.

### THE FOLLOWING PROGRAMMES ARE OFFERED ON THE BLOEMFONTEIN CAMPUS:

Programme Description		Minimum Admission Requirements					
Programme	APC	AP	LOI	MATHS	PS	NBT	Campus
BSc majoring in Environmental Geology	BC433528	30	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Geology and Chemistry	BC433521	30	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Geochemistry	BC433532	30	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Geology and Geography	BC433533	30	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Geology and Physics	BC433540	30	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc majoring in Geology Specialisation	BC433535	30	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	BC

#### Notes:

- The selection is based on academic performance.
- Admission to all programmes offered in Geology is SUBJECT TO SELECTION. We select only 80 students. You will be notified of the outcome as soon as we receive your final matric results.
- Closing date for applications is 30 September 2020.

## B. GEOGRAPHY

**Duration of studies:** Three years

**Enquiries: Programme Director:**  
**Eldalize Kruger:** +27 51 401 2185 | krugere@ufs.ac.za | www.ufs.ac.za/geography

The learning programmes in Geography and the Environmental Sciences are studies of the properties and processes in the earth and on the surface, as it encompasses a holistic study of the human environment and accompanying interactions and relationships. The programmes are aimed at students who are interested in various aspects of the environment and can lead to specialisation as environmentalists. Careers in these sciences are divergent, because all institutions that are involved with resource utilisation are legally obliged to examine the impact of their activities on the environment. The connection of geographical information and computer technology simplifies the storage, processing, modelling, and presentation of information and expedites decision-making.

### THE FOLLOWING PROGRAMMES ARE OFFERED ON THE BLOEMFONTEIN CAMPUS:

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Campus
BSc majoring in Geography and Agrometeorology	BC433312	32	4 (50%)	5 (60%)	5 (60%)	N/A	AL, QL, MT	BC
BSc majoring in Geography and Environmental Science	BC433362	32	4 (50%)	5 (60%)	5 (60%)	N/A	AL, QL, MT	BC
BSc majoring in Geography and Geographical Information Systems	BC433369	32	4 (50%)	5 (60%)	N/A	5 (60%)	AL, QL, MT	BC
BSc majoring in Geography and Statistics*	BC433346	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	BC

\*For BSc majoring in Geography and Statistics, either Life Sciences or Physical Science are required.

### THE FOLLOWING PROGRAMMES ARE PRESENTED ON THE QWAQWA CAMPUS:

**Enquiries: Dr Tom Okello:** +27 58 718 5478 | okellotw@ufs.ac.za

Programme Description		Minimum Admission Requirements						
Programme	APC	AP	LOI	MATHS	LS	PS	NBT	Campus
BSc majoring in Geography and Environmental Geography	QC433359	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	QC
BSc majoring in Geography and Life Sciences	QC433365	32	4 (50%)	5 (60%)	5 (60%)	5 (60%)	AL, QL, MT	QC
BSc majoring in Geography and Tourism	QC433392	32	4 (50%)	5 (60%)	5 (60%)	N/A	AL, QL, MT	QC

**Geographic information systems / Geo-informatics:** Geo-informatics is the science and technology that develops and uses information science infrastructure to address the problems of geography, geosciences, and related branches of engineering. Students can analyse data spatially with the aid of geographical information systems and provide links between environmental problems and their spatiality. These people typically become GIS specialists or spatial planners.

**CAREERS/FIELDS OF STUDY:** GIS specialist or geo-informatics practitioner.

**Geography and Agrometeorology / Soil Sciences:** Students with a degree in Geography and Agrometeorology / Soil Sciences will understand the interaction between humans and the environment, especially as it impacts on climate, geomorphology, soil, and agriculture. These people typically become geomorphologists, climate specialists or agricultural extension officers providing spatial information and advice in these fields.

**CAREERS/FIELDS OF STUDY:** Environmental assessment practitioner, geomorphologist, climate specialist, agricultural extension officer.

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**Geography and Environmental Sciences:** Students with a degree in Geography and Environmental Sciences will not only understand the interaction between humans and the environment, but can also offer solutions for environmental problems which humans have to deal with in the physical, as well as the cultural milieu. These people typically become environmental assessment practitioners or environmental consultants.

**CAREERS/FIELDS OF STUDY:** Environmental assessment practitioner, environmental consultant, environmental manager, environmental officer, spatial planner.

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**Geography and Statistics:** Students with a degree in Geography and Statistics understand the complex issue of visualising and manipulating huge data sources. Students can analyse data spatially with the aid of geographical information systems and provide links between environmental problems and their spatiality. These people typically become GIS specialists or spatial planners.

**CAREERS/FIELDS OF STUDY:** GIS specialist, GIS planner, geographic data analyst, spatial planner.

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**Geography and Environmental Geography (Qwaqwa Campus):** Students with a degree in Geography and Environmental Sciences will not only understand the interaction between humans and the environment, but can also offer solutions for environmental problems which humans have to deal with in the physical, as well as the cultural milieu. These people typically become environmental assessment practitioners or environmental consultants.

**CAREERS/FIELDS OF STUDY:** Environmental assessment practitioner, environmental consultant, environmental manager, environmental officer, spatial planner.

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**Geography and Life Sciences (Qwaqwa Campus):** Students with a degree in Geography and Life Sciences will understand the functional interactions and balance between the abiotic and biotic environment. In an economy where limited resource management and conservation goes hand in hand, the knowledge and understanding of these factors are very important for the sustainability of our natural resources.

**CAREERS/FIELDS OF STUDY:** Researchers in the fields of GIS, ecology (general and restoration), climate change, and conservation management, as well as any associated careers within these research fields.

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**Geography and Tourism (Qwaqwa Campus):** Students with a degree in Geography and Tourism will have an understanding of tourism studies in the context of theory, as well as a practical understanding of the nature of tourism and its importance in terms of development and sustainability.

Tourism issues are often an interaction of multidisciplinary concepts, and therefore require wide-ranging analytical thinking skills. Students with a degree in Geography and Tourism will have critical thinking skills required for solving the ongoing creation of socio-economic and environmental tourism-related challenges.

**CAREERS/FIELDS OF STUDY:** Tourism management and practice, transdisciplinary studies, tourism development practitioners, tourism development consultants.



# LEARNING PROGRAMMES IN MATHEMATICAL SCIENCES

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**Duration of studies:** Three years

**Enquiries: Programme Director:**

**Applied Mathematics, Mathematical Science: Christiaan Venter:**

+27 51 401 2320 | [venterc@ufs.ac.za](mailto:venterc@ufs.ac.za) | [www.ufs.ac.za/mam](http://www.ufs.ac.za/mam)

**Mathematical Statistics, Actuarial Sciences, Applied Statistics: Dr Michael von Maltitz:**

+27 51 401 2609 | [vmaltitzmj@ufs.ac.za](mailto:vmaltitzmj@ufs.ac.za) | [www.ufs.ac.za/msas](http://www.ufs.ac.za/msas)

**Learning programmes in MATHEMATICAL STATISTICS offer THREE main options with a combination of disciplines:**

- Mathematical Statistics and Agrometeorology (Climate Sciences)
- Mathematical Statistics and Economics (Econometrics)
- Mathematical Statistics and Psychology (Psychometrics)

**CAREERS/FIELDS OF STUDY:** Statistical analysis for government institutions, research councils, financial institutions, psychological research centres and industries, or a career as lecturer, investment analyst, investment manager, risk manager, financial reporter, financial planner.

This learning programme focuses on stochastic models with various applications for Mathematical Statistics. It is evident from the numerous options in the third year that there is a vast field for statistical applications in practice. The programme also enables students to proceed with postgraduate study in Mathematical Statistics and Risk Analysis.

The Investment Science degree is specifically designed for students with a passion for Mathematics and the workings of finance in any investment type, in particular for students who eventually wish to qualify as a Chartered Financial Analyst. The degree will provide students with a thorough grounding in Mathematics (including, most important, Financial or Investment Mathematics), Mathematical Statistics, Investment Strategies and Practices, and Economics, together with an understanding of Computers, Computer Programming, and Financial Accounting. This basis allows students to follow postgraduate degrees in Investment Science, Mathematical Statistics, or Investment Management.

**Learning programmes in STATISTICS offer TWO main options with a combination of disciplines:**

- Applied Statistics and Economics
- Applied Statistics and Psychology

**CAREERS/FIELDS OF STUDY:** Economist, econometrician, statistician, research psychologist, financial economist or financial adviser.

The learning programme focuses on the application of statistical methods in practice and enables students to proceed with postgraduate study in Statistics.

**Learning programmes in MATHEMATICS offer FIVE main options with a combination of disciplines:**

- Mathematics and Applied Mathematics
- Mathematics and Chemistry
- Mathematics and Mathematical Statistics
- Mathematics and Physics
- Mathematics and Finances

**Note:**

It is very important that you study the Faculty Rulebook at [www.ufs.ac.za](http://www.ufs.ac.za) as the minimum requirements of any programme can be amended without notifying you.

**CAREERS/FIELDS OF STUDY:** Scientist, mathematical analyst, researcher, lecturer or teacher. Mathematical analysis of financial problems for financial institutions such as banks, insurance, and investment institutions.



These learning programmes are recommended for students who wish to develop a sound mathematical base for a career as a scientist, mathematical analyst, financial mathematician, lecturer or teacher. Students can broaden their scientific background by combining their mathematical subjects with Physics or Chemistry. For a career in Applied Mathematics, the student must first develop a solid mathematical foundation.

The Mathematics and Finances interdisciplinary learning programme is aimed at students who are interested in Mathematics in the financial world. Financial institutions such as banks, insurance and investment companies need well-trained mathematicians with a sound base in the economic sciences. This combination of skills offers excellent career opportunities for graduates who can do mathematical analyses of financial problems. Students can decide how big an emphasis they want to put on the various disciplines. Postgraduate study will enable a person to handle more complex financial models.

## LEARNING PROGRAMME IN ACTUARIAL SCIENCES

**Duration of studies:** Three years

**CAREERS/FIELDS OF STUDY:** Actuary, actuarial assistant, risk analyst, financial reporter, manager, investment manager, statistician, teacher.

This learning programme is **subject to selection**. It is specifically designed for students who eventually plan to qualify as actuaries, i.e. as fellows of a professional body. The Actuarial Society of South Africa (ASSA) uses the curriculum of the Joint Board of the Institute/Faculty of Actuaries, UK. Certain South African universities, of which the UFS is one, has an exemption agreement with the Institute/Faculty of Actuaries to recommend students who perform at a certain standard to obtain exemptions for the Core Technical (CT) series subjects. Prospective students can be recommended for exemptions in CT1, CT2, CT3, CT4, CT6, and CT7 after obtaining the degree, as well as for CT5 and CT8 after completing the honours degree. After a candidate has obtained the relevant degrees, such a candidate must also pass the prescribed examinations of the Joint Board of the Institute of Actuaries (London) and the Faculty of Actuaries (Edinburgh) to qualify as a fully-fledged actuary.

For more information on this programme, visit [www.ufs.ac.za/actuarial](http://www.ufs.ac.za/actuarial)

Programme Description		Minimum Admission Requirements					
Programme	APC	AP	LOI	MATHS	PS	NBT	Campus
BSc majoring in Actuarial Science	BC431000	34	4 (50%)	6 (70%)	N/A	AL, QL, MT	BC
Admission to BSc Actuarial Science is <b>subject to selection</b> . The selection process is based on academic performance. If you are unsuccessful in your application for Actuarial Science, you may be offered a place in BSc majoring in Econometrics. A space will be made available to you in the second year of Actuarial Science if you have an excellent performance in your Econometrics first year. Closing date for applications is 30 September 2020.							
BSc majoring in Climate Sciences	BC433712	32	4 (50%)	6 (70%)	4 (50%)	AL, QL, MT	BC
BSc majoring in Econometrics	BC433758	32	4 (50%)	6 (70%)	N/A	AL, QL, MT	BC
BSc majoring in Mathematical Statistics and Psychometrics	BC433786	32	4 (50%)	6 (70%)	N/A	AL, QL, MT	BC
BSc majoring in Statistics and Economics	BC434658	32	4 (50%)	5 (60%)	N/A	AL, QL, MT	BC
BSc majoring in Statistics and Psychology	BC434686	32	4 (50%)	5 (60%)	N/A	AL, QL, MT	BC
BSc majoring in Mathematics and Applied Mathematics	BC433816	32	4 (50%)	6 (70%)	4 (50%)	AL, QL, MT	BC
BSc majoring in Mathematics and Chemistry	BC433821	32	4 (50%)	6 (70%)	4 (50%)	AL, QL, MT	BC
BSc majoring in Mathematics and Finances	BC433864	32	4 (50%)	6 (70%)	N/A	AL, QL, MT	BC
BSc majoring in Mathematics and Mathematical Statistics	BC433837	32	4 (50%)	6 (70%)	4 (50%)	AL, QL, MT	BC
BSc majoring in Mathematics and Physics	BC433840	32	4 (50%)	6 (70%)	4 (50%)	AL, QL, MT	BC

# LEARNING PROGRAMMES IN COMPUTER SCIENCE AND INFORMATICS

Duration of studies: Three years

Enquiries: Programme Director:

Bloemfontein: Mr Jaco Marais: +27 51 401 2929/2754 | maraisj@ufs.ac.za | www.ufs.ac.za/csi

Qwaqwa: Mr Teboho Lesesa: +27 58 718 5235/5121 | lesesat@ufs.ac.za | www.ufs.ac.za/csi

THE FOLLOWING PROGRAMMES ARE OFFERED ON THE **BLOEMFONTEIN CAMPUS**:

## BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY [BSc (INFORMATION TECHNOLOGY)]

### BSc (IT) MAJORING IN CHEMISTRY / PHYSICS / MATHEMATICS / BUSINESS AND MANAGEMENT

This degree allows you to combine Computer Science and Informatics with Chemistry / Physics / Mathematics or with Business and Management subjects such as Business Management, Human Resource Management, Training Management and Economics.

#### CAREER POSSIBILITIES:

Database administrator / database developer, programmer / software developer / software engineer, systems administrator / network administrator, web designer / web developer

### BSc (IT) MAJORING IN DATA SCIENCE

Data Science combines the disciplines of Computer Science, Applied Mathematics, and Mathematical Statistics to implement scientific computerised methods and processes, machine-learning algorithms, and data models to extract knowledge and insight from large structured and unstructured datasets that can be used to explain past events or forecast future events.

#### CAREER POSSIBILITIES:

- Business intelligence developer, data scientist / data analyst / data engineer, machine learning scientist or machine learning engineer
- Natural language processing engineer

Programme Description		Minimum Admission Requirements					
Programme	APC	AP	LOI	MATHS	PS	NBT	Campus
BSc (Information Technology) majoring in Computer Science and Business Management	BC432255	32	4 (50%)	4 (50%)	4 (50%)	AL, QL, MT	BC
BSc (Information Technology) majoring in Computer Science and Chemistry	BC432221	32	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Information Technology) majoring in Computer Science and Mathematics	BC432238	32	4 (50%)	6 (70%)	5 (60%)	AL, QL, MT	BC
BSc (Information Technology) majoring in Computer Science and Physics	BC432240	32	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	BC
BSc (Information Technology) majoring in Data Science	BC432295	32	4 (50%)	6 (70%)	5 (60%)	AL, QL, MT	BC

#### Notes:

\*If you enrol for Mathematics as part of the BSc (IT) majoring in Computer Science and Business Management programme, Mathematics on level 5 (60%) is required.

## BACHELOR OF COMPUTER INFORMATION SYSTEMS [BCompInfoSys]

This exciting new degree opens doors for IT fanatics who also want to become managers or even start their own IT company. You will develop these skills through modules in Business Management, Entrepreneurship, and Marketing. You will also acquire the necessary skills to apply Information Technology solutions in the corporate world, with modules in Information Systems, Systems Analysis and Software Design, Systems Infrastructure and Integration, as well as Information Systems in Organisations.

### CAREER POSSIBILITIES:

Systems Analyst, IT Manager, Business Analyst, IT Entrepreneur.

Programme Description		Minimum Admission Requirements					
Programme	APC	AP	LOI	MATHS	PS	NBT	Campus
Bachelor of Computer Information Systems (BCompInfoSys)	BC430156	30	4 (50%)	4 (50%)	N/A	AL, QL, MT	BC

THE FOLLOWING PROGRAMMES ARE OFFERED ON THE QWAQWA CAMPUS:

## BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY [BSc (INFORMATION TECHNOLOGY)]

This degree allows you to combine Computer Science and Informatics with Chemistry / Physics / Mathematics or with Management subjects such as Business Management, Human Resource Management, Training Management and Economics.

### CAREER POSSIBILITIES:

Database Administrator / Database Developer, Programmer / Software Developer, Software Engineer, Systems Administrator / Network Administrator, Web Designer / Web Developer.

Programme Description		Minimum Admission Requirements					
Programme	APC	AP	LOI	MATHS	PS	NBT	Campus
BSc (Information Technology) majoring in Computer Science and Chemistry	QC432221	32	4 (50%)	5 (60%)	5 (60%)	AL, QL, MT	QC
BSc (Information Technology) majoring in Computer Science and Management	QC432202	32	4 (50%)	4 (50%)	N/A	AL, QL, MT	QC

## BUILDING SCIENCES

Students need to pass modules in the first semester of study according to the faculty rules and regulations in order to continue with studies in the second semester.

Research focus areas in the following departments in Building Sciences are:

### ARCHITECTURE:

Place-making / UNESCO (United Nations Educational, Scientific and Cultural Organisation)-accredited earth unit / architecture with design.

### QUANTITY SURVEYING and CONSTRUCTION MANAGEMENT:

Sustainable human settlements / green building / management of risk associated with construction / construction ethics / cost and time overruns.

THE FOLLOWING PROGRAMMES ARE OFFERED ONLY ON THE BLOEMFONTEIN CAMPUS:

# LEARNING PROGRAMME IN ARCHITECTURE

## BACHELOR OF ARCHITECTURE (BArch):

**Duration of studies:** Three years

**Enquiries: Programme Director: Kobus du Preez:**

+27 51 401 2332 | dpreezj@ufs.ac.za | [www.ufs.ac.za/architecture](http://www.ufs.ac.za/architecture)

The Department of Architecture is underpinned by a critical inquiry into meaningful place-making. The department focuses on the caring design of the built environment in the following ways:

- **RESEARCH** – Dedicated undergraduate bachelor and postgraduate honours, master's, and doctoral programmes and focused research by staff members in architectural history, theory, ethics, and design.
- **TEACHING** – Formal lectures, inter-personal studio facilitation, vertical studio sessions, construction site visits, annual design excursions, and visits to architectural practices.
- **COMMUNITY SERVICE** – The UNESCO-accredited Earth Unit and community service learning
- **PRACTICE** – Unconditional validation as a South African architectural learning site, locally by the South African Council for the Architectural Profession (SACAP) and internationally by the Commonwealth Association of Architects (CAA). Associated with the South African Institute of Architects (SAIA).
- Through the integration of design, construction, theory, and history, we aim to sensitively, critically, and sustainably learn to provide meaningful places in the South African and international context.
- After completion of their studies, students will be equipped to register through SACAP as architectural draughtspeople, architectural technologists, senior architectural technologists, or professional architects.

Applications for admission to the BArch programme, on the prescribed application form, must reach the Registrar, Academic Student Services, University of the Free State, Bloemfontein, before or on 31 July of the year before intended admission. A selection procedure takes place before admission (consult [www.ufs.ac.za/architecture](http://www.ufs.ac.za/architecture); 'Academic Information'). Students will be notified of the outcome of the selection process no later than the end of November.

The Bachelor of Architecture involves full-time education that extends over six semesters and consists of lectures, projects, and continuous evaluation.

The purpose of this programme is to educate candidates in order to register with the South African Council for the Architectural Profession in the appropriate category for which they qualify, in terms of the provisions of the Architectural Profession Act 44 of 2000. The degree BArch provides access to the BArchHons degree.

Students are strongly advised to work in an architect's office or other similarly approved institution during holidays, in order to gain practical experience.

The evaluations and examinations for the degree BArch are recognised by the minister concerned, in terms of the provisions of the Architectural Profession Act (Act 44 of 2000). Training experience after completion of the BArch degree will be controlled by the conditions of the South African Council for the Architectural Profession. The registrar of this council will provide information in this regard.

### SELECTION PROCEDURE:

All the information regarding the selection process and creative exercise is available on the departmental website: [www.ufs.ac.za/architecture](http://www.ufs.ac.za/architecture); see 'Academic Information'.

- You must pass a preliminary selection process. Download and print the selection form available at [www.ufs.ac.za/arch-selection](http://www.ufs.ac.za/arch-selection) and submit the original hard copy to the Department of Architecture on the Bloemfontein Campus before or on 31 July 2020.
- If you pass the preliminary selection, you may be invited to a selection interview.
- We will notify you of the selection outcome no later than 30 November 2020.

Programme Description		Minimum Admission Requirements					
Programme	APC	AP	LOI	MATHS	Selection	NBT	Campus
Bachelor of Architecture (BArch)	BC430114	30	4 (50%)	4 (50%)	Yes	AL, QL, MT	BC

**Note:**

Closing date for applications and the submission of your creative exercises is 31 July 2020.

**CAREERS/FIELDS OF STUDY:** Draughtsman, architectural technologist, architectural assistant, preparation for architect profession, urban and regional planner, landscape architect, interior designer.

## LEARNING PROGRAMME IN QUANTITY SURVEYING AND CONSTRUCTION MANAGEMENT

The **Department of Quantity Surveying and Construction Management** aims to develop, by means of dynamic scientific education, independent and critically thinking graduates who will become leaders in their field. Over the past few years, the department has made significant contributions to the various professions and to the construction industry as a whole. The department maintains statutory accreditation by the South African Council for the Quantity Surveying Profession (SACQSP), the South African Council for the Project and Construction Management Professions (SACPCMP), and the South African Council for the Property Valuers Profession (SACPVP). Internationally, the department is accredited by the Royal Institution of Chartered Surveyors (RICS) and the Chartered Institute of Building (CIOB), both in the UK.

**Duration of studies:** Three years

**Enquiries: Construction Economics and Management: Ms Tascha Bremer:**  
+27 51 401 2996 | [bremert@ufs.ac.za](mailto:bremert@ufs.ac.za) | [www.ufs.ac.za /qscm](http://www.ufs.ac.za/qscm)

**Applications for admission to the degree programme should be sent on the prescribed form to: The Director, Student Administration, before or on 31 July of the year prior to the intended admission. You will be informed of the outcome.**

Learning programmes in the BUILDING SCIENCES offer the following option:

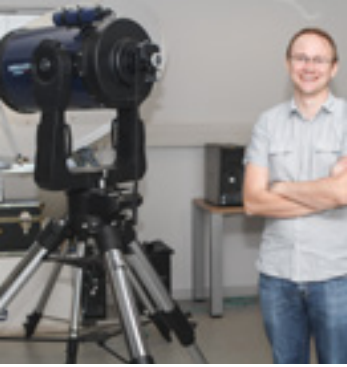
### BSc CONSTRUCTION ECONOMICS AND MANAGEMENT

**CAREERS/FIELDS OF STUDY:** Construction business management, production of real estate, operations management, and building management. Professional practising of quantity surveying, construction surveying, cost project management, property development and management.

Programme Description		Minimum Admission Requirements					
Programme	APC	AP	LOI	MATHS	Selection	NBT	Campus
BSc (Construction Economics and Management) (Full time)	BC432443	32	4 (50%)	5 (60%)	Yes	AL, QL, MT	BC

**Notes:**

- Economics, Business Studies, Accounting or Physical Science on level 4 (50%) is recommended.
- Closing date for applications in Construction Economics and Management is 31 July 2020.



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