

SACNASP

South African Council for Natural Scientific Professions



INFORMATION BROCHURE

How to Apply

and

Registration Requirements

2010/2011

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The Natural Scientific Professions Act, 2003 (Act No 27 of 2003)

The purpose of the Act is ... to provide for the establishment of the South African Council for Natural Scientific Professions; and for the registration of professional, candidate and certificated natural scientists; and to provide for matters connected therewith.

Extract

Section 18 Categories of registration

- (2) A person may not practise in any of the fields of practice listed in Schedule I unless he or she is registered in a category mentioned in subsection 1.

Categories of registration – Section 18(1) of the Act

- (a) professional natural scientist;
- (b) candidate natural scientist; and
- (c) certificated natural scientist.

Schedule I of the Act (Fields of practice) – REVISED (Also see definitions on pages 15 - 18)

| | |
|-------------------------|--|
| Agricultural Science | Includes Crop Science, Forestry, Grassland Science, Horticulture and Weed Science |
| Animal Science | Production/Domesticated Animals |
| Aquatic Science | Includes Limnology, Hydrobiology, Estuarine and Coastal Marine Science and Water Science. |
| Biological Science | Biochemistry/Biotechnology, * Toxicological Science |
| Botanical Science | Includes Environmental, Agricultural and Horticultural Science and Forestry. |
| Chemical Science | Includes Industrial Science |
| Earth Science | Includes Atmospheric Science, Engineering Geology; Environmental Geology/Geophysics, Environmental Geology (specialising in waterborne pollution), Geographical Science, Geophysics, Geo-statistics; Geo-hydrological Science, GIS Science, Hydro-geology; Hydrological Science, Palaeo-magnetics; Rock Mechanical Science, Seismology |
| Ecological Science | |
| Environmental Science | |
| Food Science | |
| Geological Science | Includes Structural Geology; Mapping Geology; Mineralogy; Petrology; Economic Geology; Mining Geology; Exploration Geology; Geochemistry; Palaeontology |
| Materials Science | Includes Metallurgical Science |
| Mathematical Science | Includes Statistical Science |
| Microbiological Science | Includes * Toxicological Science |
| Physical Science | Includes Radiation Science |
| Soil Science | |
| Zoological Science | |

* Toxicological Science is the study of chemicals that have harmful effects on an organism. Registration for this field of practice may be in either BIOLOGICAL SCIENCE or MICROBIOLOGICAL SCIENCE, depending on the applicant's specific focus in toxicology, as being of non-microbiological origin or of microbiological origin.

Section 20 Registration

- (1) Only a registered person may practise in a consulting capacity.
- (2) (a) A person must apply, in the prescribed manner, to the Council for registration in a category referred to in section 18(1) and a field of practice listed in Schedule I.
(b) The application referred to in paragraph (a) must be accompanied by the prescribed registration fee.
- (3) The Council must register and issue a registration certificate to the successful applicant in the prescribed form if it is satisfied that the applicant ... **has satisfied the relevant educational requirement** determined by the Council for this purpose by **demonstrating his or her competence** against standards determined by the Council for the relevant category ...
- (4) (a) Despite subsection (3), the Council **may refuse to register an applicant** –

- (i) if, after the commencement of the Constitution of the Republic of South Africa, 1993 (Act No 200 of 1993), the applicant has been convicted of an offence, either in the Republic or elsewhere, and sentenced to **imprisonment for a period exceeding three months**, or a fine as alternative thereto;
- (ii) if the applicant is declared by the High Court to be of **unsound mind** or mentally disordered, or is detained under the Mental Health Act, 1973 (Act No 17 of 1973); for as long as the registration of the applicant is suspended as a result of any punishment imposed on him or her under this Act;
- (iii) if the applicant has been **removed from an office of trust** on account of improper conduct;
- (iv) if the applicant is an **non-rehabilitated insolvent** whose insolvency was caused by his or her negligence or incompetence in performing work falling within the scope of the category in respect of which he or she is applying for registration.

Section 21 Cancellation of registration

- (1) (a) The Council may cancel the registration of a registered person if he or she –
 - (i) becomes disqualified for registration as contemplated in section 20(4);
 - (ii) has erroneously been registered, or has been registered on information subsequently proved to be false; or
 - (iii) fails to pay the prescribed annual fee or portion thereof, within 60 days from it becoming due or within such further period as the Council may allow, either before or after expiry of the 60 days.

Section 22 Authorised titles

- (1) A registered person may –
 - (a) use the title “Professional Natural Scientist”, “Candidate Natural Scientist” or “Certificated Natural Scientist”, as the case may be; and
 - (b) *affix* the prescribed abbreviation after his or her name.
 - (i) Professional Natural Scientist – “Pr.Sci.Nat.”
 - (ii) Candidate Natural Scientist - “Cand.Sci.Nat.”
 - (iii) Certificated Natural Scientist – “Cert.Sci.Nat.”
- (2) A certificated natural scientist or candidate natural scientist –
 - (a) may only perform work in the natural scientific professions under the supervision and control of a professional natural scientist;
 - (b) must use his or her title in all natural scientific reports and other documentation relating to his or her work in the natural scientific profession prepared by him or her.

Section 24 Return of registration certificate

Any person whose registration **has been cancelled** in terms of this Act **must return his or her registration certificate ...**

Section 27 Identification of work

- (3) A person who is **not registered** in terms of this Act, **may not** –
 - (a) perform **any** kind of work identified for any category of registered persons in terms of this section;
 - (b) **pretend** to be, or in any manner **hold or allow** himself or herself to be held out as, a person registered in terms of this Act;
 - (c) **use the name** of any registered person or any name or **title** referred to in sections 18 and 22; or
 - (d) perform any act purporting or calculated to **lead persons to believe** that he or she is registered in terms of this Act.
- (4) Subsection (3)(a) may not be construed as prohibiting any person from performing work identified in terms of this section, if such **work** is **performed in the service of or by order** of and under the direction, control, supervision of or in association with a **registered person entitled to perform** the identified work and who must assume responsibility for any work so performed.

Section 28 Professional conduct

- (1) The Council must, draw up a code of conduct for registered persons.
- (2)(a) The Council is responsible for administering the code of conduct ...
- (3) All registered persons must **comply with** the code of conduct and **failure** to do so constitutes **improper conduct**.

Section 41 Offences and penalties

- (1) A person **contravening** section ... 27(3)(a), (b), (c) or (d) ... is **guilty** of an offence.
- (3) A person convicted of an offence in terms of section 27(3) (a), (b), (c) or (d) is liable to a maximum **fine equal to double the remuneration received** by him or her for work done in contravention thereof, or to a maximum fine equal to the fine calculated according to the ratio determined for three years’ imprisonment in terms of the Adjustment of Fines Act, 1991 (Act No 101 of 1991).

How to apply

1. A person must apply to the Council in the **prescribed manner** for registration in a **category** referred to in section 18(1) and a **field of practice** listed in Schedule I of the Act. (See page 1.)

2. **Filling in the application form:**

- (a) Select a category and field of practice that meet the requirements. (Refer to relevant sections in **Information Brochure and Work Experience Guidelines**).
- (b) Please **print** your details in **black** ink or type in **bold and keep the page format**.
- (c) Answer **all** the questions and remember to **sign and date** your application.
- (d) **Do not fax or scan and e-mail** your application documents.

3. **Essential documents and information:** See list on page 4 of application form.

3.1 Qualifications:

The Council is not bound by the evaluation certificate issued by the Human Science Research Council (**HSRC**) or the South African Qualification Authority (**SAQA**) for registration purposes. The SACNASP Council's Education Committee evaluates all qualifications, issued locally or by universities in other countries. The following information is required by the Education Committee to be able to assess/evaluate a qualification:

- (i) Certified copies of all relevant degree certificates;
- (ii) Academic transcripts;
- (iii) Certificate of A-level subjects (British Education System);
- (iv) Syllabi of the complete study programmes to verify subject content;
- (v) Title pages and abstracts of research projects for postgraduate qualifications (Honours Masters and Doctoral degrees.)
- (vi) English translations of qualifications and academic transcripts by an official translator if issued in another language, also if issued in Afrikaans.

3.2. **Vocational experience: (Please also refer to the "Guidelines on Work Experience" document.)**

NOTE: For registration purposes, work experience should be gained **after** the completion of the N.H.Dip./B.Tech. or B.Sc. Honours degree. If an applicant was **employed full-time**, work experience gained while studying part-time for a **M.Tech./M.Sc. or D.Tech./Ph.D. degree**, may be taken into consideration.

Work experience report: The work experience report should be clear about the nature, extent and variety of the natural scientific work, as well as the level of participation in projects. A list of projects completed is not sufficient.

Guidelines for work experience report (**not a CV**):

- (i) All work experience relevant to the field of practice for which registration is required.
- (ii) Information such as name of company, position occupied, period of employment, and responsibilities of each position in chronological order.
- (iii) Evidence of the application of the basic scientific principles, methods and techniques, scientific observation, discussion and interpretation of data where a scientific opinion is delivered and findings explained in scientific terms.
- (iv) A description of any major research, project or design, and their appropriate values.
- (v) List of articles published in peer-reviewed scientific journals.
- (vi) Papers presented at congresses/symposia, attendance of conferences and symposia.
- (vii) Membership of scientific societies or other involvement in the profession.
- (viii) A job profile of current position.

4. **Referees:**

4.1 Applicants must also nominate 2 referees, able to comment on the data and evidence contained in the application papers. These Supporters must be Professional Natural Scientists or of equivalent Professional status. Without these peer-assessments, an applicant's registration cannot be approved. Please provide the **names and contact details** of referees on page 2 of the application form. Referees will be contacted by the Registrar's office to provide the required reports. Referees' reports are strictly confidential.

4.2 **Two** referees must be nominated **for each field of practice** for which is applied. At least **one referee per field of practice** must be a Professional Natural Scientist.

4.3 Subordinates, **Candidate or Certificated** Natural Scientists, or **relatives** cannot act as referees.

4.4 Referees who are not Professional Natural Scientists will be requested to submit abridged CVs (not exceeding two pages.)

4.6 Referees may be chosen in the following order of preference:

- (i) Head of organisation;
- (ii) Immediate supervisor;
- (iii) Professor or Head of Department;
- (iv) Mentor; and/or
- (iv) Clients.

7. **Registration fees**

(a) The registration fee covers the administration costs involved in processing an application and is **not refundable**. A fee is payable for **each field of practice** for which is applied and **must be included with your application**.

(b) **Method of payment:**

(i) **By direct transfer or alternatively by cheque or cash deposit. NB: Use initials and surname for identification of payment on Council's bank statement.**

(ii) Please fax proof of payment, together with the 4 pages of the application form to 012 841-1057.

(iii) Bank details: *Beneficiary: SA COUNCIL FOR NATURAL SCIENTIFIC PROFESSIONS or SACNASP*
Bank: NEDBANK, Silverton; Branch code: 164445; Account No: 1644292289 (current)
SWIFT CODE: NEDSZAJJ

| |
|--|
| PRICES PER FIELD OF PRACTICE: <u>1 April 2009 until 31 March 2010</u> |
|--|

- | |
|---|
| <ul style="list-style-type: none">• Professional Natural Scientist: R700.00• Candidate Natural Scientist: R400.00• Certificated Natural Scientist: R450.00 |
|---|

NEW FEES COME INTO EFFECT ON 1 APRIL 2010

A. J. DE KLERK
REGISTRAR

Postal address: Private Bag X540, SILVERTON, 0127

Physical address: Council for Geoscience Buildings, 280 Pretoria Road, SILVERTON.

Tel.: 012 841 1075; Fax: 012 841 1057

Web site: www.sarnap.org.za; E-mail: sarnap@geoscience.org.za

Upgrading of status: Cand.Sci.Nat. to Pr.Sci.Nat.

1. An application for **upgrading of registered status** must be submitted in the **prescribed manner**, together with the prescribed registration fee.
2. A **registration fee** is payable for each field of practice for which registration is required. Registration fees are **not refundable**.
3. **Qualifications and official documents:** Copies of qualifications and academic records submitted with the first application are not required - **only certified** copies of qualifications obtained **after registration** as a Candidate Natural Scientist.
4. **Vocational Experience: (Please refer to paragraph 3.2 on page 4, as well as the work experience guidelines.)**
5. **Mentor's report:** A report by the mentor must be included with the application documents. This report should indicate that a training programme was followed and the applicant's progress. **The Council may refuse to register an applicant as a Professional Natural Scientist if the report is not submitted.**
6. **Referees: Please refer to paragraph 4 on page 4 of this brochure.**
7. **Certificate:** The certificate issued to a Candidate Natural Scientist **remains the property of the Council and must be returned** after registration as a Professional Natural Scientist. (Section 24 of the Act.)

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Re-registration

1. The Council may cancel the registration of a registered person if he or she ..."fails to pay the prescribed annual fee or portion thereof, within 60 days from it becoming due ..."
2. A person who has previously been registered and whose registration was cancelled due to default of payment, may apply for reinstating his or her registration.
3. An application for re-registration must be submitted in the prescribed manner **together with the prescribed fees**. A registration fee is payable for each of the fields of practice for which re-registration is required.
4. If a person's registration has lapsed more than three years ago, a new application, including all the supporting documents and information, must be submitted. The application will be reviewed by the relevant Professional Advisory Committee and re-registration has to be approved by the Registration Committee. After approval, a new registration number will be allocated to the applicant and a new registration certificate will be issued.
5. If a person's registration was cancelled for less than three years, his or registration can be re-instated with the same registration number on receipt of:
 - (i) A new application form, together with the prescribed fees;
 - (ii) Proof of relevant academic training that was not previously submitted; and
 - (iii) An updated work experience report.
6. **Vocational experience: Please refer to paragraph 3.2 on page 4, as well as the work experience guidelines.**
7. **Referees: Please refer to paragraph 4 on page 4 of this brochure.**
8. **Fees: 1 April 2009 until 31 March 2010: R1360.00**

NEW FEES COME INTO EFFECT ON 1 APRIL 2010

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Special requirements

Recognition of Prior Learning and Experience

SACNASP acknowledges the fact that, for various reasons, certain individuals did not have the opportunity to obtain the level of tertiary education required by the Council for professional registration. Such individuals may, however, have contributed significantly to the scientific community and may continue do so for many years.

The Council has decided to give such persons the opportunity to register as Professional Natural Scientists, **under certain conditions**. Applicants must be **referred by their peers for their expertise** in their particular fields of practice.

Any person who does not hold a qualification recognised by the Council may apply.

Requirements:

1. A minimum of **10 years continuous** appropriate vocational experience, immediately prior to application **in the field of practice for which is applied**.
2. An application must be submitted in the prescribed manner together with the registration fee. A registration fee is payable for each field of practice for which registration is required. (Please see *How to Apply* on pages 4 - 5 of the information brochure.)
3. A portfolio on learning and experience including the following:
 - (a) Proof of relevant formal and informal training - certified copies of degree or diploma certificates, including the academic records for these qualifications.
 - (b) An extensive record of relevant vocational experience in the field of practice for which is applied. (See paragraph 3.2 on page 4 of the information brochure.)
 - (c) A list of publications, indicating whether published in **peer-reviewed journals** as well as the journal's **impact factor**.
 - (d) **Proof** of membership of learned societies, e.g. SACI, GSSA, IEESA, SAAFoST etc. Membership of a relevant scientific society and participating in science congresses is highly recommended.
4. References:

Applicants must also nominate 2 referees, able to comment on the data and evidence contained in the application papers. These Supporters must be Professional Natural Scientists or of equivalent Professional status. Without these peer-assessments, an applicant's registration cannot be approved. Please provide the **names and contact details** of referees on page 2 of the application form. Referees will be contacted by the Registrar's office to provide the required reports. Referees' reports are strictly confidential. (Also see paragraph 4 on page 4 of the brochure.)
5. At least three complete reports (digital format) which have been compiled or substantially contributed to. If reports cannot be submitted due to confidentiality, the contribution must be verifiable. The applicant's contribution and role in the projects must be evident.
6. An affidavit by the applicant stating that the reports are his or her own work.
7. Affidavits by two persons who can confirm the authenticity of the reports and publication.

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Environmental Science

1. The diversity of qualifications in the field of environmental science, offered by universities in particular, makes it at times almost impossible to evaluate a single qualification in this multi-disciplinary science. **It is therefore necessary to first establish whether a person would qualify as a scientist in one of the “generic” fields of practice.**
2. This implies that a person would have to be trained as a chemist, geologist, botanist or any of the other natural science fields and **meet all the qualification requirements** before being eligible for registration in the field of Environmental Science. This does not imply dual registration, however.
3. In order to qualify, the following requirements must be met:
 - 3.1 A person who wishes to be registered as a Professional Natural Scientist in the field of practice Environmental Science should have a **four-year B.Sc., B.Sc. Honours or B.Tech. degree** in the natural sciences.
 - 3.2 Such qualification shall include **at least one** subject, **other than environmental science**, from the fields of practice listed in Schedule I to the Act; must be studied in **increasing breadth and depth over four years**; and must be based on **at least two** first-year natural science subjects – botany, zoology, (biology) , chemistry, mathematics, physics or another natural science subject. Bridging courses of semester courses will not qualify.
4. In addition to the above a person wishing to be registered in the field of practice Environmental Science should be able to provide **proof of training in Environmental Management (e.g.: Environmental Impact Assessment, Environmental Law, Environmental Auditing, etc.)**. These can either be part of the four-year degree programme or by way of accredited short courses.
5. In order to qualify for the field of practice Environmental Science an applicant must have a **clear record of environmental science related work and research**. Such a person may also do the broad scope of what environmental practitioners do.
6. **Environmental Facilitators**, who has completed some courses in environmental management, but do not have the required natural science training, e.g. town planners, sociologists, economists, architects, and geographers with B.A. degrees, **will not qualify for registration as professional natural scientists**. Such Environmental Facilitators should have persons with natural science training in their teams.
7. **Work experience: The following work experience would be taken into consideration: (Please also refer to paragraph 3.2 in page 4).**
 - 7.1 Ability to think holistically about the structure, functioning and performance of the environmental system, not simply focusing on maximising the efficiency of one of its elements.
 - 7.2 Analysis of environments potentially subject to change in such a way as to identify significant issues, problems and/or characteristics, and distinguish between underlying causes and superficial symptoms.
 - 7.3 Proficiency in integrating and co-ordinating significant components of both the socio-economic and biophysical environments in such a way as to evaluate options and trade-offs, and facilitate sound decision-making.
 - 7.4 Ability to make balanced judgements and objectively evaluate alternatives.
 - 7.5 Application of tools contained in the Integrated Environmental Management ‘toolbox’, including:
 - (a) Scoping and public participation.
 - (b) Systematic and explicit assessment and evaluation of environmental impacts.
 - (c) Mitigation and optimisation of impacts.
 - (d) Monitoring and evaluation of impacts.
 - (e) Preparation of environmental management plans or programmes.
 - (f) A thorough understanding of the concept of sustainable development, embracing:
 - (i) Ecological sustainability, recognised as the enabling factor for sustainable development. [That is, the maintenance of life-support systems and biodiversity on which development depends should be seen as a priority, and a risk-averse and cautious approach should be followed where there is uncertainty about impacts on the natural environment].
 - (ii) Social sustainability equity and environmental justice.
 - (iii) Economic efficiency.
 - (g) A sound working knowledge of environmental legislation and policy.
 - (h) Ability to manage competently an interdisciplinary team.
 - (i) Ability to recognise when to involve specialists, to select and appoint appropriate specialists, and to draw up sound Terms of Reference for these specialists that address the particular needs of that project or piece of work.
 - (j) Proficiency in interpersonal and communication skills, both in oral and written form.
 - (k) **Applicants will have to provide proof of their personal involvement in at least two or more projects.**
 - (l) Projects completed (reports) will be considered, provided that a clear substantiated indication is provided of personal contribution (digital format.)
 - (m) Registration with the Environmental Assessment Practitioners of South Africa (EAPSA) will be deemed as sufficient proof of the above. In addition, information must be provided of conferences attended; scientific papers and publications.

Qualifications not recognised for registration purposes (Updated regularly)

1. Any undergraduate degree or diploma which does not meet the minimum natural science content of 70 % in the first year of study, e.g. **3-year B.Agric.** or **B.Inst.Agrar.** degrees. (See degree programme content of page 10.)
2. Agricultural Diplomas obtained at Colleges of Agriculture, e.g. Cedara, Grootfontein, Elsenburg.
3. Three-year B.Sc. degrees of which the study period was extended over four years due to bridging courses or a split first year.
4. B.Sc. (Ed.) degrees that do not meet the requirement of **one** natural science subject studied in breadth and depth **over four years**.
6. Post-graduate degrees that **did not follow** on a recognised B.Sc. or B.Sc. Honours degree or other recognised qualifications in the natural sciences, e.g.
 - (a) B.Inst.Agrar Honours, following on a 3-year B.Sc. in Agriculture or B.Agric. degree.
 - (b) Masters degree in Environmental Management.
 - (c) Masters degree in Sustainable Agriculture; Livestock Production.
 - (d) M.Phil. or M.Agric. degrees, e.g. Wildlife Management .
 - (e) M.Inst.Agrar.

NOTE: Masters' or M.Phil. degrees cannot replace Honours degrees. Masters degrees do not meet the requirement of one natural science subject studied in breadth and depth over four years, e.g. Geology I, II, III and IV (Honours level), or Chemistry I, II, III (N.Dip.) and IV (B.Tech.)

| Type of degree/diploma | Field of study | Type of degree/diploma | Field of study |
|---|---|---|---|
| B.A. degrees | Social Geography Archaeology Social Sciences | B.VSc. | Veterinary Science |
| B.Agric. | Management | B.Sc. Eng degrees | |
| B. Env.Man. | Environmental Management, Ecology and Pollution and Waste Management | B.Sc./B.Sc. Honours | Geography and Informatics Geography and Environmental Management |
| B.Env.Sci./ B.Env.Sci./Honours | Ecology and Natural Resource Management and Geography | B.Sc. (Ed.) degrees | Mathematics, Chemistry, Botany, Zoology |
| B.Sc./B.Sc. Honours | Pharmacology | N.Dip./N.H.Dip./ B.Tech. | Community Extension Community Nursing |
| N.Dip./N.H.Dip./ B.Tech. | Chemical Engineering | N.Dip./N.H.Dip./ B.Tech. | Environmental Health |
| N.Dip./N.H.Dip./ B.Tech. Agriculture | Agricultural Research Agronomy Animal Production Crop Production Forestry Horticulture Plant Production Pasture Science and Field Husbandry Plant Pest Control Viticulture and Oenology | N.Dip./N.H.Dip./ B.Tech. Nature Conservation | Botany Ecology Coastal and Marine Management Environmental Education Forestry Conservation Forestry Ecology Freshwater Management Landscape Planning Parks and Recreation Veld and Game Management |

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Registration requirements

Professional Natural Scientist

1. Any person who holds an appropriate **four-year degree/diploma in the natural sciences** from a South African university, university of technology or a technikon (or a similar institution), which is accredited by the Higher Education Quality Committee (HEQC) of the Council for Higher Education (CHE) and by the Education Committee of SACNASP, shall be eligible for registration. **(Please see qualifications not acceptable for registration purposes page 9.)**
2. In addition to the above a **minimum of three years** appropriate work experience of a natural scientific nature, is required.

| Qualification requirements | | Experience requirements | | | | | |
|---|--|---|-----|------------|----------------|---|---------------|
| Minimum academic qualification | | Minimum number of years vocational experience after the minimum qualification was obtained. | | | | | |
| 1. 4-year B.Sc.*; or B.Sc. Agric.; B.Sc. Honours; N.H.Dip./B.Tech. | | Three years appropriate vocational experience in the field of practice applied for, of which one year must be in a position of responsibility. | | | | | |
| 2. M.Sc./M.Tech. (M.Phil. not equivalent to M.Sc.) | | Two years appropriate vocational experience in the field of practice for which is applied. | | | | | |
| 3. D.Sc./Ph.D./D.Tech. | | One year appropriate vocational experience in the field of practice for which is applied. | | | | | |
| NOTE: For registration purposes the vocational experience should be gained after the minimum qualifications were obtained. If the applicant, however, was in a full-time occupation and obtained a M.Sc., Ph.D. or M.Tech degree in the natural sciences while studying part-time, vocational experience in the natural sciences gained during this period, may be taken into consideration. Research or experience gained while studying full-time, however, is not acceptable. | | | | | | | |
| Basic pattern of study | | | | | | | |
| Year of study | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Subject level | I | II | III | IV/Honours | M.Sc./M.Tech. | | Ph.D./D.Tech. |
| | Broadening and deepening Minimum years of study for registration as a Professional Natural Scientist | | | | Specialisation | | |

Degree programme content

The qualifications of applicants will be considered in totality by including postgraduate qualifications as comprising the applicant's qualification as a package. This would apply to the following:

- Directed B.Sc. Honours degrees that preferably include a research module.
- M.Sc. degrees that have a sound course content in the Natural Sciences that are complementary to the discipline at the postgraduate level and a research component resulting in a thesis.
- Ph.D. degree in the respective discipline of which the outcome is a thesis.
- Original research papers in peer-reviewed science journals in the respective discipline.

First year of study: 70 % of the subjects/modules passed for the first year of study should be in the natural sciences – Biology 1 (Botany I and Zoology I), Chemistry I, Mathematics I, Physics I, or another natural science subject such as Geology I or Microbiology I. Bridging courses or semester courses will not qualify. A maximum of **30 %** of the courses may be e.g. Computer, Language, Communication, and Business proficiencies and life skills, e.g. Philosophy of Science.

Second and third year of study: 80 % of the subjects/ modules passed for the second and third year of study should be in the natural sciences of which 50 % should be in the respective discipline or directly supportive of the discipline. (*Exit level for registration as a Certificated Natural Scientist.*)

Fourth year of study (Honours level): Preferably, 100 % of the subjects/modules passed for the fourth year of study or Honours year should be in the natural sciences of which 80 % should be in the respective discipline or directly supportive of the discipline. One subject from the generic fields of practice listed in Schedule 1 of the Act must be studied in increasing breadth and depth over four years. Further more, the fourth or Honours year should ideally include a research module. (*Candidate and Professional Natural Scientist.*)

Candidate Natural Scientist

1. A candidate Natural Scientist is a person who intends to register as a Professional Natural Scientist (Pr.Sci.Nat.) **after having met the experiential requirements**. A **minimum of three years** of appropriate work experience, of which one year must be in a position of responsibility, is required for registration as a Professional Natural Scientist.
2. A Candidate Natural Scientist must follow a **training programme under the guidance of a mentor** to ensure that the experience gained will meet the requirements for registration as a Professional Natural Scientist.
3. A Candidate Natural Scientist must submit an application for registration as a Professional Natural Scientist **within 12 months** after gaining the required work experience. The registration of a Candidate Natural Scientist will automatically **lapse after five years** if an application for upgrading was not submitted.
4. **Referees:** Please refer to paragraph 4 on page 4.
5. **Appointment of a mentor**
 - 5.1 A Candidate Natural Scientist has to identify a mentor who will ensure that the experience gained by him or her is appropriate for registration purposes.
 - 5.2 The mentor must preferably be a Professional Natural Scientist who holds a position of responsibility.
 - 5.3 The mentor is responsible to ensure that the Candidate Natural Scientist follows an appropriate **training programme**. A **progress report** must be submitted every **12 months**, depending on the length of the training period.
 - 5.4 The mentor's reports and copy of the training programme will be used by the Professional Advisory Committee to determine if an applicant meets the work experience requirements.
 - 5.5 If the Candidate Natural Scientist has changed employers during his or her training period, a report from both mentors will be required.
6. **Vocational Training requirements**
 - 6.1 The Council requires that a prospective professional natural scientist must be trained to its satisfaction in the application of natural scientific principles and methods within his or her field of practice. The Candidate Natural Scientist in training must be given progressively more responsibility until he or she is capable of accepting responsibility in making and executing decisions. (Also refer to paragraph 3.2 on page 4.)
- 6.2 **Responsibility of the Candidate Natural Scientist**
 - (a) Candidate Natural Scientists should appreciate that it is their responsibility **to ensure that the training they receive will meet the requirements**.
 - (b) Candidate Natural Scientists should ensure that:
 - (i) Their work is supervised by a competent person, preferably a Professional Natural Scientist;
 - (ii) Their knowledge is continuously upgraded to meet the objectives of Continuous Professional Development (CPD).
 - (iii) Communication, managerial and professional skills are developed to comply with their increasing responsibilities.
 - (iv) Their conduct enhances the profession; and
 - (v) The code of conduct is followed and adhered to.
- 6.3 **Essential elements of acceptable training**
 - (a) During the training period Candidate Natural Scientists should be given sufficient opportunity to develop the application of the natural scientific principles and methods learned during their academic education, and get exposure to:
 - (i) Work that requires the solution of problems in connection with natural scientific tasks or projects involving natural scientific judgment in -
 - * problem identification and formulation;
 - * finding, selecting and effective using of relevant information;
 - * analysing of factors affecting possible solutions.
 - (ii) Problem solving, planning, design, and report writing.
 - (iii) Progressively greater responsibilities until the applicant demonstrates capable of accepting responsibility in making and executing decisions.

Qualification requirements

Any person who holds an **appropriate FOUR-year degree or diploma in the natural sciences** from a South African university, university of technology or a technikon (or a similar institution), which is accredited by the Higher Education Quality Committee (HEQC) of the Council for Higher Education (CHE) and by the Education Committee of SACNASP, shall be eligible for registration. **(Please see qualifications not acceptable for registration purposes page 9.)**

| Qualification requirements | | Experience requirements | | | | | |
|--|---|---|-----|------------|----------------|---|---------------|
| Minimum academic qualification | | Although technically no work experience is required for registration as Candidate Natural Scientist, it is recommended that the Candidate Natural Scientist should have at least six months work experience when he or she applies for registration. It will enable referees and mentors to provide the Council with meaningful reports. | | | | | |
| 1. 4-year B.Sc.*; or B.Sc. Agric.; B.Sc. Honours; N.H.Dip./B.Tech. | | | | | | | |
| 2. M.Sc./M.Tech. (M.Phil. not equivalent to M.Sc.) | | | | | | | |
| 3. D.Sc./Ph.D./D.Tech. | | | | | | | |
| Basic pattern of study | | | | | | | |
| Year of study | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Subject level | I | II | III | IV/Honours | M.Sc./M.Tech. | | Ph.D./D.Tech. |
| | Broadening and deepening Minimum years of study for registration as a Candidate Natural Scientist | | | | Specialisation | | |

Degree programme content

The qualifications of applicants will be considered in totality by including postgraduate qualifications as comprising the applicant's qualification as a package. This would apply to the following:

- Directed B.Sc. Honours degrees that preferably include a research module.
- M.Sc. degrees that have a sound course content in the Natural Sciences that are complementary to the discipline at the postgraduate level and a research component resulting in a thesis.
- Ph.D. degree in the respective discipline of which the outcome is a thesis.
- Original research papers in peer-reviewed science journals in the respective discipline.

First year of study: 70 % of the subjects/modules passed for the first year of study should be in the natural sciences – Biology 1 (Botany I and Zoology I), Chemistry I, Mathematics I, Physics I, or another natural science subject such as Geology I or Microbiology I. Bridging courses or semester courses will not qualify. A maximum of **30 %** of the courses may be e.g. Computer, Language, Communication, and Business proficiencies and life skills, e.g. Philosophy of Science.

Second and third year of study: 80 % of the subjects/ modules passed for the second and third year of study should be in the natural sciences of which 50 % should be in the respective discipline or directly supportive of the discipline. *(Exit level for registration as a Certificated Natural Scientist.)*

Fourth year of study (Honours level): Preferably, 100 % of the subjects/modules passed for the fourth year of study or Honours year should be in the natural sciences of which 80 % should be in the respective discipline or directly supportive of the discipline. One subject from the generic fields of practice listed in Schedule 1 of the Act must be studied in increasing breadth and depth over four years. Further more, the fourth or Honours year should ideally include a research module. *(Exit level for registration as Candidate Natural Scientist.)*

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Certificated Natural Scientist

1. Any person who holds an appropriate THREE-year degree/diploma in the natural sciences from a South African university, university of technology or a technikon (or a similar institution), which is accredited by the Higher Education Quality Committee (HEQC) of the Council for Higher Education (CHE) and by the Education Committee of SACNASP shall be eligible for registration. **(Please see qualifications not acceptable for registration purposes page 9.)**
2. In addition to the above a **minimum of one year** appropriate work experience of a natural scientific nature is required. **(See note below.)**

| Qualification requirements | Experience requirements | | |
|--|---|----|-----|
| Qualification | Experience requirement | | |
| 3-year National Diploma (N.Dip.) 3-year Bachelor's Degree (B.Sc.) | One year appropriate experience in the field of practice for which is applied. NOTE: For registration purposes, the work experience should be gained after the qualification was obtained. | | |
| Basic pattern of study | | | |
| Year of study | 1 | 2 | 3 |
| Subject level | I | II | III |
| Broadening and deepening | | | |

Degree programme content

First year of study: 70 % of the subjects/modules passed for the first year of study should be in the natural sciences – Biology 1 (Botany I and Zoology I), Chemistry I, Mathematics I, Physics I, or another natural science subject such as Geology I or Microbiology I. Bridging courses or semester courses will not qualify. A maximum of **30 %** of the courses may be e.g. Computer, Language, Communication, and Business proficiencies and life skills, e.g. Philosophy of Science.

Second and third year of study: 80 % of the subjects/ modules passed for the second and third year of study should be in the natural sciences of which 50 % should be in the respective discipline or directly supportive of the discipline. *(Exit level for registration as a Certificated Natural Scientist.)*

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Code of Conduct of the South African Council for Natural Scientific Professions

The Council has drawn up the following Code of Conduct with which registered persons must comply.
Failure to do so constitutes improper conduct.

In practising their professions, Certificated, Candidate and Professional Natural Scientists must:

1. Have due regard to public safety, public health and public interest generally.
2. Have due regard to harmful practices against the environment.
3. Discharge their duties to their respective employers or clients efficiently and with integrity.
4. Conduct themselves in such a way as to uphold the dignity, standing and reputation of the natural scientific professions.
5. Not undertake natural science work for which their education, experience or background have not rendered them competent to perform.
6. Disclose to their respective employers or clients in writing:
 - any interest which they may have in any company, firm or organisation, or with any person, and which is related to the work for which they may be or may have been employed; and
 - particulars of any royalty or other financial benefit which accrues or may accrue to them as a result of such work.
7. Not deliberately injure, directly or indirectly, the professional reputation, prospects or business of any other registered person.
8. Not knowingly attempt to supplant other registered persons after a formal offer of employment has been made.
9. Not in a self-laudatory manner advertise their professional services, or in any manner that is derogatory to the dignity of their professions.
10. Not knowingly misrepresent or permit misrepresentation of their own or their associates' academic or professional qualifications, nor exaggerate their own degree of responsibility for any work of a natural scientific nature.
11. Not, without a satisfactory reason, destroy calculations, documents or any other evidence required for the verification of their work.
12. Not personally, or through any other agency, attempt to obtain consulting work by way of touting or bribery.
13. Order their conduct when practising their professions in another country in accordance with these rules in so far as they are not inconsistent with the law of the country concerned; provided that they shall also adhere to the standards of professional conduct in that country.

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Glossary and definitions

Consultant:

A consultant is a person qualified in terms of the Act (Act 27 of 2003) to give expert advice in his or her field of practice.

Natural Science: Natural Science means the science of nature as distinguished from social science.

Profession:

A profession is an occupation that involves intellectual activity and provision of a service to the public and requires a higher education, or refers to a limited number of occupations of which the functioning is regulated.

Factors that determine the standing of a profession:

A set of values inherent to the service nature of the profession.

A body of knowledge arrived at through continued applied and scientific research and logical analysis.

An established and formal educational process.

Standards of professional qualification for admission.

Formal recognition of the status of the profession.

A code of ethics.

Existence of a strong voluntary organisation or professional association.

Personal qualities beyond technical competence.

Professional:

A professional is someone who has an occupation that requires special training and has a fairly high status.

Qualified:

Someone who is qualified has passed the examinations that they need to pass in order to work in a particular profession. If someone is qualified to do something he or she has the qualities or skills and capacity necessary to do it.

Science:

Science is the systematic describing and often also explaining of how and why events happen:

* Forming an idea of the way in which something works and formulating a hypothesis.

* Making careful measurements, experiments or observations to test the hypothesis.

* If evidence keeps agreeing, the hypothesis becomes believable and proven.

* A theory is a hypothesis (or hypotheses) that has (have) stood the test of time.

* This leads to a law which is fact, such as Newton's second law of motions, or Boyle's law of gasses, or Mendel's law of heredity. A law always continues to fit the evidence.

Definitions of the fields of practice

Agricultural Science:

The agriculturist specialises in one or more aspects of biology or agronomy with food production in mind. The field of practice Agricultural Science includes Forestry Science, as well as the following sub-disciplines: agricultural meteorology; agronomy; crop science; oenology; viticulture; weed science; horticulture.

Animal Science:

Animal science is a natural scientific profession that deals with animals that are production animals, companion animals and wildlife. Animal science is an applied natural scientific profession with competencies to undertake research in:

Animal Nutrition; Animal Production Physiology; Animal Breeding and Genetics; Animal Management; Animal Products; and to apply the knowledge in practice, with the purpose of:

- Providing nutrients for livestock, companion animals and wildlife for growth, production, product quality and the general well-being of animals;
- Managing the animal's physiology for adaptation to an environment, growth, production product quality and the general well-being of animals;
- Managing animal breeding and genetics for adaptation to an environment, growth, production, product quality and the general well-being of animals;
- Managing extensive and intensive livestock production systems; and
- Producing and managing the quantity of quality of animal products for local and international markets.

Aquatic Science:

The aquatic science field include limnology, hydrobiology, estuarine and coastal marine science. The **marine scientist** makes a study of the sea - life within it, the seabed and the air above the sea. Oceanography entails research on the physical and chemical characteristics of oceans, including geological, geophysical and geochemical characteristics, the movement of ocean currents and the interaction between wind and water, temperature and moisture-content at the contact surface of air and water.

Biological Science:

The field of practice Biological Science is included with the field of practice Microbiological Science, depending on the academic qualifications and work experience. It could also be included with either Botanical or Zoological Science.

Botanical Science :

A botanist is a scientist who studies the origin, development, structure, physiology, molecular biology, distribution, sociology, interactions with other biotic and abiotic factors, taxonomy, economic importance, and other basic aspects of plant life. Findings are used to solve environmental, agricultural, horticultural, forestry and other problems as well as for the advancement of science.

Chemical Science:

Traditional distinction is made between organic, inorganic and physical chemistry, but analytical, theoretical, nuclear chemistry, polymer chemistry and biochemistry is today acknowledged branches.

Organic chemists study hydrocarbons that form more compounds as all the other elements together.

Inorganic chemists are focused on the discovery of the fundamental rules of the components of all compounds except hydrocarbons.

Physical chemists study the laws and explanations of chemistry in general, with the aim to fit it in within the framework of physics. Mathematical calculations form an important part of this division.

Analytical chemists work in any branch of chemistry to determine which chemical substances and the amount of each is present in a specific composition.

Theoretical chemist needs additional knowledge of theoretical physics and use advanced mathematical methods in the quantitative descriptions of the most complicated systems.

Nuclear chemists study the chemical processes contributing to the development of the nuclear science.

Biochemists study the chemical pattern and chemical changes of living matter with the aim to describe life on the molecular level.

Forensic Chemist can function as any of the above for the express purpose of presenting evidence in a court of law. Knowledge of the legal requirements for expert testimony is required.

Earth Science:

The field of practice Earth Science includes (but may not be limited to):

Geophysicists; Seismologists; Palaeomagnetists; Rock Mechanical Scientists; Engineering Geologists; Environmental Geologists/Geophysicists; Geostatisticians; Geohydrological Scientist (Geohydrologists; Hydrogeologists; Environmental Geologists specialising in waterborne pollution), Geographical Scientists and GIS Specialists with training in the Earth Sciences.

Ecological Science:

Ecology is essentially a multi-disciplinary science concerned with the relationship between organisms and between organisms and their environment, in which the emphasis may be on whole organisms, populations, communities or ecosystems. It is also the scientific study of the interactions between man, living organisms and the abiotic environment (habitats) with one another and with their non-living environment of matter and energy. It concerns to a large extent the structure and function of nature. An **ecologist** is someone who has received an appropriate comprehensive training and has experience in biological studies and the analysis of the responses of organisms to the environment and to each other.

An Ecologist could specialize in many different fields of varying complexities such as:

Ecophysiology, behavioural ecology, pollution ecology, community ecology or according to the biological group, e.g. animal ecology, insect ecology and plant ecology, or according to the biome, e.g. Antarctic ecology, desert ecology and tropical ecology. The approach to ecological research could also determine the branch of ecology, e.g. theoretical ecology or genetic ecology. None of the above is mutually exclusive.

Environmental Science:

Environmental science is a multi-disciplinary science concerned with the relationship between elements of the natural environment, and the interaction between man and the environment, in which the emphasis is placed on the elements of the ecosystem. It can also be defined as the study of how man and other species interact with one another and with the non-living environment of matter and energy. Environmental science includes both natural and social sciences that integrates a wide range of disciplines including: physics, chemistry, biology, geology, geography, resource technology, engineering, resource conservation, population dynamics, economics, politics, sociology, psychology and ethics. It is the study of how nature and humans operate and interact and the controlling mechanisms for interaction verification. (SACNASP is, however, concerned with the natural sciences only. (See special requirements on page 8 and Registration Requirements, pp. 10 – 13.)

An **environmental scientist** is someone who has received an appropriate comprehensive training and has experience in environmental studies, the analysis of the responses to change of the natural environment and the examination of the inter-relationships between all aspects of the natural environment.

An **environmental assessment practitioner** is someone who has received appropriate interdisciplinary training covering both the natural and human environment and has experience in environmental management, environmental assessment and related studies. The term environmental assessment practitioner therefore does not apply to specialists in particular fields who may be involved in, or asked to give input to, particular stages of an environmental assessment from the perspective of his/her field of expertise.

Food Science:

- The food scientist is involved in research on basic quality of food products as well as interaction of food elements.
- The food technologist is responsible for applying basic research findings in practice whereby both products and processes are developed and improved to the advantage of industry and end users.
- The food scientist is skilled in the science and technology of food safety, food quality and food manufacture.
- Applies food science to ensure safe, nutritious and sensorial acceptable foods.
- Scientifically develops food ingredients, food products, food packaging, food safety preservation technologies and food processing technologies.
- Performs scientifically based trouble-shooting and problem-solving in food safety, food preservation and food processing.
- Scientifically develops and applies good food manufacturing practices, food hazard analysis, food safety critical control points, food safety legislation, food quality assurance, food quality management and food quality control.
- Undertakes research and development work in all aspects of the science and technology of food safety, food quality, food production and food preservation.
- Manages scientific and technological aspects of food manufacture and food safety.

Geological Science:

The field of practice Geological Science includes (but may not be limited to):

Structural geologists; Mapping geologists; Mineralogists; Petrologists; Economic Geologists; Mining Geologists; Exploration Geologists; Geochemists; Palaeontologists

Materials Science:

The study of the unique relationship between the structure and the properties of materials to enable the processing of required materials with specific properties through casting, forging, sintering, etc. Since the beginning of time materials, e.g. metals, glass, ceramics, rubber, polymers, plastics, paints, etc., have played a vital supporting role in the development of mankind.

Mathematical Science (includes Mathematical Statistics and Computer Science)**Mathematics:**

Integral Theory; Differentiation ; Determine Derivatives; Mathematical Modulations:

- Investigates mathematical structures from another field such as Physics and analyse the structures to get a better insight.
- The practical application of mathematical theories and methods in qualitative and quantitative descriptions in most sciences.

Applied Mathematics

- Theoretical physics which includes relativity, flow mechanics and theoretical dynamics and numerical analysis used to solve problems with the aid of computers.
- Industrial research, research on population growth, the design of ecological systems and forecasts on performance of artificial limbs.
- Fourier analysis

Operational Research

- Model building and solutions – linear and non-linear programming
- Simulation – Monte Carlo methods
- Decision making Techniques
- Operational research or Management Science of Quality Management brings about maximisation and efficiency in industrial processes and in commercial enterprise.
- Find solutions for problems such as those dealing with human-being-machine systems in factories, mines, army, railway transport, and larger organisations.
- Provide solutions to problems encountered where people work together in a factory to produce, with the aid of a machine, a product from certain raw materials and what product to manufacture to show the maximum profit, or how the work should be scheduled to ensure optimal use of the machines.
- The placement of a group of factories or storage places to minimise production costs plus distribution costs of the produce to the final market.
- Investigation the most efficient layout of an airport or shunting yard or to optimise the utilisation of oil-from-coal.
- Scheduling the activities of large construction companies to complete a project in the shortest time span or how to saw tree stumps to obtain the maximum advantage.
- Work with financial models.

Computational occupations:

- Mathematical, statistical and financial knowledge is applied to design and implement insurance and pension schemes, to determine and solve the data processing needs and problems of businesses and organisations, and develop methods for data processing.
- Planning and supplying of accounting services, supplying advice regarding accounting problems and planning and executing of financial audit services.

Computer programmer:

- The programmer writes instructions for the computer in a logic order and human understandable language. This language is translated into the so-called machine language, consisting of alphabetical codes and letters “understandable” by the computer to do computations.
- Planning the process whereby the data are presented in a suitable form; work out the instructions for the computer by using appropriate computer language (COBAL, PU, RPG, FORTRAN or PU) and instruct the computer operators on how to feed the programme to the computer.
- Adaptation or shortening of existing programmes to meet set requirements.

Systems analyst:

- The systems analyst's determine to what extent an enterprise may benefit by using a computer; the analysis of the requirements and design of a system; the writing of complete programmes and system specifications; consultation with users of the system to optimise change to new systems and so to ensure higher production.
- The programmer writes the instructions for the computer so that the systems required by the business man are supplied.

Microbiological Science:

The microbiologist makes a study of beneficial and harmful micro-organisms which occur in air, soil, water, food products etc., as well as the bacteria which contaminate human beings, animals and plants. Microbiologists thus play an important role in the diagnosis and control of disease. They are also needed for the biological analyses and control of a variety of products. The main task of the microbiologist is not only to prevent the growth and development of harmful organisms, but even more important to promote the development and growth of beneficial organisms.

NOTE: Toxicological Science is the study of chemicals that have harmful effects on an organism. Registration for this field of practice may be in either BIOLOGICAL SCIENCE or MICROBIOLOGICAL SCIENCE, depending on the applicant's specific focus in toxicology, as being of non-microbiological origin or of microbiological origin.

Physical Science:

A physicist is a scientist who investigates and tries to understand the physical world. The development of radio and electronics, electricity and nuclear power, x-rays and radiotherapy, aeronautics and computers, lasers and super conductivity and many more technological discoveries, can be ascribed to contributions physicists made.

Soil Science:

The soil scientist is someone who makes a study of the soil and its uses in order to help farmers and others concerned to use the various types of soil in the most productive way possible.

Pedology: Soil genesis, soil classification, survey mapping, hydropedology, pedometrics, physical land evaluation, wetland delineation, soil quality after rehabilitation, monitoring, soil management planning.

Soil Chemistry: Salinisation, acidification, nutrient balance, contamination and degradation, water quality assessment for irrigation.

Soil Physics: Pollution, erosion and degradation, soil water, compaction, tillage practices, drainage, irrigation, aeration and soil temperature, hydropedology.

Soil Mineralogy: Soil genesis, clay minerals, acidity, erosion, organic matter stabilisation.

Soil Biology: Pollution, organic matter, soil health, carbon sequestration, soil microbiology, bio-remediation, bio-engineering.

Soil Fertility: Nutrient depletion, nutrient balance, organic matter, soil health, carbon sequestration, soil fertility management.

As well as in various soil-based cross-cutting fields (soil laboratory management and equipment operations, laboratory analysis and interpretation, inputs to soil/crop/water modelling, environmental quality indicators, soil amelioration as part of environmental planning.)

Zoological Science:

The Zoologist study the structure, life processes, behaviour and development, environment, classification and other basic aspects of the animal kingdom. Animal kingdom includes the study of mammology, ichthyology, ornithology, entomology, parasitology, umnology, etc.

Biological Scientist
Ichthyologist
Marine Biologist
Ornithologist
Zoological Ecologist
Zoological Physiologist

Ethnologist
Malacologist
Nature Conservationist
Palaeozoologist
Zoological Geneticist
Zoological Taxonomist

Herpetologist
Mammalogist
Nematologist
Zoological Anatomist
Zoological Parasitologist
Zoologist

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| ACCREDITED VOLUNTARY ASSOCIATIONS | |
|--|---|
| 1. | Academy of Science of South Africa |
| 2. | Anatomic Society of Southern Africa |
| 3. | Computer Society of South Africa |
| 4. | Entomological Society of Southern Africa |
| 5. | Grassland Society of Southern Africa |
| 6. | Operations Research Society of Southern Africa (ORSSA) |
| 7. | Soil Science Society of South Africa |
| 8. | South African Mathematical Society |
| 9. | South African Society for Agricultural Extension |
| 10. | South African Society of Crop Production |
| 11. | South African Statistical Association |
| 12. | South African Wildlife Management Association |
| 13. | Southern African Genetics Society |
| 14. | Southern African Geophysical Association |
| 15. | Southern African Society for Plant_Pathology |
| 16. | Southern African Society of Aquatic Scientists |
| 17. | Southern African Weed Science Society |
| 18. | The Geological Society of South Africa (GSSA) |
| 19. | The Physiology Society of Southern Africa |
| 20. | The South African Association of Physicists in Medicine and Biology |
| 21. | The South African Association for Food Science and Technology (SAAFoST) |
| 22. | The South African Association of Botanists |
| 23. | The South African Chemical Institute (SACI) |
| 24. | The South African Institute of Ecologists & Environmental Scientists (SAIEES) |
| 25. | The South African Institute of Engineering & Environmental Geologists (SAIEG) |
| 26. | The South African Institute of Physics |
| 27. | The South African Society for Animal Science (SASAS) |
| 28. | The South African Society for Enology and Viticulture |
| 29. | The South African Society for Horticultural Science |
| 30. | The South African Society for_Microbiology |
| 31. | The South African Society of Atmospheric Sciences |
| 32. | The South African Society of_Biochemistry and Molecular Biology |
| 33. | The Southern African Institute of Forestry |
| 34. | The Toxicology Society of South Africa |
| 35. | Water Institute of South Africa (WISA) |
| 36. | Zoological Society of South Africa |