



conservation education

LEARNING OPPORTUNITIES FOR CAREERS IN BIODIVERSITY CONSERVATION

A handbook on learning opportunities that support careers in biodiversity conservation

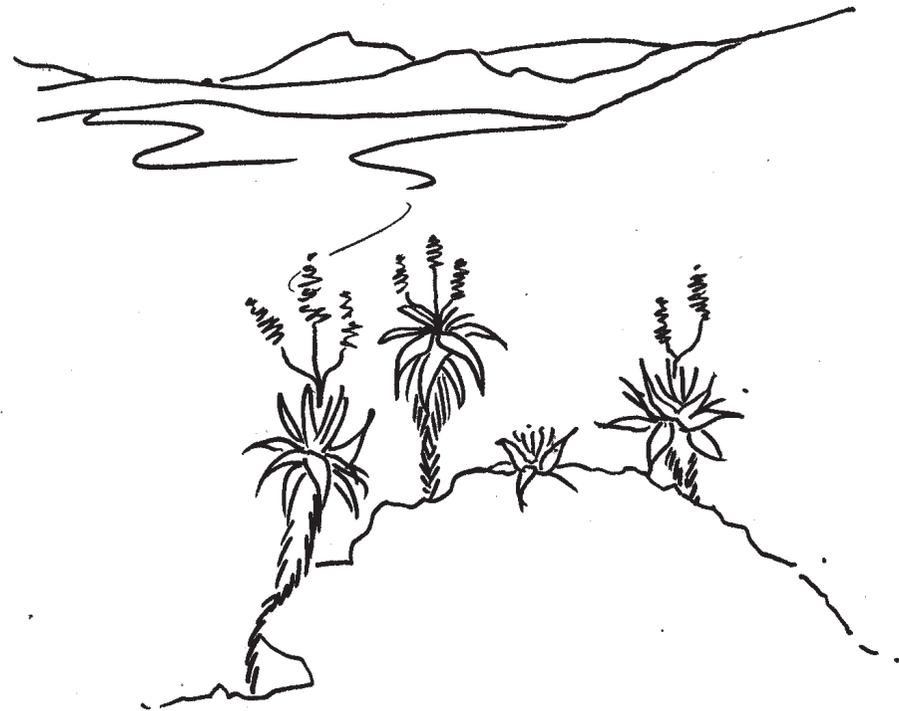


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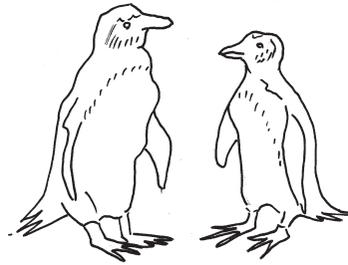
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introduction



the Cape Action Plan for the Environment (C.A.P.E.) was established in 2000, under the co-ordination and management of WWF-South Africa. C.A.P.E. has the broad aim of developing and implementing a long-term strategy for conserving biodiversity in the terrestrial, marine and freshwater ecosystems of the Cape Floristic Region (CFR).

The CFR is the smallest of the world's six floral kingdoms and the only one that is located entirely in one country. It spans an area of 90 000 square kilometres across three provinces, namely the Eastern, Northern and Western Cape. Its uniqueness lies in the astonishing variety of life found in this area. Despite being the smallest of the world's floral kingdoms, it boasts more types of indigenous plants than are found in any other similar sized surface area on Earth. In addition, about 70 % of its plant species are found nowhere else on Earth.

The rich diversity of biological resources in the CFR has long been seen as a significant source of economic benefit and sustaining livelihoods. For example, the well-known Fynbos of the region provides a wealth of cut flowers and garden plants. The socio-economic benefits of plants used for herbal teas, perfumes and roof thatching are increasingly being recognised as they have more recently come to provide opportunities for job creation. The biological diversity of the CFR lures millions of national and international visitors per year with these numbers steadily increasing as tourism to these areas is supported. However, unprecedented exploitation of these benefits

is most likely to result in not only the loss of this rich and diverse biological resource, but also compromise potential benefits derived from it.

The CFR has been identified as one of the world's most important biodiversity 'hotspots', given its richness of species coupled to increasing threats to these species. Due to various factors, most associated with unprecedented development patterns, biodiversity in the CFR is under threat. For example, 1400 plant species are either endangered or close to extinction. Some marine and shellfish stocks are dangerously low, for example, abalone, commonly known as perlemoen, and various freshwater fish species are facing extinction.

Towards the aim of conserving biodiversity in the CFR, the C.A.P.E. conservation strategy and action plan focuses on six key components, namely, strengthening institutions, unleashing the socio-economic potential of protected areas, facilitating community stewardship of priority areas, integrating biodiversity concerns into watershed management, supporting conservation education and ongoing, co-ordination, management and monitoring of conservation activities.

In C.A.P.E., conservation education is seen as the active involvement of all people, in all walks of life in conserving the rich biodiversity of the region, in the interest of both present and future communities. The Conservation Education Programme of C.A.P.E. has been established as a cross cutting programme intended to support the development of capacity and competence to respond effectively to the increasing scale of biodiversity loss and ecosystems degradation in the CFR. It is within this context that this booklet is being offered, to support C.A.P.E. partners in identifying learning pathways that better support their work in biodiversity conservation.



careers in biodiversity conservation

Various developments at international, national and local levels are changing the way people think about biodiversity conservation. These developments are similarly creating a climate for increased action to address the increasing scale of biodiversity loss and ecosystems degradation that is seen currently. In this changing international, national and local context various careers and learning pathways are opening up that enable the development of competence towards the objectives of biodiversity conservation and sustainable development.

Concern for biodiversity loss and ecosystems degradation has gained increased attention in the international and national arena over the past three decades. This is evident in the series of conventions and debates engaging various countries, governments and people in exploring legislative frameworks and practical strategies to address the increasing scale of biodiversity loss and ecosystems degradation. Coupled to these developments is the reconceptualisation of biodiversity conservation, beyond traditional park boundaries and green issues, to integrate and link issues of human well-being centrally within biodiversity and ecosystems concerns.

In 1992, the Convention on Biological Diversity (CBD) was signed through which various governments committed themselves to developing legislation, policy and scientific initiatives that support the conservation and sustainable use of biological resources. Since 1992 various initiatives have sought to support the translation of this international convention into practical workable actions at a local level. The ecosystems approach, for example, developed at the fifth Council of Parties meeting in 1998, proposed twelve key principles as a framework for developing practical strategies that support and promote the conservation of and sustainable use of biological resources. A key feature of the ecosystems approach is the recognition of humans, and their cultural diversity, as an integral part of all ecosystems.

Further developments in the reconceptualisation of biodiversity conservation is evident in deliberations, prior to, during and after the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002, that focused on the alleviation of poverty through patterns of

sustainable development. At the time of the WSSD, achieving the three objectives of the CBD, (1) conserving biodiversity, (2) the sustainable use of biological resources and (3) the fair and equitable sharing of benefits arising from the use of genetic resources, was seen as a prerequisite to sustainable development and alleviating poverty. This is further indication of the links being made between human well-being, biodiversity, ecosystems and sustainable development. More recently, the Millennium Ecosystem Assessment completed in 2005 aimed at establishing a scientific basis for action necessary to enhance the conservation and sustainable use of ecosystems (and biodiversity as a key component of ecosystems) and their contribution to meeting human needs.

Concern for biodiversity loss and ecosystems degradation, a reconceptualisation of biodiversity conservation and the development of institutional frameworks and practical strategies to address biodiversity loss and ecosystems degradation can similarly be seen in the South African national context. In 1998 South Africa became a signatory to the CBD, committing the country and its people to striving towards the conservation and sustainable use of biological resources to the equal benefit of all people. This commitment to conserving biodiversity and promoting the sustainable use of biological resources is evident in a range of environmental policy initiatives, amongst others the National Tourism Act (1993), the Agriculture and Conservation Act (No. 88, 1996), the National Environmental Management Act (No. 107, 1998), the National Water Act (No. 36, 1998) and the Biodiversity Conservation Act (2004).

Concern for, and commitment to conserving biodiversity is similarly evident in the rapid expansion of bioregional programmes in 2004 and

2005. For example, the establishment of the South African National Biodiversity Institute (SANBI) and the development of the National Spatial Biodiversity Assessment in 2004. Various industry, business and service sectors are similarly responding to the evolving policy framework towards sustainable development. For example, environmental impact assessments are increasingly becoming commonplace with all new commercial and residential developments. More and more industries are becoming concerned with the impact of productive operations on the environment and are seeking ways to minimise impact. The forestry and agricultural sectors have become more concerned with issues associated with land use change and are responding through exploring more sustainable forestry and agricultural practices. The growing tourism sector, recognising the importance of biodiversity for this sector, has become concerned with promoting eco-tourism that balances job creation with the sustainable use of natural resources. Various agencies working within a marine and coastal environment are exploring ways of encouraging the sustainable use of marine resources to support the livelihoods of surrounding communities. Some local government initiatives, for example, Local Agenda 21 programmes, are seeking to encourage community participation in creating healthy and sustainable environments. This evolving policy and action framework, underpinned by the South African constitution that promotes the right to a healthy and protected environment, mirrors international trends and patterns in conceptualising the close link between human well-being, the environment and sustainable development.

Within this international and national policy framework and the increasing development of strategic and practical processes to address increasing biodiversity loss, ecosystems degradation and sustainable development,

various career pathways are opening up, including for example:

Community Development Worker

... the link between human well-being, development and conservation creates opportunities for conservation practitioners to work with communities towards improved and more sustainable use of biological resources.

Design Professionals e.g. architects, engineers, quantity and land surveyors, landscapers, town planners, etc.

... opportunities are opening up for various design professionals with a keen interest in designing houses and domestic processes, for example, that are more energy efficient, or landscapers for example looking at the design of green spaces that conserve and rehabilitate biodiversity and promote the sustainable use of water.

Environmental Educator

... opportunities have opened up for education practitioners to develop learning programmes and action projects that promote sustainable development in various contexts, such as community development, agriculture, industry and formal education sectors, for example.

Environmental Health Practitioner

... the link between human well-being and a healthy environment has opened up opportunities for practitioners to explore and implement improved processes and practices towards improved environmental health, for example, in industry, service and development contexts.

Environmental Manager

... in an industry context, for example, Environmental Managers are exploring improved environmental management systems, processes and procedures that promote socially and economically sustainable development.

Horticulturalist

... these practitioners use their knowledge of plants, ecology and biodiversity in promoting sustainable plant production, for example, or engage in research that promotes biodiversity conservation.

Marine Conservationist

... they use their expertise in promoting the conservation and sustainable use of marine resources.

Nature Conservationist

... these practitioners use their expertise and experience in managing protected areas for example.

Tourism Manager

... balancing economic, social and environmental priorities by responding to a growing economic sector, promoting job creation and striving towards conserving biological resources.

These are just some examples of many more career opportunities that have opened up and are continuing to open up in the private and public sectors and at local, provincial and national government levels in the context of improved institutional frameworks and practical strategies towards conserving biodiversity and ecosystems and promoting sustainable development.



methodology

this booklet was developed in response to a need identified by the C.A.P.E.: Biodiversity Conservation Education Sub-programme. Its intention is to begin to open up some learning pathways and associated learning programmes to support careers in biodiversity conservation. The development of the booklet was undertaken through a review of various learning programmes offered by different organisations and institutions that link to careers in biodiversity conservation.

The review was undertaken through a desktop study, including an internet search, document review and in some cases telephonic and / or e-mail follow up with organisations and institutions. It encompassed a review of learning programmes across all levels on the National Qualifications Framework (NQF) from Adult Basic Education and Training (ABET) level 4, through to Further Education and Training (levels 2, 3 and 4) to Higher Education and Training (levels 5 to 8). It also included a review of short courses offered by various organisations.

The review involved a search of programmes and courses that reflected a focus on environmental management, sustainable development, biodiversity conservation, nature conservation, agriculture, tourism, community development and environmental education.

The review of learning programmes was organised around the different levels of the NQF and short courses. These levels are used in the presentation of learning programmes in this booklet and include:

- Short courses;
- Further Education and Training Courses;
- Learnerships and Skills Programmes;
- Technikon Qualifications; and
- University Qualifications.

Various processes of review were employed at each level, given the availability and comprehensive nature of available information. These varying processes include:

Short Courses were reviewed primarily through document analysis, followed through by an internet search and in some cases e-mail requests for further information or telephonic follow ups. Two documents were consulted, namely:

- (1) The Enviropaedia that provides a Directory of Networking Organizations working in environmentally related fields. It offers a brief overview of the activities / services offered by the organisation and the contact details. From the list of organisations offering education and training, drawn from this directory, a review was done of the courses / learning programme offered by the organisation through a website search. If a website was not listed, additional information was requested either telephonically or by e-mail.
- (2) The Environmental Resource Directory for the City of Cape Town (2005/2006). Similar to the Enviropaedia, this directory also lists various organisations based in and working in the City of Cape Town and the services offered by each. A list of organisations offering education and training was drawn from this directory and follow up undertaken through a website search and e-mail or telephone communication where necessary.

From these two sources, only those organisations in the Western Cape and Eastern Cape were explored. Exploring organisations beyond these boundaries would have rendered a search beyond the scope of this initial review. Additional organisations were explored, that are not based in these provinces, on request from the C.A.P.E. Biodiversity Conservation Education Sub-programme Co-ordinator. These organisations were included in the search, given their long standing reputation in training for biodiversity conservation education.

The review of short courses was complemented by a website search of universities (see below), in reviewing the courses on offer through the various institutes and centers affiliated to the different universities. It was further complemented by a search of websites of private higher education institutions (see below) and the short courses offered.

From this search, some short courses were identified and are listed in section 4. This search revealed that many organisations offering short courses do so on a consulting basis. This means that many do not offer preset courses, but tailor make courses that respond to the specific needs of clients. In other cases, this search showed that many short courses are often offered as part of, or in the context of a project (often a donor funded project) and are thus available only to a specified participant group.

Further Education and Training (FET) learning programmes were reviewed through an internet search of FET colleges in the Western Cape and Eastern Cape. FET colleges in the Western Cape include Boland College, College of Cape Town, False Bay College, Northlink College, South Cape College and West Coast College. FET colleges in the Eastern Cape include Buffalo City College, East Cape Midlands College, Ikhala College, Ingwe College, King Hintsa College, King Sabata College, Lovedale College and Port Elizabeth College.

Information on learning programmes at all the FET colleges in the Western Cape could be accessed via their websites, except for West Coast College where no website is available. In this case, a telephonic enquiry was made as to the courses on offer. Of the colleges in the Eastern Cape, only the website for Port Elizabeth college could be accessed. All other FET colleges have no website available and telephonic enquiries were made to these colleges.

In reviewing **FET learning programmes**, the intention was to include a review of private FET colleges. However the process of registration of FET colleges by the South African Qualifications Authority (SAQA) is, to date, incomplete, so a comprehensive list could not be accessed. A complete list of private FET colleges will however be available by the start of 2006 and can be accessed from SAQA's website.

This search rendered tourist related courses at Northlink, Boland, South Cape College and Port Elizabeth College and agriculturally related courses at Boland College. These are listed in section 5. Most of the Eastern Cape FET colleges offer a range of Business Management Courses, none of which reflect any focus on environmental management or resource economics, and are therefore not listed.

This search showed that most courses offered by the FET colleges are post matric courses, implying a level 5 qualification. Though some courses are offered as introductory to level 5 qualifications (see section 5).



Learnerships and Skills Programmes were reviewed in a three-step process:

- (1) Firstly, a search was done of various Sectoral Education and Training Authority (SETA) websites to identify those SETAs related to biodiversity conservation and conservation issues and those that have a specified chamber for conservation. Those identified were the Agricultural SETA (AGRISETA), the Local Government SETA (LGSETA), the Education, Training and Development Practitioners SETA (ETDPSETA) and the Tourism and Hospitality SETA (THETA). Through exploring learnerships offered by the LGSETA, I was referred to the Water Chamber of the Energy SETA (ESETA) who recently took over a series of learnerships from the LGSETA on water resource management. The ESETA was added to the list of SETAs reviewed.
- (2) Secondly, lists of registered learnerships were accessed from these websites and a review undertaken of the details of the learnerships, for example, the unit standards that make up the learnership and the NQF level at which it is pitched. Through this website search, lists of accredited providers were similarly accessed.
- (3) Telephonically and via e-mail, contact was made with accredited providers in the Eastern Cape and the Western Cape, to ascertain which of the registered learnerships are offered by these organisations and also to get a list of other courses offered. This search was confined to the two provinces since learnerships require learners to engage in instructional learning as well as workplace based learning. Since C.A.P.E.'s activities were focused in the Eastern Cape and Western Cape these regionally based providers might better enable the application of learning within the work context.

This search showed that a number of learnerships are registered by the SETAs. AGRISETA has a list of registered learnerships that include, amongst others, Farm Owner: Agronomy, Farm Owner: Horticulture and Farm Owner: Animal Husbandry, at levels 1 and 2 on the NQF. These learnerships are similarly offered at the level of the Farm Worker at level 1 and 2 on the NQF. Various learnerships are similarly registered for sector specific farming, such as fruit, grain, milling, red meat, seed, sugar processing and tobacco, offered between level 2 and level 4 on the NQF, as well as some related to generic competence, for example, Agricultural Sales and Services, Agricultural Machinery Technician and Agri Trade Processes, offered at levels 2, 4 and 5 on the NQF. In-depth details of these learnerships could not be accessed, for example, the unit standards on which they are based, the number of credits that they constitute, since the name of learnerships being used by the providers and those accessible on the AGRISETA's website did not correlate. As such, the learnerships offered by the providers are simply listed with less comprehensive details on these.

Some of the learnerships registered by THETA in the subfield of Conservation and Guiding include a National Certificate in Tourism, offered at levels 2 and 4 of the NQF, a National Certificate in Conservation at level 2, a National Certificate in Conservation: Fisheries Resource Management and a National Certificate in Conservation: Terrestrial Management, both offered at level 5. Contact with accredited providers shows that none of these learnerships are on offer in the Western Cape and the Eastern Cape. Service providers contacted do however offer short courses that are linked to unit standards and are listed in section 6.

Learnerships registered by ESETA in its Water Management Chamber include Water Reticulation, Water Purification and Waste Water Process Operator, all offered at level 2 on the NQF. LGSETA has registered learnerships in

Water Systems Operator, offered at level 2 and Water Systems Controller and Water Process Controller, both offered at level 4. Other registered learnerships relate to municipal finance and administration.

Learnerships registered by ETDPSETA include, amongst others, a Post Graduate Certificate in Higher Education and Training offered at level 7 on the NQF and an ETDP learnership for Educators in Schooling at level 6. A National Diploma in Adult Basic Education and Training Practices, an Occupationally Directed Education, Training and Development Practitioner Certificate, a learnership for Early Childhood Development Trainers and a learnership in Development Practice, all offered at level 5, are similarly registered. At level 4, registered learnerships include a National Certificate in Adult Basic Education and Training Practice, a learnership for Early Childhood Development Practitioners, Development Practice and Occupationally Directed Education, Training and Development.

Although various learnerships are registered by these SETAs, stages of implementation of these differ from one SETA to another, at both a national and provincial level. Section 6 provides an overview of the learnerships at the stage of implementation in the Eastern Cape and the Western Cape, together with the names of accredited providers offering these.



Technikon Qualifications: A review of technikon qualifications was confined to the two University of Technology institutions in the Eastern

Cape and Western Cape. A review of the Cape Peninsula University of Technology (CPUT) programmes in the Western Cape was undertaken through a review of the institution's detailed and easily accessible website. The Walter Sisulu University of Technology in the Eastern Cape does not have a single website and a comprehensive review of the learning programmes offered by this institution could not be done via internet. In the Eastern Cape the previous colleges and technikons, now merged into the Walter Sisulu University of Technology, each still have individual websites, some offering more comprehensive information and others less so. The review of learning programmes for this institution was therefore undertaken through a review of the combined prospectus recently released.

This search rendered various learning programmes offered as technikon type qualifications, from National Diplomas to Bachelor of Technology, Master of Technology and in some cases Doctor of Technology qualifications supporting careers in biodiversity conservation. These qualifications are listed in section 7.

This search was complemented by a search of learning programmes offered by private higher education institutions, including Damelin, Varsity College, Intec and Lyceum College. A list of these private higher education institutions was drawn from the Department of Education's website as registered private higher education institutions. The search was further complemented by a review of organisations offering short courses, who in some cases also offer certificate and diploma courses. These qualifications are similarly listed in section 7.



University Qualifications supporting careers in biodiversity conservation was undertaken through a website search of learning programmes offered by universities in the Eastern Cape and the Western Cape. Learning programmes were reviewed across all faculties at the Nelson Mandela Metropolitan University (NMMU), Rhodes University (RU) and the University of Fort Hare (UFH) in the Eastern Cape and Stellenbosch University (SU), the University of Cape Town (UCT) and the University of the Western Cape (UWC) in the Western Cape. Detailed information was accessible on most websites of these institutions. However a review of courses offered at UFH had to be complemented by a review of the hard copy prospectus.

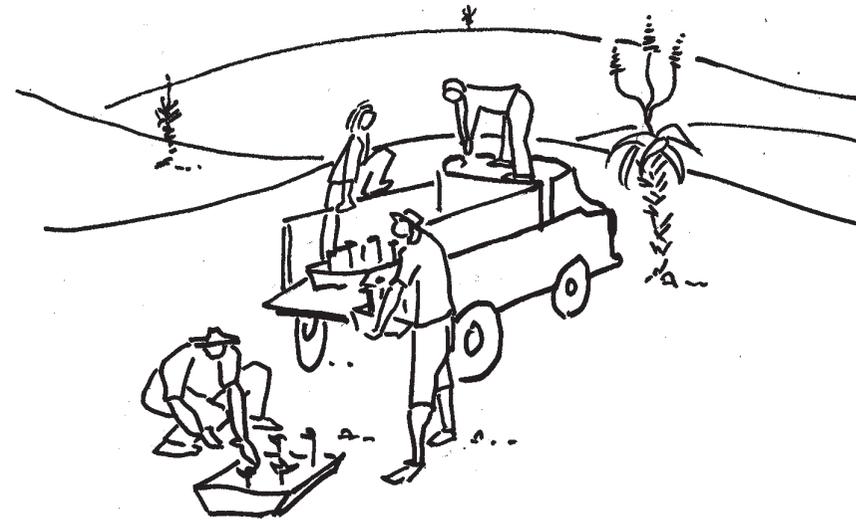
All universities offer an extensive list of learning programmes that support careers in biodiversity conservation, as listed in section 8. This search similarly yielded a list of short courses offered by various institutes and centers affiliated to the universities, listed in section 4.

As reflected above, the study in some cases was confined to either regional or sectoral boundaries or both. Factors considered in, and shaping the review and its outcomes, include:

- The research study was undertaken as an initial review and in most cases were confined to institutions and organisations in the Western Cape and the Eastern Cape, given that the work of C.A.P.E. is focused on the Cape Floristic Region. In some cases, for example, in the case of a review of short courses offered by organisations, some organisations based in other provinces in South Africa were also reviewed.
- Various SETAs are currently in the process of developing and registering learnerships. Though a list of all registered learnerships is available on the SETA websites or on the Department of Labour's website, not all

registered learnerships are in the process of implementation, nationally and across all provinces.

- Various registered learnerships are listed on the SETA websites under different names to those with which the accredited providers are working. This limited the search of more comprehensive details of learnerships, for example, the unit standards on which they are based and the number of credits earned through learning on these programmes.
- Various organisations are at different stages in the process of becoming accredited providers. Some have full accreditation status and others have provisional (in process) accreditation status. Some SETAs list all organisations that have provisional or full accreditation status, such as the Tourism and Hospitality SETA (THETA). Though others, such as the Forestry Industry Education and Training Authority (FIETA) list only those organisations having full accreditation status. The list of accredited providers is therefore not fully comprehensive and could be expanded in future.
- Some websites accessed were more up to date than others. In some cases some of the websites were last 'maintained' just under one year ago. The available information on the existing websites was used in the search, some of which might be updated in the near future.
- Not all e-mail requests for additional information on learning programmes were responded to within the time frame over which the review was undertaken.
- Various institutions, particularly higher education institutions, are currently in the processes of finalising mergers, which appear to have an impact on the information currently available.



short courses



Short courses listed in this section, are those of a shorter duration from between a few days up to a one-year course. In some cases, these short courses facilitate entry to and contribute to broader qualifications (see notes listed in 'other'). Many of these short courses offer learning in a specific focus area and are aimed at developing competence and capacity within a specific job function. Short courses listed are those that support job functions in or related to:

- Sustainability and Environmental Management;
- Environmental Education;
- Agriculture and Horticulture;
- Natural Resource Management;
- Game Ranging and Tour Guiding;
- Context / Sector Specific Courses.

a) Short courses in Sustainability and Environmental Management

• Certificate in Sustainable Development

Institution / Organisation	The Sustainability Institute, Stellenbosch, Western Cape
NQF level	7
Accreditation	A level 7 Certificate issued by the Institute
Entry requirements	A 3-year tertiary qualification and / or relevant work experience
Intended audience	Anyone working in private, public or non-profit organisations with a view to gaining deeper understanding and insight into global sustainability issues and sustainable responses to these.
Overview	The course offers participants an overview of some of the most critical economic, social and environmental challenges, globally and nationally and explores some of the global responses to these challenges. Main themes include: a review of some key environmental and social challenges, key global economic trends, evolving perspectives around the notion of sustainable development and a review of sustainable development practices case studies.
Duration	5 days
Contact	(021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net
Funding options	A limited number of bursaries are available on application

Other If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

• **Certificate in Ecological Design for Community Building**

Institution / Organisation The Sustainability Institute, Stellenbosch, Western Cape

NQF level 7

Accreditation A level 7 Certificate issued by the Institute

Entry requirements A 3-year tertiary qualification and / or relevant work experience

Intended audience Engineers, architects, urban planners, quantity surveyors, building scientists, builders, DIY practitioners, industrial designers, community development workers and academics.

Overview The course offers participants exposure to the range of emerging techniques for designing and implementing sustainable communities. Some key themes explored include: evolving conceptions of ecological design, implications of global trends and patterns for ecological design, main international standards, ecological urban design, sanitation and solid waste management, sustainable engineering for energy alternatives, sustainable food and water supplies for local communities, towns and cities, analysing and selecting building materials.

Duration 5 days

Contact (021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net

Funding options A limited number of bursaries are available on application.

Other If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

• **Certificate in Complexity Theory and Systems Thinking**

Institution / Organisation The Sustainability Institute, Stellenbosch, Western Cape

NQF level 7

Accreditation A level 7 Certificate issued by the Institute

Entry requirements A 3-year tertiary qualification and / or relevant work experience

Intended audience Anyone working in private, public or non-profit organisations.

Overview The course offers participants an introduction to evolving perspectives around the link between natural and social systems in the context of sustainability debates. Central themes include: a history of systems thinking, complexity, post structuralism and rethinking of science, organising principles of life forms, complexity and post modernism, relationships between natural and human systems, applications within management and social sciences and complexity and sustainability.

Duration 5 days

Contact (021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net

Funding options A limited number of bursaries are available on application.

Other If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

- **Certificate in Leadership and Ethics of Sustainability**

Institution / Organisation The Sustainability Institute, Stellenbosch, Western Cape

NQF level 7

Accreditation A level 7 Certificate issued by the Institute

Entry requirements A 3-year tertiary qualification and / or equivalent work experience.

Intended audience Anyone working in private, public or non-profit organisations and within a leadership capacity.

Overview The course offers participants an opportunity to explore leadership competence within different ethical models and value systems and which underpin and shape social, economic and environmental action.

Duration 5 days

Contact (021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net

Funding options A limited number of bursaries are available on application.

Other If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

- **Certificate in Sustainable Cities**

Institution / Organisation The Sustainability Institute, Stellenbosch, Western Cape

NQF level 7

Accreditation A level 7 Certificate issued by the Institute

Entry requirements A 3-year tertiary qualification and / or relevant work experience.

Intended audience Professionals in design professions (architecture, planning, engineering, quantity and land surveying, landscaping) and specialists and generalists in business, government and NGOs with an interest in supporting the development of sustainable cities.

Overview The course offers participants a general and comparative understanding of economic, social and environmental impact of population growth trends, urban growth and impacts of urban design. Key themes include: patterns and trends in urban development and associated challenges, social dynamics in cities, globalisation and cities and policy implications for addressing increased urban development and associated issues.

Duration 5 days

Contact (021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net

Funding options	A limited number of bursaries are available on application.
Other	If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

- **Certificate in Globalisation, Governance and Civil Society**

Institution / Organisation	The Sustainability Institute, Stellenbosch, Western Cape
NQF level	7
Accreditation	A level 7 Certificate issued by the Institute
Entry requirements	A 3-year tertiary qualification and / or equivalent work experience.
Intended audience	Middle to top management professionals and leaders engaged in issues around changing modes of governance.
Overview	The course offers participants the opportunity to explore changing modes of governance in the context of globalisation and the rise of civil society coupled to challenges of sustainable development. Key themes include: evolving perspectives on governance, reviewing institutional structures of governance, local government and local economies and the implications of the international and national policy context on sustainable development for governance at a global, regional, national and local level.
Duration	5 days

Contact (021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net

Funding options	A limited number of bursaries are available on application.
Other	If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

- **Certificate in Corporate Citizenship**

Institution / Organisation	The Sustainability Institute, Stellenbosch, Western Cape
NQF level	7
Accreditation	A level 7 Certificate issued by the Institute.
Entry requirements	A 3-year tertiary qualification and / or relevant work experience
Intended audience	Decision makers in business, industry, local government and others concerned with exploring sustainable business practices.
Overview	The course offers participants the opportunity to explore pressures and responses to the evolving policy framework of sustainable development in the context of industry and business and the role this sector could play in addressing social, economic and environmental objectives. Key themes include: business responses to debates around sustainable development, management systems and key initiatives in promoting sustainable development in the context of business and industry.
Duration	5 days

Contact (021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net

Funding options A limited number of bursaries are available on application.

Other If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

- **Certificate in Biodiversity and Sustainable Agriculture**

Institution / Organisation The Sustainability Institute, Stellenbosch, Western Cape

NQF level 7

Accreditation A level 7 Certificate issued by the Institute.

Entry requirements A 3-year tertiary qualification and / or relevant work experience.

Intended audience Policymakers, farmers, rural development organisations, economists, conservationists and local government officials and others interested in the interlink between human well-being (particularly the issue of food security) and issues of habitat loss, land use change and issues associated with the increasing scale of agricultural production.

Overview The course offers participants the opportunity to explore sustainable agricultural practices in the context of increasing demand and changing agricultural technologies (e.g. genetic engineering, organic farming).

Key themes include: industrial agriculture, social and environmental impacts of chemical applications, the rise of agribusiness and the decline of rural economies, genetically modified organisms, biotechnology and free trade and biodiversity and ecological agriculture.

Duration 5 days

Contact (021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net

Funding options A limited number of bursaries are available on application.

Other If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

- **Certificate in Sustainable Energy Planning for Cities**

Institution / Organisation The Sustainability Institute, Stellenbosch, Western Cape

NQF level 7

Accreditation 15 credits

Entry requirements A 3-year tertiary qualification and / or relevant work experience.

Intended audience Local government officials, politicians and policy makers and project implementers involved in energy, planning and environmental issues.

Overview	The course offers participants the opportunity to explore the development and implementation of local sustainable energy strategies.
Duration	6 days
Contact	(021) 881 3196 / info@sustainabilityinstitute.net / www.sustainabilityinstitute.net
Other	If registering for the Masters Programme with the Sustainability Institute (see section 8), application could be made for credit of this certificate course towards this qualification.

• **Certificate in Environmental Law & Policy**

Institution / Organisation	Department of Environmental Science, Rhodes University
NQF level	7
Accreditation	Certificate of Competence / Certificate of Attendance (the former requiring the submission of a workplace-based assignment).
Entry requirements	A 3-year bachelors degree or diploma and 3 years full time relevant practical business, organisational or environmental consulting experience.
Intended audience	Anyone in a business, organisational and state department context with an interest in exploring the legal and regulatory implications of the South African Environmental legal framework.

Overview	Key legal frameworks explored include the Constitution and the National Environmental Management Act (1998) that underpin the environmental management policy framework in South Africa. Selected environmental management legislation is also explored, including air quality, biodiversity, environmental impact assessment, integrated pollution and waste management and other relevant regulations.
Duration	6 days
Contact	(046) 603 7005 www.ru.ac.za/academic and on to the Environmental Science Department's website
Other	This course can be taken as part of the Environmental Management Electives Programme of the MBA programme offered by the Rhodes Investec Business School.

• **Certificate in Environmental Impact and Risk Assessment**

Institution / Organisation	Department of Environmental Science, Rhodes University
NQF level	7
Accreditation	Certificate of Competence / Certificate of Attendance (the former requiring the submission of a workplace-based assignment).
Entry requirements	A 3-year bachelors degree or diploma and 1 year full time relevant practical business, organisational or environmental consulting experience OR 5 years relevant practical experience at managerial level.

Intended audience	Individuals at middle or senior management level with an interest in exploring environmental risk and impact assessment in the context of sustainable development.
Overview	The course focuses on key developments in environmental assessment, including strategic environmental assessment, environmental risk and impact assessment techniques, technology assessments and environmental due diligence, with the aim of encouraging a critical assessment and analysis of impact and risk assessment and their contribution to sustainable development.
Duration	6 days
Contact	(046) 603 7005 www.ru.ac.za/academic and on to the Environmental Science Department's website
Other	This course can be taken as part of the Environmental Management Electives Programme of the MBA programme offered by the Rhodes Investec Business School.

- **Certificate in Environmental and Resource Economics**

Institution / Organisation	Department of Environmental Science, Rhodes University
NQF level	7
Accreditation	Certificate of Competence / Certificate of Attendance (the former requiring the submission of a workplace-based assignment).

Entry requirements	A 3-year bachelors degree or diploma and 1 year full time relevant practical business, organisational or environmental consulting experience OR 5 years relevant practical experience at managerial level.
Intended audience	Individuals at middle or senior management level with an interest in exploring the interface between natural and economic systems in the context of exploring more sustainable economic options.
Overview	The course allows opportunities to explore economic measurement of environmental impact and introduces participants to the economic valuation of the natural environment and its practical application through a review of case studies.
Duration	6 days
Contact	(046) 603 7005 / www.ru.ac.za/academic and to the Department of Environmental Science's website
Other	This course can be taken as part of the Environmental Management Electives Programme of the MBA programme offered by the Rhodes Investec Business School.

- **Introduction to Environmental Impact Assessment Procedures**

Institution / Organisation	Department of Environmental Science, Rhodes University
NQF level	6
Accreditation	Certificate of Competence / Certificate of Attendance (the former requiring the submission of a workplace-based assignment).

Entry requirements	A 3-year bachelors degree or diploma and 3 years full time relevant practical business, organisational or environmental consulting experience.
Intended audience	Individuals involved in an environmental management portfolio in their organisation with an interest in developing a better understanding of environmental impact assessment processes and procedures.
Overview	The course focuses on the implementation of Sections 21, 22 and 26 of the Environmental Conservation Act. It introduces its implications for environmental impact assessment and integrated environmental management and so focuses on the human environment interaction, the significance of evaluating impact and regulating its effects.
Duration	5 days
Contact	(046) 603 7005 / www.ru.ac.za/academic and to the Department of Environmental Science's website

Intended audience	The course is aimed at environmental consultants, decision makers, developers, facilitators and other interested and affected parties potentially involved in environmental management initiatives, such as environmental management plans, environmental impact assessments, strategic environmental assessments, monitoring programmes, research projects and awareness raising programmes, amongst others.
Overview	Learning on the course is aimed at supporting the effective management of environmental initiatives through improved project management involving improved communication, planning and control and meeting project objectives in terms of brief, time and budget.
Duration	6 days
Contact	(046) 603 7005 / www.ru.ac.za/academic and to the Department of Environmental Science's website

- **Certificate in Environmental Project Management**

Institution / Organisation	Department of Environmental Science, Rhodes University
NQF level	6
Accreditation	Certificate of Competence / Certificate of Attendance (the former requiring the submission of a workplace-based assignment).
Entry requirements	An appropriate 3-year diploma, at least 1 year full time relevant practical experience and individuals must have completed an introductory course to Environmental Impact Assessment.

- **Sustainable Principles for Business Leaders**

Institution / Organisation	Department of Environmental Science, Rhodes University
NQF level	7
Accreditation	Certificate of Competence / Certificate of Attendance (the former requiring the submission of a workplace-based assignment).
Entry requirements	A 3-year bachelors degree or diploma and 3 years full time relevant practical business, organisational or environmental consulting experience OR 5 years relevant practical experience at managerial level.

Intended audience	Individuals at middle or senior management level with an interest in exploring sustainable principles, processes and practices in an industry and business context.
Overview	The course explores sustainable development as a key global trend and its implications for industry and business in a southern African context. It includes an introduction to systems ecology, global and national policy frameworks shaping environmental and sustainability issues in the industry and business sector. It draws attention to corporate governance, the WSSD Implementation Plan and Sustainable Production and Consumption processes and patterns and introduces trends in environmental management systems and tools.
Duration	6 days
Contact	(046) 603 7005 / www.ru.ac.za/academic and to the Department of Environmental Science's website.
Other	This course can be taken as part of the Environmental Management Electives Programme of the MBA programme offered by the Rhodes Investec Business School.

- **Environmental Management Systems and Auditing**

Institution / Organisation	Department of Environmental Science, Rhodes University
NQF level	7
Accreditation	Certificate of Competence / Certificate of Attendance (the former requiring the submission of a workplace-based assignment).

Entry requirements	A 3-year bachelors degree or diploma and 3 years full time relevant practical business, organisational or environmental consulting experience OR 5 years relevant practical experience at managerial level.
Intended audience	Individuals involved in environmental management functions in their organisations and others wanting to explore environmental management at the interface between environment and industry.
Overview	The course provides an introduction to environmental management systems (EMS) and ISO 14 001, EMS in the business context, the implementation and auditing of an EMS, development and application of a health and safety management system and integrated safety, health and environmental management systems. It also includes an introduction to environmental, training and capacity building strategies that could enhance EMS.
Duration	6 days
Contact	(046) 603 7005 / www.ru.ac.za/academic and to the Department of Environmental Science's website

- **Implementing ISO 9 000**

Institution /	Intec College
NQF level	-
	Intec Short Course Certificate : Implementing ISO 9 000
Entry	Grade 12 or equivalent OR 1 year experience in a company certified to ISO 9 000.
Intended audience	Individuals involved in an environmental management function in a corporate environment.

Overview	Encouraging an understanding of ISO 9 000 requirements and its implications for implementation.
Duration	Distance over six months.
Contact	www.intec.edu.za/business/bus_business_iso_900.htm

Duration	Part distance over a period of 10 months, involving participation in workshops, tutorials and workplace based assignments.
Contact	(046) 603 8389 / www.ru.ac.za/academic / capeccep@ru.ac.za to the Department of Education's website and onto the Environmental Education and Sustainability Unit's website.

b) Short courses in Environmental Education

• Rhodes University Certificate in Environmental Education

Institution / Organisation	Environmental Education and Sustainability Unit, Department of Education, Rhodes University
NQF level	5
Accreditation	Rhodes University Certificate of 25 credits, linked to unit standards registered by the ETDP SETA.
Entry requirements	None
Intended audience	All practitioners involved in environmental education, including, for example, trainers, teachers, extension and community workers in agriculture, conservation, development, health and industry.
Overview	The course encourages a deeper understanding of local environmental issues, examines trends and patterns in response to environmental issues and risks, social and educational theoretical underpinnings of practice and encourages the development of teaching, communication and resource development skills, for use in a localised context.

• Environmental Education, Training and Capacity Building in an Industry and Business Environment

Institution / Organisation	Environmental Education and Sustainability Unit, Department of Education, Rhodes University
NQF level	5
Accreditation	Rhodes University Certificate of 20 credits linked to unit standards registered with the ETDP SETA
Entry requirements	None
Intended audience	Trainers working within an environmental management function in industry and business.
Overview	The course supports participants in developing learning programmes, linked within the National Qualifications Framework and the Skills Development Framework, for application in the work context. Key themes explored are the environmental crisis with an emphasis on issues and risks in the industry and business context, responses to the environmental crisis from within this context (Corporate Governance, Sustainability Reporting, Environmental Management Systems and Tools) an introduction to the NQF, Skills Development Act and learnership and a step by step approach to designing outcomes-based learning programmes for improved environmental performance and compliance.

Duration	Part distance over four months.
Contact	(046) 603 8389 www.ru.ac.za/eesu to the Department of Education's website through to the website of the Environmental Education and Sustainability Unit.
Other	This course can be taken as part of the Environmental Management Electives Programme of the MBA programme offered by the Rhodes Investec Business School.

c) Short courses in Agriculture and Horticulture

• Organic Vegetable Gardening Short Course

Institution / Organisation	Abalimi Bezekhaya, Cape Town, Western Cape
Accreditation	This course is not accredited and thus not linked to any specific level on the NQF
Intended audience	Predominantly unemployed people and school communities living and located in informal settlements and townships of the Cape Flats area in the Western Cape.
Overview	The aim of the training is primarily to support processes of addressing poverty through encouraging the sustainable development of organic home, community and school gardens. The 4-day course provides basic knowledge and skills with which to begin vegetable gardens and is followed by on site training and a support programme. The course is supported by a 5-day Agriplanner course aimed at developing business skills to cost and market produce grown.

Duration	4 days
Contact	(021) 361 3497 / abalimi@iafrica.com / www.abalimi.org.za

• Short Course in Horticulture

Institution / Organisation	Abalimi Bezekhaya, Cape Town, Western Cape
Accreditation	This course is not accredited and thus not linked to any specific level on the NQF.
Intended audience	Schools and communities living and located in informal settlements and townships of the Cape Flats area in the Western Cape.
Overview	The aim of the training is to encourage the transformation of the dune-sands of the Cape Flats into a sustainable water wise urban environment and to promote the conservation of vulnerable land and floral species in the Cape Floral Region.
Duration	5 days
Contact	(021) 361 3497 / abalimi@iafrica.com / www.abalimi.org.za

• Short Course in Food Gardening

Institution / Organisation	Cafda, Cape Town, Western Cape
Accreditation	This course is not accredited and thus not linked to any specific level on the NQF.

Intended audience	Unemployed community members
Overview	The aim of the training is to encourage skills development amongst unemployed community members towards developing home food gardens, the ultimate aim being to encourage the development of self-reliance and economic independence.
Contact	(021) 706 2050 / cafda@iafrica.com / www.cafda.org.za

d) Short courses in Natural Resource Management

- **Community-Based Natural Resource Management (CBNRM)**

Institution / Organisation	Department of Environmental Science, Rhodes University
NQF level	6
Accreditation	Certificate of Competence / Certificate of Attendance (the former requiring the submission of a workplace-based assignment).
Entry requirements	An appropriate 3-year diploma and 3 years practical experience in CBNRM or degree OR 5 years practical experience in CBNRM.

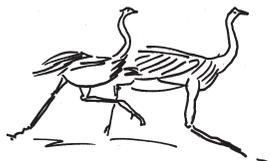
Intended audience	Managers, consultants and researchers in local government, land affairs, forestry, conservation, tourism, parks and recreation, rural development and environmental affairs, environmental educators and students in natural resources and natural resource management.
Overview	The course focuses on project management challenges associated with planning and implementing CBNRM initiatives aimed at poverty alleviation, with a specific focus on: establishing new projects, establishing the necessary working conditions for sustaining CBNRM initiatives, developing the necessary resource-use and business plans, capacity building, managing conflict, distractions, turmoil and change and monitoring and evaluation in CBNRM.
Duration	5 days
Contact	(046) 603 8579 / www.ru.ac.za/academic / registrar@ru.ac.za and to the Department of Environmental Sciences website

e) Short courses in Game Ranging and Tour Guiding

- **Certificate in Game Ranging**

Institution / Organisation	EcoTraining, Nelspruit, Mpumalanga
NQF level	3

Accreditation	Certificate in Game Ranging
Entry requirements	Grade 10
Intended audience	Individuals with an interest in developing competence in game ranging with a view to entering a career in tourist guiding.
Overview	The course aims to provide participants with an understanding of wildlife ecosystems and their inhabitants. The course has a practical orientation that involves learning in the natural environment in game areas and under the supervision of a game ranger. Themes explored in the course include: plant identification and medicinal uses of vegetation, identification, ecology and behaviour of amphibians, reptiles, birds and mammals, animal tracks and tracking, rifle handling and approaching dangerous game on foot. The course also includes a focus on guest relationship skills and conducting game drives and walks and so includes a focus on guide-client etiquette.
Duration	28 days
Contact	(013) 744 9639 / ecotrain@mweb.co.za / www.ecotraining.co.za
Other	This certificate course is the practical component of the Diploma in Game Ranging offered by Allembly Campus as a full time course and Intec College as a distance-learning course. Both Diplomas are accredited by the Field Guides Association of Southern Africa. EcoTraining has interim accreditation status with THETA.



f) Context / Sector specific courses

Various organisations offer courses that are tailor made for specific organisations and / or contexts. These courses are developed and offered on a consulting basis and respond to the specific needs of a particular organisation. These organisations, with their particular focus areas, include:

Organisation	Training Focus	Contact
Beco Institute for Sustainable Business	Cleaner Production and Products	(021) 689 7117 / info@beco.co.za / www.beco.co.za
Coastcare	Sustainable Coastal Development	(021) 402 3911 / czm@deat.gov.za / www.sacoast.uwc.ac.za
Empowerment for African Sustainable Development	Sustainable Development	(021) 434 6012 / info@easd.org.za / www.easd.org.za
Environmental Ethics Unit, University of Stellenbosch	Environmental Ethics	(021) 808 288 / www.sun.ac.za/philosophy/cae
Environmental Evaluation Unit, University of Cape Town	Environmental Management and Sustainability	(021) 650 2866 / eeu@science.uct.ac.za / www.uct.ac.za/eeu/
The Environmental Law Association	Legal requirements for environmental conservation	(021) 448 8908 /
Institute of Environment & Recreation Management	Recreation Management	(011) 789 1384 / ierm@vdw.co.za / www.ierm.org.za

Environmental Planning and Resource Management Services	Environmental Management	(021) 975 7396 / emprs@intekom.co.za
HRH The Prince of Wales' Business and the Environment Programme	Business and Sustainable Development	(021) 671 8803 / bep@cpi.cam.co.uk / www.cpi.cam.ac.uk/bep
International Association for Impact Assessment	Impact Assessments	(028) 316 2905 / www.iaia.co.za
Knysna Estuarine Aquarium	Estuarine Biodiversity Conservation	083 400 3266 / 044 382 6302 / nynaseahorse@cyberperk.co.za
The Natural Step	Sustainable Development	(021) 715 0526 / www.thenaturalstep.org
Southern African Wildlife College	Natural Resource Management	(015) 793 7300 / info@sawc.org.za / www.sawc.org.za
Tsoga Environmental Resource Centre	Community based responses to environmental issues	(021)694 0004
Unilever Centre for Environmental Water Quality	Water Resource Management	(046) 622 242 / ucewq@iwr.ru.ac.za / www.ru.ac.za/departments/iwr/ucewq
Wildlife and Environment Society of South Africa	Public Participation in Caring for the Earth	(021) 701 1397 / www.wcape.school.za/wessa
Working for Water	Sustainable control of invasive aliens, conservation and optimal use of natural resources	(021)405 2200 / www.dwaf.gov.za/wfw/



further education and training

further Education and Training (FET) learning programmes listed below are those offered by FET colleges in the Eastern Cape and the Western Cape.

FET learning programmes on the NQF are those that lead to qualifications at levels 2 to 4. Some learning programmes listed below are those offered at these levels, which the FET colleges concerned refer to as 'pre-matric' courses. These learning programmes are also those that provide entry to level 5 qualifications. Most programmes listed and offered by these FET colleges are, however, what are referred to by these colleges as 'post-matric' qualifications and are thus offered as a level 5 qualification.

The learning programmes offered by FET colleges are mainly those in tourism and agriculture.

a) Learning programmes in Tourism

- **Further Education and Training Certificate in Travel and Tourism**

NQF level	4
Accredited Provider	South Cape College (Beaufort West Campus)
Accreditation	Further Education and Training Certificate in Travel and Tourism
Entry Requirements	A Grade 10 or equivalent level 2 qualification.
Intended Audience	Individuals wanting to pursue a career in travel and tourism.
Contact	(044) 884 0359 / info@career4u.co.za / www.careers4u.co.za

- **National Diploma in Tourism Management**

NQF level	5
Provider	South Cape College (Oudtshoorn Campus)
Accreditation	NQF accredited level 5 National Diploma in Tourism Management
Entry Requirements	An FET Certificate (Grade 12) or level 4 equivalent qualification.
Intended Audience	Individuals wanting to pursue a career in tourism management.

Overview	Subjects included in the programme include: Tourism Development, Travel and Tourism Management, Travel and Tourism Practice at first, second and third year levels and Communications, Marketing and Events Management. It includes a 6-month experiential learning component each year that coincides with the tourist season in the Eastern Cape and Western Cape.
Duration	3 years
Contact	(044) 272 2119/0 / info@careers4u.co.za / www.careers4u.co.za

- **International Diploma in Travel and Tourism**

NQF level	5
Provider	Northlink College (Tygerberg Campus)
Accreditation	City and Guilds London Accreditation and an NQF accredited level 5 Diploma in Travel and Tourism
Entry Requirements	An FET Certificate (Grade 12) or level 4 equivalent qualification.
Intended Audience	Individuals wanting to pursue a career in travel and tourism.
Overview	The first year of the course qualifies participants for the City and Guilds Certificate in Travel and Tourism. A further 1-year full time study and 18 months experiential learning qualifies participants for the International Diploma in Travel and Tourism. A further third year qualifies participants for the Advanced Diploma in Travel and Tourism. The course opens up opportunities for a broad range of career opportunities in the Travel and Tourism sector including possibilities for participants to explore Eco-Tourism.

Duration	2 years and 18 months experiential learning
Contact	(021) 558 1050 / info@northlink.co.za / www.northlink.co.za

- **National Diploma n Tourism**

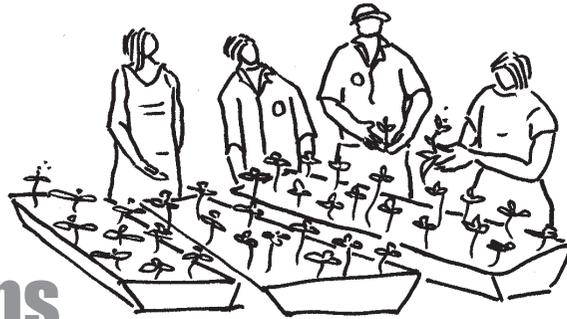
NQF level	5
Provider	Port Elizabeth College (Russell Road Campus)
Accreditation	An NQF level 5 accredited National Diploma in Tourism
Entry Requirements	An FET Certificate (Grade 12) or level 4 equivalent qualification.
Intended Audience	Individuals wanting to pursue a career in travel and tourism.
Overview	This course places a strong emphasis on tourism management and includes subjects such as Tourism Destinations, Tourism Communication, Travel Office Procedure and Travel Services.
Duration	2 years
Contact	(041) 585 7771 / pec@rrc.ac.za / www.pecollege.edu.za

b) Learning programmes in Agriculture

- **National Certificate in Agricultural Management**

NQF level	5
Provider	Boland College (Worcester Campus)
Accreditation	National Certificate in Agricultural Management at level 5 on the NQF.
Entry Requirements	Grade 12 (FET) Certificate or a level 4 equivalent qualification.
Intended Audience	Individuals exploring the management of agricultural enterprises.
Overview	Subjects included in this learning programme include Farm Management and various forms of agricultural production (milk, mutton, fruit, wine and animals). It also includes a strong focus on management of a farm including financial management, marketing, human resource and infrastructural management.
Duration	2 years
Contact	(021) 886 7111/2 / hq@bolandcollege.com / www.bolandcollege.com

learnerships and skills programmes



Various learnerships have been registered by SETAs, as noted in section 3. However, these are in different stages of implementation. Section 3 lists those learnerships that have been registered by the various SETAs reviewed, and that were found to support careers in biodiversity conservation. The following section lists those learnerships that are in the stage of implementation and that are being offered by accredited providers in the Eastern Cape and the Western Cape. Please note, however, that the details on these learnerships are not sufficiently comprehensive. More details can be accessed from either the relevant SETA or the Accredited Providers, contact details of whom are listed below and in section 9.

These include learnerships in:

- Agriculture;
- Community Development;
- Conservation and Guiding; and
- Environmental Education.

a) Learnerships in Agriculture

Learnership	Provider	Level	Duration	SETA
Plant Production	Green Futures	1	1 year	Agriseta
Farm Owner: Horticulture	Exalon	1	1 year	Agriseta
Mixed Farming	Elgin Community College	1 & 2	1 year	Agriseta
Plant Production	Koue Bokkeveld Training Centre	1	1 year	Agriseta
Farm Management	Koue Bokkeveld Training Centre	4	1 year	Agriseta

b) Learnerships in Community Development

Learnership	Provider	Level	Duration	SETA
Community Development Worker	University of the Western Cape	4	1 year	Lgseta

c) Conservation and Guiding

Learnership	Provider	Level	Credits	Duration	SETA
Tourism Event Support	Northlink College, WC	4	156	1 year	Theta
Travel Tourism	Northlink College, WC	4	162	1 year	Theta
Nature Guiding	The Nature College	1	-	1 year	Theta
Tourism: Guiding	Livingstone Tourism Academy	4	-	1 year	Theta

d) Environmental Education

- *National Certificate: Environmental Education, Training and Development Practice*

NQF level	5
Accredited Provider	Wildlife and Environment Society of South Africa
Accreditation	NQF accredited level 5 National Certificate: Environmental Education, Training and Development Practice.
Entry Requirements	An FET Certificate (Grade 12) or level 4 equivalent qualification.

Intended Audience

Individuals in conservation / biodiversity agencies, local and provincial government, industry and business, agriculture and civil society involved in the development and implementation of environmental learning programmes and action projects.

Duration

1 year

Contact

(033) 330 3931 / www.envirolearningforum.co.za

As reflected above, not much information was available on either the relevant SETA website or the provider website. You are therefore advised to follow up on any of the learnerships listed with either the relevant SETA or the accredited provider to access more information about the structure and focus of these learnerships. As such, this section is concluded with a list of accredited service providers in the Eastern Cape and Western Cape, within the relevant SETAs explored (see section 3). Various providers also offer a range of skills programmes, which you might like to further explore with these providers.



SETA	Organisation	Contact
AGRISETA	Exalon 25	(044) 272 3612 aphilander@exalon25.co.za
	Intsukaze Training Centre	(046) 645 2221
	Phezukokhono Training Services	(044) 279 3288
	Siyasanga Training Centre	(043) 736 9398
	Tsolo Agriculture and Rural Development Institution	(047) 542 0107 ppzm@webmail.co.za
	Uluntu Skills Development Centre	(043) 642 5649
	Umnga Farmers Group	(045) 933 1318 umnga@eci.co.za
	Umthathi Training Project	(046) 622 4450 info@umthathi.co.za
THETA – Conservation and Guiding Chamber	Alive PTL cc	083 3727575
	Ed-U-City Campus	(041) 585 2755 educol@iafrica.com
	Outward Bound Trust of SA	(044) 382 7412 mrketing@outwardbound.co.za
	Siyaya Training	(049) 893 0769

LGSETA	The Water Academy (though based in Durban, often used for training in the Eastern Cape)	(031) 767 2777
FIETA – Forestry Chamber	T & S Dealers cc	(044) 343 2925 firetech@xsinet.co.za
	Concordia	(044) 382 5481 bvdt@mto.co.za

Accredited providers in the Western Cape

SETA	Organisation	Contact
AGRISETA	Elgin Community College	(021) 848 9413
	Green Futures	(028) 348 0381 info@greenfutures.co.za
	HENCHEM	(021) 948 7366
	Koue Bokkeveld Training Centre	(023) 317 0983
	SA Agri-Academy	(021) 808 5422
	Vineyard Academy	(021) 809 2231

SETA	Organisation	Contact
THETA – Conservation and Guiding Chamber	Alive PTL cc	083 3727575
	Joshua School of Tourism	(021) 551 3085
	Livingstone Tourism Academy	(021) 976 3971 lta@intekom.co.za
	Montavigus	(028) 316 1836 montavigus@telskomsa.net
	The Nature College	(028) 551 2562
LGSETA	Tourist Guide Institute	021) 948 3441 tgi@netactive.co.za
	City of Cape Town - Water	(021) 593 4876
FIETA – Forestry Chamber	BECO Institute of Sustainable Business	(021) 689 7117 bkothuis@beco.co.za
	Dale Nortje Practical Solutions	(021) 887 6812 (021) 852 9859
	Invader Plant Specialist	(022) 713 5744
	Stop Fire	(021) 976 6127 stopfire@mweb.co.za



technikon qualifications

The following section lists qualifications available at the Walter Sisulu University of Technology in the Eastern Cape and the Cape Peninsula University of Technology in the Western Cape. It also includes Diplomas and Certificates offered by organisations at level 5.

These include National Diplomas, Bachelor of Technology, Master of Technology and in some cases Doctor of Technology, in:

- Agricultural Management;
- Resource Management;
- Horticulture;
- Nature Conservation;
- Oceanography and Maritime Studies ;
- Environmental Health;
- Environmental Science; and
- Tourism

• a) Qualifications in Agricultural Management

• National Diploma in Agricultural Management

Institution	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Agricultural Management.
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with a recommendation of Biology (Life Sciences), Physical Science, Mathematics and / or Geography.
Intended audience	Individuals seeking to pursue a career in agricultural research, extension, quality control, production and marketing.
Overview	This diploma includes courses in Agricultural Management, Animal Production and Plant Production, Agricultural Extension, Agricultural Law, Soil Science and Pasture Science, amongst others, in the first two years of study. The third year of study involves one major course in Agricultural Practice, which constitutes experiential learning in the work context.
Duration	3 years (with the last year as an internship)
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za

Other This National Diploma gives participants entry into the Bachelor of Technology: Agricultural Management Qualification. To gain entry into this learning programme, Agricultural Extension I, II and III are recommended through the first and second year of the diploma course.

• **Bachelor of Technology:
Agriculture (B.Tech: Agriculture)**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	6
Accreditation	An accredited level 6 Bachelors degree.
Entry requirements	A National Diploma in Agriculture, Agricultural Research (Botany), Agricultural Management, Agriculture: Animal Production or Plant Production or an equivalent qualification. Agricultural Extension III is required for admission including a 60% pass in major subjects.
Intended audience	Individuals wishing to pursue a career in organised agriculture (agricultural corporations, agricultural development institutions, agricultural input suppliers, farming estates, agricultural regulatory services, the import and export of agricultural goods and the Department of Agriculture).
Overview	Participants in the B.Tech programme will complete courses in Agricultural Extension IV, Research Methodology and Agricultural Communication with an elective in either Animal Production or Crop Production.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za

• **National Diploma in Agriculture
(Animal / Crop Production)**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Agriculture: Animal Production or Crop Production
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with Mathematics as a prerequisite and a recommendation of Biology (Life Sciences), Physical Science and / or Geography.
Intended audience	Individuals seeking to pursue a career in organised agriculture, for example, agricultural corporations, agricultural development institutions, agricultural input suppliers, farming estates and the Department of Agriculture.
Overview	Courses in this National Diploma include: Agricultural Economics, Soil Science, Agricultural Mechanisation, Agricultural Marketing, Biometry and Agricultural Extension with Agricultural Anatomy and Physiology in Animal Production and Agricultural Botany, Vegetable Production and Crop Protection in the first year. In the second year students participate in courses in Agronomy, Biometry and Agricultural Extension and Agricultural Production Management with Small Stock Production for the Animal Production specialism and Fruit Production, Crop Protection and Cultivated Pastures for the Crop Production specialism. The third year involves participation in the Agricultural Production Techniques as part of the experiential learning component of the Diploma.
Duration	3 years (with the last year as an internship)

Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This National Diploma gives participants entry into the Bachelor of Technology: Agricultural Management Qualification.

b) Qualifications in Resource Management

• Certificate in Natural Resource Management

Institution / Organisation	Southern African Wildlife College
NQF level	5
Accreditation	The curriculum is aligned with registered Theta unit standards.
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification.
Intended audience	The course is designed for participants in intermediate management positions in protected areas and natural resource management organisations.

Overview	In addition to a range of business related courses (Communication and Computer Skills, Office Management, Personnel Management and Group Interaction Skills) students also complete courses in the Philosophy and Ethics of Conservation, An Introduction to Ecological Processes, Soils and Climate, Vegetation Management and Monitoring, Animal Management, An Introduction to Integrated Catchment Management, Introduction to Protected Areas Management, An Introduction to Community Development and Conservation, Environmental Education and Ensuring Ecosystems Integrity.
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Duration	1 year
Contact	(015) 93 7300 / info@sawc.org.za / www.sawc.co.za
Other	The modules that make up this certificate course could also be taken as short courses offered by the Southern African Wildlife College.

• Diploma in Natural Resource Management

Institution / Organisation	Southern African Wildlife College
NQF level	5
Accreditation	The curriculum is aligned with registered Theta unit standards.
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification.
Intended audience	The course is designed for individuals in intermediate management positions in protected areas, conservation and natural resource management organisations.

Overview	In addition to a range of business related courses (for example, Communication and Computer Skills, Communication and Research Skills, Human Resource Management and First Aid) students also complete courses in Protected Areas Management, Integrated Catchment Management and Freshwater Ecology, Environmentally Responsible Development Plans, Landscape Management, An Introduction to Applied Resource Economics and Environmental Education. Other courses include: the Principles of Project Management with a focus on Natural Resource Management Plans, Community Development and Conservation, Tourism Management and Strategic Operations in Natural Resource Protection.
Duration	1 year
Contact	(015) 93 7300 / info@sawc.org.za / www.sawc.co.za
Other	The modules that make up this certificate course could also be taken as short courses offered by the Southern African Wildlife College.

- **National Diploma in Fisheries Resource Management**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Fisheries Resource Management
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with a recommendation of Biology (Life Sciences) at this level.

Intended audience	Individuals seeking to pursue a career in marine conservation and as fisheries compliance officers.
Overview	The course is aimed at contributing to the conservation of the marine environment and the sustainable use of marine resources. Courses in this programme include: Marine Biology, Conservation Ecology, Agricultural Extension, Environmental and Fisheries Law and some management courses. In the third year students participate in the Marine Conservation Techniques course, part of an experiential learning component of the Diploma.
Duration	3 years (with the last year as an internship)
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za

- **Bachelor of Technology: Civil Engineering (Water Engineering)**

Institution / Organisation	Walter Sisulu University of Technology
NQF level	6
Accreditation	An accredited level 6 qualification in Civil Engineering.
Entry requirements	A National Diploma in Civil Engineering.
Intended audience	Individuals seeking to advance their careers in water resource management.

Overview	This programme is offered as a fourth year option for students who have completed the National Diploma in Civil Engineering and are seeking a specialisation in Water Engineering. In addition to advanced civil engineering courses such as Hydraulics and Hydrology students also explore courses such as Water Treatment Technology and Waste Water Treatment Technology, Principles of Dam Technology and Soil and Water Conservation.
Duration	1 year
Contact	(047) 502 2111 / (043) 708 5200 www.wsu.ac.za / info@wsu.ac.za

c) Qualifications in Horticulture and Landscaping

• National Diploma in Horticulture

Institution / Organisation	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Horticulture
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with at least two of the following subjects: Biology (Life Sciences), Physical Science, Mathematics, Agricultural Science or Geography.

Intended audience	Individuals seeking to pursue a career in Horticulture in production nurseries, garden centres, landscape maintenance enterprises, parastatals and municipalities and those with an interest in horticultural research at, for example, the South African National Biodiversity Institute or the Agricultural Research Council.
Overview	Courses in the National Diploma in Horticulture include: Horticulture, Plant Material Studies, Horticultural Production Management, Horticultural Mechanisation, Environmental Studies and Horticultural Practice, amongst others.
Duration	3 years
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This National Diploma gives participants entry into the Bachelor of Technology: Horticulture Qualification.

• Bachelor of Technology: Horticulture

Institution / Organisation	Cape Peninsula University of Technology
NQF level	6
Accreditation	An NQF accredited level 6 Bachelors Degree
Entry requirements	A National Diploma in Horticulture
Intended audience	This qualification opens up opportunities for pursuing a career in horticultural research positions or advanced positions in the management of horticultural establishments.

Overview	This programme involves participation in Horticultural Production Technology, Horticultural Production Management and Research Methodology.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	The Bachelor of Technology: Horticulture gives participants entry into the Master of Technology: Horticulture Qualification.

• **Master of Technology: Horticulture**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	7
Accreditation	A NQF accredited level 7 Masters Degree.
Entry requirements	A Bachelor of Technology in Horticulture or an equivalent qualification.
Intended audience	Individuals seeking to pursue a career in applied and fundamental research in plant propagation, production, maintenance, landscaping and management.
Overview	The Master of Technology programme involves participants undertaking applied research and reporting findings in a dissertation.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za

• **National Diploma in Landscape Technology**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Landscape Technology
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with Biology (Life Sciences) or Physical Science and one of Mathematics, Agricultural Science or Geography.
Intended audience	Individuals interested in pursuing a career in landscape planning with a focus on aesthetics, functional and ecologically sustainable spaces.
Overview	Courses include Landscape Technology, Plant Materials Studies, Site Planning and Management, Environmental Studies, Horticultural Mechanisation and Plant Protection and Landscape Practice as the experiential component of this qualification.
Duration	3 years
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This National Diploma gives participants entry into the Bachelor of Technology: Landscape Technology qualification.

- **Bachelor of Technology:
Landscape Technology**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	6
Accreditation	An accredited Bachelor of Technology in Landscape Technology Degree
Entry requirements	A National Diploma in Landscape Technology
Intended audience	Individuals seeking to pursue a career in advanced and specialised design in landscaping.
Overview	Courses include Landscape Technology, and Landscape Technology Management at fourth year level and Research Methodology I.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za



d) Qualifications in Nature Conservation

- **National Diploma in Nature Conservation**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Nature Conservation
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with Biology (Life Sciences) as a subject at this level.
Intended audience	Individuals seeking to pursue a career in the management of protected areas, research, environmental education, ecotourism, law enforcement and alien plant control.
Overview	Courses in this National Diploma include: Animal Studies, Plant Studies, Conservation Ecology, Conservation Development, Resource Management and Soil Science, amongst others. In the third year learners participate in the Nature Conservation Application course which is the experiential component of the qualification.
Duration	3 years (with the last year as an internship)
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This National Diploma gives participants entry into the Bachelor of Technology: Nature Conservation Qualification.

- **Bachelor of Technology:
Nature Conservation**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	6
Accreditation	An accredited level 6 Bachelor of Technology degree
Entry requirements	A National Diploma in Nature Conservation or an equivalent qualification.
Intended audience	Individuals seeking to advance their careers in the management of protected areas, environmental education, research, ecotourism, law enforcement and alien plant control.
Overview	Courses in this programme include Plant Studies, Resource Management, Conservation Management, Coastal and Marine Management, Research Methodology and Principles of Management.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This Bachelor of Technology gives graduates entry into the Master of Technology in Nature Conservation.

- **Master of Technology in Nature Conservation**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	7

Accreditation	An NQF accredited level 7 Masters Degree
Entry requirements	A Bachelor of Technology in Nature Conservation.
Intended audience	Individuals seeking to advance their careers in a management capacity in the context of the management of protected areas, research, environmental education, ecotourism, law enforcement and alien plant control.
Overview	This qualification involves undertaking a workplace based research project and reporting the findings in a dissertation.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za

e) Qualifications in Oceanography and Maritime Studies

- **National Diploma in Oceanography**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Oceanography

Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with Mathematics and Physical Science at this level and Biology (Life Sciences) as a recommendation.
Intended audience	Individuals wanting to pursue a career in oceanographic research, for example, fisheries biology, biological oceanography and physical and chemical oceanography.
Overview	Courses in this National Diploma include: Marine Biology and Conservation Ecology together with various sciences such as Mathematics and Physics. This course also includes courses in Computer and Communication Skills, Digital Systems and Electronics. In the third year students participate in the Marine Science Practice course that forms part of the experiential learning component of the course.
Duration	3 years (with the last year as an internship)
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This National Diploma gives participants entry into the Bachelor of Technology: Oceanography Qualification.

- **National Diploma in Maritime Studies**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Maritime Studies
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with Mathematics and Physical Science as well as English as requirements.

Intended audience	Individuals wanting to pursue a career in the maritime industry as, for example, a deck officer.
Overview	Courses in this National Diploma include a strong focus on Marine Science and Navigation, but also include from first year an introduction to Marine Law and Marine Environmental Studies, so providing a focus on environmental protection in the marine environment.
Duration	3 years
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za

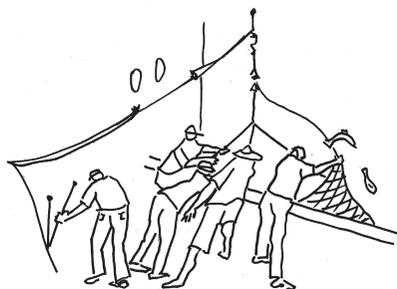
- **Bachelor of Technology in Oceanography**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	6
Accreditation	An accredited level 6 Bachelors degree in Oceanography.
Entry requirements	A National Diploma in Oceanography.
Intended audience	Individuals seeking to advance their careers in oceanographic research, for example, fisheries biology, biological oceanography and physical and chemical oceanography.
Overview	Courses in this learning programme include: Applied Marine Biology, Fisheries Environment, Research Methodology: Natural Sciences and Economics.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za

Other This Bachelor of Technology qualification allows graduates entry into the Master of Technology in Oceanography programme.

• Master of Technology in Oceanography

Institution / Organisation	Cape Peninsula University of Technology
NQF level	7
Accreditation	An accredited level 7 Masters Degree in Oceanography.
Entry requirements	A Bachelor of Technology Degree in Oceanography.
Intended audience	Individuals seeking to support a career as a senior oceanographer, researcher or fisheries manager.
Overview	This learning programme includes students undertaking a related research programme and reporting their findings in a dissertation.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za



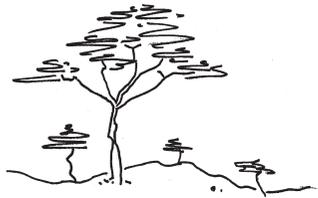
f) Qualifications in Environmental Health

• National Diploma in Environmental Health

Institution / Organisation	Cape Peninsula University of Technology
NQF level	5
Accreditation	An accredited level 5 National Diploma in Environmental Health
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification – with two of either Mathematics, Physical Science, Biology (Life Sciences), or Geography.
Intended audience	Individuals wanting to pursue a career as an Environmental Health Practitioner with an interest in promoting environmental and occupational health in diverse contexts.
Overview	Courses in this National Diploma include: Environmental Planning, Community Development, Environmental Pollution and Occupational Health and Safety in addition to various environmental health science specific courses, such as Microbiology, Health Physics and Chemistry, Anatomy and Physiology, Food and Meat Hygiene, amongst others.
Duration	3 years
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This National Diploma gives participants entry into the Bachelor of Technology: Environmental Health qualification.

• **Bachelor of Technology in Environmental Health**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	6
Accreditation	An accredited level 6 Bachelors degree in Environmental Health.
Entry requirements	A National Diploma in Environmental Health.
Intended audience	Individuals seeking to advance their careers in environmental and occupational health and develop further research skills in these fields.
Overview	Courses in this programme include: Management Practice at fourth year level, Research Methodology and two electives from Meat Hygiene, Waste Management, Air Pollution, Occupational Health and Safety, Water Quality Management, Food Hygiene and Environmental Epidemiology.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This Bachelor of Technology qualification allows graduates entry into the Master of Technology in Environmental Health programme.



• **Master of Technology in Environmental Health**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	7
Accreditation	An accredited level 7 Masters degree in Environmental Health.
Entry requirements	A Bachelor of Technology in Environmental Health.
Intended audience	Individuals seeking to advance their careers in research and development in the context of environmental and occupational health.
Overview	Learners can choose from two options in this programme. The first option involves conducting independent supervised research and reporting findings in a dissertation. Option two involves a course driven programme, where students complete nine modules. Five course modules are completed in Research and Advanced Data Analysis, Performance Measurement Techniques, Governance for Social Change, Introduction to Sustainability and Quality of Life Research, and Tools for Sustainable Development. A sixth module is then undertaken as an internship in a local / provincial government, conducting a research project and producing a paper. The research project involves the participation in environmental impact assessments in the local / provincial government context. Following the internship, students then complete a further three elective modules chosen from: Environmental and Occupational Management Systems, Reporting and Auditing, Environmental Resource Economics, Environmental and Occupational Health and Safety, Business and the Environment, Environmental Law and Urbanisation and Development.

Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This Master of Technology qualification allows graduates entry into the Doctor of Technology in Environmental Health programme, at level 8 and involving conducting research and reporting findings in the context of environmental and occupational health.

Intended audience	Individuals seeking to advance their careers in environmental monitoring, research and management
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Overview	Courses in this learning programme include: Environmental Management, Environmental Rehabilitation, Environmental Resources, Environmental Social Science, Integrated Catchment Management and Water Quality Management.
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Duration	1 year
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Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
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g) Qualifications in Environmental Science

- **Bachelor of Technology in Environmental Science**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	6
Accreditation	An accredited level 6 Bachelors degree in Environmental Science.
Entry requirements	A National Diploma in Environmental Health, Nature Conservation, Horticulture or an equivalent qualification.

h) Qualifications in Tourism, Guiding and Game Ranging

- **Diploma in Game Ranging and Management**

Institution / Organisation	Damelin
NQF level	5
Accreditation	A Diploma in Game Ranging and Management certified by Damelin.
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification.

Intended audience This course aims to support the development of individuals for entry-level positions, for example, Nature Site Guides and Anti-Poaching Officers

Overview In addition to a range of business skills courses, for example, Front Office Management, Small Business Management, Human Resource Management and Business Communication, amongst others, Game Ranging Practice is taken as a major subject, including a focus on Plant and Animal Studies, Resource Management, Habitat and Wetland Management, Veld and Soil Reclamation and Rural Development. The programme also includes a course in Environmental Law that includes a focus on Environmental Management, the Nature, Scope and Administration of Environmental Law, Conservation and Renewable Resources and Integrated Environmental Management. The course includes a 28-day practical learning component offered by Eco-Training.

Duration 2 years full time

Contact Campuses in the Eastern Cape:

- Port Elizabeth (041) 581 2999 / www.damelin.co.za
- East London (043) 742 0235 / www.damelin.co.za
- George (044) 884 0263 / htdamelin@mweb.co.za / www.damelin.co.za

Campuses in the Western Cape:

- Stellenbosch (021) 852 1118 / www.damelin.co.za
- Milnerton (021) 686 8991 / www.damelin.co.za

• National Diploma in Tourism Management

Institution / Organisation Cape Peninsula University of Technology

NQF level 5

Accreditation An accredited level 5 National Diploma in Tourism Management.

Entry requirements An FET Certificate (Grade 12) or an equivalent level 4 qualification – with Geography, Mathematics, Economics, Business Economics, Accounting, History and a foreign language as recommended subjects.

Intended audience Individuals wanting to pursue a career in the growing industry of tourism

Overview This course focuses on the development of tourism entrepreneurs and so focuses on management aspects of the development and management of tourism ventures, including courses such as Travel and Tourism Management, Tourism Development, Marketing, with Tourist Guiding and Events Management as electives.

Duration 3 years

Contact (021) 959 6121 / info@cput.ac.za / www.cput.ac.za

Other This National Diploma gives participants entry into the Bachelor of Technology: Tourism Management Qualification.

• National Diploma in Tourism Management

Institution / Organisation Walter Sisulu University of Technology

NQF level 5

Accreditation	An accredited level 5 National Diploma in Tourism Management.
Entry requirements	An FET Certificate (Grade 12) or an equivalent level 4 qualification.
Intended audience	Individuals wanting to pursue a career in the growing industry of tourism.
Overview	This programme involves courses like Tourism Development, Travel and Tourism Management, Marketing, Law for Tourism and Travel and Tourism Practice. In the third year students participate in a Tour Guiding course.
Duration	3 years
Contact	(047) 502 2111 / (043) 708 5200 www.wsu.ac.za / info@wsu.ac.za

- **Bachelor of Technology in Tourism Management**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	6
Accreditation	An accredited level 6 Bachelors Degree in Tourism Management.
Entry requirements	A National Diploma in Tourism Management and two years relevant experience after attaining an initial qualification.
Intended audience	Individuals seeking to advance their careers in tourism development and management.

Overview	The course supports learners to develop the competence to compile strategic development plans for tourist ventures, identify and assess the impact of tourism in a specific geographical space, encourage the conservation of tourism resources and explore the development of tourism in South Africa in line with global patterns and trends. This programme includes courses in Tourism Development, Advanced Strategic Management, Advanced Marketing for Tourism and Research Methodology. In addition, students are required to conduct a tourism project.
Duration	1 year
Contact	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Other	This Bachelor of Technology qualification allows graduates entry into the Master of Technology in Tourism and Hospitality Management.

- **Master of Technology in Tourism and Hospitality Management**

Institution / Organisation	Cape Peninsula University of Technology
NQF level	7
Accreditation	An accredited level 7 Masters Degree in Tourism and Hospitality Management.
Entry requirements	A Bachelor of Technology Degree in tourism or hospitality.
Intended audience	Individuals seeking to advance their careers in middle and senior management in the tourism and hospitality fields.

Overview

Students can choose from two options in this programme. The first option involves conducting independent supervised research in a specialised area of tourism and hospitality management and reporting findings in a dissertation. Option two involves a course driven programme, where students complete six modules. Three core modules are completed: Overview of Tourism and Hospitality, Marketing Strategies, Resources Management and the conducting of a research project and developing a research paper. Students in addition choose three electives in Entrepreneurship, Management of Events, Quality Environmental Management, Tourism Development and Planning, Services Management, Community and Cultural Tourism, Accommodation Structure and Organisation, Food and Beverage Management, Hospitality Operations Management, Hospitality and Tourism Operations Development.

Duration

1 year

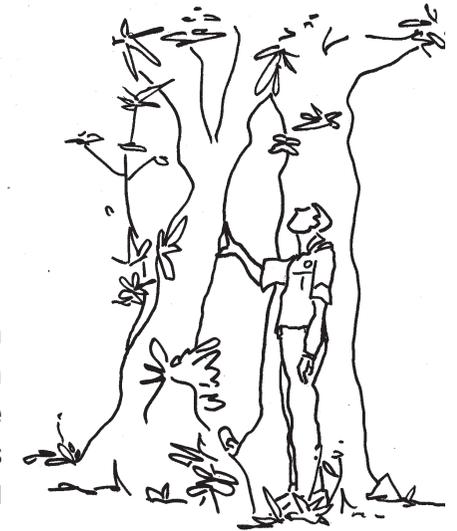
Contact

(021) 959 6121 / info@cput.ac.za / www.cput.ac.za



university qualifications

Universities in the Eastern Cape and the Western Cape offer a wide range of courses that support careers in biodiversity conservation and natural resource management.



University qualifications listed below are diplomas and degrees offered at level 5 on the NQF and upwards through to Honours Degrees at level 6, Masters Degrees at level 7 and Doctoral Degrees at level 8. Please note that short courses offered by Universities have been listed in section 4.

Qualifications listed below include those offered at:

- Nelson Mandela Metropolitan University (NMMU);
- Rhodes University (RU);
- The University of Fort Hare (UFH);
- Stellenbosch University (SU);
- The University of Cape Town (UCT);
- The University of the Western Cape (UWC).

a) Qualifications offered at Nelson Mandela Metropolitan University

Qualifications in Agricultural Management

The Nelson Mandela Metropolitan University offers various courses in Agricultural Management. Recognising that agriculture no longer focuses on traditional farming practices but primarily on the social, economic and environmental pressures that shape the industry, these courses provide opportunities for developing entrepreneurship in the primary and secondary agricultural sector. Career opportunities that open up to graduates include: farm management, agricultural consultancy and extension, food distribution, agri-tourism, game farm management, agricultural finance, nursery, landscape and golf course management, research and biotechnology. Qualifications offered include:

- **National Diploma in Agricultural Management**

This Diploma is offered at level 5 on the NQF and requires an FET Certificate (Grade 12) or an equivalent level 4 qualification for admission. The programme is taken over a period of 3 years with the first two involving applied theoretical training in animal and plant biology, ecology, financial management, human resource management, marketing, law and computer applications. These two years are followed by 1-year experiential training in an agri-business context.

- **Bachelor of Technology in Agricultural Management**

The B.Tech: Agricultural Management is a 1-year extension of the National Diploma, is presented as a full time course and leads to the attainment of a level 6 degree on the NQF. Students seeking admission require a National Diploma in Agricultural Management at level 5 or an equivalent qualification. This programme includes formal lectures, self study and conducting a research project. Compulsory courses in this programme include: Financial Management, Strategic Management and Leadership Development with an elective in Animal Production and or Plant Production.

- **Master of Technology in Agricultural Management**

The Master of Technology in Agricultural Management is offered over 1 year and leads to the attainment of a level 7 qualification. Admission requirements is a B.Tech in Agricultural Management and this programme is research based focusing on a particular area of interest in the field and with research findings reported in a thesis.

- **Doctor of Technology in Agricultural Management**

The Doctor of Technology in Agricultural Management is offered over 1 year and leads to the attainment of a level 8 qualification. Admission requirements is a M.Tech in Agricultural Management and this programme

is research based focusing on a particular area of interest in the field and with research findings reported in a thesis.

Qualifications in Forestry

Various courses are offered at different levels in Forestry, focusing on the management of renewable resources and encouraging sustainable forestry practices that promote economic and social development and environmental rehabilitation and conservation. A wide range of career opportunities open up to Forestry graduates that include: forestry management, forestry contracting, conservation management, fire protection and management, forestry research and agro-forestry. Qualifications offered include:

- **National Diploma in Forestry**

Admission requirements to this National Diploma are an FET Certificate (Grade 12) or an equivalent level 4 qualification, Mathematics at this level is a prerequisite with a recommendation of Biology (Life Sciences) and Physical Science. Offered at level 5 on the NQF, this National Diploma involves 3 years of full time study. 2 years theoretical training involves the exploration of various aspects related to sustainable forest management, including courses in Silviculture, Forest Management, Forest Engineering, Cost and Accounting, Economics and Environmental Management. These two years are followed by 1 year experiential training at an appropriate site in the industry.

- **Bachelor of Technology in Forestry**

The B.Tech in Forestry is offered at level 6 on the NQF. With the National Diploma in Forestry as the prerequisite for admission, this B.Tech in Forestry is offered as a 1-year programme, full time or a 2-year part time programme. In addition to specific core subjects, a wide range of electives could be chosen for this programme, based on formal lectures, self-study and research.

- **Master of Technology in Forestry**

An appropriate B.Tech or equivalent qualification gives a student access to the M.Tech qualification in Forestry, offered at level 7 on the NQF. Taken over one year, this M.Tech is research based and requires participants to conduct a research project related to a specific interest in the industry and report their findings in a thesis.

- **Doctor of Technology in Forestry**

Offered at level 8, this D.Tech. requires prospective students to have completed a relevant M+5 qualification in a forestry related field. This programme, similar to the M.Tech in Forestry, requires the conducting of industry related research and the reporting of findings in a thesis.

Qualifications in Game Ranch Management

Qualifications in Game Ranch Management are aimed at providing opportunities for the development of competence to manage and utilise wildlife resources wisely and sustainably and to support the sustainable growth of the game and ecotourism industry. Career opportunities open up for graduates in game ranch management, as wildlife managers, extension officers, professional hunters, wildlife guides and safari outfitters, working in public and private sector game ranches, game farms and nature reserves. Qualifications offered include:

- **National Diploma in Game Ranch Management**

An FET Certificate (Grade 12) or an equivalent level 4 qualification, with a recommendation of Biology and Mathematics at this level allows entry to this level 5 National Diploma. The programme involves 3 years of full time study, with 2 years theoretical and 1 year experiential training. Through this programme students explore courses in animal and plant biology, ecology, human, financial and natural resource management.

- **Bachelor of Technology in Game Ranch Management**

The B.Tech in Game Ranch Management is offered at level 6 on the NQF. With the National Diploma in Game Ranch Management as the prerequisite for admission, this B.Tech in Game Ranch Management is offered as a 1-year programme, of full time study. In addition to specific core subjects, a wide range of electives could be chosen for this programme, based on formal lectures, self-study and research.

- **Master of Technology in Game Ranch Management**

The Master of Technology in Game Ranch Management is offered over 1 year and leads to the attainment of a level 7 qualification. Admission requirement is a B.Tech in Game Ranch Management and this programme is research based focusing on a particular area of interest in the field and research findings reported in a thesis.

- **Doctor of Technology in Game Ranch Management**

Offered at level 8, this D.Tech requires prospective students to have completed a relevant M+5 qualification in a wildlife management related field. This programme, similar to the M.Tech, requires the conducting of industry related research and the reporting of findings in a thesis.

Qualifications in Nature Conservation

Courses in Nature Conservation are offered to support the sustainable use of natural resources and the conservation of biodiversity. The main emphasis in these courses is to manage biodiversity in natural ecosystems by integrating human, economic and natural resource management. Career opportunities for graduates include: working as nature conservationists, wildlife managers, extension workers, and conservation managers. Qualifications offered include:

- **National Diploma in Nature Conservation**

Offered at level 5, this National Diploma requires an FET Certificate (Grade 12) or an equivalent level 4 qualification with Mathematics and Biology as recommended subjects at this level. The programme involves 3 years of full time study, with 2 years theoretical training and 1 year experiential training in an appropriate natural resource management context. Courses explored in this National Diploma include: Animal and Plant Biology, Ecology and Natural Resource Management. It also includes courses in Community Conservation and Environmental Education.

- **Bachelor of Technology in Nature Conservation**

The B.Tech in Nature Conservation is offered at level 6 on the NQF. With the National Diploma in Nature Conservation as the prerequisite for admission, this B.Tech is offered as a 1-year programme, of full time study. In addition to specific core subjects, a wide range of electives could be chosen for this programme, based on formal lectures, self-study and various projects including research and the development of a management plan.

- **Master of Technology in Nature Conservation**

An appropriate B.Tech or equivalent qualification gives a student access to the M.Tech qualification in Nature Conservation, offered at level 7 on the NQF. Taken over 1 year full time study, this M.Tech is research based and requires participants to conduct a research project related to a specific interest in the industry and report their findings in a thesis.

- **Doctor of Technology in Nature Conservation**

An M+5 qualification in a conservation related field provides entry to this level 8 D.Tech in Nature Conservation. This programme involves students conducting appropriate and relevant research in a conservation context and reporting their findings in a thesis.

Qualifications in Tourism

These courses aim to provide opportunities for the development of professional tourism managers in the growing industry of tourism in South Africa. Qualifications offered include:

- **National Diploma in Tourism**

Requirements for entry into the National Diploma in Tourism are an FET Certificate (Grade 12) or an equivalent level 4 qualification with a recommendation of Geography as a subject at this level and proficiency in English. Offered at level 5 on the NQF and over a period of 3 years, this National Diploma includes courses in Tourism Development, Travel and Tourism Management, and Marketing for Tourism. The third year of study involves experiential learning through the course: Travel and Tourism Practice. Study in this field could be extended through the Bachelor of Technology in Tourism qualification that leads to the attainment of a level 6 qualification. The B.Tech. could be undertaken as both full time or part time study and allows participation in courses in Research Methodology, Advanced Strategic Management, Tourism Development, Marketing for Tourism and undertaking a Tourism Project.

Degrees in the Science Faculty

The NMMU offers two degrees in their Science faculty that support careers in biodiversity conservation. These include a Bachelor of Science with a specialism in Botany and a Bachelor of Science with a specialism in Geology. Both qualifications are undertaken as a 3-year full time study programme and require an FET certificate or equivalent level 4 qualification for admission. Students can choose from a wide range of subjects to make up these B.Sc qualifications, which include:

- **Botany**

Plant Cell Biology, Plant Structure, Plant Evolution and Systematics, Plant Ecology and Environmental Botany, Plant and Algal Systematics, Plant Ecology, Marine Botany, Economic Botany and Biotechnology, Applied Marine Biology, Plant Physiology, Plant Ecophysiology and Plant Ecology and Environmental Management. Students are also required to participate in a Botany related project in their second and third years. This initial degree allows students entry into further specialisation in a specific Botany related field in a fourth year of study (equivalent to a level 6 qualification). Fields of specialisation include Marine Botany, Ecology, Environmental Management, Physiology and Conservation Biology. Students are then also required to conduct a series of three research projects based on specific Botany related topics.

- **Geology**

Courses in the Geology B.Sc degree include: Introduction to the Earth, Earth Materials, Physical Geology, Structural and Economic Geology, Palaeontology, Structural Geology, Optical Mineralogy, Sedimentary Petrology, Igneous Petrology, Stratigraphy Geotectonics and Metamorphic Petrology and Economic Geology.

Contact Details for NMMU:

- Summerstrand Campus (South) (041)5042111
info@nmmu.ac.za
www.nmmu.ac.za
- Summerstrand Campus (North) (041)5043911
info@nmmu.ac.za
www.nmmu.ac.za
- Vista Campus (041)4083100
info@nmmu.ac.za
www.nmmu.ac.za
- George Campus (044)8015111
gcampusinfo@nmmu.ac.za
www.nmmu.ac.za

b) Qualifications offered at Rhodes University

Degrees in Science

Rhodes University offers various courses in the Science Faculty. These courses are in the main a Bachelor of Science (B.Sc) degree at undergraduate level, leading to the attainment of a level 5 qualification. Within the initial B.Sc. degree various options are available for specialisation (see below). Following on from this initial B.Sc degree various options are available for further study and research within the Honours programme at level 6, the Masters and Doctoral programmes at levels 7 and 8 respectively.

Entry requirements for the initial B.Sc degree are an FET Certificate with a university exemption, Mathematics and one of either Physics or Biology (Life Sciences). In the initial B.Sc degree, students are required to select at least 2 major subjects, taken through first year, to second and on to third year level as a specialisation. Advanced studies at Honours, Masters and Doctoral level are followed through from this area of specialisation in the initial B.Sc.

Specialisations in the BSc degree are offered in:

- **Earth Sciences** includes a specialisation in Geology that offers opportunities for the scientific study of Earth and interactions between its internal layers, its surfaces, the atmosphere and oceans. This specialisation aims to provide students with an in-depth and critical understanding of Earth processes in the discovery and managed exploitation of natural resources, mitigating natural disasters that threaten human society, in managing the Earth's surface environments and planning and providing for societies' infrastructural needs.
- **Botany** includes the study of the plant kingdoms including aquatic and terrestrial life forms. Botany includes the disciplines of taxonomy, ecology and morphology, amongst others, and relates to human ecology, biogeography and environmental sciences. Postgraduate research opportunities include: studies of the diversity of flora, coastal and rehabilitation ecology and the effects of changing environment on agriculturally important plants and natural ecosystems.
- **Microbiology** involves the study of microscopic life forms that play crucial roles in everyday life, in medicine, agriculture, industry and biological research. Initial studies include the exploration of the basic structure, physiology, ecology, genetics and classification of these life forms, followed by a closer analysis of their role in, for example, the causation and prevention of infectious diseases, their application in pollution control and bioremediation, their usefulness in industry for fermentations and fine chemical production, their exploitation as vehicles for the introduction of novel genes into plants and animals and their usefulness in basic biological processes and cell differentiation.
- **Zoology** involves the study of animals from the level of cell, through to the whole animal and on to the level of community or ecosystem. It includes disciplines such as biology, physiology, entomology, marine biology and ecology, amongst others. Potential career opportunities for Zoologists include industry, research, environmental consulting, conservation, game management and agriculture.

- **Marine Biology** involves the study of life found between the estuaries and the deep sea. Career opportunities open up for graduates in sea fisheries, oceanography and marine resource conservation, amongst others.
- **Entomology** is the study of insects and is an important sub-discipline of Zoology. It involves the exploration of the importance of insects to man, both as valuable pollinators or control agents of problem species, as enemies of agricultural crops and carriers of diseases. Career opportunities for Entomologists include those in the fields of commerce, industry, agriculture, veterinary, ecology, forensics and education.
- **Ichthyology** deals with the study of fish, found both in freshwater and in oceans. This specialisation focuses on the management and optimal use of food resources that inhabit lakes, rivers and oceans.
- **Environmental Science** is offered as a specialisation in the B.Sc. degree as well as the Bachelor of Economics (B.Econ), Bachelor of Journalism (B.Journ) and Bachelor of Arts (B.A). This course aims to attract students from a wide variety of academic disciplines and takes a multi-disciplinary approach to sustainable environmental management. Students opting for a specialisation in Environmental Science are encouraged to structure their degree around a specific sub-discipline such as biological resources, earth resources, water resources, environmental policy, environmental economics or people and the environment. Various career opportunities open up for graduates with an Environmental Science specialisation and a specific sub- discipline focus, for example,

a degree structured around environmental economics could open up opportunities in industry and business, a focus on biological resources could open up opportunities in conservation agencies, both public and private.

Qualifications in Environmental Education

Environmental Education is offered by the Environmental Education and Sustainability Unit in the Faculty of Education in a range of qualifications. It is either offered as an elective or as an integral component of qualifications from level 6 onwards. Courses offered at levels lower than level 6 are listed in the short course section. Graduates from these programmes find initial or advanced career opportunities in various contexts, including engineering, agriculture, conservation, the health sector, informal, non-formal and formal education and industry and business, amongst others. These courses include:

- **Doctor of Philosophy** involving an intensive research project and preparation of a thesis on the process and findings.
- **Master of Education in Environmental Education** is offered in three formats: (1) the preparation and submission of a full thesis; (2) by coursework and thesis; or (3) by coursework and research projects. Coursework options are offered over 2 years part time study or 1 year full time study.

- **Bachelor of Education Honours** includes the offer of Environmental Education as an elective towards this qualification. It is often, though not exclusively, taken by practising educators and educational managers in the formal education sector.
- **The Post Graduate Certificate in Education** caters for students wanting a professional qualification in education and Environmental Education is taught as an integral part of this certificate. This qualification is of value to individuals in both the formal, non-formal and informal educational context.
- **Advanced Certificate in Education** with a specialisation in Environmental Education is offered to individuals working in the conservation, environmental management, formal, non-formal and informal education sector contexts. The course is offered as a 2-year semi-distance programme consisting of 4 5-day blocks of contact time over this period.
- In the **National Professional Diploma in Education**, Environmental Education is offered as an integral component of this qualification.

Other

As noted before the B.Econ, B.Journ and B.A offered at Rhodes also allow for the integration of an Environmental Science specialisation (see above). The law faculty at Rhodes also allows the opportunity for selecting Environmental Law as a third year elective in its LL.B programme.

Contact Details for Rhodes University:

Central Switchboard	(046) 603 8111 registrar@ru.ac.za www.ru.ac.za
Science Faculty	(046) 603 8292 www.ru.ac.za
Environmental Science	(046) 603 7002 www.ru.ac.za
Environmental Education	(046) 603 8389 www.ru.ac.za



c) Qualifications offered at the University of Fort Hare

University of Fort Hare offers various degrees in the Science and Agriculture Faculty. For admission to any of these degrees, an FET certificate with an endorsement is required and the successful completion of Mathematics at this level. The qualifications offered include:

- Bachelor of Agriculture
- Bachelor of Agricultural Economics
- Bachelor of Agricultural Extension / Production
- Bachelor of Science with a specialisation in Agriculture, Agricultural Economics / Economics, Agricultural Economics / Livestock Production / Plant Production, Horticultural Science / Soil Science, Crop Science / Botany / Soil Science / Livestock and Pasture Science
- Bachelor of Science with a specialisation in Zoology, Botany, Microbiology or Life Sciences.

Contact Details for UFH:

- Alice (Main) Campus (040) 602 2011
086 010 3626
www.ufh.ac.za
- Bisho Campus (040) 639 2445
www.ufh.ac.za
- East London Campus (043) 704 7000
www.ufh.ac.za

d) Qualifications offered at Stellenbosch University

Degrees in Agricultural and Forestry Sciences

The University of Stellenbosch's Science Faculty offers two degrees in Agricultural and Forestry Sciences, namely the Bachelor of Agricultural Administration and the Bachelor of Forestry. Admission requirements for both of these degrees are an FET Certificate (Grade 12) with an endorsement, Mathematics at this level and one of either Physical Science or Biology (Life Science).

• Bachelor of Agricultural Administration

The Bachelor of Agricultural Administration (B.AgicAdmin) provides three specialised learning pathways from which to choose towards this qualification: (1) The Agribusiness pathway focuses on the management of agriculture and agriculture-related business, with a background in either crop or agricultural production. (2) A second pathway, Agricultural and Rural Development Management, emphasises public and development management and policy analysis with crop or animal production as a background; and (3) A third option is offered in Industry- specific Farming Management. Further specialisation could be undertaken through an Honours, Masters and Doctoral Programme offered in Agricultural Administration.

- **Bachelor of Forestry**

The Bachelor of Forestry (B.For) is offered as a 3-year programme and focuses on the social, economic and forestry environments. As such, initial first year courses are drawn from the Social Sciences, including: Information Skills, Applied Value and Policy Studies, Public and Development Management, Sociology and Mathematics. In the second and third year students participate in two major subjects, Community Forestry and Public and Development Management, together with the applied forestry disciplines, namely Forest Management, Silviculture, Forest Engineering and Wood Science. Some career opportunities that open up to graduates with this qualification include: community developer, extension officer, resource planner, consultant or contractor across the private and public sector.

Degrees in Science

The Science Faculty at Stellenbosch offers the Bachelor of Science (B.Sc) degrees with various areas of specialisation, which are listed below. Various admission requirements exist for these various areas of specialisation, the most common being an FET Certificate (Grade 12) with an endorsement, Mathematics at this level and one of either Biology (Life Sciences) or Physical Sciences. Options for the B.Sc degree include a specialisation in:

- **Biodiversity and Ecology**

This programme encourages an in-depth understanding of the variety, origin and functioning of living organisms at the cellular, organic and environmental levels. The programme also offers an emphasis on biodiversity. In addition

to compulsory courses in Ecology, Genetics, Molecular Biology and Evolution Theory, students can choose from Biochemistry, Entomology, Human and Animal Physiology, Microbiology, Botany and Zoology. This qualification opens up opportunities to graduates to pursue careers in biodiversity, ecology, conservation and natural resource management in both the public and private sector.

- **Conservation Ecology**

Offered as a 4-year programme, this specialisation requires students to complete a generic first year B.Sc including courses in Biology, Chemistry, Geology, Computer Skills and Mathematics. From second year onwards, students begin to specialise in conservation ecology through courses in Conservation Ecology, Biodiversity and applied sciences, such as Biochemistry, Microbiology, Biometry, Computer Skills and an introduction to Business Management. In the third year students continue with the specialisation through courses in Conservation Ecology, Biodiversity and Ecology with applied courses in Soil Science and Genetics. In the fourth year students choose courses that relate to their specific career interest. This learning programme offers graduates opportunities to pursue a career in environmental impact assessment and monitoring, restoration ecology, game farm management, ecotourism, community based natural resource management, sustainable production in agriculture and forestry and conservation ecology research.

- **Agriculture (Animal Production)**

The B.Sc. specialising in Agriculture and Animal Production integrates disciplines like ecology, biochemistry, physiology, nutrition, breeding, production and product quality of animal production systems. It focuses on the management of animal production systems in an economically effective and environmentally sustainable way. Some of the possible learning pathways explored through this B.Sc specialisation include: Animal Sciences and Physiology, Biochemistry and Animal Physiology with Animal Sciences, Animal Sciences with Agronomy, Animal Sciences with Agricultural Economics, Animal Sciences and Aquaculture and Animal Sciences and Conservation Ecology. Some of the career opportunities opening up to graduates include working as a consultant, entrepreneur, technician, adviser, product development manager or production manager in animal sciences or related industries.

- **Agriculture (Crop Production Systems)**

Offered as a 4-year programme, the B.Sc: Agric in Crop Production focuses on specific crop types such as agronomic and vegetable crops, pastures, deciduous fruit, citrus fruits and vines. A focus on each of these crop types is integrated into the following general courses: Agricultural Economics, Biochemistry, Biometry, Crop Production, Entomology, Genetics, Nematology, Plant Pathology and Soil Science. Students in this learning programme may choose from one of three options: (1) Crop production which focuses on crop production management of agronomic crops, deciduous fruits, citrus and vine, amongst others; (2) Crop Protection and Crop Breeding that focuses on entomological and nematological plagues, plant diseases and their control and genetic crops; and (3) Soil and Water

Management that focuses on the nature, importance and management of soil and water as they relate to crop production.

- **Agricultural Economic Analysis**

This specialisation is offered as a 4-year programme supporting the development of economic and management competence in agriculture. For the first year of this programme, students complete general B.Sc courses and from the second through to fourth year they focus on Agricultural Economics.

- **Wine Production Systems**

This learning programme focuses on the vine, its structure and options for scientific manipulation, with an emphasis on sustainable product types.

- **Forestry**

After completing a generic B.Sc structured programme in the first year and a second year made up of applied natural science courses, such as Crop Production, Soil Science and Biometry, students with an interest in this 4-year programme choose one of two options to follow from their third year onwards and that includes a focus on biodiversity conservation. These include: (1) Forest and Resource Management which involves the cultivation and harvesting of trees and the management of forests, with courses in Forest Management, Silviculture and Business Management; (2) Agroforestry with a focus on community development in the forestry environment, including courses in Agronomy and Community Forestry.

Various options are available for pursuing postgraduate studies in the above areas of specialisation, from Honours level, through to Masters and Doctoral level of study.

Bachelor of Arts in Development and the Environment

The Bachelor of Arts Degree in Development and the Environment is an inter-faculty learning programme that provides opportunities for exploring in depth interactions between society, socio-economic development and the natural environment. The programme encourages the development of management skills for entrepreneurs, managers, planners and administrators in the private and public sector and local, provincial and national government. Specific occupational fields that this learning programme aims to support include: community development, population development, town and regional planning, tourism planning and management, resource planning and management, and environmental planning and management.

For admission to this learning programme an FET Certificate (Grade 12) with an endorsement is required. For this 3-year programme students are required to undertake three major courses in Geography and Environmental Studies, Sociology and Public and Development Management, with Economics as a compulsory subject in first year. Various courses from the Arts or other faculties then complement these major subjects towards the completion of this qualification.

Masters in Sustainable Development Planning and Management

The Sustainability Institute (see section 4), in partnership with the School for Public Management and Planning at the University of Stellenbosch offers a Masters programme in Sustainable Development Planning and Management. This level 7 qualification is intended for business, government, NGO and CBO leaders with an interest in supporting and contributing to debates around, and actions toward sustainable development.

This Masters Programme is offered as a coursework programme, with the completion of certain core and elective modules and the completion of an integrated thesis or assignment that may comprise of a half thesis, a research report, a journal article submission or a creative work. Students are required to complete 8 modules for the coursework component including: Sustainable Development, Complexity Theory and Systems Thinking, Leadership and Ethics of Sustainability, Governance, Globalisation and Civil Society, Sustainable Cities, Biodiversity and the Challenge of Sustainable Agriculture, Ecological Design for Community Building and Corporate Citizenship. Specialist modules for Development Planners include: Development Planning Theory and Practice, Development Planning, Environmental Analysis and Research, Development Planning Systems, Policy and Law and Applied Economics for Development Planners. All modules offered on this Masters programme are also offered by the Sustainability Institute as short courses (see section 4).

Qualifications integrating Environmental Education

Environmental Education at the University of Stellenbosch is integrated into a range of undergraduate and postgraduate courses, including:

- **Bachelor of Education Undergraduate Degree**

Students in the third year of the B.Ed undergraduate programme are offered Environmental Education as an integral component of their degree. Environmental Education is offered at this level as a module, and focuses on the integration of environmental learning into the formal school curriculum for Foundation Phase, Intermediate Phase and Senior Phase.

- **Bachelor of Education Postgraduate Degree**

Students in the B.Ed Honours programme are offered Environmental Education as an elective towards their qualification.

- **Master of Education**

The Master of Education programme with a specialisation in Curriculum Studies offers students the option of focusing on Environmental Education.

- **Doctor of Education**

Students enrolled for the Doctor of Education Degree have the option of focusing their research and thesis on Environmental Education.

Contact Details for Stellenbosch University:

General	(021) 808 9111 www.sun.ac.za
Faculty of Arts	(021) 808 2138 www.sun.ac.za
Agriculture and Forestry	(021) 808 4833 www.sun.ac.za
Faculty of Science	(021) 808 4832 www.sun.ac.za
Faculty of Education	(021) 808 4831 www.sun.ac.za

e) Qualifications offered at the University of Cape Town

Bachelor of Science Degrees

The University of Cape Town (UCT) offers four specialised Bachelor of Science degrees, one of these being a B.Sc with a specialisation in Biology, Earth and Environmental Science, known as the BEES programme.

The BEES programme is aimed at students with an interest in Biology, Ecology, Flora, Fauna, Archeology, Geology, the atmosphere, the oceans, environmental management, inland waters and surrounding seas. The programme offered is a broad one with various options for specialisation. In the first year of study students are required to undertake one or more of Biological Diversity, Cell Biology, Introduction to Earth and Environmental Sciences and basic courses in Chemistry, Statistics and Mathematics. Students are then also allowed to choose complementary courses from either the Faculty of Science or another faculty at UCT. From the second year, students choose a particular area of specialisation from: Archeology, Atmosphere Science, Botany, Ecology, Environmental and Geographical Sciences, Evolutionary Biology, Geology, Marine Biology, Ocean and Atmospheric Science and Zoology. Students are also required at second and third year level to take senior supporting courses in Chemistry, Physics and Mathematics.

Further opportunities for specialisation in the above areas are provided for in the Faculty of Science's postgraduate programme through various Honours, Masters and Doctoral options for study.

Contact Details for the University of Cape Town:

General Enquiries	(021) 650 9111 admissions@bremner.uct.ac.za www.uct.ac.za
Science Faculty	(021) 650 2712 scifac@science.uct.ac.za www.uct.ac.za

f) Qualifications offered at the University of the Western Cape

Various degrees offered in the Science and Arts faculty at UWC offer students the opportunity to pursue a career in biodiversity conservation. For entry into any of these degrees an FET Certificate (Grade 12) with an endorsement is required and Mathematics, Biology and Physical Science are recommended subjects at this level.

Degrees in Science

UWC offers a general B.Sc degree with specialisation options in Botany, Geography, Geology, Microbiology and Zoology, amongst others. In addition, the Science faculty offers a specialised learning pathway for a B.Sc in Environmental Science and Biodiversity and Conservation Biology:

- **Environmental Sciences**

This 3-year programme involves introductory modules in Geography, Life Sciences Geology, Computer Literacy and Academic Literacy in Science, amongst other courses. The second and third years involve courses in Chemistry, Geology, Zoology, Botany, Geography and Environmental Science, focusing on interface between the natural and social environment and exploring more sustainable interactions. These courses are complemented with electives from the Science or other faculties of UWC or other universities.

- **Biodiversity and Conservation Biology**

The 3-year B.Sc programme specialising in Biodiversity and Conservation Biology explores why and how organisms are classified, their important life functions and how they interact with each other and the environment. In the first year students undertake courses in Cell Structure and Cell Processes, Diversity of Life and processes maintaining it, Hereditary and Biochemical Processes, Ecology and Ecological Processes together with general foundation courses in Academic Literacy, Computer Literacy and Numeracy. In second year students engage with courses in Biodiversity and Evolution, Animal Diversity, Animal Systems, Environmental Physiology and Phylogeny of photosynthetic organisms. They also complete modules in the classification and systematics of vascular plants, nutrition of angiosperms, principles of ecology and biochemistry for Life Sciences. The second year of study also involves a practical component made up of fieldwork in biodiversity and conservation and laboratory work related to various modules. Students wishing to do so may exit the programme after the second year with a Certificate in Biodiversity and Conservation Biology. Third year modules include: Ecological Physiology, Applied Animal Physiology, Resource Ecology, Species and Genes, Functional Diversity of Photosynthetic Organisms, Biogeography, Biotechnology and Economic Botany, Marine and Estuarine Ecosystems, and Landscape Ecology and People. The third year also has practicals as an integral part of the learning programme. Students then have an option of enrolling for the Honours Programme in Biodiversity and Conservation Biology towards a level 6 qualification.

Degrees in Arts

In the context of biodiversity conservation, the Faculty of Arts offers a specialisation option in Geography and Environmental Science and Tourism. Admission requirements for these Bachelor of Arts specialisations include an FET Certificate (Grade 12) with an endorsement and a recommendation of Geography at this level.

- **Geography and Environmental Science**

This programme is designed to explore the interactions between the social and natural environments. It follows a holistic and integrative approach and its curriculum is interdisciplinary in nature. Graduates in the B.A specialising in Geography and Environmental Science will develop the competence for careers as environmental managers, urban and regional managers and planners, tourist managers, coastal managers, teachers and lecturers, amongst others. A requirement for this qualification is that students complete Geography courses at first year level.

- **Tourism**

The course is designed to provide students with an opportunity to explore the structural, management, marketing and policy framework related to the growing tourism industry with a specific emphasis on the intercultural, linguistic, environmental and development issues in the South African tourism industry. Career opportunities are opened up to graduates as researchers, educators, policy makers, tourism officers, analysts, tourism planners and programmers, travel agents, tourism managers and entrepreneurs in the

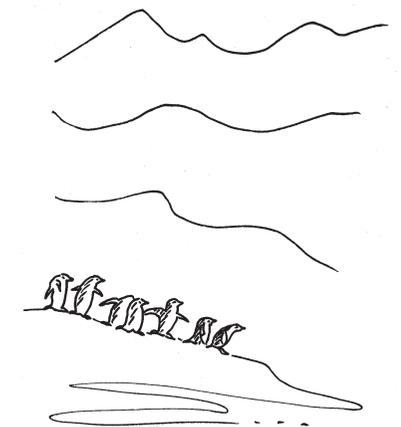
field. Students enrolling for this programme choose from a range of 22 courses of which Geography is compulsory at first year level. In this learning programme a foreign language is a strong recommendation. Environmental Law is also an elective in this programme.

Contact Details for the University of the Western Cape:

General Enquiries	(021) 959 2911 www.uwc.ac.za
Faculty of Arts	(021) 959 3113 www.uwc.ac.za
Science Faculties	(021) 959 2178 www.uwc.ac.za



useful contacts



Further Education and Training Colleges

... in the Eastern Cape

Buffalo City College	(043) 722 5453 ceo@bccollege.co.za www.bccollege.co.za
Eastcape Midlands College	(041) 922 7132
Ikhala College	(045) 838 2593
King Hintsa College	(047) 492 8016
King Sabata College	(047) 535 1884
Lovedale College	(043) 642 3152
Port Elizabeth College	(040) 608 4201/2/3 www.pecollege.edu.za

... in the Western Cape

Boland College	(021) 887 3027 hq@bolandcollege.com www.bolandcollege.com
College of Cape Town	(021) 462 2053 info@capecollege.ac.za www.capecollege.ac.za
False Bay College	(021) 701 1340 info@falsebay.org.za www.falsebaycollege.co.za
Northlink College	(021) 930 0957 info@northlink.co.za www.northlink.co.za
South Cape College	(044) 884 0359 rector@sccol.co.za www.careers4u.co.za info@careers4u.co.za
West Coast College	(022) 713 3167

Private Higher Education Institutions

Damelin	www.damelin.co.za
Intec	www.intec.edu.za

Sectoral Education and Training Authorities

Agricultural SETA (AGRISETA)	(012) 325 1655 www.agriseta.co.za
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Construction Education and Training Authority (CETA)	(011) 265 5900 www.ceta.co.za
Chemical Industries Education and Training Authority (CHIETA)	(011) 726 4026 www.chieta.org.za
Clothing, Textile, Footwear and Leather Education and Training Authority	(031) 702 4482 www.ctflseta.org.za
Energy Sector Education and Training Authority (ESETA)	(011) 689 5300 www.eseta.org.za
Education, Training and Development Practices Education and Training Authority (ETDPSETA)	(011) 628 5000 www.etdpseta.org.za
Forestry Industry Education and Training Authority (FIETA)	((011) 712 0660/1 www.fieta.org.za
Food and Beverages Manufacturing Industry (FOODBEV)	(011) 802 1211 www.foodbev.co.za
Health Professionals Council of South Africa (HPCSA)	(012) 338 9300 www.hpcsa.co.za
Health and Welfare Sector Education and Training Authority (HWSETA)	(011) 607 6900 www.hwseta.org.za
Local Government Sector Education and Training Authority (LGSETA)	(011) 456 8579 www.lgseta.co.za

Manufacturing, Engineering and Related Services Education and Training Authority	(011) 484 9310 www.merseta.org.za
Mining Qualifications Authority (MQA)	(011) 832 1022 www.mqa.org.za
Public Services Education and Training Authority (PSETA)	(012) 314 7104 www.dpsa.gov.za
Services Sector Education and Training Authority (SERVICESETA)	(011) 276 9600 www.serviceseta.org.za
Transport Education and Training Authority (TETA)	(011) 781 1280 www.teta.org.za
Tourism, Hospitality and Sports Education and Training Authority (THETA)	(011) 803 6010 www.theta.org.za
Wholesale and Retail Sector Education and Training Authority (W&RSETA)	(012) 452 9200 www.wrseta.org.za
State Departments	
Department of Education	www.education.gov.za
Department of Environmental Affairs and Tourism	www.deat.gov.za
Department of Labour	www.labour.gov.za
Department of Water Affairs and Forestry	www.dwaf.gov.za
South African Qualifications Authority	www.saqa.org.za

Universities

Nelson Mandela Metropolitan University	(041) 504 2111 / info@nmmu.ac.za / www.nmmu.ac.za
Rhodes University	(046) 603 8111 / registrar@ru.ac.za / www.ru.ac.za
University of Fort Hare	(040) 602 2011 / 086 010 3626 / www.ufh.ac.za / dmc@ufh.ac.za
Stellenbosch University	(021) 808 9111 / www.sun.ac.za / beo1@sun.ac.za
University of Cape Town	(021) 650 9111 / admissions@bremner.uct.ac.za / scifac@science.uct.ac.za / www.uct.ac.za
University of the Western Cape	(021) 959 2911 / (021) 959 3900 / www.uwc.ac.za / science@uwc.ac.za

Universities of Technology

Cape Peninsula University of Technology	(021) 959 6121 / info@cput.ac.za / www.cput.ac.za
Walter Sisulu University of Technology	(047) 401 2000 / info@wsu.ac.za / www.wsu.ac.za



LOCAL ACTION AND LEARNING FOR SUSTAINABLE LIVING

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