



# CAREER GUIDE ALBANY MUSEUM



CAREERS AT ALBANY MUSEUM

## BOTANY/HERBARIUM

**The Herbarium** houses a collection of preserved plant specimens and associated data. It is used for scientific study, curation of plant collection. Taxonomy include description of new species, provides an accessible resource for the identification of plants to schools, colleges, universities and farmers, renders services locally, nationally and internationally.

### When are you considered a Professional Botanist / Herbarium curator?

One needs to study plant science (botany) as a major in his/ her undergraduate degree and study botany at Honours, Masters or Ph.D. level.

### Why study botany?

The increasing human populations, modern technology, and industrial and agricultural practices are causing many environmental problems that are likely to become worse with time. Ultimately, man is dependent on plants for fresh air, food, fibre, medicine, building materials and aesthetic environments. Botanists can help the world to use plants in a sustainable manner and to address many of these environmental problems.

### What opportunities are there for a graduate of Botany?

Careers in Botany vary. Many Botanists operate in pleasant environments, such as working in laboratories, going out on field expeditions etc. Many botanists get the opportunity to further their studies in a particular field of Botany and obtain Masters or Doctorate degrees. It is furthermore possible to become part of a worldwide network of botanists and contribute towards a better quality of life.

### Will you get a job?

A degree in Botany will widen your career opportunities. With experience, new ideas and entrepreneurship, you can manage your own botanical consultancy or enter into many other fields in the scientific and business world. Job opportunities include: Environmental Manager, Park Ranger, Environmental Consultant, Environmental Officer, Biotechnologist, Marine Botanist, Plant Anatomist, Ethnobotanist, Conservation Biologist, Ecotourism Entrepreneur, Grassland Scientist, Horticulturist, Taxonomist, and many more.

## ENTOMOLOGY & ARACHNOLOGY

An entomologist is a scientist who studies insects. Entomologists have many important JOBS, such as the study of the classification, life cycle, distribution, physiology, behaviour, ecology and population dynamics of insects. Entomologists also study urban pests, forest pests, agricultural pests and medical and veterinary pests and their control.

### Entomology is not just a sub discipline of Zoology.

Look for a university with undergraduate entomology, there is too much to learn to just pick it up in Honours or Masters. Rhodes University offers full credits in Entomology, UKZN and UCT offers modules within their Zoology degrees.

### Good co-majors

Botany – Pollination biology, feeding ecology  
Zoology – ecology and animal physiology  
Taxonomy or Systematics – naming and describing species and the evolutionary links between them





## FRESHWATER INVERTEBRATES

The Freshwater Invertebrates Department deals with invertebrates (animals without backbone) that live in freshwater environments (rivers, lakes, ponds, wetlands, dams). Researchers at the department study these animals to find out about their taxonomy (naming of species), distribution, life cycles and ecology. With this information they are able to interpret the health condition of a river using a SASS 5 (South African Scoring System) method of analysing river health. The fieldwork and research they conduct are not limited only to South African rivers but extends to other parts of Africa.

### Careers for Freshwater Scientists:

- **Curator in museums** (responsible for managing invertebrate collections)
- **Freshwater ecologist** (study how invertebrates interact with other organisms and their environment)
- **Limnologist** (studies bodies of freshwater systems such as ponds, lakes and rivers with reference to their physical, geographical and biological features).
- **Environmental consultant** (will work in environmental consultancy firm, address environmental issue such as water contamination in rivers and provide advices to improve water quality)
- **Laboratory Technician** (works hand-in-hand with researchers by sorting and processing the samples collected in the field)
- **Researcher** (e.g. at Universities, Museums or Research Institutes)
- **Lecturer** (at institutions of higher learning, e.g. Universities)
- **Taxonomist** (describe new species)
- **Phylogeneticist** (study relationships between species using molecular modelling)
- **River health practitioner** (e.g. based at Department of Water and Sanitation)
- **Hydrologist** (will research on the distribution, circulation and physical properties of underground and surface waters).

### When are you considered a Professional Freshwater Scientist?

The first degree needed is Bachelor of Science (B.Sc) Undergraduate Degree majoring in Zoology, Entomology and Hydrology (3 years) It is essential to get a BSc (Honours) degree (1 year) before you can be considered as a Candidate Scientist. To become a Professional Scientist, you may do this by gaining work experience after Honours. It is advisable to finish studies with: Masters Degree (2 years), Doctoral degree/PhD (3 years), Post Doctoral Research



FWI Team with visiting Professor Chris Appleton of UKZN (seated)



## PALAEONTOLOGY

**Palaeontology** is a broad, interdisciplinary field encompassing all aspects of ancient ecosystems, including plants, vertebrates, invertebrates, food webs, trace fossils, palaeo-environment, palaeoclimate, soils, geology etc.

### Careers for Palaeontologists

- **Researcher e.g. at Universities or Museums**
- **Lecturer**
- **Environmental Consultant** – contract work is an important source of funding and research opportunities, particularly compiling Palaeontological Impact Assessments for companies doing Environmental Impact Assessments (EIA).

### Kinds of work involved:

Depending on your undergraduate subjects, you can specialise in the study of plants, animals, marine invertebrates, insects, fish, trace fossils, geology, climatology etc.

- **Curation** (collection and care of fossils at a museum or university)
- **Taxonomy** (description of new species)
- **Systematics** – study of the diversification of living forms, both past and present, and relationships through time.
- **Phylogenetics** (study relationships between species using computer models)
- **Ecological Studies** (study how species interact in the environment)
- **Studying past climates** (how was the world different in the past?)
- **Biostratigraphy** – (using fossils to compare the ages of rocks in different areas)
- **Biogeography** (how have the distributions of different life forms changed over time?)
- **Out reach activities** (teaching school and university students and the general public about fossils and what they tell us about the past.

### When are you considered a Professional Palaeontologist?

- You can do any life sciences and/or geology undergraduate degree, and will only study palaeontology at Honours, Masters or Ph.D level.
- 3 years study, Graduate Degree/s (Bachelor of Science degree)
- Honours degree (1 year), Masters Degree (2 years), Doctoral degree/PhD (3 years), Post Doctoral Research .

## GEOLOGY

**Mine Geologist** - Working for mining companies, guiding the mining process, working with other geologists, mining engineers, and others. Working at mines.

**Exploration Geologist** - Working for mineral exploration or mining companies to find new ore deposits; Mostly outdoor work describing and sampling rocks and soils.

**Geological Survey/Council for Geoscience government geologist** - Describing rocks and collecting data for use by companies and researchers; working with other geoscientists.

**University/Museum-based geologist** - Conducting training and teaching future geologists, and conducting research; working with colleagues from near and far.

**Geological Consultant** - Working for the mining or exploration industries as a consultant professional; may also conduct Impact Assessments for heritage (Palaeontological, Archaeological) or environmental purposes.

**Hydrogeologist** - Conducting monitoring and planning water use for people, both in urban and rural areas, working for companies or government.

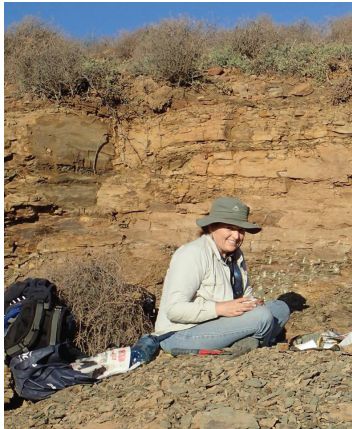
**Petroleum Geologist** - Studying where and how hydrocarbon deposits form. Mostly working for Energy companies.

### Some of the sub disciplines of Geology include:

- Geophysics (using technology to analyse what we cannot see)
- Exploration Geology (finding new ore deposits)
- Economic Geology (study of ore deposits)
- Hydrogeology (understanding ground water movement)
- Palaeontology (study of the history and evolution of life)
- Structural Geology (understanding why and when rocks bend, crack and break)
- Mineralogy (study of minerals and their structures)
- Petrology (the study of how minerals grow and rocks form)
- Sedimentology (the study of how rocks form at the Earth's surface)
- And many others...

## When are you considered Professional Geologist?

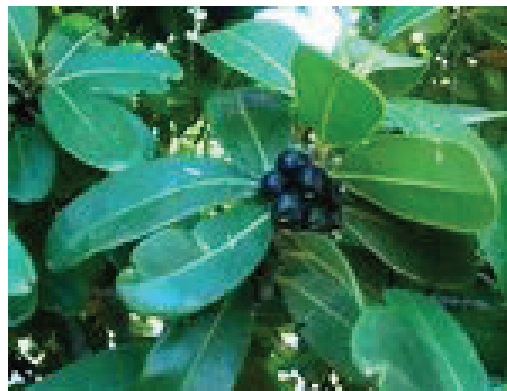
- 3 years study Undergraduate Degree/s (B.Sc. in Geology) You are now eligible to practice as a geologist, with some limited eligibility for employment by companies; you now qualify to get a teaching qualification(PGCE; 1 more year)
- Honours degree in Geology (1 year) You are now eligible for professional registration as a geologist (SACNASP), and employment by companies and government.
- Masters Degree/M.Sc. (2 years) You are more competitive for company jobs, and eligible for higher research degrees (Ph.D.)
- Doctoral degree/Ph.D. (3 years) You are now eligible for academic (university, museum) research jobs.
- Post Doctoral Research These are research contract (temporary) jobs, which may lead to permanent jobs.



Palaeontology Team on the field

## Did you know ?

- The Palaeontology collection, one of the oldest in South Africa, began in the mid 19th century by two pioneers of the Museum, AG Bain and WG Atherstone.
- Grahamstown was founded by Colonel John Graham as a military garrison in 1812.
- The first dinosaur found in South Africa was in 1845.
- Selmar Schonland Herbarium has 200 000+ plant specimens primarily from the Eastern Cape from mid 19th Century. It is the 2nd oldest and 4th largest herbarium in South Africa and the 9th largest on the African Continent
- Fresh Water Invertebrates has close on 2-million specimens from all over Africa, and is the largest such collection in the continent.
- Albany Museum became an affiliated institute for Rhodes University in 1983 and continuing the tradition begun especially by directors Schonland and Hewitt, the museum remains one of South Africa's respected scientific research institutions.
- The AmaMfengu gathered under an old Sideroxylon inerme (Botanical name), milkwood (English), melk-hout (Afrikaans), umqwashu (Xhosa) tree in Peddie District, in the presence of Rev John Ayliff, and swore a great oath to obey the Queen, to accept Christianity, and to educate their children.



Milkwood - Umqwashu



## ANTHROPOLOGY

An Anthropologist is a scientist that studies man. An anthropologist studies modern humans as well as olden day humans from thousands of years ago. Anthropologists also enjoy collecting objects that human-beings use - like pots and drums, calabashes and bead work, ceramics and clay objects. They also collect photographs and musical instruments.

### Careers for Anthropologists

- **Curator** in museums (responsible for managing Museum cultural and heritage artefacts plus information)
- **Researcher** (e.g. at Universities, Museums or Research Institutes)
- **Lecturer** (at institutions of higher learning, e.g. Universities, technikons, FET's)
- **Educator** (Responsible for educating Arts and Culture studies in Schools)
- **Medical Anthropologist** (responsible for Medicinal healing and research, they can work with Botanists to identify medicinal plant species for healing purposes.)
- **Forensic Anthropologist** (Responsible for laboratory forensic research, analysis and specimen tests.
- **Philanthropist Community Advisor** (Responsible for advising communities or do consultation work).



### When are you considered a Professional Anthropologist?

- The first degree needed is Bachelor of Arts in Social Sciences in Undergraduate Degree majoring in Anthropology, Sociology for (3 years)
- It is essential to get a B.A (Honours) degree (1 year) before you can be considered as a Professional Anthropologist and have done in-service training at any institution.
- To become a Professional Anthropologist, you may do this by gaining work experience after Honours. It is advisable to finish studies with:
  - Masters Degree (2 years)
  - Doctoral degree/Ph.D. (3 years)
- Post Doctoral Research



## ARCHAEOLOGY

Is the study of the artefacts from past societies to determine the lifestyles, history, and the development of these societies.

### Careers in Archaeology

#### Start Early:

- Volunteering at museums, university departments, private companies.
- Joining a society (South African Archaeological Society, hiking clubs, etc)

#### At University:

- Get involved!
- Apply for tutoring positions
- Volunteer to be a skivvy on post graduate digs/analyse material
- Volunteer to assist with surveys and Cultural Resource Management projects
- Ask about exchange programmes
- Apply for Internships

### Where can you study Archaeology?

South African Universities: University of Cape Town (UCT), University of the Witwatersrand (Wits), University of Pretoria (UP), University of South Africa (UNISA), Several overseas universities also offer Archaeological Studies.



### When are you considered a Professional Archaeologist?

- Undergraduate Degree (3 years study)
- Postgraduate Degree/s
- Honours degree (1 year?)
- Masters degree (2 years)
- Doctoral degree/PhD (3 years)
- Post Doctoral Research

## HISTORY

History involves studying what people did in the past. The curator of the History Museum collects artefacts and information about people who lived a long time ago in the Eastern Cape. The curator finds out how they lived, what they liked doing, and what they made and collects the objects that they left behind. He/she also enjoys collecting and understanding and exhibiting artworks created by people in the past and today. Curation also involves conservation which means looking after the artefacts.

### Who should become a Curator?

- Enjoy quiet environment
- Communicate with the public
- Attention to detail and accuracy
- Organisational skills
- Enjoy writing and reading and investigating
- Careful, cautious and patient
- Likes to look after objects

### How do you become a Curator?

#### High School Subjects:

- History, Art, Language, Computer Studies

#### Further Studies

- History, Art History, Cultural & Archival & Heritage Studies,

#### Postgraduate Studies

The African Programme in Museum and Heritage Studies at UWC, Heritage courses at Stellenbosch and Pretoria Universities, UNISA - Post graduate Archival courses. SA Institute for Conservation Joubertina - conservation courses.





## EDUCATION

### Become a Museum Educator

Though museums are interested places to visit they can also be places where people can learn. The Learning/Education officer is responsible for organising educational programs and events for children of all ages at the museum.

### Responsibilities and Duties include:

- Delivering learning programmes to various groups visiting the museum.
- Developing resources to support learning visits to museum and gallery collections.
- Marketing learning programmes to schools.
- Researching developments in teaching and learning in museum-based education.

### QUALIFICATIONS

- A teacher's qualification- diploma and/or degree
- Classroom teaching experience
- Life Sciences, Natural Sciences, Social Sciences and Art.



## EXHIBITIONS



It is the job of an Exhibition Officer to give assistance with the development of new exhibitions whether they are temporary, traveling or permanent and installed in the museum for public viewing. They design the interior gallery space, install the exhibition, and ensure that the security of the objects on display are placed in a safe and secure environment within the museum.

### Responsibilities and Duties include

- Planning or finding new exhibitions for museums or galleries
- Keep detailed records of objects on display
- Advising on the display and care of museum objects.
- Arranging transport and the insurance for traveling exhibitions.

### Qualifications

- A Degree or Diploma in Fine Art/Graphic design/ industrial design
- A post graduate museum qualification



## MARKETING AND COMMUNICATIONS

A Communication and Marketing Officer must be someone who is multi-talented and is able to multi-task. S/he must not just love reading, talking, but must follow and understand news, business and development. The person must be able to work within a team as well as individually, sometimes working very long hours in order to meet tight deadlines.

Unlike other sectors, at the museums one has to do jobs that are distributed among three or more people. It is advisable nowadays that a Museum Communication Officer must have a three to four years professional diploma or degree in communication, public relations, journalism or other related fields. Furthermore, one must keep up with current trends.

Some of the tasks include: Stakeholder management, website content management, media liaison, photography, press releases, video production, events management, newsletter production and annual reports production.

## HISTORY MUSEUM



## OBSERVATORY MUSEUM



## NOTES!

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## NOTES!



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Established 1855

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