



# **MAKING SENSE OF A CAREER IN ZOOLOGY**

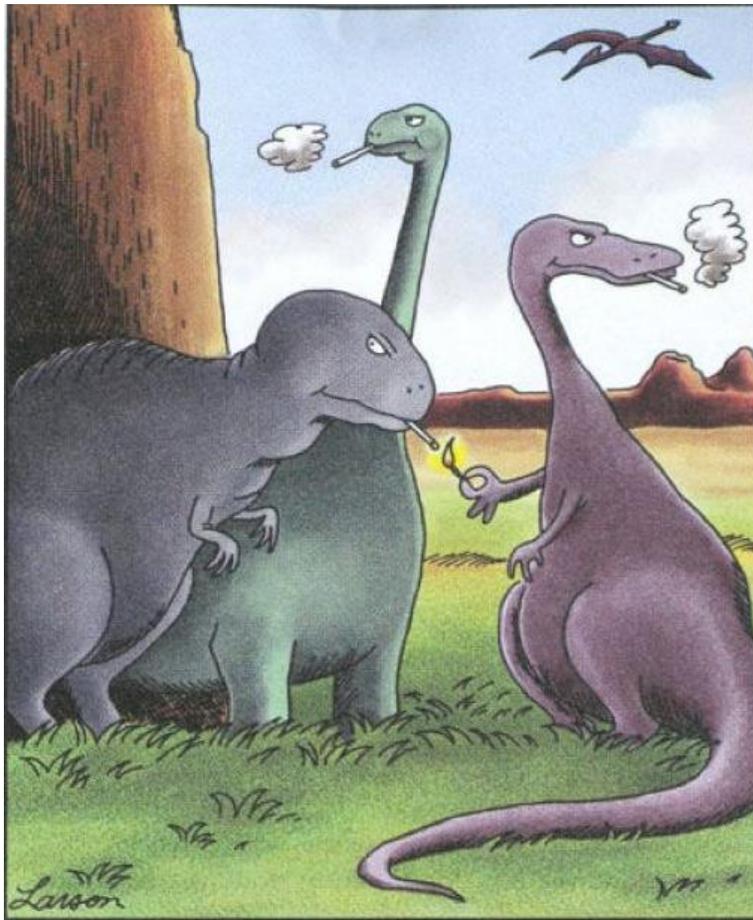
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The real reason dinosaurs became extinct

# Introduction

So, you have just finished Grade 12 and the celebrations about getting a *university exemption pass* are winding down. Now it is time for you to decide what you would like to do for the rest of your life! Out of all the ones you applied to, which university should you choose to attend? Which subjects should you take? Will you be able to make new friends? All very HECTIC decisions!

In this short booklet, we hope to provide you with a bunch of information on a subject you may not have even heard of before – ZOOLOGY. We describe how working as a zoologist does not necessarily mean that you will end up being a zookeeper in the Jo'burg zoo. We discuss which school subjects and university degrees can help you become a zoologist and the places you could choose to study. Probably most importantly, we have asked a few professional zoologists to give you some insight into what it means to do what they do.



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*“Animals, whom we have made our slaves, we do not like to consider our equal.”*

*Charles Darwin*

# What is zoology anyway?

In its broadest sense, zoology is the study of animals and a zoologist is a scientist who studies animals and their environment or habitats. Animals, in this context, are any living organisms that are not plants, fungi, viruses or bacteria (the study of these organisms is the realm of the botanists and microbiologists). Animals include creatures like the marine sponges (which don't look much like animals!), jellyfish, worms, rock lobsters, snails, insects, fishes, frogs, snakes, birds and mammals.

## Making a career out of zoology

To many people, zoologists are those individuals you see on wildlife documentaries on TV. Here, the intrepid researcher is seen studying lions in East Africa, insects in the Amazon jungle, whales off Hawaii, or penguins in the Antarctic. This is the glamorous side of zoology and, of course, not everyone is able to enjoy such



opportunities. Nevertheless, zoology can offer a variety of exciting, stimulating and rewarding careers. So, if you have an interest in nature and the environment, maybe zoology and becoming a zoologist is for you?



Because zoology is a very broad area of scientific study, careers can be defined in several ways. For example, one person might specialise in fish (an ichthyologist) whereas another may specialise in mammals (a mammalogist). Yet another might concentrate on the development of the early stages of life in both fish and mammals (an

embryologist or developmental biologist). Thus, there are many different ways in which specialists can be defined. Here, we have tried to indicate the more general categories of careers for which employment may be available in South Africa. There is no special importance attached to the classification used; it simply reflects zoology in the country at



present and how jobs are described by the wide variety of agencies, institutions and companies engaged in zoological research and employing zoologists. Among others, these include public and private schools, National and Provincial nature conservation agencies, the South African Bureau of Standards, the Council for Scientific and Industrial Research (CSIR), the Medical Research Council (MRC), museums, universities, colleges, zoological gardens, , the Departments of Environmental Affairs (DEA), Agriculture, Forestry and Fisheries (DAFF) and Health, local authorities, game farms, firms of ecological consultants, pharmaceutical companies and many other private and state agencies.



The demand for zoologists varies widely. For example, in most parts of South Africa there are more posts than there are biology teachers so that one will almost certainly be able to get a teaching job, although this may not always be in the most convenient locality. Permanent positions are usually more easily available in applied than in "pure" fields. Openings for

entomologists and fisheries biologists, for example, are fairly common, whereas there are a very limited number of university teaching posts, which are highly sought after because they give zoologists an opportunity to do the research of their choice. Members of university staff are awarded research grants by outside agencies such as the National Research Foundation (NRF) to support

postgraduate student research and to employ research assistants over the short-term.

## What school subjects do I need?

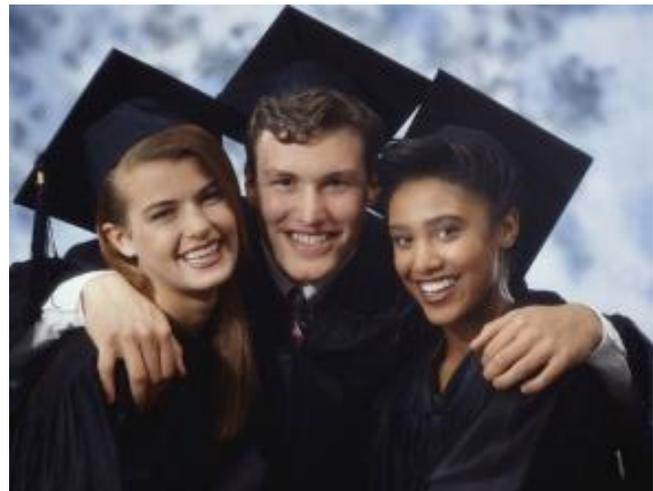


The short answer to this question is that it depends on the university you will be attending. However, most universities require a university exemption with a pass in *mathematics*. Irrespective of entrance requirements, *mathematics* as well as *physical* and *life science* are highly recommended for prospective zoologists. Oddly

enough, *physical science* (i.e. *physics* and *chemistry*) is a more useful Grade 12 subject than *life science* because many universities start teaching *biology* (the foundation of zoology) from the basics. It should be noted that entrance requirements may be revised from time-to-time and updated requirements should be obtained from the institution of your choice. The various university web sites are usually good sources for this sort of information.

## Which degree should I choose?

A Bachelor of Science degree (B.Sc.) is the basic degree normally required if you wish to become a zoologist. It is a 3-year degree. The exact requirements for a B.Sc. degree with zoology as a major subject are specific to each university. Sometimes the different universities have slightly different courses available that allow students to select specific career paths quite early on.



Differences between universities aside, there are a number of points that any prospective zoologist would be wise to consider:

1. Although *mathematics* and *statistics* are not required for a B.Sc. degree at all universities, anyone interested in zoological research will find a basic training in these disciplines extremely useful.
2. In order to understand the internal functioning of animals, a university course in *chemistry* is necessary and is a requirement for the B.Sc. degree at many universities.
3. Students with an interest in *ecology* are well advised to take *botany* and/or *microbiology* as subjects as well as zoology.
4. Students with an interest in *physiology* or *molecular biology* will find *biochemistry* useful.
5. Would-be *evolutionary biologists* will find courses in *genetics* essential.
6. A working knowledge of computers and computer programming is also an asset in many fields of zoology. The demand for strong analytical skills and programming are becoming high in research positions.

Specific curricula for degrees will vary from one institution to the next and the latest information should be sought on the home pages of the various institutions. Nevertheless, most will cover very similar subject matter at the undergraduate level. After your B.Sc. degree, you may want to consider pursuing postgraduate study in the form of an honours degree which is an additional one year of study where you obtain further training as a zoologist. Then, if the zoology bug has really bitten, you might consider reading for a Master's (M.Sc.) or even a Ph.D. (Doctor of Philosophy) degree in zoology.



# Where can I study Zoology?

Many of the universities in South Africa offer zoology as a major subject. Many factors will influence the university you choose. It may be the one closest to you or the one that you feel has the best reputation, but each one has its own strengths and may specialize in a particular aspect(s) of zoology that interests you. The easiest way to determine which university you would like to attend is to visit the various zoology department web pages:

[Cape Peninsula University of Technology](#)

[Nelson Mandela University](#)

[North-West University](#)

[Rhodes University](#)

[Stellenbosch University](#)

[Tshwane University of Technology](#)

[University of Cape Town](#)

[University of Fort Hare](#)

[University of Johannesburg](#)

[University of KwaZulu-Natal](#)

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[University of Zululand](#)

[Walter Sisulu University](#)

[University of Mpumalanga](#)

[Sol Plaatje University](#)

