

## Vertebrate Zoology

Ex Tax: £340.00

### Technical data

Course Start:	<b>Anytime, Anywhere</b>
Course Hours:	<b>100</b>
Validating Body:	<b>ASIQUAL. Asiqua awards qualifications at levels 3-7, which equate to undergraduate and post-graduate degree level.</b>
Course Code:	<b>BEN104</b>
Course Prerequisite:	<b>No, start at anytime</b>
Course Qualification:	<b>Level 4 Certificate in Vertebrate Zoology</b>
Exam Required?:	<b>Finalised with an exam/test</b>
UK Course Credits:	<b>10 Credits</b>
US Course Credit Hours:	<b>3 Credit Hours</b>
Study Support:	<b>You'll be allocated your own personal tutor/mentor who will support and mentor you throughout your whole course. Our tutors/mentors have been specifically chosen for their business expertise, qualifications and must be active within their industry. Tutors are contactable by e-mail, telephone and through our Moodle Student Support Zone online. Tutors are there to provide assistance with course material, discuss, explain and give advice and support throughout the whole programme. Their feedback is vital to your success.</b>



This course is "experiential based" and designed to provide you with practical components to make the course as interactive as possible. It will also provide an opportunity to learn from industry professionals, while exploring the fundamental principles of vertebrate zoology. It will give you a thorough understanding of "higher" animals' Zoology, Taxonomy and Biology, together with some principles on

animal ecology and morphology. You will learn the essentials of Vertebrate Zoology, giving you a solid foundation to understand animals. It will benefit anyone who is working with animals or it will build a sound foundation for further studies whether in farming, wildlife, veterinary or pet care industries.

The Academy for Distance Learning has a history of supporting wildlife projects. The world renowned Conservationist David Youldon, Chief Operating Officer of AFRICA NEEDS LIONS [www.lionalert.org](http://www.lionalert.org), completed our Advanced Certificate in Wildlife Management and with previous qualifications, went on to study a Masters in Biodiversity, Wildlife and Ecosystem Health at Edinburgh University. He was also accepted for a short course in Data Analysis in Ecology at the University of Oxford.

Currently we have the Primate Naturalist: Karin Saks, studying our Primatology course. Karin has been fostering and rehabilitating orphan baboons, caring for injured monkeys returned to the wild, plus promoting a harmonious co-existence between primates and humans since 1997. She also founded The Darwin Primate Group as a non-profit organisation in 2008 and in 2014, moved to Kwazulu Natal to research the endangered samango monkey populations in the Midlands.

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## **Learning Goals: Vertebrate Zoology BEN104**

- Distinguish between major groups of vertebrates through a demonstrated understanding of their taxonomic classification and diversity.
- Describe the distinguishing characteristics of all major groups of fishes.
- To describe the distinguishing characteristics of all major groups of Ectotherms, Amphibians and Reptiles.
- Describe the distinguishing characteristics of major groups of birds
- Describe the distinguishing characteristics of all major groups of Mammals.

- Describe the distinguishing characteristics of animals in the order Marsupialia and compare mammalian specialisations with those of other vertebrates.
  - Describe the distinguishing characteristics of animals within the grandorders Glires and Insectivora.
  - Explain Ectothermy in a variety of different animals.
  - Describe the distinguishing characteristics of animals within the order Carnivora.
  - Describe the distinguishing characteristics of animals within the grand order Ungulata.
  - Describe the distinguishing characteristics of animals within the grandorder Archonta.
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## **Lesson Structure: Vertebrate Zoology BEN104**

**There are 10 lessons:**

### **1 Vertebrate Taxonomy and Diversity Taxonomic classifications (Kingdom, Phylum, Division, Class, Order, Family, Genus, Species).**

- Morphology and Evolution
- Environmental and Genetic Influences
- Speciation
- DiversificationConvergence
- Diet
- Habits
- Distribution
- Terminology

### **2 Fishes Fish Diversity (major groups):**

- Class Agnatha (jawless fishes)
- Class Chondrichthyes (cartilaginous fishes) and
- Class Osteichthyes (bony fishes).

### **3 Ectotherms - Amphibians and Reptiles:**

- Definitions, Endothermy, Ectothermic, Tetrapods
- Class Amphibia
- Order Anura (Salientia) Frogs and Toads, Salamanders and Newts
- Order Apoda (Gymnophiona) Caecilians
- Class Reptilia: Reptiles (turtles, lizards, snakes, crocodiles and the extinct Dinosauria)

- Order Rhynchocephalia - Tuatara
- Order Chelonia (Testudines) - Turtles, tortoises
- Order Crocodylia - Crocodylians
- Order Squamata - Lizards and Snakes

#### **4 Birds -Physiology (Structure) and Anatomy, Feathers, Colour, Legs, Skeletal structure, Muscles, Senses, Behaviour (Flight, Diving, etc), Egg formation, Hatching.**

- Bird Taxonomy
- Ratitae (flightless) birds
- Carinatea (flying birds)
- Water Birds (eg. Grebes, divers, Ducks, geese and swans, Storks, flamingoes and herons, pelicans, gannets and cormorants,)
- Owls, Eagles, falcons and hawks
- Chickens, turkeys, game birds and mount birds
- Rails, coots and cranes,
- Pigeons and sand grouse,
- Gulls, auks and plovers,
- Parrots, parakeets, Hummingbirds, swifts, Woodpeckers, toucans, Kingfishers, bee-eaters and hornbills, Trogonos, quetzals, plumed birds
- Perching birds such as sparrows, starlings, swallows (Passeriformes),
- Diving birds, loons, Cuckoos, coucals Nighthawks, whippoorwills, Mousebirds, etc.

#### **5 Mammals (Mammalia)**

- Overview - Taxonomy
- Sub class Prototheria (egg laying animals) - echidna and platypus
- Sub class Metatheria (Marsupials) eg. koala, kangaroo and opossum
- Sub class Eutheria (Placental mammals -these include such diverse forms as whales, elephants, shrews, and armadillos, dogs, cats, sheep, cattle and horses. Humans, of course, are also placental mammals).

#### **6 Marsupials -Subclass Theria**

- kangaroos
- koalas
- wombats
- bandicoots
- opossums
- phalangers, etc
- Marsupials Physiology and locomotion, Reproduction

## **7 Grandorders Glires and Insectivora**

- Rodents
- Rabbits
- Pikas
- Hedgehogs
- Moles
- Shrews and Tenrecs
- Taxonomy, structure, Adaptations

## **8 Carnivores**

- dogs
- wolves
- bears
- racoons
- cats
- weasels
- hyenas
- seals, sea lions and walruses
- Taxonomy, Physiology, Adaptations

## **9 Hoofed Mammals (Ungulata: Includes seven orders)**

- Order Artiodactyla. This includes: Hippopotami, Deer, Giraffe, Sheep, Cattle, Antelope, Camelids
- Order Cetacea. This includes: Dolphins, Porpoises, Whales
- Order Perissodactyla. This includes: Horses, Rhinoceroses, Tapirs
- Order Tubulidentata. This includes: Ardvarks
- Order Hyracoidea. This includes: Hyraxes (or Conies)
- Order Proboscidea. This includes: Elephants
- Order Sirenia. This includes: Manatees and Dugongs

## **10 Primates and other Archonta. This grandorder is sub divided into four sub orders:**

- Scandentia e.g. Tree Shrews
  - Dermoptera e.g. Flying Lemurs, Colugos
  - Chiroptera. This order comprises the bats.
  - Primates (Or Order Primates and sub order Strepsirhini) e.g. humans, monkeys, apes and lemurs
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## What you will be doing during this Course

- During this course, the student will carry out the following activities. Where a student's mobility is limited or there is a lack of facilities in the student's home locality, an equivalent activity can be offered
  - Visit a Zoo, Wildlife Park or even a Pet Shop. Observe the range of animals present and report on them.
  - Visit an aquarium supply shop, marine park, fish retailer, or other facility where you can observe fish. If your mobility is restricted or you are unable to locate such a facility, look at the web site of an aquarium, and see what diversity of animals is to be seen on that web site. Identify animals from different orders and report on them.
  - Research the anatomical characteristics of one species of fish
  - Investigate the biological characteristics of one species of amphibian
  - Investigate the biological characteristics of one species of reptile
  - Research the biological characteristics of one species of bird
  - Observe the behaviour of a bird or birds for 1 hour (in the wild, or captivity). Take notes
  - Investigate the biological characteristics of one species of mammal.
  - Research a particular family or genus of marsupial.
  - Visit either a pet shop or zoo and observe any animals from the Glires or Insectivora that you find there.
  - Observe a dog closely. Take note of its external features in the light of the things you have learned in this lesson. Notice the shape of the head, body and legs, the characteristics of the feet, etc. Make notes on your observations. Compile a scientific description of the anatomy of the dog you observed. Where possible, use technical terminology that you have learned during your course.
  - Visit a farm, pet shop or zoo and observe any animals belonging to the Grandorder Ungulata that you find there. Make a list of these animals.
  - Research an order, family, genus or species of hooved Mammal (Ungulata).
  - Try to find out about the characteristics of your chosen group
  - Try to observe some monkeys and/or apes. You might do this by visiting a zoo, watching a video or looking on the Internet. Make notes of any similarities and dissimilarities you observe between these animals and humans. Research their physical and behavioural characteristics with a view to comparing these with human characteristics.
  - SPECIAL PROJECT: Prepare a report on the relationship between environmental change and mammalian evolution.
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## Karin Saks - primate naturalist:



Karin Saks with orphan Spud

Since 1997, Karin Saks has been involved in the fostering and rehabilitation of orphan baboons, the caring of injured monkeys who have been returned to the wild and has worked towards a harmonious co-existence between these primates and humans. She has monitored wild baboon troops who raid human homes to research ways of baboon management and has observed wild troops in her area with a view to finding out damage done to troop structures and numbers because of human intervention. Due to legislation that allows for the persecution of vervet monkeys and baboons in South Africa, hundreds of orphaned primates currently reside in rehabilitation centres without much chance of being released back into the wild. The primate pet trade is also on the increase due to the amount of infants orphaned when mothers are killed. Educating the public on how to live harmoniously with these primates and appealing for new protective legislation - that is actively enforced - are crucial aspects to finding solutions.

The Darwin Primate Group - registered NPO 059-587: Like many who take on the task of rescuing these persecuted animals, Karin self funded her work until 2008 when she founded the Darwin Primate Group and registered it as a non-profit organization.

Research into endangered samango monkey (*Cercopithecus mitis labiatus*) populations: In 2014, Karin moved

to Kwazulu Natal where she is researching the endangered samango monkey (*Cercopithecus mitis labiatus*) populations in the Midlands. (She is no longer working directly with rescued baboons or vervet monkeys.) As the samango monkey is restricted to forest habitat and is a seed dispersing species, it is listed as Vulnerable in the Red Data Book of the Mammals of South Africa (2004) with samango subspecies - *C. m. labiatus* - occurring on the IUCN (2007) Endangered list making research into populations necessary to identify if management and further protection is needed.

You are welcome to watch her online video: [Co-existing Peacefully With Baboons/Monkeys](#) and read her [Blogspot on the Samango Monkey Project](#). If you want to support Karin in her work financially or practically, please contact us and we will happily pass your details on.

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