

COURSE CODE: ZOO 466
COURSE TITLE: *Animal Behaviour*
NUMBER OF UNITS: 3 Units
COURSE DURATION: 3 Hours per week

COURSE DETAILS:

Course Coordinator: Dr Mrs I.O. Idowu *B.Sc., M.Sc., Ph.D.*
Email:
Office Location: Room , COLNAS
Other Lecturer: Dr Gabriel A. Dedeke

COURSE CONTENT:

COURSE REQUIREMENTS:

This course is compulsory for 400 level Zoology students of Biological Sciences Department. Students' should participate in lectures, practical classes, and CAT. A minimum of 70% attendance is required to be able to take the final exam.

READING LIST:

1. Wittenberger, J.F. *Animal Social Behaviour*. Duxbury Press., Boston. USA. 1981
2. Alexander, R.D. Aggression, territoriality and sexual behaviour in field crickets (Orthoptera: Gryllidae). *Behaviour* 17:130-223.
3. Alcock, J. *Animal Behaviour; An evolutionary approach*. Sinauer Associates, Sunderland Mass. 1975a.

LECTURE NOTES

Animal Behaviour is the scientific study of the wild and wonderful ways in which animals interact with each other, with other living beings, and with the environment be it single-celled organisms, invertebrates, fish, amphibians, reptiles, birds, or mammals. It involves investigating the relationship of animals to their physical environment as well as to other organisms, and includes such topics as how animals find and defend

resources, avoid predators, choose mates and reproduce, and care for their young.

The causes of behaviour include both the external stimuli that affect behaviour, and the internal hormonal and neural mechanisms that control behaviour. The functions of behaviour include its immediate effects on animals and its adaptive value in helping animals to survive or reproduce successfully in a particular environment.

Ethology: This is the study of behaviour. 'Ethos' means character or behaviour in Greek language. This is the discipline that involves the total repertoire of the innate and learned behaviour that animals employ to resolve the problems of survival and reproduction.

Ethologist: This refers to scientists that are involved in the study of animals and the way they interact with themselves and their environment.

Charles Otis Whitman examined the importance of phylogeny to the origins of behaviour

Karl von Frisch studied the senses of honey bees. Others include Thomas Hunt Morgan, Niko Tinbergen, Konrad Lorenz and many more.

INSTINCT

This is an inherited tendency of an organism to behave in a certain way, usually in reaction to its environment and for the purpose of fulfilling a specific need. The development and performance of instinctive behaviour

does not depend upon the specific details of an individual's learning experiences. Instead, instinctive behaviour develops in the same way for all individuals of the same species or of the same sex of a species. It forms the memory of a species passed from one generation to another.

LEARNING

Learning is characterized by persistent and measurable changes in behaviour which are not associated with fatigue, altered motivation, or maturation. Some information or knowledge is acquired and is then used to alter the individual's actions and responses. Learning as an adaptive behaviour allows individuals to adapt to specific environment challenges.

Types of Learning

Habituation

Habituation refers to a gradual decrease in behavioural responses with repeated encounters of a particular stimulus, which proves of no consequence.

Conditioned Reflex I

The conditioned response is probably the simplest form of learned behaviour. It is a response that — as a result of experience — comes to be caused by a stimulus different from the one that originally triggered it.

Pavlov's experiment with the dog and the bell. The salivation of the dog

in response to a bell as a result of prior association of meat with the sound of the bell.

Condition Reflex II (Trial and Error)

It is also called **trial-and-error** learning because the animal is free to try various responses before finding the one that is rewarded.

Latent Learning

Latent learning refers to an individual's ability to learn associations without explicit reinforcement. Exploratory behaviour serves to acquire an understanding of the spatial relationships of objects. It includes the formation of “cognitive maps” of the surrounding. Daily success depends on knowledge of spatial relationships. Hummingbirds and bees recall the location and status of harvesting of flower resources, and several species of birds are able to track a large number of seed stores.

Insight Learning

The sudden production of a new adaptive response not arrived at by trial behaviour or as the solution of a problem by the sudden adaptive reorganization of experience

Imprinting

If newly-hatched geese are exposed to a moving object of reasonable size and emitting reasonable sounds, they will begin to follow it just as they would normally follow their mother.

ASSOCIATIVE LEARNING

A type of learning principle based on the assumption that ideas and experiences reinforce one another and can be linked to enhance a learning process.

CHARACTERISTICS OF ASSOCIATIVE LEARNING

Contiguity

Repetition

Reinforcement and Reward

Generalization and Discrimination

Extinction and Recovery.

HORMONES AND BEHAVIOUR

The Endocrine system is the second great integrative system controlling the body's activities. The endocrine gland secretes hormones, which are chemical compounds that are transported by the blood stream to some parts of the body where they initiate definite physiological responses.

COMMUNICATION IN ANIMALS

Communication is the passage of information directly or indirectly to specific receiver.

Animals communicate in various ways ranging from visual displays, songs, scent trails and touch.

Forms of Communication

- 1. Tactile communication**
- 2. Chemical communication**
- 3. Visual communication**

4. Sound communication