



**COURSE CURRICULUM**

**Course Title: Behavioural Ecology**

**Course Code:**

**Credit Units: 02**

**Level: PG**

L	T	P/S	SW/FW	TOTAL CREDIT UNITS
2	0	0	0	2

**Course Objectives:**

The objective of this course is to describe about the animal behavior, group living, selfishness and altruism. To study the evolutionarily stable strategies; predator prey relationships and evolutionary arms race, competition for resources, and testing hypotheses in behavioural ecology. To also study the behavioural patterns in captivity and animal welfare issues.

**Prerequisites:**

Graduate from Biological science Bachelor degree in Science/Zoology/Botany/Anthropology/Veterinary/Environmental Science/Forestry/ Agriculture/Geography/Natural Resources/Ecology and minor in any of these subjects, and understanding of basics of life sciences.

**Course Contents/Syllabus:**

	Weightage (%)
<b>Module I</b>	<b>30</b>
An interconnected approach understanding proximate and ultimate mechanisms, and causal and functional explanations in animal behaviour. Group living: costs, benefits and optimal group size. Selfishness and altruism.	
<b>Module II</b>	<b>30</b>
Evolutionarily stable strategies; predator prey relationships and evolutionary arms race.	

Competition for resources: ideal free distributions and resource defence. Concept of optimality in decision making in animals; optimal foraging theory and other models.	
<b>Module III</b>	<b>40</b>
Testing hypotheses in behavioural ecology: Comparative methods, experimental studies, individual decisions in ecology. Sexual selection; parental care and mating systems. Cooperation and helping in mammals, birds and fishes. Ecology and evolution of signals and communication pathways. Behavioural patterns in captivity and animal welfare issues.	

**Student Learning Outcomes:**

1. Learn to appreciate the causes and functions of animal behaviour
2. Learn the scientific reasoning and methodology used in field studies of animal behaviour and behavioural ecology, and appreciate the demanding logistics of behavioural field studies
3. Think analytically in terms of animal behaviour and behavioural ecology, and their broader implication is social and societal studies, from conservation to conflict resolution to the philosophy of nature.

**Pedagogy for Course Delivery:**

Class room lectures, PowerPoint presentations, Tutorial sessions, Discussions and Interactions and assignments/tests/term papers/seminars

**Assessment / Examination Scheme:**

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
30%	NA	70%

**Theory Assessment (L&T):**

Continuous Assessment/Internal Assessment					End Term Examination
Component (Drop down)	Mid-Term Exam	Project	Viva	Attendance	

<b>Weightage</b> (%)	10	10	5	5	70
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**References:**

1. Alcock, J. 2001. *Animal Behavior: An Evolutionary Approach*, 7<sup>th</sup> edn. Sinauer, Sunderland, Mass.
2. Bateson, P and Martin, P. 1993. *Measuring Behaviour: An Introductory Guide*, 2<sup>nd</sup> edn. Cambridge University Press, Cambridge.
3. Krebs, J R and Davies, N B. 1993. *An Introduction to Behavioural Ecology*, 3<sup>rd</sup> edn. Blackwell Scientific Publications, Oxford.
4. Krebs, J R and Davies, N B. 1997. *Behavioral Ecology: An Evolutionary Approach*, 4<sup>th</sup> edn. Blackwell Scientific Publications, Oxford.
5. Lehner, P N. 1996. *Handbook of Ethological Methods*, 2<sup>nd</sup> edn. Cambridge University Press, Cambridge.
6. Manning, A and Dawkins, M S. 1998. *An Introduction to Animal Behaviour*. Cambridge University Press, Cambridge.
7. McFarland, D. 1999. *Animal Behaviour: Psychobiology, Ethology and Evolution*, 3<sup>rd</sup> edn. Longman, London.