

Programme: M. Sc. (Zoology)

Course Code: ZOO-402

Title of the Course: Avian Biology

Number of Credits: 2

Effective from AY: 2018-19

<u>Prerequisites for the course:</u>	Elementary knowledge about ecology, Taxonomy and animal systematics.	
<u>Objective:</u>	This course develops concepts in ornithology such as underlying genetic and molecular mechanisms of behaviour as well as its importance in the animal kingdom	
<u>Content:</u>	Module 1: Introduction to Avian Biology: Bird identification, Systematics and Census: Avian systematics, Principal orders and families of Class Aves with salient features; Morphology and morphometry; Methods of identification; Bird diversity, Bird identification on field; Field guides. Bird Census: Counting techniques; Sampling techniques, Estimation of breeding population, mapping. Extinct and endangered species, causes of extinction and endangered status.	12 hours
	Module 2: Avian flight, territoriality and breeding: Adaptation for flight in birds, types of flight, identification of birds based on flight patterns, flight metabolism, avian energy balance and thermoregulation Bird migration and Navigation: Types of migration, Migratory routes, Bird banding. Breeding Biology: Nesting territories, Communal nesting, Bird songs, courtship, mating systems; Type of nests ; Nest building; Nest defense, Clutch size;. Brood parasitism, Incubation and parental care.	12 hours
<u>Pedagogy:</u>	Lectures/ tutorials/assignments/self-study	
<u>References/Readings</u>	<ol style="list-style-type: none">1. Ali S, The Book of Indian Birds. Bombay Natural History Society and Oxford University Press, India.2. Bibby CJ, Burgess ND, Hill A et al., Bird Census Techniques. Academic Press, UK.3. Faborg J and Chaplin SB, Ornithology: an Ecological Approach. Prentice Hall Inc. New Jersey.4. Goodfellow P, Birds as Builders. Arco Publishing Co., New York.5. Giles RH, Wildlife management Techniques, Wildlife Society, Washington	
<u>Learning Outcomes</u>	<ol style="list-style-type: none">1. Understand in detail the various aspects of avian biology such as their specialized anatomy, ecology and breeding systems2. Identification of birds with the help of field guides which will be helpful for field trips or conducting surveys	