

**KUVEMPU  UNIVERSITY**

Jnana Sahyadri, Shankaraghatta- 577451

**Syllabus for Master of Science**  
**In**  
**Zoology**

**Choice Based Credit System**

**Faculty of Science**  
(With Effect from Academic Year 2025-26)

## **Programme Details**

Name of the Department	: Applied Zoology
Subject	: Zoology
Faculty	: Faculty of Science and Technology
Name of the Course	: Master of Science M.Sc.
Duration of the Course	: Two years – divided into 4 semesters

### **Programme Objectives (POs):**

The programme M.Sc. in Zoology aims to provide a very good foundation to students along with recent advances in Zoology. It also aims to enable the students to understand the classical aspects of Zoology which include the animal structure and function, biodiversity, evolution, animal behavior, wildlife conservation of animals. It offers students to understand the fundamental concepts and mechanisms in Cell biology, Genetics, Molecular biology, Immunology, Physiology, Ecology, Developmental biology.

This programme empowers students to get conceptual and practical training in advanced aspects of various branches of Zoology including Genetics, Molecular Biology, Developmental biology, Environmental biology, Toxicology, Microbiology, Immunology, Computational biology, etc. And also, students will be trained to get skills in Economic Zoology aspects which include aquaculture, apiculture, sericulture and other techniques. Keeping the true spirit of Choice Based Credit System scheme, softcore sources are offered in first three semesters and so that students can learn a series of softcore courses in the form of specialization in the specific area of their interests in Zoology.

This course is designed to ignite the inquisitive minds to enter into research in interdisciplinary areas. Especially, in the fourth semester students have an opportunity to carry out a project work so that they get an exposure to research and get motivated to venture into the research after their post graduation. Research methodology and Biotechniques course is introduced in the fourth semester to help them learning scientific methods and skills. And also, the open elective courses such as Genetic engineering, Biodiversity, Sericulture and Reproductive physiology are introduced to attract students from diverse interdisciplinary areas of sciences.

### **Programme Specific Outcomes (PSOs):**

On successful completion of this programme each student:

- Will have a strong foundation in understanding the classical and the modern aspects of Animal sciences.
- Will be able to learn concepts and technology in the field of Genetics, Cell Biology, Human Genetics, Molecular Biology, Immunology, Developmental biology, Environment biology, Biodiversity and wild life biology, Behavioural and Evolutionary biology.
- Would sufficiently be skilled and empowered to solve the problems in the realms of Zoology along with their theoretical components, which will help in their research

programme both in academic institutions and in R & D programmes of different national and international institutes.

- Will have abundance of job opportunities in the education, environment, agriculture-based, and health related sectors.
- Would be able to enter into research with broad skills and the deeper knowledge in the contemporary areas of research of Biological Sciences.

## Semester wise details of the Programme M.Sc. Zoology

### I Semester

Paper Code	Theory Courses	Teaching / week	Credits	IA	Exam	Total
HC-1.1	Biosystematics, Non-Chordata and Chordata	4 hrs	4	25	75	100
HC-1.2	Animal Physiology and Endocrinology	4 hrs	4	25	75	100
HC- 1.3	Fundamental Genetics	4 hrs	4	25	75	100
SC-1.4(a)	Economic Zoology	4 hrs	4	25	75	100
SC-1.4(b)	Ecology and Evolution	4 hrs	4	25	75	100
<b>Practical Courses</b>						
Practical –1.5	Biosystematics, Non-Chordata and Chordata	4 hrs	2	-	50	50
Practical –1.6	Animal Physiology and Endocrinology	4 hrs	2	-	50	50
Practical –1.7	Fundamental Genetics	4 hrs	2	-	50	50
Practical-1.8(a)	Economic Zoology	4 hrs	2	-	50	50
Practical-1.8(b)	Ecology and Evolution	4 hrs	2	-	50	50
<b>Total</b>			<b>24</b>			<b>600</b>

### II Semester

Paper Code	Theory Courses	Teaching / week	Credits	IA	Exam	Total
HC-2.1	Advanced Cell Biology	4 hrs	4	25	75	100
HC-2.2	Developmental Biology	4 hrs	4	25	75	100
SC-2.3(a)	Animal Behavior and Wildlife Biology	4 hrs	4	25	75	100
SC-2.3(b)	Biological Chemistry and Biostatistics	4 hrs	4	25	75	100
EL- 2.4		2 hrs	2	10	40	50
<b>Practical Courses</b>						
Practical –2.5	Advanced Cell Biology	4 hrs	2	-	50	50
Practical –2.6	Developmental Biology	4 hrs	2	-	50	50

Practical –2.7(a)	Animal Behavior and Wildlife Biology	4 hrs	2	-	50	50
Practical– 2.7(b)	Biological Chemistry and Biostatistics	4 hrs	2	-	50	50
		<b>Total</b>	<b>20</b>			<b>500</b>

### III Semester

Paper Code	Theory Courses	Teaching / week	Credits	IA	Exam	Total
HC-3.1	Molecular Biology and Animal Biotechnology	4 hrs	4	25	75	100
HC-3.2	Entomology and Parasitology	4 hrs	4	25	75	100
SC 3.3 (a)	Microbiology and Immunology	4 hrs	4	25	75	100
SC 3.3 (b)	Biodiversity and Adaptation Biology	4 hrs	4	25	75	100
EL-3.4		2 hrs	2	10	40	50
<b>Practical Courses</b>						
Practical -3.5	Molecular Biology and Animal Biotechnology	4 hrs	2	-	50	50
Practical -3.6	Entomology and Parasitology	4 hrs	2	-	50	50
Practical -3.7(a)	Microbiology and Immunology	4 hrs	2	-	50	50
Practical -3.7(b)	Biodiversity and Adaptation Biology	4 hrs	2	-	50	50
		<b>Total</b>	<b>20</b>			<b>500</b>

### IV Semester

Paper Code	Theory Courses	Teaching / week	Credits	IA	Exam	Total
HC-4.1	Advanced Genetics and Computational Biology	4hrs	4	25	75	100
HC-4.2	Environmental Biology and Toxicology	4 hrs	4	25	75	100
HC-4.3	Research Methodology and Techniques in Biology	4 hrs	4	25	75	100
HC-4.4	Project work	4 hrs	4	25	75	100
<b>Practical Courses</b>						
Practical -4.4	Advanced Genetics and Computational Biology	4 hrs	2	-	50	50
Practical -4.5	Environmental Biology and Toxicology	4 hrs	2	-	50	50
Practical -4.6	Research Methodology and Techniques in Biology	4 hrs	2	-	50	50
	Project Viva		2	-	50	50
		<b>Total</b>	<b>24</b>			<b>600</b>

**1. Total Marks for the Programme : 2200**

**2. Total Credits for the Programme : 88 + 3 (Soft Skills) = 91**

**1.** Each candidate shall have to complete mandatory courses for 1credit each in within first two semesters, viz;

- a.** Communication Skill,
- b.** Computer applications
- c.** Personality development

**Internal Assessment :**

- 1). Two session tests : 10 marks
- 2). Seminar : 05 marks
- 3). Assignment/Fieldwork : 05 marks
- 4). Regularity and attendance : 05 Marks