

Department of Zoology

Introduction

The Department of Zoology, GC University, Lahore is the oldest seat of learning and imparting knowledge of Zoology at the Graduate and Postgraduate level in Pakistan. The Postgraduate Programme at the department was launched in 1908. In addition, it was the first centre to start teaching Zoology in this part of the Subcontinent until 1920 when the University of the Punjab, Lahore established its Department of Zoology. The Zoology Department of the University of the Punjab, Lahore was also housed in the building of the Department of Zoology at the Government College Lahore and continued functioning here till 1963. During these years, the Zoology faculties of Government College Lahore and the University of the Punjab jointly managed the Postgraduate Programme.

In 1963, the Department of Zoology initiated its independent M.Sc. Zoology Programme as a result of the untiring efforts of Dr. Nazir Ahmad (who had been promoted to Principal, Government College Lahore), Prof. Naseer-ud-Din Ahmad (Professor and Chairperson, Department of Zoology) and Dr. Ahsanul Islam (Professor of Zoology).

After attaining the status of an autonomous institution in 1997, and that of a University in 2002, curricula were upgraded and modernized in accordance with international standards.

Facilities

Life Sciences Library

The GC University Life Sciences Library located in the building of Institute of Biotechnology GC University Lahore has a rich and updated collection of books related to different fields of the sciences like Botany, Zoology, Bio-technology and Environmental Sciences etc., in addition to research journals including several volumes of the Linnaean Society. The library holds exclusive research materials on various subjects like Biodiversity, Medical Entomology, Cell & Molecular Biology, Genetic Engineering and Advanced Environmental Sciences.

In the central and postgraduate libraries of the University, networked PCs are linked to a wide range of software, communication and print services. There is speedy access to the Internet that links the GCU libraries to many digital information networks connecting National and International universities.

Stephenson Natural History Museum

The Department of Zoology has one of Asia's oldest natural history museum; the Stephenson Natural History Museum, established by Dr. Lt. Col. Stephenson in 1906. It has more than 5,000 preserved specimens. This museum is used for teaching and research purposes at various levels.

Research Areas

The Department has an experienced faculty actively involved in research activities and has also established the following Research Groups:

- Wild Life and Ecology
- Fisheries and Aquatic toxicology
- Medical Entomology
- Microbiology
- Immunology
- Molecular Biology
- Human Genetics
- Cancer Biology
- Physiology

Research Journal

We recognize the responsibilities that come with research development and publication. Department of Zoology take great pride in publishing Journal entitled "BIOLOGIA (PAKISTAN)" available at www.biosoc.pk. The journal has gained popularity in the biological research circle since it is available online and the journal visibility has increased the citation number of the articles. The process of blind reviewing the manuscripts had increased the credibility of the journal. The articles published in this peer reviewed Journal help to manage and address important issues in various disciplines of science such as Parasitology, Microbiology, Molecular Biology, Medical Entomology, Palaeontology etc. The journal is in category "Y" of HEC recognized local science journals.

Research Laboratories

There are three general laboratories for Intermediate and under/Postgraduate students. In addition, there are six research laboratories for conducting research at the Postgraduate level. The department has established as Cell and Tissue Culture Laboratory which is fully equipped for the culturing of various cell lines. In this laboratory a project is going on for controlling the endemic dengue disease and to meet the challenges in controlling the dengue vector. The Department has procured modern sophisticated apparatus like fluorescent and inverted microscopes with photographic attachment, CO₂ controlled Incubator for tissue culturing, Cryostat, Ultracentrifuge, PCR and Gel Documentation system and Gene Manipulator for advanced research activities.

Animal Maintenance and Rearing Facilities

The Department has an Insectary, a Forgery, a Fish Farm, a Rabbit House and a Mouse House for conducting experiments on various animals.

Academic Links

An International link has been recently developed with University of Michigan USA for the control of mosquito vectors using Wolbachia-based Technology. This link will lead to establish a Joint Center of Vector Control for tropical diseases.

A national link has been established between Medical Entomology and Diseased Vector Control Laboratory of Zoology Department and Health Services Academy (HSA) of the Ministry of Health, Islamabad with the support of World Health Organization (WHO). Under this link exchange of faculty members and senior students (M.Phil, Ph.D) will take place. This inter-institutional collaboration will be valuable to exchange technical knowledge and skills with respect to vector born tropical / subtropical diseases already scarce in the country.

Research in the areas of Wildlife and Ecology is carried out in collaboration with technical bodies and departments such as Worldwide Fund for Nature WWF-P, Pakistan Wild life Foundation (PWF), Departments of Wild life and Fisheries of Government of the Punjab. Such collaborations are unique opportunities for the students to expose themselves to field and onsite experience of the above mentioned research areas.

Future Prospects

Degree holders are usually absorbed in the market as Lecturers, Medical Representatives and researchers at research organizations. They also get jobs at fisheries, wildlife and public health departments, etc.

Academic Programmes

The Department of Zoology offers following programs.

- BSc (Hons.)
- MPhil
- PhD

BSc (Hons)		
Year-1		
Semester- I		
Course Code	Course Title	Credit Hours
Z-1101	Principles of Animal Life-I	3
Z-1101P	Principles of Animal Life-I	1
Semester-II		
Course Code	Course Title	Credit Hours
Z-1201	Principles of Animal Life-II	3
Z-1201P	Principles of Animal Life-II	1
Year-2		
Semester-III		
Course Code	Course Title	Credit Hours
Z-3110	Animal Diversity(Invertebrates)	3
Z-3110P	Animal Diversity(Invertebrates)	1
Semester IV		
Course Code	Course Title	Credit Hours
Z-3111	Animal Diversity (Chordates)	3
Z-3111P	Animal Diversity (Chordates)	1
Z-2202	Wild life	2
Year-3		
Semester V		
Course Code	Course Title	Credit Hours
Z-2103	Zoogeography & Paleontology	2
Z-2103P	Zoogeography & Paleontology	1
Z-3101	Biostatistics	2
Z-3101P	Biostatistics	1
Z-3207	Animal Form & Function-I	3
Z-3207P	Animal Form & Function-I	1
Z-3205	Animal Form & Function-II	3
Z-3205P	Animal Form & Function-II	1
Z-4102	Physiology	3
Z-4102P	Physiology	1
Semester VI		
Course Code	Course Title	Credit Hours
Z-3102	Developmental Biology	3
Z-3102P	Developmental Biology	1
Z-3107	Cell and Molecular Biology	3
Z-3107P	Cell and Molecular Biology	1
Z-3201	Genetics	3
Z-3201P	Genetics	1
Z-3203	Evolution & Principles of	3
Z-3203P	Systematics Zoology	1
	Evolution & Principles of	1
	Systematics Zoology	
Z-3206	Bioinformatics	1
Z-3206P	Bioinformatics	2

Year-4		
Semester VII		
Course Code	Course Title	Credit Hours
Z-4108	Environmental Biology	3
Z-4108P	Environmental Biology	1
Z-4107	General Biochemistry	3
Z-4107P	General Biochemistry	1
Z-3106	Biological Techniques	1
Z-3106P	Biological Techniques	2
Z-4207	Aquaculture & Fisheries	2
	(Elective)	
Z-4207P	Aquaculture & Fisheries	1
	(Elective)	
Z-4299	Research Project/Internship	3
Z-4106	Biosafety and Biosecurity	2
Semester VIII		
Course Code	Course Title	Credit Hours
Z-4105	Biology of Vectors (Elective)	2
Z-4105P	Biology of Vectors (Elective)	1
Z-4210	Immunology (Elective)	2
Z-4210P	Immunology (Elective)	1
Z-4203	General Microbiology (Elective)	2
Z-4203P	General Microbiology (Elective)	1
Z-4208	Animal Behavior	2
Z-4208P	Animal Behavior	1
Z-4209	Animal Handling	2
Z-4209P	Animal Handling	1
Z-4299	Research Project/Internship	3
Allied Courses (Year-1)		
Semester I		
Course Code	Course Title	Credit Hours
Z-1101	Principles of Animal Life-I	3
Z-1101P	Principles of Animal Life-I	1
Semester II		
Course Code	Course Title	Credit Hours
Z-1201	Principles of Animal Life-II	3
Z-1201P	Principles of Animal Life-II	1
Year-2		
Semester III		
Course Code	Course Title	Credit Hours
Z-3110	Animal Diversity(Invertebrates)	3
Z-3110P	Animal Diversity(Invertebrates)	1
Semester IV		
Course Code	Course Title	Credit Hours
Z-3111	Animal Diversity (Chordates)	3
Z-3111P	Animal Diversity (Chordates)	1

MPhil		
Year-I		
Semester I & II		
Course Code	Course Title	Credit Hours
Z – 7101	Advanced Physiology: Regulation of Body Functions	3
Z – 7103	Advanced Molecular Cell Biology	3
Z – 7104	Advanced Environmental Science	3
Z – 7105	Animal Cell and Tissue Culture	3
Code of elective selected from the list	Elective I	3
	Elective II	3
	Elective III	3
	Elective IV	3



Elective Subjects		
Year I (Semester I/II)		
Elective Courses (Two courses from the list will be taught depending upon the research topic of student and availability of the faculty members)		
Course Code	Course Title	Credit Hours
Z – 7102	Biodiversity & Phylogenetic Relationships	3
Z – 7201	Muscle Physiology	3
Z – 7202	Physiology of nervous system	3
Z – 7203	Physiology of nutrition	3
Z – 7204	Physiology of reproduction	3
Z – 7205	Immunology	3
Z – 7206	Hematology	3
Z – 7207	General Microbiology	3
Z – 7208	Applied Microbiology	3
Z – 7209	Medical Microbiology	3
Z – 7210	General and Comparative Immunology	3
Z – 7211	Toxicology	3
Z – 7212	Aquaculture	3
Z – 7213	Applied Fisheries	3
Z – 7214	Fish Marketing	3
Z – 7215	Systematic Ichthyology	3
Z – 7216	Pollution Ecology of Water Bodies	3
Z – 7217	Dental Morphology of ancient and recent Artiodactyles	3
Z – 7218	Dental Morphology of ancient and recent Perissodactyles	3
Z – 7219	Protozoology	3
Z – 7220	Helminthology	3
Z – 7221	Limnology	3
Z – 7222	Generation and storage of metabolic energy	3
Z – 7223	Evolution of Reptiles and extinction of Dinosaurs	3
Z – 7224	Genetic of DNA Enzymes	3
Z – 7225	Recombinant DNA Technology	3
Z – 7226	Cancer Biology	3
Z – 7227	Geological Time Scale and Evolution of Life	3
Z – 7228	Renal and Hepatic Biology	3
Z – 7229	Mammalian Paleontology	3
Z – 7230	Advanced Biotechnology	3
Z – 7231	Animal Behavior	3
Z – 7232	Medical Entomology	3
Z – 7233	Pathogenic Microbiology	3
Z – 7234	Advanced Steroid Endocrinology	3
Z – 7235	Advanced Metabolic Biochemistry	3
Z – 7236	Advanced Laboratory Techniques in Zoology	3
Z - 7238	Applied Biostatistics	3
Z - 7239	Applied Insect Pest Management	3

PhD		
Year I (Semester I & II)		
Course Code	Course Title	Credit Hours
Z-8119	Bioinformatics and Data Analysis	3
Elective Subjects		
Elective Courses (Three courses from the list will be taught depending upon the students research field and availability of the faculty member)		
Course Code	Course Title	Credit Hours
Z-8101	Research Methods in Zoology	3
Z-8102	Molecular Biology (Applied)	3
Z-8103	Micro-Biology (Applied)	3
Z-8104	Cytogenetics and Molecular Biology of Insects	3
Z-8105	Medical and Veterinary Entomology	3
Z-8106	Cellular Immunology	3
Z-8107	Haematology	3
Z-8108	Humoral Immunology	3
Z-8109	Clinical Haematology	3
Z-8110	Haemostasis	3
Z-8111	Invertebrate Paleontology	3
Z-8112	Vertebrate Paleontology	3
Z-8113	Advanced Limnology	3
Z-8114	Advanced Protozoology	3
Z-8115	Parasitology	3
Z-8116	Advanced Recombinant DNA Technology	3
Z-8117	Applied Fisheries and Aquaculture	3
Z-8118	Molecular Systematics	3
Year 2, 3		
Semester III & IV		
Course Code	Course Title	Credit Hours
	Thesis	



Faculty
Department of Zoology
Chairperson & Associate Professor
Dr. Hafiz Muhammad Tahir
Professor
Prof. Dr. Nusrat Jehan
Associate Professor
Dr. Atif Yaqub
Dr. Dil Ara Abbas Bukhari
Assistant Professor
Dr. Ayesha Shuja Farooq
Dr. Iram Liaqat
Dr. Riffat Iqbal
Lecturer
Muhammad Imran Sohail
Chand Raza
Mehwish Faheem
Amna Shahid
Senior Curator
Dr. Naila Malkani
Curator
Saima Azad
Distinguished Professor
Dr. Azizullah
Visiting/Adjunct Faculty
Dr. Dilawar Hussain
Dr. Irfan
Rizwanullah Khan
Sozaina Khan
Muhammad Adnan Ali
Maryam Mukhtar
Rabia Faiz

