

FIRST DEGREE PROGRAMME IN ZOOLOGY

Programme Outcome

- PO I. To make students capable of addressing future challenges in their life.**
- PO II. To make them competent for any job requiring Degree as basic qualification.**
- PO III. Make the students become good entrepreneurs.**
- PO IV. To help students acquire language and communication skills.**

Programme Specific Outcome of FDP in Zoology(PSO)

- PSO 1. To help students become dedicated biologists and naturalists.**
- PSO 2. To cultivate in life science students a positive attitude towards life.**
- PSO 3. To create awareness among students of different vital biological processes.**
- PSO 4. To help students appreciate the precision and complexity of life.**
- PSO 5. Develop respect for life as a biological phenomenon.**
- PSO 6. To help students internalize a true love for other living beings and develop a staunch belief in the equality of life.**
- PSO 7. To develop commitment in students to work for the conservation of nature.**
- PSO 7. To make students resourceful so that they can contribute to other branches of science like medicine, agriculture, veterinary science, fisheries, poultry, apiculture, sericulture etc.**
- PSO 8. Impart knowledge and confidence in students so that they can specialise in branches related to zoology.**

Course Outcome of FDP Zoology (CO)

First Degree Programme

Semester I

Zoology Core Course I

Animal Diversity I

Course code – AUZO141

No. of Credits – 3

Total hours 54

Course Outcome (CO)

- Students develop an in-depth knowledge of the diversity in form, structure and habits of invertebrates.
- Students learn the basics of systematics and understand the hierarchy of different categories.
- Students learn the diagnostic characters of each phyla through brief studies of typical examples.

Students obtain an overview of economically important invertebrate fauna.

First Degree Programme

Semester II

Zoology Core Course II

Animal Diversity II

Course Code – AUZO241

No. of credits – 3

Total hours 54

Course Outcome

- Students develop an in-depth knowledge of the diversity in form, structure and habits of vertebrates.
- Students learn the general characteristics and classification of different classes of vertebrates.
- Students get an understanding of the vertebrate evolutionary tree.

- Students learn the diagnostic characters of each phyla through brief studies of typical examples.
- Students understand general aspects of applied interest.

First Degree Programme
Semester III
Zoology Foundation Course II
Methodology, Perspectives of Science and Bioinformatics
Course code – AUZO321

No. of Credits – 3

Total hours 54

Course Outcome

- Train the students in scientific methodology to apply them in research.
- Acquaint students with perspectives of science in general so that they can develop a broader scientific outlook in life.
- Train students systematically pursue Zoology in relation to other disciplines that come under the rubric of science.
- Learn the fundamental characteristics of science as a human enterprise.
- Understand how science works.
- Develop capacity to apply scientific methods independently.

First Degree Programme
Semester IV
Zoology Core course III
ENVIRONMENT STUDIES, TOXICOLOGY & DISASTER
MANAGEMENT
Course code – AUZO441

No. of Credits - 3

Total hours 54

Course Outcomes

- Students get basic knowledge on ecosystem, food chain, food web and energy flow
- Students acquire general awareness on pollution and their impacts.

- Imparts basic knowledge on ecosystems and their functioning.
- Students learn about various types of anthropogenic pressures on ecosystem, related degradation and management measures.
- Students get awareness of toxicants, their impacts on human health and environment and remedial measures.

Create awareness about disasters, prevention and mitigation measures

First Degree Programme
Zoology Core Course IV
Practical I - Methodology and Perspectives of Science and
Zoology, Animal Diversity I and Animal Diversity II
Course Code – AUZO44PI
No. of credits – 4

Course Outcomes

- Students learn anatomy by performing through simple dissections and mountings of permitted species.
- Students get familiarized with various organ systems by examining approved animals.
- Emphasize the adage that ‘seeing is believing’ by observing typical examples and economically important specimens.
- Students learn the working principle of different scientific instruments.
- Students become familiar with economically important species.
- Strengthen what students studied in theory by giving them an opportunity to have first-hand experience in lab as well as outside.

First Degree Programme
Semester V
Zoology Core course IV
Cell and Molecular Biology
Course code – AUZO541

No. of credits – 4

Total hours 90

Course Outcomes

- Students acquire sufficient knowledge on the fundamental structure, function and biochemistry of the cell.
- They understand the principles of molecular biology and gene manipulation.
- Students learn ultra-structure of prokaryotic and eukaryotic cells.
- Students understand the fundamental differences between prokaryotic and eukaryotic cells.
- Students learn the structure, replication and modification of the genetic material of eukaryotes.
- Students understand the mechanism of gene expression and gene regulation.
- Gets an awareness of bacterial recombination.

Students acquire scientific knowledge on cancer and ageing.

First Degree Programme
Semester V
Zoology Core Course VI
Genetics and Biotechnology
Course Code – AUZO542

No. of credits – 4

Total hours 72

Course Outcomes

- Structure of gene is learned.
- Students get educated on the underlying genetic mechanism operating in man and state of the art of bio-techniques
- Students develop a proper understanding of the relation between heredity and variation.
- Learn the mechanism of crossing over and inheritance patterns in man.
- Students become aware of different genetic syndromes and the possible ways to reduce its occurrence.
- Students understand the principles and techniques involved in DNA technology and get an overview of modern techniques like PCR, Hybridoma technology, gene therapy and human cloning

First Degree Programme

Semester V
Zoology Core course VII
Immunology and Microbiology
Course code – AUZO543

No. of credits – 4

Total hours 72

Course Outcomes

- Students understand the scope and importance of clinical immunology.
- Students understand the principles and mechanisms of immunology.
- Learn the malfunctioning and disorders of the immune system
- Students acquire knowledge on immunodeficiency diseases.
- Transplantation and mechanism of Graft retention and rejection are learned.
- Students get a brief history of microbiology.
- Students develop a broad understanding of the positive as well as negative aspects of microbes.
- Economic importance (applied aspects) of microbes in industry can be studied.

First Degree Programme
Zoology Core course VIII
Practical II - Cell and Molecular Biology, Genetics and
Biotechnology and Immunology and Microbiology
Course Code – AUZO64PII
No. of credits – 4

Course Outcomes

- Student acquire expertise to carry out routine haematological and microbiological techniques.
- Students can see and experience different types of cells and cellular phenomena.
- Students can apply the principles of genetics in laboratory.
- Students study chromosomes and their behaviour by observing cell division.
- Students understand chromosomal aberrations in man.
- Students gain a broad knowledge of conventional biotechnological procedures.
- Students observe and experiment with microbes.

- Students do experiments in genetics and Biotechnology.

First Degree Programme
Semester VI
Zoology Core Course IX
Human Anatomy, Physiology and Biochemistry
Course Code – AUZO641

No. of credits – 4

Total hours 90

Course Outcomes

- Students develop a clear understanding of the correlation and coordination between the structure and function of different organs and organ systems of the body.
- Proper study of anatomy and physiology help students understand how each organ or organ system functions.
- Students learn the correlation between diseases and the abnormal structure or functions of organs.
- Students understand the possible causes of abnormal physiology and the resultant diseases.
- Students understand the structure and functions of bio-molecules and their role in metabolism.
- This course opens new areas of research to students.

First Degree Programme
Semester VI
Zoology Core Course X
Developmental Biology and Experimental Embryology
Course code – AUZO642

No. of credits – 4

Total hours 72

Course Outcomes

- Students get a brief idea about the history of developmental biology.
- Provide the students a bird's eye view of sophisticated embryological techniques
- Study the various stages involved in the development of organisms.
- Study the initial developmental procedures involved in *Amphioxus*, Frog and chick
- Procure information on state- of- the art experimental procedures in embryology.
- Different control mechanisms of development including gene action are studied.

First Degree Programme
Semester VI
Zoology Core Course XI
Evolution, Ethology, Zoogeography & Pest Management
Course Code – AUZO 643

No. of credits – 3

Total hours 72

Course Outcomes

- Students acquire a true concept about nature and its resources.
- Students learn the principles, applications and management of environmental science.
- Acquires scientific knowledge about types and processes of behaviour.
- Understands the physiological and genetic mechanisms of animal behaviour.
- Students learn to appreciate the principles and processes of organic evolution.
- Learns the theory on human evolution.
- Students get a clear understanding of the different Zoogeographical realms of the world.
- Students acquire knowledge about Integrated Pest Management and its applications.

First Degree Programme
Zoology Core Course XII
Practical III - Physiology and Biochemistry
Course Code - AUZO64PIII
No. of credits – 3

Course Outcomes

- Learn to demonstrated the basic principles in physiology.
- Learn clinical procedures for blood & urine analysis.
- The students acquire basic skills in simple biochemical laboratory procedures.

First Degree Programme
Zoology Core Course XIII
Practical IV - Developmental Biology and Experimental Embryology and
Ecology, Ethology, Evolution and Zoogeography
Course Code –AU ZO64PIV
No. of credits - 3

Course Outcomes

- Students learn techniques for assessing the quality of environment.
- Students develop expertise in ecological studies.
- Students acquire knowledge of experiments in developmental biology.

First Degree Programme
Semester V
Zoology Open Course
Public Health and Hygiene
Course Code – AUZO581.a

No. of credits – 2

Total hours 54

Course Outcomes

- Students understand the importance of health and hygiene.
- Students understand the essentials of public health and sanitation.
- Students become aware of the importance of provision of adequate health care and sanitation facilities in the upliftment of standard of living of common people,
- Learn the principles of nutrition and dietetics.
- Understand the ill effects of modern lifestyle.

First Degree Programme
Semester V
Zoology Open Course
Human Health and Sex Education
Course Code –AU ZO 581.b

No. of credits – 2

Total hours 54

Course Outcomes

- Students understand the importance of health in promoting the standard of living.
- Students understand the importance of sex education in building a healthy society.
- Students acquire scientific knowledge about reproduction, birth control, sexual problems and their management.
- Learn the principles of nutrition and dietetics.
- Understand the ill effects of modern lifestyle.

- Learn to redress problem associated with health and sex thereby promoting fitness and well-being.
- Make the student understand the importance of good health.
- Educate the student on clean sexual habits thereby warding off sexually transmitted diseases.

First Degree Programme
Semester V
Zoology Open Course I
Human diseases and their management
Course Code – AUZO581.c

No. of credits – 2

Total hours 54

Course Outcomes

- Instil in the students the need to manage communicable diseases thereby creating a healthy society.
- Learn the various modes and agents of disease transmission.
- Learn the causative factors of non-communicable diseases.

First Degree Programme
Semester VI
Zoology Elective course
Economic Zoology - Vermiculture and Apiculture
Course Code – AUZO691.a

No. of credit – 2

Total hours 54

Course Outcomes

- Students acquire technical know-how relating to vermiculture and apiculture to start self-employment ventures.
- Learn the basic procedure and methodology of vermiculture.
- Learn the scope and methodology of apiculture.

First Degree Programme
Semester VI
Zoology Elective course

Ornamental fish production and management

Course Code – AUZO691.b

No. of credits - 2

Total hours 54

Course Outcomes

- Make the student aware of the vast potentials involved in ornamental fish farming and trading
- Learn the scientific method of setting an aquarium
- Learn the culture breeding and marketing techniques of common indigenous ornamental fishes

First Degree Programme

Semester VI

Zoology Elective course

Dairy farming and Broiler farming

Course Code – AUZO691.c

No. of credits – 2

Total hours 54

Course Outcomes

- Promote and encourage the students to take up animal husbandry as a profession.
- Aid white revolution by improving the breeds of cattle.
- Learn the proper and scientific methodology behind poultry farming.

First Degree Programme

Semester VI

Zoology Project and Field study

Course Code – AUZO644

No. of credit – 4

Project

Course Outcomes

- Help students learn from nature.
- Develop an aptitude for research in Zoology.
- Inculcate proficiency to identify appropriate research topic and presentation.