

Program outcomes, program specific outcomes & course outcomes for all programs

The College is permanently affiliated to Gauhati University and it follows the programme wise curriculum designed by the university. The learning outcomes of the programmes and courses are stated clearly by the university. The same is published in the official website of the university which can be downloaded by the affiliated colleges.

The College has its own mechanism to communicate the learning outcomes of the curriculum to the teachers and the students. The following measures are adopted-

- Hard copy of syllabi and learning outcomes are available in all the departments for ready reference to the teachers and students.
- A web link to the Gauhati University Curriculum and learning outcomes of Programmes and Courses (both UG & PG) is also provided in the college website for reference.
- The departments also arrange Orientation Programmes/Tutorial Meetings to make the students aware of the curriculum and the learning outcomes.

DEPARTMENT OF ZOOLOGY

Programme Outcome	Development of intellectual, personal and professional skills of students and making them ready for advance studies in diverse field of Zoology .Thus , after completion of graduation students can either go for higher study and research or can apply their broad knowledge of subjects across a range of fields, with in-depth knowledge in at least one area of study, while demonstrating an understanding of the local and global contexts in which science is practiced. They can also engage themselves in documenting the amazing faunal diversity (local, regional, national or international) or they can venture into other specialized fields either as physiologists, taxonomists, embryologist, ecologist, academicians, biotechnologist, microbiologist, wildlife biologist, conservationist etc with the help of intellectual and professional skills obtained through the program
Programme Specific Outcome	❖ Helps them to know about the diverse animal diversity, its ecological and evolutionary relationship among each other. ❖ They will know about the various technique of studying animal diversity, or other aspects of animal study such as their behaviour, physiology etc ❖ By gaining knowledge about the biology of animals students can help contribute in different problems of nature in day to day life such as man animal conflict etc ❖ Students may also undertake entrepreneurship projects on fisheries,

	sericulture, animal husbandry, agriculture improvement and contribute to economic growth of the country. ❖ Regular project work, seminars and field study help them to learn how to present themselves or critically analyze situation and report them scientifically. ❖ Core issues of wildlife management, ecological disruptions, environmental pollution, disease affecting poultry, agriculture, etc could be well solved with this knowledge of Zoology.
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Courses	Course outcome
Semester I. ZOO-HC-1016: Non-chordates I: Protista to Pseudocoelomates ZOO-HC-1026: Principles of Ecology	Students get to know about diversity of invertebrates, their identification and how to classify them scientifically, know about taxonomic knowledge to identify new species etc Students have to understand the principles of ecology; about environment, wildlife and biodiversity; conservation strategies for wildlife and biodiversity; ecological basis of wildlife management.
Semester II ZOO-HC-2016: Non-chordates II: Coelomates ZOO-HC-2026: Cell Biology	Students get to know about diversity of invertebrates, their identification and how to classify them scientifically, know about taxonomic knowledge to identify new species etc Cell biology help to know the structure and function of cell.
Semester III ZOO-HC-3016: DIVERSITY OF CHORDATES ZOO-HC-3026 Physiology: Controlling and Coordinating Systems ZOO-HC-3026 FUNDAMENTALS OF BIOCHEMISTRY	Students get to know about diversity of chordates, their identification and how to classify them scientifically. They also understand about the specific facts about different classes of vertebrates. The course speaks about the basic physiological process of animals, its detailed functioning, about endocrinology .hormones and the processes they control, about the tissues and their functions Students understand about the various bio-molecules, reaction occurring in the biological system.

Semester IV ZOO-HC-4016:COMPARATIV ANATOMY OF VERTEBRATE ZOO-HC-4026:PHYSIOLOGY: LIFE SUSTAINING SYSTEMS ZOO-HC-4036:BIOCHEMISTRY OF METABOLIC PROCESS	The course content gives idea comparative knowledge of the basic structure of organs or organ system in different group of animals to establish the evolutionary relationship. The course speaks about the basic physiological process of animals, their detailed functioning. Biochemistry speaks about the various metabolic processes and biological reaction occurring in the biological system.
Semester V ZOO-HC-5016:MOLECULAR BIOLOGY ZOO-HC-5026: PRINCIPLES OF GENETICS	This science allows understanding of how the natural world works. It provides insights into the mechanisms of evolution, growth, development, reproduction, and disease, plus tools to improve our quality of life. This may be through the development of a drug or drought-resistant crop plant or understanding what controls an individual's health. Making connections between molecular mechanisms driving a process and the outcomes of those mechanisms on the physiology and/or behavior of an organism allows understanding of biological organization and function, from molecules to cells, tissues, organs and the entire organism. Molecular biology methods are used extensively in modern-day drug discovery, research and development, and diagnostics. Heredity principles are studied in Genetic and how characters are transferred from one generation to other. It helps in gene therapy, gene manipulation in embryos (IVF) , in cancer treatment etc .

Semester VI. ZOO-HC-6016:DEVELOPMENTAL BIOLOGY	It imparts knowledge of embryonic development of different animals, various evolutionary mechanism that gave rise to the present day animal diversity
ZOO-HC-6026:EVOLUTIONARY BIOLOGY	This speaks about the theories of evolution. , population genetics, mass extinction, origin and evolution of man and phylogeny.

ZOOLOGY-Discipline Specific Electives(DSE)	
ZOO-HE-5016: COMPUTATIONAL BIOLOGY AND BIOSTATISTICS ZOO-HE-5026: ANIMAL BIOTECHNOLOGY ZOO-HE-5036: ENDOCRINOLOGY ZOO-HE-5046: PARASITOLOGY	Biological techniques deal with different techniques used for studying biology and biostatistical tools used for analysing biological data. Endocrinology teaches about hormone and the processes they control different sophisticated biological techniques for modern techniques, use of computer for studying animal diversity. Disease related parasites, their life cycle, causative organisms are studied in parasitology and hence can be explored to find means of combating it
ZOO-HE-6014 :BIOLOGY OF INSECTA ZOO-HE-6026: FISH AND FISHERIES ZOO-HE-6036: REPRODUCTIVE BIOLOGY ZOO-HE-6046: WILDLIFE CONSERVATION AND MANAGEMENT ZOO-HE-6056 DISSERTATION	Insecta includes a huge group of insects that can be used as biopesticides, for food, for medicines, for maintaining food chain etc. knowledge about them can illicit research in this field. Fish and fisheries gives knowledge about the wide scope in fish rearing, cultivation and marketing. Concepts of reproductive biology can help students to pursue their career as embryologist and in conservation prospects. Adequate knowledge of wildlife management will help in controlling man animal conflicts and poaching and other activities that disrupt the ecology.
Skill Enhancement Courses	
ZOO-SE-3014: ORNAMENTAL FISH AND	The topics covered under Ornamental Fish and Fisheries can generate

FISHERIES	autochthonous income source for the students. For rural students, this subject will give them opportunities to train rural youths in ornamental fish culture For urban students, they can develop entrepreneurship in their own house, as ornamental fish can be cultured in small aquariums. They can also become specialized in breeding of ornamental fishes and supply ornamental fish spawns, thus conserving the wild stock
ZOO-SE-3024: APICULTURE	Apiculture provides products such as honey and wax that are used commercially. Honeybees are responsible for pollination and thus help in increasing the yield of theseveral plants. Some recent researches have proven that honeybees venom comprises a mixture of proteins that has the capability of destroying the AIDS virus. These aspects can be explored for research and development.
ZOO-SE-4014: Non-Mulberry Sericulture	Since agriculture is a basic need for humans, there is always a lot of scope in this field of study. With the advent of technology and developments that come with it, there has been a wide variety of job opportunities in both public and private enterprises. Sericulture offers career opportunity in Govt. research centers, silk boards, academic fields, sericulture units, agriculture sector banks etc. One can get jobs in Central Government agencies like Central Silk Board/Silk Export Promotion Council/Fao/Nabard, Krishi Vigyan

	Kendra etc. Candidates with M.Sc sericulture can apply for the post of lecturer, professor and lab assistant.
ZOO-SE-4024:Wildlife Photography and Eco-tourism .	The majority of wildlife photographers can work as freelancers. This means that they take photographs in hopes of selling them, or they are commissioned to take photographs of certain animals. The photographs that a wildlife photographer takes may be featured in different types of publications, including books and scientific journals. Travel and nature magazines also work with wildlife photographers on a regular basis. Some of these publications might even hire full or part-time wildlife photographers as staff members.

Course Outcome (Non-CBCS)5th Semester

Semester- V M-501 Animal Physiology M-502 Biochemistry & Bioenergetics M-503 Endocrinology & Immunology M-504 Biological Techniques and Biostatistics M-505(P) Practical M-506 (P) Practical	The course speaks about the basic physiological process of animals, its detailed functioning, biochemistry speaks about the various biological reaction occurring in the biological system, endocrinology teaches about hormone and the processes they control, Biological techniques deal with different techniques used for studying biology and biostatistical tools used for analysing biological data.
Semester- VI M-601 Animal Behaviour M-602 Evolution and Adaptation M-603 Economic Zoology M-604 Biotechnology, Bioinformatics and Computer application M-605(P) Practical M-606 (P)* Project	The course teaches detail about behaviour of animal, how that can be managed, various evolutionary mechanism that gave rise to the present day animal diversity, knowledge about fishery science, bee keeping, lac culture sericulture, different sophisticated biological techniques for modern techniques, use of computer for studying animal diversity.

