Course Contents for Subjects with Code: ZOOL

This document only contains details of courses having code **ZOOL**.

Code	Subject Title	Cr. Hrs	Semester
ZOOL-101	Zoology-I (Invertebrate Diversity)	3	I

Year	Discipline
1	Botany, Zoology, Chemistry-I

INVERTEBRATE DIVERSITY:
Classification of organisms; definition, concept, evolutionary relationships and tree diagrams; patterns of organization. Biodiversity.

Animal-Like Protists: The Protozoa:
Evolutionary perspective; life within a single plasma membrane; symbiotic life-styles. Protozoan taxonomy: (up to phyla, subphyla and super classes, wherever applicable). Pseudopodia and amoeboid locomotion; cilia and other pellicular structures; symbiotic ciliates; further phylogenetic considerations.

Multicellular and Tissue Levels of Organization:
Evolutionary perspective: origins of multicellularity; animal origins. Phylum porifera: cell types, and skeletons; body forms; maintenance functions. Phylum cnidaria (coelenterata) the body wall and nematocysts; alternation of generations; maintenance functions; reproduction and classification up to class. Phylum ctenophora; further phylogenetic considerations.

The Triploblastic, Acoelomate Body Plan:
Evolutionary perspective; phylum platyhelminthes: classification up to class; the free-living flatworms and the tapeworms; phylum nemertea; phylum gastrotricha; further phylogenetic considerations.

The Pseudocoelomate Body Plan: Aschelminths:
Evolutionary perspective; general characteristics; classification up to phyla; Some important nematode parasites of humans; further phylogenetic considerations.

Molluscan Success:
Evolutionary perspective: relationships to other animals; origin of the coelom; molluscan characteristics; classification up to class. Diversity in gastropods, bivalves and cephalopods; further phylogenetic considerations.

Annelida: The Metameric Body Form:
Evolutionary perspective: metamerism and tagmatization; classification up to class. External structure and locomotion, feeding.

The Arthropods:
Evolutionary perspective: classification and relationships to other animals; classification up to class.

The Hexapods and Myriapods:
Insect and humans; further phylogenetic considerations.

GENETICS:
Mendelion inheritance & Basic concepts, Sex-determination, Probability and X2 test, Multiple alleles and blood groups, Linkage and crossing over, Chromosome changes, Mutations, Inbreeding and Heterosis, Extrachromosomal Inheritance, Quantitative Inheritance, Population Genetics

Books Recommended:

1. Miller, S.A. and Harley, J.B., 1999 & 2002. Zoology, 4th & 5th Edition (International). Singapore: McGraw Hill.

2. Hickman, C.P., Roberts, L.S. and Larson, A., 2004. Integrated Principles of Zoology, 11th Edition (International). Singapore: McGraw Hill.
3. Pechenik, J.A., 2000. Biology of Intervebrates, 4th Edition (International). Singapore: McGraw Hill.
4. Kent, G.C. and Miller, S., 2001. Comparative Anatomy of Vertebrates. New York: McGraw Hill.
5. Campbell, N.A., 2002. Biology 6th Ed. Menlo Park, California: Benjamin/Cummings Publishing Company, Inc.
8. Snustad, D.P. and Simmons, M.J. 2003. Principles of Genetics. 3rd Ed. John Wiley and Sons Ins. New York, USA.
9. Strickberger, M.W. 1985. Genetics. McMillan, N.Y. USA.
10. James F. Crow., Genetics Notes