



Code	Subject Title	Cr. Hrs	Semester
ZOOL-103	Zoology-II (Chordate Diversity)	3	II
Year	Discipline		
1	Botany, Zoology, Chemistry-I		

### CHORDATES DIVERSITY:

#### Echinoderms:

Evolutionary perspective: relationships to other animals; echinoderm characteristics; classification up to class. Asterozoa, ophiurozoa, echinozoa, holothurozoa and crinozoa; some lesser-known invertebrates: the lophophorates, entoprocts, cyclophores, and chaetognaths.

**Invertebrates, Hemichordates & Chordates:** Evolutionary Perspective: Phylogenetic Relationships; Classification up to subphylum or class where applicable; Further Phylogenetic Considerations.

#### Fishes: Vertebrate Success in Water:

Evolutionary perspective: phylogenetic relationships; survey of super class agnatha and gnathostomata; further phylogenetic considerations.

#### Amphibians: The First Terrestrial Vertebrates:

Evolutionary perspective: phylogenetic relationships; survey of order caudata, gymnophiona, and anura. Evolutionary pressures: further phylogenetic considerations.

#### Reptiles: The First Amniotes:

Evolutionary perspective: cladistic interpretation of the amniotic lineage; survey of order testudines or chelonina, rhychocephalia, squamata, and crocodilia; evolutionary pressures: adaptations in external structure and locomotion, further phylogenetic considerations.

#### Birds: Feathers, Flight and Endothermy:

Evolutionary perspective: phylogenetic relationships; ancient birds and the evolution of flight; diversity of modern birds; evolutionary pressures: adaptation in external structure and locomotion, nutrition and the migration and navigation.

#### Mammals: Specialized Teeth, Endothermy, Hair and Viviparity:

Evolutionary perspective: diversity of mammals; evolutionary pressures: adaptations in external structure.

#### Recommended Books:

1. Miller, S.A. and Harley, J.B., 1999 & 2002. Zoology, 4th & 5<sup>th</sup> Edition (International). Singapore: McGraw Hill.
2. Hickman, C.P., Roberts, L.S. and Larson, A., 2004. Integrated Principles of Zoology, 11<sup>th</sup> Edition (International). Singapore: McGraw Hill.
3. Pechenik, J.A., 2000. Biology of Invertebrates, 4<sup>th</sup> 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 Sixth Edition. Menlo Park, California: Benjamin/Cummings Publishing Company, Inc