Course Content:

1. Introduction
phylum chordata, the vertebrate body - general plan and vertebrate characteristics

2. Protochordates and the Origin of Vertebrates
Protochordates, the origin of vertebrates, the ammocoete and an alternate theory of ammocoete-protochordate relationships.

3. Parade of the Vertebrates
Vertebrate taxa, Agnatha, chondrichthyes, osteichthyes, amphibia, reptilia, aves and mammals.

4. Integument
epidermis, the dermis and dermal induction.  The integument from fishes to mammals.

5. An Introduction to the Skeleton
Bone, Cartilage, Tendons, Ligaments and Joints,regional components of the skeleton and Heterotopic Bones.

6. Skull and Visceral Skeleton
neurocranium, the generalized dermatocranium, the neurocranial complex - bony fishes and tetrapods and the visceral skeleton.

7. Vertebrae, Ribs and Sterna
vertebral column, Ribs and Tetrapod sternum.

8. Girdles, Fins, Limbs and Locomotion                                                                    Pectoral girdles, pelvic girdles, fins and tetrapod limbs.

9. Muscles
Muscles, introduction to skeletal muscles. Axial, appendicular, branchiomeric and integumentary muscles

10. Digestive System
Digestive tract, mouth and oral cavity, pharynx, esophagus, stomach, intestine, liver, pancreas and cloaca.

11. Respiratory System
Gills,  Nares and Nasal canals, Swim bladder, lungs and their ducts.

12. Circulatory System
Blood, the heart of fishes, lung fishes, amphibians and amniotes.  Arterial channels, Venous channels and Lymphatic system.

13. Nervous System
Spinal cord and spinal nerves and Brain and cranial nerves

14. Sense Organs
Special somatic receptors and special visceral receptors.

15-Urogenital System
Kidneys and their ducts, Urinary bladders, Genital organs and the cloaca.

References:

1. Kent, Carr, Comparative Anatomy of the Vertebrates, McGraw Hill, 9thEdition, 1998
2. Kardong, Vertebrates, Comparative Anatomy, Function, Evolution, McGraw Hill, International Editions, 2000