**Syllabus of Zoo-109**

* **Macromolecules**:
  + Carbohydrates
  + Lipids
  + Proteins
  + Nucleic acids
* **Viruses**
* **Prokaryotes**
* Bacteria & Archaea
* **Eukaryotes (Basics of cell Biology):** 
  + Cell types (plant & animal cell).
  + Cell organelles (animal cell)
* **Cellular transport (active & passive)**
* **Enzymes and metabolic control**
* **Cellular respiration (production of ATP)**
* **Cell division (cell cycle)** 
  + Mitotic division
  + Meiotic division (and sexual life cycle)
* **Molecular Biology (information codes and genes):** 
  + DNA and DNA-replication
  + RNA and RNA-transcription
* From gene to protein (RNA translation)
* **Mendel and the gene idea:** 
  + First low of Mendel
  + Second low of Mendel
  + The genetic diseases, sex-linked disorders and mutations
  + The chromosomal bases of inheritance
  + **Chemical signals in animals (endocrine system and hormonal regulation).**

**Main book**

**Campbell, N. A. and Reece, J. B. (2011). Biology (9th edition). Pearson Education. Inc. USA.**