Module Specification:

Credit hours:

4(3+1)

Course description:

The goals of this course are to cover fundamental aspects of molecular biology with emphasis on human genome and to provide a good practical knowledge in the molecular biology field.

Marks distribution:

Lab marks divided as following:

Reports	**10 marks**
Mid-Term Exam	**6 marks**
Final Exam	**9 marks**
Total	**25 marks**

Topics to be covered:

1. Preparation of Genomic DNA from Blood
2. Preparation of Genomic DNA from Plant Tissues
3. Characterization of the DNA
4. Agarose Gel Electrophoresis
5. Primer Design
6. The Polymerase Chain Reaction
7. Digestion of DNA with Restriction Enzyme
8. DNA Sequencing

Book references:

• Sambrook J., Fritsch E.F. & Maniatis T. (2003) Molecular Cloning. *A laboratory Manual*. (3rd Edition), Cold Spring Harbor Laboratory Press. New York.

• Ausubel F.M., Brent R., Kingston R.E., Moore D.D., Seidman J.G., Smith J.A. & Struhl K. (2003) *Current Protocols in Molecular Biology*. John Wiley & Sons, Inc. New York.