



Code	Subject Title	Cr. Hrs	Semester
ZOOL-310	Molecular Genetics II	3	VI
Year	Discipline		
3	Zoology		

Introduction to molecular genetics. DNA and Topology of DNA; Eukaryotic genome organization, Techniques of molecular genetics. Replication, Rolling circle model. Transcription; Structure of promoter, Leader and trailer sequence, Splicing. Translation; Bacterial genetics. Complementation mapping. Gene regulation; Arabinose operon, Role of operator, promoter and repressor in gene regulation. Transposable elements; Their characteristics and mechanism. Gene therapy.

Books recommended

1. Snustad, D.P and Simmons, M.J., 2010. Principles of Genetics, 5th edition, John Wiley and Sons (Asia) Pte Ltd.
2. Weaver, R., 2011. *Molecular Biology* 5th Ed. McGraw-Hill.

Additional Reading Material

1. Kornberg, A., 2005. *DNA Replication*, 2 Ed. University Science Books;
 2. Waston, J.D., Baker, T.A., Bell, S.P., Gann, A., Levine, M., Losick, R., 2007. *Molecular Biology of the Gene* (6th Ed.) Benjamin Cummings sLewin, B., 2007 . *Genes IX*. 9 Ed. Jones and Barlett Publication.
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