

Basic Biology - Web course

COURSE OUTLINE

Origin of Life, Evolution, Cell Biology and Sub-cellular structure, Food Chain and Ecology, Process of Food intake and Digestion, Nerves conduction and electrophysiology, Muscle contraction and locomotion, Different Methods of Reproduction, Structure-function of biological macromolecules, Central Dogma of Life, Replication, Transcription, Translation.

COURSE DETAIL

Module*	Topics and Contents	No of Lectures**
1. Introduction	Introduction, Different Fields of Biology.	2
2. Origin of Life and Evolution	Different theories of origin of life, Experimental evidences supporting different theories. Lamarck, Darwinism and other theories of evolution, Documentary evidences supporting different evolution theories.	10
3. Ecology	Ecosystem, Food Chain, Pollution	3
4. Physiology	Process of Food intake and Digestion, Nerves conduction and electrophysiology, Muscle contraction and locomotion, Different Methods of Reproduction in prokaryotic and eukaryotic system.	8
5. Cell Biology and Sub-cellular structure	Structure and function of eukaryotic and prokaryotic cells	4
6. Biological System	Structure-function of biological macromolecules, Central Dogma of Life, Replication, Transcription, Translation,	13

*Mid course examination after module 3 and finals after the completion of module 6.

**Numbers of lectures are tentatively fixed.

References:

1. J. L. Tymoczko, J. M. Berg and L. Stryer, Biochemistry, 5th Ed, W. H. Freeman & Co, 2002.
2. D. L. Nelson and M. M. Cox, Lehninger Principles of Biochemistry, Macmillan Worth, 2000.



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Additional Reading:

1. N. Hopkins, J. W. Roberts, J. A. Steitz, J. Watson and A. M. Weiner, Molecular Biology of the Gene, 4th Ed, Benjamin Cummings, 1987.
2. C. R. Cantor and P. R. Schimmel, Biophysical Chemistry (Parts I, II and III), W.H. Freeman & Co., 1980.
3. C. C. Chatterjee, Human Physiology, Vol 1 & 2, 11th Ed, Medical Allied Agency, 1987.

Coordinators:

Dr. Vishal Trivedi
Department of
Biotechnology/IIT
Guwahati