

Topic Guide for Physical Biology Module-Lecture 1

Course BB101 is comparatively new as part of the undergraduate curriculum at IIT Bombay. This course being taught only since last two years. Unfortunately, there is no single text book which instructors can use to teach module II at the level of undergraduates. This is why instructor has to use following three different text books to teach the Module II

Reference Book 1: Physical Biology of the cell, R. Phillips, J. Kondev, J. Theriot, H. Garcia (Publisher: Garland Science)

Reference Book 2: Biological Physics, Philip Nelson (Publisher: W. H. Freeman)

Reference Book 3: Mechanics of Motor Proteins and the Cytoskeleton, Jonathan Howard (Publisher: Sinauer Associates Inc.)

Below I have listed where one can find topics discuss in lectures

Topics: Physical Properties of a globular protein, force, Forces acting on a protein molecule, Motion of Mechanical element: Mass, spring and dashpot, Motion of combination of mechanical elements

[Chapter 2 of Reference Book 3](#)

Topic: Sedimentation of a 100 kDa globular protein

[See solution of Tutorial 1 problem 5 and Example 2.1 in Chapter 2 of Reference Book 3](#)

Topic: Inertia of moving bacterium

[Example 2.3 in Chapter 2 of Reference Book 3 or uploaded
"A_Kunwar_BB101_2021_2022_I_L1_Solved_Problem.PDF"](#)