

These lectures are designed for graduate and advanced undergraduate students and cover certain physical aspects of biological membranes, including their elastic and mechanical properties, equilibrium thermal physics, dynamical fluctuations and hydrodynamical aspects as well as diffusion of inclusions and particles confined to fluctuating membrane surfaces. The lectures are accompanied by a short introduction on molecular biology of cell membranes. The necessary mathematical tools (such as elementary differential geometry) will be introduced in the lectures where required, but a background in elementary statistical mechanics would be desirable. The lectures are delivered in four sessions, each taking an hour and half.