Aims and Content:  The aim of the course is to give graduate students in the physical, and chemical, engineering and biochemical sciences an introduction to some aspects of modern molecular biophysics, which draws on concepts and ideas from physics, chemistry, engineering and, of course, biology. To this end the book by Jonathan Howard (see below) will be used as the required course text although not all the topics treated in the book will be covered. (the Contents of Howard’s book may be viewed on the home page for the course). Some appreciation for modern research on “molecular motors” or motor proteins, which is being pursued at the single-molecule levels, is an overall goal. The final assignment will include a report on a paper from the recent and current literature.

Prerequisites:  The course will be taught at an introductory graduate level, developing needed concepts and assuming only some acquaintance with undergraduate mechanics, thermodynamics, statistical mechanics, and calculus. No prior knowledge of biology will be presupposed. Well prepared and motivated undergraduates may be admitted with the instructor’s approval.

                Notice the significant advanced undergraduate text: -
                Also ON RESERVE (along with the other books mentioned) for background in cell biology the recommended (but not required) text is: -
          (d) Essential Cell Biology by Bruce Alberts and coauthors (Garland Publishing, Inc., New York, 1997); but see also (bigger and heavier):