

Physical Chemistry for the Biosciences is intended for use in a one-semester introductory course in physical chemistry. Most students enrolled in this course have taken general chemistry, organic chemistry, and a year of physics and calculus. Only basic skills of differential and integral calculus are required for understanding the equations. For premedical students, this text will form the basis for taking courses like physiology and pharmacology in medical school. For those intending to pursue graduate study in the biological sciences, the materials presented here will serve as an introduction to topics in biophysical chemistry courses, where more advanced texts such as those by Gennis, van Holde, and Cantor & Schimmel are used.

My aim is to emphasize on understanding physical concepts and their applications to chemical and biological systems rather than on precise mathematical development or on actual experimental details. To keep the text at a reasonable length, I have had to make choices of what to omit. All the basic and essential topics in physical chemistry like thermodynamics, chemical kinetics, and bonding are treated in detail. Additional chapters on spectroscopy, photochemistry and photobiology, and macromolecules can also be covered if time permits. Each chapter has an extensive reference list of texts and journal articles. A color tint is used to show the key equations. The end-of-chapter problems (about 900 in all) are arranged according to topics in each chapter. The Additional Problems section contains more challenging and multi-concept problems. A Solutions Manual written by Helen Leung and Mark Marshall containing full solutions to all even-numbered problems is available.

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