

# Chemistry 342, (01:160:342), Spring 2016

## Physical Chemistry of Biochemical Systems

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Spring 2016, Tuesdays and Fridays, 10:20 to 11:40 am, Room 205 ARC

This is the second semester of a two-semester physical chemistry course with an emphasis on applications to biochemical systems and to life sciences. It will cover three main areas: enzyme kinetics, molecular structures and interactions, and spectroscopy.

The course text is *Physical Chemistry: Principles and Applications in Biological Sciences*, by Tinoco, Sauer, Wang, Puglisi, Harbison and Rovnyak, 5th edition (Pearson, 2014). We will cover Chapters 10 to 15 this semester, pretty much in the order they appear in the text. The table below gives an approximate time schedule; detailed reading assignments will be made as the class proceeds.

| Class meetings           | Subject                        | Chapter        |
|--------------------------|--------------------------------|----------------|
| Jan 19, 22, 26           | Enzyme kinetics                | 9 (review), 10 |
| Jan 29, Feb 2, 5, 9, 12  | Atomic and molecular structure | 11             |
| Feb 16, 23, 26, Mar 1, 4 | Structures of biomolecules     | 12             |
| Mar 8, 11, 22, 25        | Optical Spectroscopy           | 13             |
| Mar 29, Apr 5, 8, 12, 15 | Magnetic resonance             | 14             |
| Apr 19, 22, 26, 29       | Macromolecular structure       | 15             |

The course website is <http://casegroup.rutgers.edu/lnotes.html>. Reading and homework assignments and additional course materials will be posted there. There will be three exams: Feb 19 and Apr 1 (in-class), and the final exam (May 11, 8-11am). The course grade will be determined by homework and projects (10%), the mid-term exams (each 25%), and the final examination (40%).