

**Syllabus: CH 416, 516**  
**Physical Chemistry for Biosciences I**

Fall Quarter, 2007  
Department of Chemistry  
Portland State University

**Professor: Albert S. Benight, Ph.D.**

301b- SB1, Office Hours: T, TH, 3:00-4:00 (or by appointment)  
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**Textbook:** *Physical Chemistry for the Biosciences*, Raymond Chang

**Coverage:** Chapters 1-6, 9

**Prerequisites:** College physics and calculus, general chemistry, quantitative analysis

**Homework:** Three (3) homework problem sets will be handed out in class. After approximately two weeks the homework will be collected and graded. Worked out solutions to the homework problems will be provided. Each homework assignment will count 5% of the final grade. In total, homework accounts for 15% of the final grade.

**Two Midterm Examinations:** 1/2 assigned homework problems, 1/4 other problems, 1/4 *understanding*, definitions, etc. No makeup examinations will be given, if you miss a midterm, the other one will count towards your grade.

**Final Examination:** Comprehensive over all material: Tuesday Dec. 4, 3:30-5:20 PM

**Grading:** 15% homework; 25% each midterm; 35% final examination

### **Summary**

The focus of this course is primarily on development of the formal foundations of equilibrium thermodynamics and chemical reactions. Topics include: physical behavior of Gases; First, Second and Third Laws of Thermodynamics; Solutions; Chemical Equilibrium and Chemical Kinetics. Intended for undergraduate upper classmen and graduate students with interests in the biological sciences emphasis is on biological examples and applications.