

CHM 3410

Physical Chemistry I

Fall Semester 2003

Physical chemistry (PChem) provides a language and set of concepts on which all of chemistry is founded. One could say that PChem makes a science of chemistry. This semester's topics in PChem are thermodynamics and, briefly, kinetics. Next semester will be devoted to quantum mechanics. Together with statistical mechanics, which you may meet at a later date, these are the cornerstones of the field. Remember: mastery requires application; understanding is the reward.

Time and location

MWF 12:30-1:40, CP 101

Text

Physical Chemistry, 7th Edition, Peter Atkins and Julio de Paula (Freeman: New York, 2002), ISBN 0-7167-3539-3.

Instructor

Dr. Chatfield

CP 336

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Office Hours: M 3:00-4:00, W 2:00-4:00 or by appointment

Prerequisites

Calculus I and II (MAC 2311 and 2312), Physics WITH Calculus (PHY 2048, 2048L, 2049, and 2049L), Quantitative Analysis (CHM 3120 and 3120L)

Grading

Grades will be based on two Exams (50%), a Final Exam (40%), and Homework (10%). The Final Exam will be comprehensive.

Homework

Problem sets will be assigned most Fridays and will be due in class the following Friday. Late homework will not be accepted. Problem sets and their solutions will be posted on my website.

Tentative Exam Schedule

Exam 1 9/29

Exam 2 11/3

Final Exam 12/8, 12:30-3:15 (Monday)

Course Outline

Chapters Topic

1-5 Development of the formalism of thermodynamics

6-10 Applications of thermodynamics to physical and chemical equilibrium

24-26 Kinetics (some sections may be omitted)