

Chemistry 305 Fall, 2012 Course Guidelines

Instructor: Daniel Graham, Flanner Hall Room 401 (office and voice-mail, 773 508-3169); Loyola Chemistry Office: 773 508-3100; Loyola Chemistry FAX: 773 508-3086; DG email: dgraha1@luc.edu

Office Hours: M, W 1130 – 1300 or by arrangement.

Class Hours: M, W, F 0815– 0905, Cuneo Hall 109.

Discussion: Th, 0830 – 0945, Cudahy Hall 202.

Textbook: *Physical Chemistry for the Biological Sciences* by Gordon G. Hammes.

Chemistry 305 is entitled *Physical Biochemistry*. As such, the semester will focus on biochemical applications of thermodynamics, kinetics, and quantum mechanics. The topics will include:

Thermodynamic Properties and Laws

Phase Behavior

Kinetic Principles and Reaction Rate Laws

Quantum Principles and the Nature of Light

Biochemical Applications of X-Ray Diffraction and Magnetic Resonance

Exams:

There will be three seventy-five minute exams scheduled for the Thursday discussion periods. There is also a two-hour cumulative final scheduled for the second Monday of finals week. Each exam will consist of questions and problems representative of the text and lecture material. All calculations and proper units will be entered clearly in a standard blue book provided by the instructor. A calculator, periodic table, and a single page of notes (normal paper, both sides OK) may be used during each exam.

The single page of notes must be included with the blue book prior to hand-in. Blue books must be signed on the front, upper right-hand corner. Each signature will be taken as a statement of honest, independent work. Instances of academic dishonesty will warrant immediate failure of the course plus referral to the Arts and Sciences Dean's office. Please review the College's policy on academic integrity via the Loyola University website.

Exams will be graded and returned as soon as possible. All grading questions, points of clarification, and grading errors must be brought to the instructor's attention during office hours no later than one week after return of the exam.

If special provisions are needed for the exams and other aspects of Chemistry 305, please consult with the instructor during the first week.

Assignment of Grades:

The following scale will be used: 87% - 100% A-, A; 72% - 86% B-, B, B+; 59% - 71% C-, C, C+; 50% - 58% D, D+; < 50% F. Grades will be assigned by weighting the seventy-five minute exams 0.55, problem sets 0.10, and the final exam 0.35, with account given to improvement during the semester.

An aim of the grading policy is to allow time and incentive for improvement. Physical chemistry is not easy to learn, but the process can be rewarding if necessary effort is made to master fundamentals as they appear. Students are urged to contact DG to discuss problems before they become serious.

Problem Sets: Several problem sets will be assigned during the semester based on the text and lecture materials. Students are urged to work as many problems as possible with the help of each other and the instructor.

Quizzes: Several quizzes will be prepared during the semester and addressed during the discussion periods. Active discussion participation plus completion and hand-in of each quiz will warrant one point of credit applied to the up-coming exam.

Blackboard Materials: There will be multiple postings on *Blackboard* during the semester. These will include exams, quizzes, and problem sets. Please check the website every day or two for the latest postings. Errors should be brought to the instructor's attention as soon as possible.

Schedule:

The typical week will feature Monday, Wednesday, and Friday lectures starting at 0815. Thursday discussions will feature an informal chalk-talk at 0830 followed by Q & A, and a group discussion/quiz.

- M 082712 First Class Meeting. We will begin with Chapter I of Hammes.
- M 090312 Labor Day Holiday ☺🎵
- Th 092712 **Exam I at 0830:** the exam will emphasize essential material of the first three chapters.
- M 100812 Ye Olde Fall Break Holiday ☺🎵
- Th 102512 **Exam II at 0830:** the exam will emphasize material of Chapters Four and Five.
- Th 111512 **Exam III at 0830:** the exam will emphasize material of Chapters Six and Seven.
- W 112112 Thanksgiving Break Holiday ☺🎵
- Th 112212 *The* TGB Holiday ☺🎵!!
- F 112312 Still Another Holiday ☺🎵
- F 120712 i-dotting and t-crossing
- F 121712 **Cumulative Final Exam at 0900 - 1100.**