

Syllabus

Chemistry 565-665 (Weisshaar) Spring Semester, 2016

Chemistry 565-665 is a four-credit survey of chemical thermodynamics and kinetics, with examples chosen primarily from biophysical topics. This year's course will include supplementary material from the burgeoning field of biological fluorescence microscopy.

Instructor: James C. Weisshaar, 4211 Chemistry, 262-0266, weisshaar@chem.wisc.edu.

Lectures: MTuThF 9:55 am, B371 Chemistry. *The lectures and discussion sections are an integral part of the class. Attendance is essential!* We will not have lectures during all four hours every week. (Watch for messages at *Learn@UW*.)

Weisshaar Office Hour: Friday, 3:00-4:00 pm, 4211 Chem (middle building).
Or by appointment.

Teaching Assistant: Mr. Anurag Agrawal, aagrawal@chem.wisc.edu,
Office hour: Thursday, 12:00-1:00 pm, B221 Chem (enter through B200 doorway).

Primary Text: Ken Dill, *Molecular Driving Forces*, 2nd edition (Garland Science, 2011). The text takes a modern, statistical approach to thermodynamics. *Intuitive and fascinating!*

Web Page: *Learn@UW* has a Chem 565/665 site providing access to lecture notes, problem sets, exam and problem set answer keys, reading assignments, etc. You can log in at: <https://learnuw.wisc.edu/>.

Problem Sets: Approximately weekly, usually assigned Monday and due the following Monday before class. Written answers will be collected and graded in part. Solutions will be posted on *Learn@UW*. *We encourage you to work together in solving the problems, but you must take the exams alone!*

What distinguishes Chem 665 from Chem 565? Each graduate student enrolled in Chem 665 will give a 25-minute oral presentation on a biophysical research topic of their choosing. The topic should involve thermo or kinetics in some fashion. These talks will take place on Fridays during class later in the semester.

Examinations: Two in-class exams during the semester. *Likely dates:* Friday, February 26 and Friday, April 15. *Final exam:* Monday, May 9, 10:05 am – 12:05 pm.

Grading: Problems sets (20%), Exam I (25%), Exam II (25%), Final Exam (30%). Course grades based on the class distribution of total points; no absolute scale.

Math comment: Thermodynamics cannot be understood at a serious level without multi-variable calculus, a subject some of you have not taken. And we are serious people! So we will learn the required math as we go. *Remain calm.*

Questions: Please feel free to interrupt the lecture to ask questions. It helps me to sharpen my thinking and to better understand how things are going “out there”.