

Syllabus

Chemistry 565-665 (Weisshaar) Spring Semester, 2017

Chemistry 565-665 is a four-credit survey of chemical thermodynamics and kinetics, with examples chosen primarily from biophysical topics.

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: Fridays, 3-4 pm, 4211 Chem (middle building).
Or by appointment.

Teaching Assistant: Mr. Matt Dalphin, dalphin@wisc.edu,
Office hour: TBA.

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 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 be based on the scientific literature and 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. *Proposed dates:* Thursday, February 23 and Thursday, April 13. *Final exam:* Monday, May 8, 2:45 pm – 4:45 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”.