

Monday, September 8, 2008 (08.09.2008)

Course: CHMB20H3F, Chemical Thermodynamics and Elementary Kinetics

Instructor: Simon J. Fraser

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OFFICES:

UTSC: Room SW 506A

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Office hours: Mondays 1:00–2:30, Wednesday 2:20–5:00

Lectures: Room BV 363 Monday 15:00–17:00
 Room SW 143 Wednesday 14:00–15:00

Required Text: T. Engel and P. Reid, PHYSICAL CHEMISTRY (Pearson, Toronto, 2006).

Marking Scheme for CHMB20H3F, Fall 2008

Problem Sets	30%
1 Term Test	30%
Final Exam	40%
TOTAL	100%

It is desirable that you take MATB41H3. Note that you must take MATB41H3 if you are going to take a 3rd year physical chemistry course.

Course Outline: The text book is organized in an unusual way that is different from most physical chemistry text book. I will list topics in the order in which I will cover them which will be the more usual order and give you the sections in which these topics appear in the required text.
Course Description in Calendar: The concept of chemical potential; phase equilibria; solutions; chemical equilibria (including electrochemical applications); elementary reactions; multi-step and coupled elementary reactions (with biochemical applications); elementary collision theory; and TST (transition state theory).

The information below will be edited and completed soon.

However, I will discuss additional topics in the order itemized below.

- **Introductory lecture on ordinary and partial differentiation:** The use of partial derivatives makes Thermodynamics far easier to understand.
- **Ideal gas and the van der Waals gas:** p. (page) 157, pp. (pages) 149–163.
- **Basic Concepts for Thermodynamic Systems:** Systems of various types. Brief statements about Zeroth, First and Second Laws of Thermodynamics.
- **First Law, Second Law and Third Laws:** The details of the discussion of these laws will be given as they arise and in later study guides.