

CHM 320 F : Thermodynamics and Kinetics

2005/06

Instructor

James Donaldson

jdonalds@utsc.utoronto.ca

S-410 (probably)

416-287-7213

Office Hours

M, ~~10~~ 10-12

W 10-11

or by appointment

Text

: "Physical Chemistry"

Engle & Reid

Grading

homeworks

32% (4 x 8)

in-class quiz

8% (2 x 4)

midterm

25%

final

35%

---

100%

## CHM B20F 2005-06 Class outline

Week	Topics	Chapter reference
Sept 12	What is physical chemistry? Some simple math ideas. The ideal gas model for matter. Heat and work; state functions and path-dependent quantities.	Ch. 1; 2.1-2.5
Sept 19	Reversible and irreversible pathways. State functions: U and H.	Ch. 2.6-3.6
Sept 26	Following changes in the system through $\Delta U$ and $\Delta H$ .	Ch. 4
Oct 3	All about entropy	Ch. 5.1-5.10
Oct. 17	Free energy – a handle on the universal entropy change Phase changes	Ch. 6.1-6.4 Ch. 8.1-8.6
Oct 24	Free energy 2: mixtures and chemical equilibrium	Ch. 6.5-6.13
Oct 31	Real vs. ideal mixtures	Ch. 7; 9.1-9.3
Nov 7	Real solutions	9.4-9.13; 10.4
Nov 14	Electrochemistry	Ch. 11
Nov 21	Kinetics: phenomenology and interpretations in terms of Mechanisms	Ch. 18.1-18.8
Nov 28	Kinetics: Mechanisms	Ch. 18.9,10,13,14
Dec 5	Complex kinetics Review	Ch. 19.1-19.4