

DATE: May 16, 1994

Division: ACADEMIC

New Course:

R: Department: SCIENCE & MATHEMATICS

Revision of Course  
Information form: X

DATED: June 15, 198

Physical Chemistry

E:

5

C:

CHEM 310

D:

Textbooks and materials to be purchased by students  
(Use Bibliographic Form)

Mills, O.N., 1982.

Laidler, K.J. and Meiser, J.H. *Physical Chemistry*, Addison Wesley, D.

San Diego, 1987.

Douglas College, *Chemistry 310 Laboratory Manual*, 1994.

Complete Form with Entries Under the Following Headings:

O. Course Objectives:      P. Course Content:      Q. Method of Instruction:

R. Course Evaluation

O. Course Objectives:

With the aid of tables of thermodynamic data, a p

P. Course Content

Physical chemistry	5	Introduction and review Units, mathematical review, use of calculators and computers in physics
Thermodynamics		Definitions, energy, review of the properties of ideal gases, absolute temperature scale, kinetic theory of gases, collision frequency, collision number and mean free path, real gases, compressibility factor, deviations from ideal gas behaviour, real gas isotherms, van der Waal's equation, other equations of state, critical phenomena, continuity of states.
Thermodynamics		3. The First Law of Thermodynamics Definitions, P-V work, expansion of an ideal gas, heat, heat capacity, latent heat, path functions, statements of the first law, constant V processes, $C_V$ , enthalpy, $C_p$ , adiabatic and isothermal expansion, heat, constant pressure processes, heat capacity of monatomic and diatomic gases. reversible

**Q. Method of Instruction**

The course will be presented using lectures, problem sessions and class discussions. Films and other audio-visual material will be used where appropriate. Problems will be assigned on a regular basis and handled in the laboratory.