



University of Pretoria Yearbook 2019

Physical chemistry 382 (CMY 382)

Qualification Undergraduate

Faculty Faculty of Natural and Agricultural Sciences

Module credits 18.00

Programmes BSc Computer Science

BSc Applied Mathematics

BSc Biochemistry

BSc Chemistry

BSc Environmental Sciences

BSc Geology

BSc Human Physiology

BSc Mathematics

BSc Physics

Service modules Faculty of Education

Prerequisites CMY 282, CMY 283, CMY 284 and CMY 285

Contact time 4 lectures per week, 2 practicals per week, 1 discussion class per week

Language of tuition Module is presented in English

Department Chemistry

Period of presentation Quarter 4

Module content

Theory: Molecular quantum mechanics. Introduction: Shortcomings of classical physics, dynamics of microscopic systems, quantum mechanical principles, translational, vibrational and rotational movement. Atomic structure and spectra: Atomic hydrogen, multiple electron systems, spectra of complex atoms, molecular structure, the hydrogen molecule ion, diatomic and polyatomic molecules, structure and properties of molecules. Molecules in motion: Viscosity, diffusion, mobility. Surface chemistry: Physisorption and chemisorption, adsorption isotherms, surface tension, heterogeneous catalytic rate reactions, capillarity.

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