University of Pretoria Yearbook 2016

Physical chemistry 382 (CMY 382)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	18.00
Programmes	BSc(Computer Science) Computer Science
	BSc Biochemistry
	BSc Chemistry
	BSc Environmental and Engineering Geology
	BSc Environmental Sciences
	BSc Genetics
	BSc Geography
	BSc Geoinformatics
	BSc Geology
	BSc Human Physiology
	BSc Meteorology
	BSc Microbiology
	BSc Physics
Service modules	Faculty of Education
Prerequisites	CMY 282, CMY 283, CMY 284 and CMY 285
Contact time	2 practicals per week, 4 lectures per week, 1 discussion class per week
Language of tuition	English
Academic organisation	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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