



# 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.

The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.