

COURSE DETAIL

INTERMEDIATE PHYSICAL AND THEORETICAL CHEMISTRY

Country

United Kingdom - England

Host Institution

University of Bristol

Program(s)

English Universities, University of Bristol

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Chemistry

UCEAP Course Number

147

UCEAP Course Suffix

Y

UCEAP Official Title

INTERMEDIATE PHYSICAL AND THEORETICAL CHEMISTRY

UCEAP Transcript Title

INT PHYS&THEOR CHEM

UCEAP Quarter Units

12.00

UCEAP Semester Units

8.00

Course Description

This course explores the origin of quantization of molecular energies and demonstrates that wavefunctions are solutions to the Schrödinger equation for any 1-D problem; for particle in the 2-D box and for the hydrogen atom. It also examines the linearity of operators and identifies eigenvalues. Students explore the quantum mechanics of particle-in-a-box and its relationship to simple properties of ideal gases, as well as the quantum mechanics of the rigid rotor and its relationship to microwave spectroscopy. Students are able to deduce structural parameters from microwave spectra. The course also examines the relationship between the quantum mechanics of the harmonic oscillator and its relationship to IR spectroscopy.

Language(s) of Instruction

English

Host Institution Course Number

CHEM20190

Host Institution Course Title

INTERMEDIATE PHYSICAL & THEORETICAL CHEMISTRY

Host Institution Course Details

Host Institution Campus

University of Bristol

Host Institution Faculty

Host Institution Degree

Host Institution Department

School of Chemistry

Course Last Reviewed

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