COURSE DETAIL

GENERAL CHEMISTRY 2
Country Netherlands
Host Institution Wageningen University and Research Center
Program(s) Wageningen University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Chemistry
UCEAP Course Number 102
UCEAP Course Suffix
UCEAP Official Title GENERAL CHEMISTRY 2
UCEAP Transcript Title GENERAL CHEMISTRY 2
UCEAP Quarter Units 2.50
UCEAP Semester Units 1.70

Course Description
General Chemistry 2 introduces students to general concepts from the fields of life sciences, environmental sciences, and technology. Concepts covered include matter, energy, size, scale, quantization of energies, driving forces, change, and equilibrium. Students explore concepts both theoretically and experimentally through tutorials and practical classes that cover themes and contexts from various fields. General Chemistry 2 emphasizes the physical and chemical properties of atoms, ions, and molecules. Subjects covered in this course include transport under the influence of concentration gradients, redox reactions and redox potentials, atomic and molecular structure, quantization, intra molecular interactions and spectrophotometry. After successful completion of this course, students are able to analyze and examine aspects of chemical mass transport (friction, drift, flux, diffusion, ionic mobility) and apply these to topics like Fick's first law, membrane potentials, and electrical conductance of a solution; analyze and examine aspects of electrochemistry (half reactions, electrochemical cells oxidation numbers, Nernst equation) and apply these to topics like spontaneity of chemical reactions, electrode potentials, equilibrium constants of electro chemical reactions and concentration measurements; outline the principles of the quantum mechanical model for single and multi-electron atoms and connect these to trends in the periodic table of elements and topics like the Aufbau principle, atomic orbitals, and energy levels in atoms; construct Lewis structures of simple inorganic molecules and classify their shapes using the VSEPR model; apply Lambert Beer's law and understand absorption and emission of electromagnetic radiation; and execute experiments in the domain of general and physical chemistry following a given protocol and analyze the outcomes.

Language(s) of Instruction
English

Host Institution Course Number
PCC-12403

Host Institution Course Title
GENERAL CHEMISTRY 2

Host Institution Course Details
Host Institution Campus Biotechnology
Host Institution Faculty
Host Institution Degree
Host Institution Department Physical Chemistry and Soft Matter
Course Last Reviewed

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