Testi del Syllabus

Resp. Did. **Matricola: null**

Anno offerta:	**2025/2026**
Insegnamento:	**2020010 - CHEMISTRY**
Corso di studio:	**D720 - FOUNDATION COURSE IN ENGINEERING AND SCIENCE**
Anno regolamento:	**2025**
CFU:	**5**
Settore:	**NN**
Anno corso:	**1**
Periodo:	**Ciclo Annuale Unico**

Testi in italiano

Lingua insegnamento	English
Contenuti	PART 1: Fundamentals of Chemistry [4h]. Why Chemistry Matters: Role in Science and Society. States of Matter and Classification of Substances. Scientific Method, Measurements, and Units in Chemistry. PART 2: Atomic Structure and Periodic Table [8 h]. Atomic Structure and Models of the Atom. Electron Configuration and Periodic Trends. Chemical Bonding (Ionic, Covalent, Metallic). PART 3: Chemical Reactions and Stoichiometry [8h]. Types of Chemical Reactions and Balancing Equations. The Mole Concept and Avogadro's Number. Stoichiometry and Limiting Reactants. PART 4: Thermodynamics and Chemical Equilibrium [8h]. Basic Principles of Thermodynamics (Energy, Enthalpy, Entropy). Chemical Equilibrium and Le Chatelier's Principle PART 5: Acids, Bases, and Solutions [6h]. Introduction to Acids, Bases, and pH Scale. Buffer Solutions and Applications. PART 6: Organic & Biological Chemistry [6h]. Organic molecule and functional groups, properties, biological macromolecules, their role in life and technology
Testi di riferimento	Chemistry: Atoms First", OpenStax, available online: https://openstax.org/details/books/chemistry-atoms-first-2e "Organic Chemistry", OpenStax, available online: https://openstax.org/details/books/organic-chemistry
Obiettivi formativi	The objective of this course is to introduce students to fundamental chemistry concepts, providing them with a basic understanding of the principles that govern the behavior of matter. Covering essential topics such as atomic structure, the periodic table, chemical bonding, stoichiometry, thermodynamics, and acid-base chemistry, the course aims to familiarize students with the core ideas that underpin chemical reactions and properties
Prerequisiti	None
Metodi didattici	Lectures

Altre informazioni	--
Modalità di verifica dell'apprendimento	Exam: The assessment of learning is expressed on a thirty-point scale and will be carried out through a written test and an oral exam. A minimum score of 18/30 is required to pass

Obiettivi per lo sviluppo sostenibile

Codice	Descrizione

Testi in inglese

	English
	PART 1: Fundamentals of Chemistry [4h]. Why Chemistry Matters: Role in Science and Society. States of Matter and Classification of Substances. Scientific Method, Measurements, and Units in Chemistry. PART 2: Atomic Structure and Periodic Table [8 h]. Atomic Structure and Models of the Atom. Electron Configuration and Periodic Trends. Chemical Bonding (Ionic, Covalent, Metallic). PART 3: Chemical Reactions and Stoichiometry [8h]. Types of Chemical Reactions and Balancing Equations. The Mole Concept and Avogadro's Number. Stoichiometry and Limiting Reactants. PART 4: Thermodynamics and Chemical Equilibrium [8h]. Basic Principles of Thermodynamics (Energy, Enthalpy, Entropy). Chemical Equilibrium and Le Chatelier's Principle PART 5: Acids, Bases, and Solutions [6h]. Introduction to Acids, Bases, and pH Scale. Buffer Solutions and Applications. PART 6: Organic & Biological Chemistry [6h]. Organic molecule and functional groups, properties, biological macromolecules, their role in life and technology
	Chemistry: Atoms First", OpenStax, available online: https://openstax.org/details/books/chemistry-atoms-first-2e "Organic Chemistry", OpenStax, available online: https://openstax.org/details/books/organic-chemistry
	The objective of this course is to introduce students to fundamental chemistry concepts, providing them with a basic understanding of the principles that govern the behavior of matter. Covering essential topics such as atomic structure, the periodic table, chemical bonding, stoichiometry, thermodynamics, and acid-base chemistry, the course aims to familiarize students with the core ideas that underpin chemical reactions and properties
	None
	Lectures
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	Exam: The assessment of learning is expressed on a thirty-point scale and will be carried out through a written test and an oral exam. A minimum score of 18/30 is required to pass

Obiettivi per lo sviluppo sostenibile

Codice	Descrizione