General information	
Academic subject	**General and inorganic chemistry**
Degree course	MEDICINA VETERINARIA
Academic Year	2021/2022
European Credit Transfer and Accumulation System (ECTS)	4
Language	Italian
Academic calendar (starting and ending date)	I Bimester
Attendance	Mandatory

Professor/ Lecturer	
Name and Surname	Andrea Listorti
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Department and address	Veterinary Medicine Campus – Valenzano (BA)
Virtual headquarters	Windows teams
Tutoring (time and day)	Email appointment

Syllabus	
Learning Objectives	The course aims to provide the student with the basic concepts of General Chemistry necessary for the subsequent development of specific skills in the medical-veterinary sector
Course prerequisites	None
Contents	Course program Introduction to the course: chemistry for veterinarians. The atomic model of matter. The electronic model of the atom and the periodic properties. -The electronic model of the hydrogen atom. The electronic configuration of polyelectronic atoms. Periodic properties. The classification of elements in metals and non-metals- Chemical bonds. -The covalent bond. The ionic bond. The metallic bond. Intermolecular interactions- States of aggregation of matter. - Model and properties of the solid state. The models and properties of the liquid and gas states Transitions and state diagrams for one-component systems. - State transitions and principles of thermodynamics. Single component state diagrams. Multi-component systems. - Solutions and solution properties- Chemical reactions and stoichiometry. The equilibrium and thermodynamics of gas phase reactions. The kinetic properties of the reactions. The acid-base and solubility equilibria in aqueous solution. Electrochemistry: redox reactions and electric potential.
Books and bibliography	I. Bertini, C. Luchinat, F. Mani. “Chimica: materia, tecnologia, ambiente”. Ambrosiana Publishing House. Zanichelli exclusive distribution.
Additional materials	Pdf of Powerpoint presentations

U.O. Didattica e servizi agli studenti
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Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
100	32	0	68
ECTS			
	4		

Teaching strategy	
	The course is divided into a series of lectures and exercises carried out on the blackboard and with the help of PowerPoint presentations. The slides are considered an integral part of the teaching material.
Expected learning outcomes	
Knowledge and understanding on:	○ At the end of the course, the student will have integrated his basic knowledge on natural phenomena concerning the transformation of matter; will have a complete overview of the laws governing the structure of the atom, molecules, and compounds; he will know the theoretical reasons underlying the energy balances during the transformations of matter.
Applying knowledge and understanding on:	At the end of the course the student will have developed the ability to understand some chemical and physical characteristics of substances, such as state of aggregation and volatility, hardness, and fragility based on the knowledge of their structure. He will know how to assess the spontaneity of chemical and electrochemical processes and quantify the masses and energies involved during these transformations.
Soft skills	• Making informed judgments and choices ○ the course will provide general tools allowing the students to critically solve problems concerning basic knowledge of chemistry. ° Communicating knowledge and understanding ○ the student at the end of the course will possess the bases for a scientifically sounding communication with respect to the transformation of matter. ○ Capacities to continue learning on the bases of knowledges matured during the course the student will have the possibility to independently improve his understanding and mastering of natural phenomena involving chemical transformations.

Assessment and feedback	
Methods of assessment	oral exam on the course program
Evaluation criteria	• Knowledge and understanding Minimum level for passing the exam: introductory theoretical discussion of one of the course topics. Intermediate level: theoretical discussion of one of the topics of the course. Upper level: thorough and rigorous theoretical discussion of one of the topics of the course. • Applied knowledge and understanding Minimum level for passing the exam: Resolution of an elementary level question concerning the transformations of matter (example exercise of stoichiometry or determination of the pH of an aqueous solution)

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	Intermediate level: Resolution of an intermediate level question concerning the transformations of matter (e.g. exercise of stoichiometry or determination of the pH of an aqueous solution) Upper level: Resolution of a medium-high level question concerning the transformations of matter (e.g. exercise of stoichiometry or determination of the pH of an aqueous solution) • Autonomy of judgment For intermediate and higher levels: Evaluate, with an independent approach, the advantages, and limitations of the use of different materials in application contexts. • Communication skills For all levels: demonstrate knowledge of the correct scientific terminology, relating to the knowledge required for the three levels. • Ability to learn In carrying out the exam, the topics proposed will have an increasing degree of depth to establish at what level of knowledge, fundamental, intermediate, oh top, the student's learning ability has reached.
Criteria for assessment and attribution of the final mark	The final grade will be attributed through the composition of the partial judgments deriving from the various questions of the oral exam.
Additional information	

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