ACADEMIC YEAR 2022/2023

General information	
Academic subject	**CHEMISTRY**
Teaching module	**General and Inorganic Chemistry**
Degree course	VETERINARY MEDICINE LM42
Academic Year	I
European Credit Transfer and Accumulation System (ECTS)	4 (ECTS lessons: 4; ECTS exe/lab/tutor: 0)
Language	ITALIAN
Academic calendar	I 7 WEEKS PERIOD
Attendance	MANDATORY

Professor/ Lecturer	**Email address**	**Telephone nr.**
Andrea Listorti	andrea.listorti@uniba.it	080/5442009

Department and address	Campus of Veterinary Medicine, S.P. per Casamassima km 3, 70010 Valenzano
Virtual headquarters	Teams platform (access code: ***0om5alr***)
Tutoring (time and day)	Tuesday-Friday 11.00-13.00/15.00-17.00, From Monday to Friday by appointment via email or telephone call

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	No prerequisites. It is helpful to have a good understanding of basic mathematics and physics. It is not necessary to have preliminary information on chemistry as the course starts from the elementary concepts of that subject.
Contents of the course: **General and Inorganic Chemistry** **teacher:** **Andrea Listorti** **Lectures ECTS** **CFU: 4** **hours: 32**	The course belongs to the Basic Subjects 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.

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	- 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.

Biosafety rules for the attendance of practical activities	There are no practical activities

Personal study material	
Books and bibliography	I. Bertini, C. Luchinat, F. Mani. "Chimica: materia, tecnologia, ambiente". Casa Editrice Ambrosiana. Distribuzione esclusiva Zanichelli.
Additional materials	Notes taken during lectures. Slides projected during the lectures (available on google drive platform).

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Self-study hours
Hours			
100	32	0	68
ECTS			
4	4	0	

Teaching strategy	*V ncgmfkl,*
	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; ○ 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 on the basis of the knowledge of their structure. ○ will know how to assess the spontaneity of chemical and electrochemical processes and quantify the masses and energies involved during these transformations.

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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** At the end of the course, the student will: ○ possess the bases for a scientifically sounding communication with particular respect to the transformation of matter. **Capacities to continue learning** At the end of the course, the student must be able to: ○ have the possibility to independently improve his understanding and mastering of natural phenomena involving chemical transformations.
Summary of the knowledge and competences that the integrated course concurs to let the students acquire (Day One Competences) as scheduled by EAEVE	**Knowledge and understanding:** **…** **….** **….** **….** **Applying knowledge and understanding:** **….** **…** **….**

Assessment and feedback	
Methods of assessment	The assessment of knowledge takes place through an oral test on the topics of the program.
Evaluation criteria	• *Knowledge and understanding:* ○ The student must be able to explain in a simple, clear and rigorous way the various issues addressed in the course. • *Applying knowledge and understanding:* ○ The student must be able to take stock of the spontaneity of chemical and electrochemical processes and quantify the mass and energy involved during these transformations. • *Autonomy of judgment:* ○ The student must be able to autonomously organize a broad speech illustrating a certain process using all the knowledge acquired. • *Communication skills:* ○ The student must be able to use the appropriate scientific terminology in a clear and simple way, understandable even to those who do not have in-depth knowledge of the subject • *Capaticities to continue learning*:

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	○ The student must be able to correlate the knowledge acquired by integrating and harmonizing them with the concepts previously acquired in the other related disciplines (eg: physics, biochemistry ...)
Criteria for assessment and attribution of the final mark	The final grade is expressed out of thirty. The exam is passed when the grade is greater than or equal to 18/30. The test of preparation consists of an oral test during which students must demonstrate full mastery in identifying and applying the fundamental laws of basic chemistry; ability to evaluate clarity and completeness in the oral presentation of the program contents.
Additional information	To obtain the attendance signature and take the exam, students must attend 75% of the courses unless the COVID state of emergency persists, in which case the lessons will be delivered remotely

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