

This teaching module provides the following elements, which are useful for achieving **EAEVE Day One Competences**

1.2 Understand scientific research methods, the contribution of basic and applied research to science and implementation of the 3Rs principle (Replacement, Reduction, Refinement).

The student can consider the possible impact of their actions beyond the immediate workplace with colleagues, but also on animal welfare

1.4 Promote, monitor and contribute to maintaining health and safety of oneself, patients, clients, colleagues and the environment in the veterinary setting; demonstrate knowledge about the principles of quality assurance; apply principles of risk management in practice.

The student is able to critically analyze the best available evidence for the procedures used and learn from the outcome to make changes to one's practice in the laboratory

1.5 Communicate effectively with clients, the public, professional colleagues and responsible authorities, using language appropriate to the audience concerned and in full respect of confidentiality and privacy.

The student is able to produce scientific reports and papers in written form to communicate results and information relevant to the veterinary field

1.6 Implement principles of effective interpersonal interaction, including communication, leadership, management, team working, mutual respect and other soft skills.

The students develop their knowledge and skills relevant to their professional practices and competencies in the team

1.9 Be able to review and evaluate literature and presentations critically.

The students achieve a good understanding of the most important works in the field in relation to their studies

1.13 Demonstrate the ability to recognise personal and professional limits, and know how to seek professional advice, assistance and support when necessary.

The student must be able to make decision about laboratory data or incomplete or unclear results

1.19 Develop appropriate treatment plans and administer treatment in the interest of the animal under their care with regard to the resources available and to appropriate public health and environmental considerations.

The student knows the basics of chemistry, biochemistry and enzymology and the regulation of chemical-biological reactions and is able to apply them in understanding the pharmacological applications

The student knows the basics of chemistry, biochemistry and enzymology and the regulation of chemical-biological reactions and is able to apply them in understanding and discuss their relevance to health and disease

The student knows the structure of proteins (including enzymes) and the mechanisms that regulate their function and can discuss their relevance to health and disease

The student knows the biochemical mechanisms that underlie the processes of cell death and is able to use the knowledge in understanding the physio-pathological processes that take place in organisms

1.21 Assess the physical condition, welfare and nutritional status of an animal or group of animals and advise the client on principles of husbandry, feeding, reproduction, production, welfare, individual health, herd health and public health.

The student knows the structure of the genome and the mechanisms that regulate its function and can discuss its relevance for health, disease and zootechnical applications

The student knows the structure of biomolecules, metabolism and cellular energy sources and is able to apply knowledge in the field of animal nutrition

The student knows the structure of proteins (including enzymes) and the mechanisms that regulate their function and can discuss their relevance to health and disease

The student assesses rumen fluid quality in cow by evaluating color, sedimentation, pH, glucose fermentation capacity, nitrites consumption, redox potential and rate of cellulose degradation

1.22 Collect, preserve and transport samples, select appropriate diagnostic tests, interpret and understand the limitations of the test results.

The student is able to perform standard laboratory tests in cows, including somatic cell count in milk, and to interpret the results (Biochemical Profile)

The student chooses appropriate tubes and correctly prepares the samples for the transport to the laboratory
The student is able to assess ketone bodies concentration using a cowside test

1.27 Prescribe and dispense medicines correctly and responsibly in accordance with legislation and latest guidance.

The student knows the basics of chemistry, biochemistry and enzymology and the regulation of chemical-biological reactions and is able to apply them in understanding the pharmacological applications
The student calculates a drug dosage for a patient

1.36 Perform inspection of food and feed to correctly identify conditions affecting the quality and safety of products of animal origin, including related food technology.

The student knows the basic concepts of chemistry, biochemistry and enzymology applicable to diagnostic and research laboratory techniques (methods of expression of the concentration of the solutions, pH, properties of the solutions) and is able to evaluate the validity of an analytical method (precision, accuracy, linearity, sensitivity, specificity) and the quality of an analytical process