

SEM 1

Name of the programme module	Chemistry
Programme module type (obligatory/optional)	obligatory
Year of studies for a given field	I
Term for a given field	1
ECTS credits together with contact/no contact hours division	4 (2/2)
A unit providing the course	Department of Biochemistry
Module objective	Enhancement of secondary school knowledge of chemistry with selected issues from the field of inorganic, general and organic chemistry, which are indispensable for understanding biochemical issues discussed in the following semesters. Acquiring basic knowledge for a correct performance of chemical analyses which are applied in laboratories of different profiles, including clinical chemistry, as well as food inspection. The aim of teaching chemistry is to acquaint students with biochemical transformations which take place in cells and tissues, and which are indispensable for the proper functioning of the entire organism, as well as with some laboratory techniques used in a biochemical laboratory. The acquaintance with these transformations is necessary for an understanding of pathological processes at the cellular level and the interpretation of laboratory test results, which are all acquired during clinical classes.
Educational results	Knowledge: Knowledge to define basic concepts and phenomena in the field of inorganic, general and organic chemistry. Ability to integrate the knowledge of inorganic, general and organic chemistry by demonstrating selected functions of a live organism. Ability to describe selected analytical methods.
	Skills: Ability to conduct chemical experiments by routine. Ability to analyse the results of the conducted tests and formulate conclusions which follow from the conducted analyses. Ability to use different sources of knowledge.
	Social competence: Awareness of the need for further education and self-improvement. Students develop their ability to work in a group.
Content of the programme module	Basic chemical terms, atomistic theory. Biological significance of selected elements. Stoichiometry of chemical formulae and chemical equations. Solutions and manners of expressing concentration. Electrolytic dissociation and the ionic product for water, pH, hydrolysis, buffers. Processes of oxidation-reduction. Basics of analytical chemistry. Organic chemistry – nomenclature, representatives of the main groups of organic compounds, identification of function groups of these connections Carbohydrates, Fats, Amino acids. Identification of selected cations and anions as well as function groups of compounds, buffer properties, acid-base titration, redox titration, precipitation titration, dialysis, identification of sugars and lipid components.
Planned didactic forms/actions/methods	Laboratory classes, lectures, self-study materials on the unit's website, online materials available upon entering a password (VikiWet, Casus)

Name of the programme module	Cell biology
Programme module type (obligatory/optional)	obligatory
Year of studies for a given field	I
Term for a given field	I
ECTS credits together with contact/no contact hours division	2 (1/1)
A unit providing the course	Institute of Fish Diseases and Biology
Module objective	Acquisition of knowledge and skills of cell biology
Educational results	Knowledge: Knowledge and ability to describe the molecular structure and functional components of the cell membrane. Knowledge and ability to describe the structures and functions of organelles. Ability to describe and explain molecular mechanisms of signal transduction and basic cellular signaling pathways. Knowledge and ability to describe the movement of organelles, follicles and the flow of proteins in cells. Knowledge of the mechanisms that control: the cellular cycle, ageing process and the death of cells, apoptosis and necrosis.
	Skills: Ability to accurately analyse the principles of the correct function of the cell and the description of electronograms showing structures of animal cells. Ability to make a selection of cellular function and structure examinations.

	Social competence: Ability to cooperate and work in a group assuming various roles. Understanding the importance of lifelong permanent learning.
Content of the programme module – a concise description (about 100 words).	Cellular biology – Structural and functional organisation of an animal cell. Description of individual cellular components in different cell types. Bio-membranes and their role in cellular transport. The flow of follicles and proteins in cells. Principles of intercellular signaling. Biology and therapeutic applications of stem cells. A control of the cellular cycle and cell death. Morphological characteristics of apoptosis and necrosis. Methods of cellular function and structure examinations.
Planned didactic forms/actions/methods	Group work/ lecture, presentation of knowledge, demonstration of electrograms.

Name of the programme module	Information Technology
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	I
Term for a given field	1
ECTS credits together with contact/no contact hours division	2 (1/1)
A unit providing the course	Department of Applied Mathematics and Computer Science
Module objective	Mastering the skill of using a word processor and a spreadsheet application, as well as an ability to create multimedia presentations. Acquiring basic information on the Python programming language and a preparation for further self-study. Improving the student's knowledge and skills in the field of information technology so that they could consciously participate in the development of the information society.
Educational results	Knowledge: Understanding the essence and the concepts of a word processor, spreadsheet, multimedia presentation and a programming language. Knowledge of the principles of correct text creation and formatting in the word processor together with the serial correspondence tool. Knowledge of the processing tools and data analysis on a spreadsheet. Knowledge of programming basics in the Python programming language.
	Skills: Ability to draw up a long text, depending on the imposed format, with a particular emphasis on the rules of scientific papers. Ability to prepare a multimedia presentation related to the field of study. Ability to use the right tools to automatically draw up letters and create labels. Ability to use a spreadsheet for complex mathematical calculations, with particular emphasis on mathematical formulae, graphs and the use of tools for data analysis. Ability to independently write a simple programme in the Python language.
	Social competence: Ability to estimate the task difficulty and consciously choose the right tools for its implementation. Awareness of the technological progress and acknowledgement of the need for constant education in information technology.
Content of the programme module – a concise description (about 100 words).	The lecture covers: text processing with a particular consideration of the principles of automated formatting of the so-called long document, the serial correspondence tool together with a database. In addition, a spreadsheet as a tool for problem analysis, with reference to the acquired knowledge of physics; creation of formulae and data analysis in the spreadsheet. Preparation of an oral performance supported by a multimedia presentation. Programming basics in the Python programming language. The tutorials cover a practical implementation of the lecture content in a computer laboratory. Working with a long document, serial correspondence, spreadsheet as an advanced calculator and a device for data analysis. Multimedia presentation – principles of creation. Programming basics.
Planned didactic forms/actions/methods	Practical assignments – working with a computer and respective applications, completion of the tasks assigned in the computer laboratory, discussion, lecture, conversation.

Name of the programme module	Work safety regulations
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	I
Term for a given field	I
ECTS credits together with contact/no contact hours division	1 (0.72, 028)
Academic unit offering the module	OHS and Fire Protection Section

Module objective	To make students know: legal work protection regulations, OHS regulations, work environment factors which may pose a risk for health and life safety, general rules and methods of elimination or reduction of the impact of hazardous and detrimental factors in work environment, procedures in emergency and dangerous situations, and in the event of an accident at work; providing first aid, general knowledge of ergonomics with regard to adaptation of devices and equipment of a work place to individual psycho-physical features and abilities.
Educational results	Knowledge: Has knowledge about legal protection of work, obligations arising from the rules and regulations regarding occupational safety and health, and general knowledge about ergonomics /rules of the employee-work environment system Has knowledge about hazards for health and life occurring in the work environment, methods of assessing a scale of risk / occupational risk / and selecting and applying one of the methods of eliminating or limiting the risk depending on its type, and selecting means of collective and individual protection Knows procedures used in case of accident, risk of failure and provision of first aid.
	Skills: Can use the acquired knowledge about safety at work and available technical solutions in the work environment to ensure the required level of occupational safety and health. Can apply technical preventive means limiting or eliminating hazardous and detrimental factors at work, applying at the same time the knowledge about ergonomics in work processes. Knows how to provide first aid and properly assess and take efficient measures in emergency or hazardous situations occurring at work.
	Social competence: Demonstrates independence in taking actions, can formulate opinions, accepts responsibility for one's own decisions, is aware of their effects, particularly these affecting safety conditions at work.
Contents of the education module (a concise description consisting of approximately 100 words)	Polish and EU legal basis for occupational health and safety – sources of the labour law /regulations, principles, standards/ Employer's and employee's OHS responsibilities and rights. Characteristics of onerous, detrimental and hazardous factors at work. Method of limiting and eliminating impact of hazardous and detrimental factors on employees' health and life. Occupational risk – definition, assessment, occupational risk estimation in a selected profession /veterinarian/. Accidents, criteria – accidents at work, post-accident procedures. First aid – basic rescue procedures concerning vital functions of human body. Ergonomics – concept of ergonomics, analysis of the profession in terms of ergonomics. Fire protection in work place.
Planned didactic forms/activities/methods	Lecture + discussion with audiovisual aids, training materials. Preparation for the credit test.

Name of the programme module	Philosophy
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	I
Term for a given field	I
ECTS credits together with contact/no contact hours division	2 (1/1)
A unit providing the course	Department of Modern Philosophy History UMCS
Module objective	Acquainting students with the issues and philosophical standpoints together with developing rational and socially desirable skills and attitudes
Educational results	Knowledge: Orderly general knowledge of theories and methodology of the history of philosophy. Elementary knowledge of interconnections between philosophy and other fields of culture. Knowledge of main directions of development and the most important and most recent achievements in the field of philosophy.
	Skills: Ability to precisely formulate and analyse a philosophical issue (also other than philosophical). Ability to select methods and research tools, prepare and present the results. Ability to argue rationally with the use of opinions of other authors, as well as to formulate conclusions.
	Social competence: Ability to show creativity in search of possible solutions of philosophical problems (and other problems). Need for a constant education and improvement of one's skills.
Content of the programme module – a concise description (about 100 words).	The course demonstrates main issues and their model solutions formulated in European philosophy which relate to the understanding of philosophy, its relationship with other fields of culture and issues from main sections of philosophy: philosophy versus other fields of culture (outlook, empirical sciences, ideology, religion, art); sections of philosophy and an outline of their issues – ontology, epistemology, ethics, aesthetics, axiology, anthropology, history of philosophy, logics; specific problems and viewpoints in ontology – monism, dualism, pluralism, materialism, idealism, determinism, indeterminism, causalism, teleologism; specific problems and viewpoints of epistemology – rationalism,

	irrationalism, empiricism, realism, epistemological idealism, falsificationism, concepts of truth; specific problems and viewpoints in ethics – absolutism, relativism, kinds and hierarchy of values, ethical intellectualism, moralism, hedonism, utilitarianism).
Planned didactic forms/actions/methods	Lecture, discussion, written composition

Name of the programme module	Latin
Programme module type (obligatory/optional)	obligatory
Year of studies for a given field	I
Term for a given field	I and II
ECTS credits together with contact/no contact hours division	1 (0.6/0.4), 1 (0.7/0.3)
A unit providing the course	Department of Foreign Languages
Module objective	The aim of the classes is to acquaint students with basic issues of inflection and syntax of Latin, with basic Latin terminology, with general rules of formulating diagnoses in Latin together with practising the skill of translating Latin texts.
Effects of education	Knowledge: Basic knowledge of Latin grammar. Knowledge of medical vocabulary
	Skills: Students are able to read a Latin text with the use of correct pronunciation, vowel length and accent. Ability to use medical nomenclature in Latin both passively and actively. Ability to translate a Latin text; ability to recognise basic grammatical forms
	Social competence: Understanding the importance of lifelong learning
Content of the programme module – a concise description (about 100 words).	The classes run within the module cover the basics of Latin grammar and specialist vocabulary within medical nomenclature (names of animals, anatomy, names of diseases, forms of prescriptions and their component parts)
Planned didactic forms/actions/methods	expository method; translation exercises with a text; individual work; group work

Name of the programme module	Histology and embryology 1
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	I
Term for a given field	I
ECTS credits together with contact/no contact hours division	5 (3/ 2)
A unit providing the course	Department of Anatomy and Histology of Animals
Module objective	Acquainting students with general histology: classification of animal tissues, their microscopic structure and ultrastructure, place of occurrence and functions. Acquainting students with embryology: stages of ontogenetic development and mechanisms that regulate respective stages of avian and mammalian development
Educational results	Knowledge: Knowledge of tissue classification, microscopic structure, place of occurrence in animal bodies, stages and mechanisms of embryonic avian and mammalian development. Knowledge of how the tissue structure and its function are linked together, stages of embryonic development, mechanisms that navigate embryonic development. Understanding processes that take place in respective tissues
	Skills: Ability to independently recognise a microscopic structure of tissues. Ability to analyse tissue structure and stages of embryonic avian and mammalian development. Ability to find a link between the structure and the function of tissues
	Social competence: Ability to share the knowledge of general histology and embryology in an academic milieu and outside it (among other social groups). Ability to cooperate in a group and assume different roles; understanding the importance of lifelong learning and self-improvement
Content of the programme module – a concise description (about 100 words).	Acquaintance with histological structure of animal tissue: epithelial, connective, muscle, nervous and glial, which will enable the acquisition of basic knowledge of general animal histology. Connection of tissue structure with their functions. Acquaintance with the course and regulation of development processes: gametogenesis, fertilization, cleavage, gastrulation, formation of primary and final organs, implantation, which will act as an introduction to the implementation of further stages of the studies. The content of the module is indispensable and it is connected with several theoretical and clinical subjects in veterinary medicine.
Planned didactic forms/actions/methods	Lecture, multimedia presentations, laboratory, microscopic analysis of histological preparations, discussion, cases with slides, the department's website, discussion, oral review, test.

Name of the programme module	Physical education
Programme module type	Obligatory

(obligatory/optional)	
Year of studies for a given field	I
Term for a given field	I
ECTS credits together with contact/no contact hours division	1 contact point
A unit providing the course	Physical Education and Sports Study
Module objective	The objective of the module is to acquaint students with methods, means and forms of organisation used in the classes of physical education with the purpose of developing efficiency and physical fitness, as well as health-improving habits
Educational results.	Knowledge: Basic knowledge of health-improving significance of physical activity, hygiene and health-improving lifestyle. Knowledge of basic of general physical exercises and the rules of team sports. Awareness of cause and effects links between systematic physical activity, health and physical fitness
	Skills: Recreational motor skills which make various life situations easier. Ability to design and organise health-improving activities that also develop physical fitness (selection of organizational forms, exercises, methods and means). Ability to evaluate one's own physical fitness
	Social competence: Awareness of the responsibility for one's own health and keeping fit. Ability to cooperate and work in a group assuming various roles. Understanding the importance of lifelong learning, ability to inspire and organise learning processes for others in terms of motor skills
Content of the programme module – a concise description (about 100 words).	The exercises involve: improving technical and tactical elements of selected team games both formally and recreationally: basketball – passes and catches, dribbling, shots from a spot and lay-ups, man-to-man marking, perfecting the abovementioned elements in small games and a simplified game volleyball – hitting and bumping, underhand and overhand serve, setting and hitting with a basic stance, setting for the middle hitter and hitting, perfecting the abovementioned elements in small games and a simplified game. Exercises that strengthen respective muscle groups in the gym, rules and methods of practice. Exercises with accompanying music that improve motor coordination, rhythmicity of movements and strengthen muscles that keep body posture, with the use of balls, steppers, dumbbells and body weight – teaching basic steps for aerobics classes. Exercises that shape the physical performance of the body with the use of aerobic equipment (stationary bicycles, treadmills, rowing machines) – methods of keeping fit through aerobic and anaerobic exercises
Planned didactic forms/actions/methods	– practical classes in the form of exercises – conversations that promote physical activity and the principles of a healthy lifestyle

Name of the programme module	Animal Anatomy 1
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	I
Term for a given field	I
ECTS credits together with contact/no contact hours division	6 (3.7/2.3)
A unit providing the course	Department of Anatomy and Histology of Animals
Module objective	Acquisition of abilities and knowledge of the anatomy of domestic animals (horses, cows, sheep, pigs, dogs, cats, birds) as well as functional interrelations between respective organs and systems in an animal body.
Educational results	Knowledge: Detailed knowledge of the body structure in domestic animals. Knowledge of the position, structure and basic functions of respective organs in domestic animals. Knowledge of and ability to describe differences in the structure of organs and systems in different species of domestic animals
	Skills: Ability to seek, comprehend, analyse and implement necessary information from various literature sources. Ability of accurate verbal communication with different entities. Ability to put into practice the knowledge of anatomy of domestic animals
	Social competence: Understanding the importance of lifelong learning. Ability to cooperate and work in a group assuming various roles. Ability to popularise basic knowledge of animal anatomy among friends and acquaintances. Awareness of the need for targeted further self-improvement

Content of the programme module – a concise description (about 100 words).	Acquisition of detailed knowledge of animal anatomy: acquisition of macroscopic anatomy of respective systems in domestic animals (skeletal, muscular, nervous, circulatory). Identification of animal species based on characteristic anatomy of organs and structures: ability to use anatomical veterinary terminology in Polish, Latin, Greek, as regards clinical needs.
Planned didactic forms/actions/methods	Lecture, multimedia presentations, slides, transparencies, information board, museum exhibits. Dissection classes - the structure of the skeletal system, preparation of muscles

Name of the programme module	Biophysics
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	I
Term for a given field	I
ECTS credits together with contact/no contact hours division	2 (1.18 /0.82)
A unit providing the course	Department of Physics, Division of Engineering and Manufacturing
Module objective	The aim of the course is to acquaint students with basic laws that govern the macro- and micro-world, as well as the testing methods in biophysics, with a particular consideration of the role of experiment and theory in its development; to facilitate understanding of biophysical processes and phenomena relating them to live organisms.
Educational results	Knowledge: Student has a general knowledge of biophysics which covers the information theory, thermodynamics, mechanics and the elements of biomechanics, transport phenomena (matter, energy, charge and momentum) basics of acoustics, optics, elements of nuclear physics and radiation, as well as modelling of physical and biophysical phenomena. Student has sufficient knowledge to identify and comprehend biophysical phenomena applied in the function of selected testing equipment
	Skills: Student has an ability to define basic physical quantities and the interpret the measurements taken. Students acquire an ability to use basic measuring equipment. Students acquire an ability to obtain information from literature, databases and other sources
	Social competence: Students have an ability to cooperate and work in a group
Content of the programme module – a concise description (about 100 words).	An application of physical and physicochemical laws for living systems. Issues connected with basic phenomena and biological processes which take place in nature with a particular consideration of the processes that take place in live organisms together with their description in the language of physics. Interconnection of biophysics with other sciences, such as biochemistry or physiology. Phenomena which cover the following selected areas of biophysics: elements of mechanics and biomechanics, phenomenological thermodynamics, transport phenomena (matter, energy, charge and momentum), elements of acoustics, elements of wave and geometrical optics, elements of nuclear physics and radiation.
Planned didactic forms/actions/methods	Lecture; Laboratory classes and tutorials; Reports from performed experiments

Name of the programme module	Foreign Language – French B2, English B2, German B2, Russian B2
Language of instruction	French, English, German, Russian
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	I and II
Term for a given field	I, II, III, and IV
ECTS credits together with contact/no contact hours division	2 (1.3/0.7), 2 (1.3/0.7), 2 (1.3/0.7), 2 (1.3/0.7)
A unit providing the course	Department of Foreign Languages
Module objective	Increasing linguistic competence in terms of general and specialist vocabulary. Developing skills for effective communication in a professional milieu. Transferring knowledge that is indispensable for using advanced grammar structures and techniques of working with a source text in a foreign language.
Effects of education	Knowledge: Advanced command of general vocabulary and basic command of specialist vocabulary related to the field of study. Knowledge of making compositions in writing, formal and informal, as well as forming oral responses

	<p>Skills: Ability to use effective communication in a professional milieu and everyday situations. Ability to discuss, report and interpret events from everyday life. Ability to read with comprehension and analyse simple specialist texts representing a given scientific field. Ability to formulate written compositions of texts regarding private and business matters.</p>
	<p>Social competence: Understanding the importance of lifelong learning</p>
<p>Content of the programme module – a concise description (about 100 words).</p>	<p>The classes run within the module framework include the extension on or the introduction of general vocabulary on self-presentation, inter-personal relationship, ways of spending free time, pastimes, travelling, health and healthy lifestyle, environment, living in a community, modern technologies and work. The module also includes the introduction of advanced grammatical and lexical structures in order for the student to acquire the skill of proper communication. During the tutorials students are acquainted with specialist vocabulary from a given field of science and also are prepared for selective specialist reading and self-studying of source texts. The module is also aimed at acquainting students with the culture of a given language area.</p>
<p>Planned didactic forms/actions/methods</p>	<p>The eclectic method: lecture, discussion, presentation, conversation, grammar-translation method (specialist texts), communicative and direct methods with particular consideration of communication.</p>