Description of the study programme Veterinary Morphology and Physiology in the third level in full-time form of study in Slovak language

The name of the university:
University of Veterinary Medicine and Pharmacy in Košice
The seat of the college:
Komenského 73, 041 81 Košice
College identification number:
00397474

The college's authority to approve of the study programme:
Accreditation Committee of UVMP in Košice

Date of approval or modification of the study programme:
22. 8. 2022
Date of the last change to the study programme description:
15. 8. 2022

Decision No. Decision No. 2021/140:2660-OAC of 19.8.2021. Grants the right without time limitation

ID of the proceeding: 16727
The name of the university: University of Veterinary Medicine in Košice
The name of the study programme: Veterinary Morphology nad Physiology
The level of the study: Level 3
Code of the study programme: 12228

1. Basic data about the study programme

a) The name of the study programme and the number according to the register of study programmes:
Veterinary Morphology and Physiology, *code* 12228, *Decision number* 2021/140:2660-OAC

b) Degree of higher education and ISCED-F code of the degree of education
Level 3/864

c) Venue of study programme:
The University of Veterinary Medicine in Košice, Komenského 73, 041 81 Košice

d) The field of study in which a higher education is obtained by completing the study programme, or a combination of two study fields in which a higher education is obtained by completing the study programme, ISCED-F code of the field:
Veterinary Medicine/0841

e) Type of study programme:
Academically oriented

f) Academic title awarded.
Philosophiae doctor (abbreviated PhD.)

g) Form of study:
Full-time

h) The language in which the study programme is conducted:
Slovak language

i) Standard length of study expressed in academic years:
4 academic years

j) Capacity of the study programme: planned number of students - according to the dissertation topics, actual number of applicants in the last 6 years (from the academic year 2016/2017 to the academic year 2020/2021): 21 topics, number of applicants enrolled: 21, number of applicants admitted: 19, number of applicants admitted and enrolled: 19; number of PhD studies graduates in the last 6 years: 16.

k) Information about the study programme:
https://qa.uvlf.sk/sprg_info/?sprg_id=9&ar=20222023

2. Graduate profile and learning objectives

a) The learning objectives achieved in the study programme *Veterinary Morphology and Physiology* are methodologically based on the European Qualifications Framework for Lifelong Learning (EQF). This defines the requirements for learning outcomes for knowledge, skills, responsibility and autonomy.
For level 8, the required learning outcomes are "*highly specialised knowledge, some of which is at the forefront of the field of work or study*".
The core knowledge is provided on core courses in the field of veterinary morphology, animal system physiology, veterinary histomorphology, veterinary pathological physiology, and organ pathological anatomy, which are described in the information sheets as knowledge achieved as learning outcomes. Additional knowledge is achieved by completing compulsory optional courses of the study programme in the field of molecular biology and genetics, veterinary surgery and orthopaedics, diagnosis of animal diseases, veterinary obstetrics and gynaecology, veterinary biochemistry, animal toxicology, animal nutrition and dietetics, methodology and statistical evaluation of biological experiments and alternative models in research.
The graduate has extensive knowledge in several areas of the study programme or field of study, which is used as a basis for research and development in Veterinary Morphology and Physiology. The studies focus on acquiring the latest theoretical knowledge based on the current state of scientific knowledge in individual areas of Veterinary Morphology and Physiology.
The study builds on the knowledge acquired through second-level higher education at veterinary and medical faculties (universities), pharmaceutical faculties, natural sciences faculties or other faculties of medicine and natural sciences.
Education in level 3 of higher education focuses on organs and tissues and consequently the principles of functioning of individual organ systems, their adaptive and regulatory mechanisms in a healthy animal organism and pathological reactions and processes and the mechanisms of the origin, development and consequences of pathological processes in the body. The graduate has detailed knowledge of theoretical disciplines such as anatomy, histology and physiology essential for understanding the aetiological factors causing pathological reactions, conditions and processes, pathological physiology and pathological anatomy. The study uses the latest methods and techniques that will enable graduates seek employment in other disciplines or clinical fields.
For level 8, the *most 'advanced and specialised **skills** and techniques, including the ability to synthesise and evaluate*, are required to *solve fundamental problems in research and/or innovation and to extend and redefine existing knowledge and practices'*.

The graduate of the study programme of *Veterinary Morphology and Physiology* is qualified to work as a university teacher and researcher in the field of morphology, physiology, histology, pathophysiology, pathomorphology, as well as in other related areas. He is familiar with the research methods used in anatomy, histology, physiology and pathophysiology carried out on various models (cell culture, experimental and commercial animals and alternative animal models: chicken and quail embryos). The graduate is able to use statistical and bioinformatics methods as well as other knowledge from related scientific disciplines, research morphological and pathophysiological changes in organisms by using a variety of methodological approaches in order to gain new, previously unpublished knowledge. He is technically proficient not only in routine laboratory procedures but also in working with sophisticated instrumentation in experimental laboratories, can formulate scientific problems, carry out creative and independent research and independently present the results of his/her work in internationally accepted journals, as well as present them at scientific events. The results of creative experimental work contribute not only to the development of science and scientific knowledge, but to the human and veterinary medicine, agriculture and pharmacy as a whole.

Responsibility and autonomy, defined for Level 8, is *"highly specialised knowledge in the field of work or field of study as well as at the general knowledge of related fields."*

The graduate is characterized by independent, critical and analytical thinking and takes into account social, scientific and ethical aspects when formulating research questions and interpreting research results. The results of his/her own creative work contribute to the development of science, scientific knowledge and the practice. The graduate is able to present the results of research independently to the professional community, is able to determine the research question and coordinate a team in the relevant study programme, can independently design, validate and implement new research and working practices based on the outputs and findings.

b) Graduates of the study programme *Veterinary morphology and physiology* can work at the department of agriculture, health, environment as an expert in basic and applied research, in particular in the study of the impact of various additives, nutraceuticals, chemical and physical factors on the health of humans and animals.

c) Relevant external interested parties who have provided a statement or a favourable opinion on the compliance of the acquired qualification with the sector-specific requirements of the profession: Centre of Biosciences, Slovak Academy of Sciences, Institute of Animal Physiology - https://qa.uvlf.sk/vsk/docs/vzs_vmaf_sav.pdf

3. Job prospects

a) On the basis of the previous long-term experience with the graduates of the study programme of *Veterinary morphology and physiology*, it can be stated that the graduates find employment as university teachers at universities, where morphology, physiology, pathoanatomy, pathophysiology are taught, as well as at research institutes, where they solve the problems regarding the environment, additives, nutraceuticals, chemical and physical factors on the health of humans and animals in their scientific activities. Graduates are able to work in the health, agriculture, environment, and biological laboratories, as well as in research sectors that require analysis of body fluids, immuno-histochemical analyses, and the skills to work with cell cultures and various animal models as part of their research. The acquired knowledge and skills make the graduates a perfect candidate for working in clinical practice in veterinary clinics or reference laboratories related to standard laboratory practice.

b) Examples of successful graduates of the study programme *Veterinary morphology and physiology*: MVDr. Renáta Szabóová, PhD., doc. MVDr. Martin Levkut, PhD., MVDr. Dávid Maženský, PhD., MVDr. Viera Schwarzbacherová, PhD., MVDr. Zuzana Andrejčáková, PhD., MVDr. Vladimír Petrilla, PhD., MVDr. Marcela Maloveská, PhD., MVDr. Monika Drážovská, PhD. a PharmDr. Magdaléna Polláková, PhD.

c) Evaluation of the quality of the study programme by employers (feedback): the UVMP has prepared questionnaires on graduates for employers.

4. Structure and content of the study programme

a) The rules for the formation of study plans in the study programme Veterinary Morphology and Physiology are based on the general provisions contained in Article 8 of the internal regulationStudy Guidelines of the UVMP, Part B.

b) The recommended framework study plan for full-time:
https://qa.uvlf.sk/ais/sp/?ar=2022-2023&sprg_id=9

The dissertation examination may be taken by a student who has achieved 50 credits for five CSs and at least 10 credits for two selected OCSs during the study period, no later than 24 months from the start of the PhD studies. A minimum of 240 credits is required for graduation.

c) The study plan includes:
- listed individual parts of the study programme (compulsory courses and compulsory optional courses),
- profile subjects are marked in bold and with an asterisk in the study plan,
- for each educational part (course), the learning outcomes and the related criteria and rules for their assessment are defined in the information sheet of course so that all the educational objectives of the study programme are met,
- for each educational part of the study plan (course), the course information sheet sets out the learning activities used that are suitable for achieving the learning outcomes,
- the course information sheet lists the methods by which the learning activity is carried out,
- the course information sheet lists the course syllabus,
- the course information sheet lists the student's workload,
- the credits allocated to each section based on the learning outcomes achieved and the associated workload,
- the course guarantor is identified and the course information sheets, if applicable, also identify other persons providing the courses,
- the place of providing of the course (if the programme of study is delivered at more than one site).

The course information sheets for the Veterinary Morphology and Physiology are available via links directly in the study plan:
https://qa.uvlf.sk/ais/sp/?ar=2022-2023&sprg_id=9

d) The number of credits which must be earned to complete the study and other conditions that the student must fulfill to graduate, including the conditions of state exams, rules for retaking courses and rules for extension, interruption of studies:
The condition for the proper completion of studies is obtaining 240 credits, which include credits for passing the dissertation examination and defending the dissertation. Other

conditions that the student must fulfill to complete the studies, including the conditions of state exams, rules for retaking courses and rules for extension, interruption of studies are listed in Articles 2, 15, 18, 19 and 29 of the Study Guidelines of the UVMP, Part B.

e) Conditions for passing individual parts of the study programme and the student's progress in the study programme :
   - number of credits per core courses required for proper completion of the studies/completion of part of the study : 50
   - number of credits for compulsory courses required for proper completion of the studies/completion of part of the study : 10,
   - number of credits for the dissertation examination: 20
   - number of credits for the defence of the dissertation thesis required for proper completion of studies: 30

f) Rules regarding student evaluation and the possibility of repeating exams:
UVMP in Košice has described the rules regarding student evaluation and the possibility of repeating exams in Articles 17, 18 and 25 of theStudy Guidelines of the UVMP, Part B.

g) Conditions for the recognition of studies or part of studies:
UVMP in Košice addresses the conditions for recognition of studies or parts of studies in Articles 19, 38 and 42 of the Study Guidelines of the UVMP, Part B.

h) Topics of the PhD theses of the study programme:
UVMP in Košice annually lists the topics of the dissertation theses of the study programme *Veterinary Morphology and Physiology* in a tabular overview as well as on the UVMP in Košice website.

Name of the topic of dissertations in full-time form in slovak language	***AY***	***Topic***
Účinky fuzáriových mykotoxínov na antioxidačný a imunitný status hydiny	2005/2006	+
Imunopatologické a morfologické zmeny po aplikácii mykotoxínov a adsorbentov u hydiny	2005/2006	+
Vplyv hypodynamie na štruktúru vestibulárneho aparátu japonských prepelíc	2006/2007	+
Naturálne substancie a ich využitie v chove králikov	2006/2007	+
Metóda FISH pri komparácii homologických úsekov genómu zvierat	2007/2008	+
Modulačný efekt probiotického kmeňa E. faecium EF 55 a šalviového extraktu na morfológiu sliznice čreva po infekcii Salmonella enterica PT4	2008/2009	+
Štúdium faktorov ovplyvňujúcich tvorbu hlienu v tráviacom trakte hydiny	2008/2009	+
Mikrobiálne trávenie v gastrointestinálnom trakte bylinožravcov	2008/2009	+
Thymus vulgaris a jeho účinky na fyziologické funkcie v organizme zvierat v in vivo a in vitro podmienkach	2008/2009	+
Arteriálny systém králika a jeho variácie	2009/2010	+
Štúdium účinku rastlinných extraktov v diéte na vybrané metabolické parametre a hlienovú bariéru čreva u kurčiat	2009/2010	+
Úloha estrogénov a estrogénových receptorov v hojení rán a v prevencii nekrózy kožného laloka	2009/2010	+
Vplyv dlhodobej hypodynamie na štruktúru kostí Japonskej prepelice	2009/2010	+
Antioxidačný účinok šalviovej silice a selénu u hydiny	2009/2010	+
Glykobiológia hojenia rán	2010/2011	+
Porovnanie kódujúcich sekvencií a cytogenetickej lokalizácie génu u prežúvavcov pomocou vybraného BAC klonu	2010/2011	+
Elektroforetické stanovenie vybraných metabolických parametrov v telových tekutinách zvierat	2010/2011	+
Morfologické a fyziologické aspekty vybraných modelových skupín hadov	2010/2011	+
Aditívne baktérie a ich využitie pre zdravie	2010/2011	+
Baktérie, bioaktívne substancie a zdravie zvierat	2011/2012	+

Vplyv estrogénov na hojenie rán kože	2012/2013	+
Štúdium karcinogenézy experimentálne vyvolaných nádorov mliečnej žľazy u potkanov	2012/2013	+
Variácie lymfatického systému u potkana a králika	2012/2013	+
Ovplyvňovanie lipidového metabolizmu v bachore	2012/2013	+
Indikátory genotoxického rizika	2012/2013	+
Plant additives in relation to the animal gastrointestinal tract and metabolism of their main compounds	2013/2014	+
Organické formy zinku vo výžive hospodárskych zvierat	2013/2014	+
Modulácia bachorového mikrobiálneho trávenia fytogénnymi a nefytogénnymi aditívami	2013/2014	+
Vplyv elektromagnetickej na štruktúru semenníkov juvenilných potkanov	2014/2015	+
Rod Enterococcus - zdroj aditívnych baktérií pre ich využitie na podporu zdravia spoločenských zvierat	2014/2015	+
Imunoregulačné mechanizmy v tráviacom trakte hydiny a ich ovplyvnenie	2014/2015	+
Glykobiológia hojenia rán a nádorov	2015/2016	+
Modulácia tvorby biofilmu čreva	2015/2016	+
Genotoxické a epigenetické mechanizmy účinku vybraných pesticídov	2016/2017	+
Biovyužiteľnosť zinku z jeho rôznych zdrojov u hospodárskych zvierat	2016/2017	+
Imunokompetentné bunky čreva a možnosti regulácie ich imunitnej odpovede	2016/2017	+
Animálne baktérie, zdroj bioaktívnych látok pre prevenciu v chove zvierat	2016/2017	+
Sledovanie vývinovej toxicity po aplikácii jedu vybraných druhov jedovatých hadov	2017/2018	+
Nová generácia kŕmnych aditív – ich vplyv na fyziologické procesy trávenia.	2018/2019	+
Možnosti využitia herbálnych nutraceutík u prežúvavcov	2018/2019	+
Vplyv elektromagnetickej radiácie počas prenatálneho vývinu potkanov na tkanivo semenníkov z morfologického aspektu	2018/2019	+
Biologická účinnosť a antioxidačné vlastnosti fytoaditív a zinku u hospodárskych zvierat	2018/2019	+
Interakcie stopových prvkov a ich vplyv na minerálny status zvierat	2019/2020	+
Mikrobiota kože psov - zloženie a možnosti jej prospešnej modulácie	2019/2020	+
Využitie bakteriocínov a ich producentov na redukciu nežiaducej mikrobioty v prospech zdravia zvierat	2019/2020	+
Využitie prospešnej mikrobioty pre zdravie spoločenských zvierat	2019/2020	+
Štúdium faktorov ovplyvňujúcich tvorbu a zloženie hlienu adherovaného na stenu čreva u zvierat	2019/2020	+
CAM – in vivo model pre štúdium angiogenézy	2019/2020	+
Toxikologické účinky vybraných živočíšnych jedov	2020/2021	+
Analýza genotoxických a cytotoxických zmien v bunkových kultúrach po kombinovanej expozícii pesticídom	2021/2022	+
Myogénne svalové bunky a črevná mikroflóra u hydiny	2021/2022	+
DNA analýza vybraných dedičných očných ochorení u psov	2021/2022	+

i) UVMP in Košice has laid down:
- the rules for assigning, processing, opposing, defending and evaluating dissertation theses in Articles 1, 8, 9, 10, 25, 26, 27 and 28 of the Study Guidelines of the UVMP, Part B,
- possibilities and procedures for participation in student mobility in Article 42 of the internal regulation Study Guidelines of the UVMP, Part B,
- Code of Academic Ethics in the internal regulation Disciplinary_Procedure_for_Students, in the internal regulation UVMP Employee Code of ethics for employees of the UVMP and in the internal regulation Student code of ethics at the UVMP,
- procedures applicable to students with special needs in Part II, Article 2, point 7; Article 3, point 12 of the Study Guidelines of the UVMP, Part B,

- the procedures for filing complaints and appeals by the student are specified, in addition to the Study Regulations of UVMP in Košice, in particular in the internal regulation Directive on the handling of complaints at the UVMP.

5. Information sheets of study programme courses

The information sheets of individual courses of the study programme have the structure established by the Decree of the Ministry of Education of the Slovak Republic No. 614/2002 Coll., as amended.

6. Current academic year schedule and current timetable

The current schedule of the academic year and the current class schedule are listed in the bulletin "Information about studying at UVMP in Košice" for the given academic year and are also available on the UVMP's website: Study Guide Book at the UVMP for academic year 2022/2023. PhD students study according to an individual study plan drawn up by the supervisor and the PhD student and approved by the person with the main responsibility for the implementation, development and quality assurance of the study programme.

7. Staff

a) The person responsible for the implementation, development and quality of the study programme is Prof. Zita Faixová, DVM PhD., who is a tenured professor; employed at the Department of Biology and Physiology, UVMP in Košice; e-mail zita.faixova@uvlf.sk; mobile +421915 984 704.

b) List of persons providing profile courses of the study programme:
Prof. Zita Faixová, DVM PhD.; Department of Biology and Physiology
Prof. Eva Petrovová, DVM PhD.; Department of Morphological Disciplines
Assoc. Prof. Katarína Holovská, DVM PhD.; Department of Morphological Disciplines
Assoc. Prof. Drahomíra Sopková, DVM PhD.; Department of Biology and Physiology
Prof. Róbert Herich, DVM PhD.; Department of Morphological Disciplines

c) Scientific/artistic/pedagogical characteristics of persons providing profile subjects of the study programme are available on the quality portal of UVMP in Košice and direct links are given in Annex 1 of the internal evaluation report.

d) List of teachers of the study programme with assignment to the course and link to the central register of university staff, with contact details:

Teacher	*Course*	*e-mail*	*mobile*	*CRZ*
		Profile courses		
Prof. Zita Faixová, DVM PhD.	**Veterinary pathological physiology**	**zita.faixova@uvlf.sk**	**+421 915 984 704**	**https://www.portalvs.sk/regzam/detail/6015**
Prof. Eva Petrovová, DVM PhD.	**Veterinary morphology**	**eva.petrovova@uvlf.sk**	**+421 917 637 799**	**https://www.portalvs.sk/regzam/detail/6066**
Assoc. Prof. Katarína Holovská, DVM PhD.	**Veterinary histomorphology**	**katarina.holovska@uvlf.sk**	**+421 915 984 696**	**https://www.portalvs.sk/regzam/detail/6095**
Assoc. Prof. Drahomíra Sopková,	**Animal systems physiology**	**drahomira.sopkova@uvlf.sk**	**+421 915 984 767**	**https://www.portalvs.sk/regzam/detail/6022**

DVM PhD.				
Prof. Róbert Herich, DVM PhD.	**Organ Pathology Anatomy/**	**robert.herich@uvlf.sk**	**+421 915 984 709**	**https://www.portalvs.sk/regzam/detail/6077**
Compulsory optional courses				
Prof. Róbert Herich, DVM PhD.	Methodology and Statistical Evaluation of Biological Experiments	robert.herich@uvlf.sk	+421 915 984 709	https://www.portalvs.sk/regzam/detail/6077
Prof. Alexandra Trbolová, DVM PhD.	Veterinary surgery and orthopaedics	alexandra.trbolova@uvlf.sk	+421915984659	https://www.portalvs.sk/regzam/detail/6048
Prof. Peter Reichel, DVM PhD.	Diagnosis of animal diseases	peter.reichel@uvlf.sk	+421 908 976 819	https://www.portalvs.sk/regzam/detail/6141
Prof. Igor Valocký, DVM PhD.	Veterinary obstetrics and gynaecology	igor.valocky@uvlf.sk	+421915984677	https://www.portalvs.sk/regzam/detail/6025
Assoc. Prof. Zuzana Kostecká, DVM PhD.	Veterinary Biochemistry	zuzana.kostecka@uvlf.sk	+421915984621	https://www.portalvs.sk/regzam/detail/6058
Assoc. Prof. Beáta Holečková, RND PhD.	Molecular biology and genetics	beata.holeckova@uvlf.sk	+421915984716	https://www.portalvs.sk/regzam/detail/6092
prof. MVDr. Jaroslova Legáth, CSc.	Animal toxicology	jaroslav.legath@uvlf.sk	+421905442824	https://www.portalvs.sk/regzam/detail/2269
Assoc. Prof. Iveta Maskaľová, DVM PhD.	Animal nutrition and dietetics	iveta.maskalova@uvlf.sk	+421915986726	https://www.portalvs.sk/regzam/detail/6064
doc. MVDr. Lenka Luptáková, PhD.	Alternative models in research	lenka.luptakova@uvlf.sk	+421918919686	https://www.portalvs.sk/regzam/detail/6111
prof. MVDr. Eva Petrovová, PhD.		eva.petrovova@uvlf.sk	+42191763799	https://www.portalvs.sk/regzam/detail/6066
doc. MVDr. Katarína Beňová, PhD.		katarina.benova@uvlf.sk	+421915984681	https://www.portalvs.sk/regzam/detail/6028
doc. MVDr. Zuzana Hurníková, PhD.		zuzana.hurnikova@uvlf.sk		https://www.portalvs.sk/regzam/detail/6167

e) List of thesis supervisors with assignment to topics (with contact details):

Dissertation topic	Supervisor	contact
P+orovnanie kódujúcich sekvencií a cytogenetickej lokalizácie génu u prežúvavcov pomocou vybraného BAC klonu Indikátory genotoxického rizika	prof. RNDr. Katarína Šiviková, PhD.	

Modulačný efekt probiotického kmeňa E. faecium EF 55 a šalviového extraktu na morfológiu sliznice čreva po infekcii Salmonella enterica PT4 Štúdium karcinogenézy experimentálne vyvolaných nádorov mliečnej žľazy u potkanov	prof. MVDr. Zuzana Ševčíková, PhD.	zuzana.sevcikova@uvlf.sk
Štúdium faktorov ovplyvňujúcich tvorbu hlienu v tráviacom trakte hydiny Štúdium účinku rastlinných extraktov v diéte na vybrané metabolické parametre a hlienovú bariéru čreva u kurčiat Štúdium faktorov ovplyvňujúcich tvorbu a zloženie hlienu adherovaného na stenu čreva u zvierat	prof. MVDr. Zita Faixová, PhD.	zita.faixova@uvlf.sk
Modulácia tvorby biofilmu čreva	prof. MVDr. Vladimír Kmeť, DrSc.	kmetv@saske.sk
Vplyv dlhodobej hypodynamie na štruktúru kostí Japonskej prepelice Vplyv elektromagnetickej na štruktúru semenníkov juvenilných potkanov	prof. MVDr. Viera Cigánková, PhD.	
Antioxidačný účinok šalviovej silice a selénu u hydiny Thymus vulgaris a jeho účinky na fyziologické funkcie v organizme zvierat v in vivo a in vitro podmienkach	prof. MVDr. Štefan Faix, DrSc.	faix@saske.sk
Imunoregulačné mechanizmy v tráviacom trakte hydiny a ich ovplyvnenie Imunokompetentné bunky čreva a možnosti regulácie ich imunitnej odpovede	prof. MVDr. Róbert Herich, PhD.	robert.herich@uvlf.sk
Vplyv hypodynamie na štruktúru vestibulárneho aparátu japonských prepelíc	prof. MVDr. Martin Zibrín, PhD.	
Úloha estrogénov a estrogénových receptorov v hojení rán a v prevencii nekrózy kožného laloka Vplyv estrogénov na hojenie rán kože Glykobiológia hojenia rán a nádorov	prof. MVDr. Ľudovít Lenhardt, PhD.	
Toxikologické účinky vybraných živočíšnych jedov	prof. MVDr. Jaroslav Legáth, CSc.	jaroslav.legath@uvlf.sk
Metóda FISH pri komparácii homologických úsekov genómu zvierat	prof. MVDr. Ján Dianovský, PhD.	
Arteriálny systém králika a jeho variácie Elektroforetické stanovenie vybraných metabolických parametrov v telových tekutinách zvierat Morfologické a fyziologické aspekty vybraných modelových skupín hadov Variácie lymfatického systému u potkana a králika Sledovanie vývinovej toxicity po aplikácii jedu vybraných druhov jedovatých hadov	prof. MVDr. Ján Danko, PhD.	jan.danko@uvlf.sk
CAM – in vivo model pre štúdium angiogenézy	prof. MVDr. Eva Petrovová, PhD.	eva.petrovova@uvlf.sk
Genotoxické a epigenetické mechanizmy účinku vybraných pesticídov DNA analýza vybraných dedičných očných ochorení u psov	doc. RNDr. Beáta Holečková, PhD. .	beata.holeckova@uvlf.sk

Imunopatologické a morfologické zmeny po aplikácii mykotoxínov a adsorbentov u hydiny Glykobiológia hojenia rán	doc. MVDr. Viera Revajová, PhD.	viera.revajova@uvlf.sk
Vplyv elektromagnetickej radiácie počas prenatálneho vývinu potkanov na tkanivo semenníkov z morfologického aspektu	doc. MVDr. Viera Almášiová, PhD.	viera.almasiova@uvlf.sk
Myogénne svalové bunky a črevná mikroflóra u hydiny	doc. MVDr. Martin Levkut, PhD.	martin.levkut@uvlf.sk
Modulácia bachorového mikrobiálneho trávenia fytogénnymi a nefytogénnymi aditívami	RNDr. Svetlana Kišidayová, CSc.	kisiday@saske.sk
Organické formy zinku vo výžive hospodárskych zvierat Biologická účinnosť a antioxidačné vlastnosti fytoaditív a zinku u hospodárskych zvierat	RNDr. Klaudia Čobanová, PhD.	boldik@saske.sk
Mikrobiálne trávenie v gastrointestinálnom trakte bylinožravcov Ovplyvňovanie lipidového metabolizmu v bachore Možnosti využitia herbálnych nutraceutík u prežúvavcov	MVDr. Zora Váradyová, PhD.	varadyz@saske.sk
Rod Enterococcus - zdroj aditívnych baktérií pre ich využitie na podporu zdravia spoločenských zvierat Mikrobiota kože psov - zloženie a možnosti jej prospešnej modulácie	MVDr. Viola Strompfová, PhD.	strompfv@saske.sk
Analýza genotoxických a cytotoxických zmien v bunkových kultúrach po kombinovanej expozícii pesticídom	MVDr. Viera Schwarzbacherová, PhD.	viera.schwarzbacherova@uvlf.sk
Využitie bakteriocínov a ich producentov na redukciu nežiaducej mikrobioty v prospech zdravia zvierat	MVDr. Monika Pogány Simonová, PhD.	simonova@saske.sk
Biovyužiteľnosť zinku z jeho rôznych zdrojov u hospodárskych zvierat Interakcie stopových prvkov a ich vplyv na minerálny status zvierat	MVDr. Ľubomíra Grešáková, PhD.	
Účinky fuzáriových mykotoxínov na antioxidačný a imunitný status hydiny	MVDr. Ľubomír Leng, DrSc.	
Plant additives in relation to the animal gastrointestinal tract and metabolism of their main compounds Nová generácia kŕmnych aditív – ich vplyv na fyziologické procesy trávenia.	MVDr. Iveta Plachá, PhD.	placha@saske.sk
Naturálne substancie a ich využitie v chove králikov Aditívne baktérie a ich využitie pre zdravie Baktérie, bioaktívne substancie a zdravie zvierat Animálne baktérie, zdroj bioaktívnych látok pre prevenciu v chove zvierat Využitie prospešnej mikrobioty pre zdravie spoločenských zvierat	MVDr. Andrea Lauková, CSc.	laukova@saske.sk

f) Supervisors of PhD students are university teachers in the position of professor and associate professor in the relevant field of study, scientists with scientific qualification degree I and IIa and other distinguished experts from the Slovak Academy of Sciences. The supervisors are approved by Scientific Board of UVMP.

Scientific and pedagogical characteristics of thesis supervisors are available on the quality portal of UVMP in Košice through the study plan or directly at https://qa.uvlf.sk/vupch-viewer/?regzam=X where X is the employee number on the HE Portal (e.g.. https://www.portalvs.sk/regzam/detail/6015 - Employee record on the University portal, https://qa.uvlf.sk/vupch-viewer/?regzam=6015 - VUPCH employee on the quality portal of UVMP in Košice).

g) Student representatives who represent the interests of students in the study programme (name and contact details): Student representatives who represent the interests of PhD students (name and contact details):
The member of the study programme committee were the students of veterinary medicine Marek Ratvay, DVM e-mail: marek.ratvay@student.uvlf.sk; Teodora Blatníková, DVM e-mail: teodora.blatnikova@student.uvlf.sk; Pavel Gomulec, DVM e-mail: pavel.gomulec@student.uvlf.sk

h) Study programme advisor: vice-rector for research and PhD studies at UVMP in Košice

i) Other study programme support staff - assigned study officer: Mgr. Júlia Jančura, e-mail julia.jancura@uvlf.sk; career counsellor: the function of the career counsellor is performed by the PhD student's supervisor.

8. Premises, tools and technical equipment

a) List and characteristics of the study programme classrooms and their technical equipment with assignment to learning outcomes and course matter:

Course	Characteristics of material and technical equipment	Pavilion number and room designation
Veterinary pathological physiology	ELISA reader (Apollo LB 913, Germany), spectrophotometer (Thermo Electron Corporation, Made in USA), spectrophotometer (VWR International bvba, Made in China), FRAS (FRAS BRAVO, H&H Parma Italy, light microscope (Carl Zeiss Microscopy, Made in Germany), haematology analyser, thermostat (Memmert, Made in Germany), freezer (Liebherr - MEDLine, Made in Austria), refrigerator (Gorenje, Made in Slovenia), centrifuge (Eppendorf, Made in Germany)	P8 ground floor Department of Biology and Physiology
Veterinary morphology	Material and equipment for animal dissection and other examinations: - dissection tables - e-learning room - rotary microtome: Leica RM 2245 - light microscope with camera: Olympus CX63 with PROMICAM 3-3CP camera - Olympus SZ61 stereomicroscope with PROMICAM 3-3CP camera - thermostats, refrigerators, incubators, vortexes - PCR box, centrifuge, pH meter, sonifier	P39 Dissection room P34 Laboratory of the Department of Morphological Disciplines
Veterinary Histomorphology	Light microscopes Optika, ICOE, Motic, microscope (Zeiss) with camera (Axiocam ERc 53), sliding microtome, paraffin dispenser (Kunz	P 17 Department of Morphological Disciplines (141, 145-147)

	WD-4), microcentrifuge (Wisd, CF-5), thermostat, GraphPad Prism photomicrograph software.	
Animal systems physiology	Processor Hydrasys Electrophoresis - Automatic - Gel electrophoresis Used to determine the concentration of lipoproteins (HDL, LDL, VLDL), protein fractions (albumin, alpha1, alpha2, beta1, beta2 and gamma globulins) and LDH isoenzyme activity (LDH 1,2,3,4,5) in blood serum and tissue extract. The EPSON V70 scanner is used to evaluate electrophoretic gels. Photometer Multiscan Ex. Microplate reader - ELISA reader Used to determine the concentration of proteins, acetylcholine, hormones (progesterone, prolactin), IGFI, IGF-BP3, in blood serum, homogenates. Nikon Eclipse 200 trinocular microscope + ProgRes CT3 colour camera, 15 Mpix + NIS ELEMENTS software Br used for evaluation of histological preparations, blood smears (morphometry, immunohistochemistry).	P8/1
Organ pathological anatomy	Material and equipment for animal dissection and further examinations: 1. histological sledge microtomes (pfm Slide 2003 - pfm medical Germany and Histoslide 2000, Leica - Reichert - Jung), Shandon Citadel - tissue processor, watering device WD4, light microscopes with camera: MOTIC + photocamera MOTICAM 2330, NICON Eclipse Tí + photocamera), thermostat, refrigerator, 2. PCR: PCR box, PCR thermocycler, CO2 incubator, deep freeze box, 3. cytology: cytocentrifuge 4. flow cytometry: Becton Dickinson flow cytometer, centrifuge	P17/C Autopsies and laboratories of the Department of Morphology
Molecular biology and genetics	Microscope Olympus SZ 61, sterilizer FST 250, thermomixer, preparation of reagents Eppendorf Thermomixer, thermostat BT120, incubation for enzyme assays water bath, fluorescence microscope fluorescence signal detection for various methods NIKON Eclipse Ni-U, detection and electrophoretic separation of PCR products - horizontal electrophoresis, Detection instrument for PCR products Geno View UV Transilluminator, Forks sensing system in Dugimage System transilluminator, Preparation of samples and slides for FISH, Comet assay Water bath T Selecta, Thermostat, In vitro cell culture Memmert IN75, Thermocycler,	Pavilion 16

	Analytik Jena, PCR reactions TPersonal thermocycler Biometra, Nanodrop and spectrophotometer-DNA/RNA purity detection IMPLEN nanospectrophotometer P-class, laboratory microscope, cytogenetic analysis Nikon Eclipse E200, Thermoblock and thermo-mixer - sample heating TS-100- C Biosan, Sterile PCR box with UV light - preparation of PCR reactions DNA/RNA UV-cleaner VVC/T-AR, Software for recording and photographing fluorescence signals, LUCIA Karyo-FISH karyotyping, Centrifuge, cytogenetic sample processing Centrifuge 5702 Eppendorf, Microcentrifuge, sample processing Micro-120 Hettich, Binder model 115 laboratory glass dryer, Autoclave, Faro Easy - R pressure steriliser	
Veterinary surgery and orthopaedics	Anesthesia machine Komesaroff Mini - Kom VIC, Anesthesia machine KRUUSE with 2 vaporizers on stand, Defibrillator HEART SAVE ONE with accessories, Electrocautery - electrosurgery., microsurgery, BABYTHERM baby incubator, Dixion infusion pump, Instilar, Beneview T8/T1 modular vital signs monitor, UVN isoflurane vaporizer, P-40, VAPORISOR VOC operating theatres and outpatient clinics, v.no. 106101 Electrocautery - electrosurgery, microprocessor, Dixion infusion pump, Instilar, Operating table ceiling lamp with integ. camera. system, Negatoscope viewing field LED MST - 4000 double, Stereomicroscope STEMI 508C, v.no. 3943001949 - body; Bathtub with treadmill for rehabilitation, v.no. 14/008/10-15	UVN, P-40, operating theatres and outpatient clinics
Diagnosis of animal diseases	USG Endoscope ECG Hematology analyzer, semi-quantitative methods of examination (urine, blood, rumen contents, faeces,...)	Pavilion 17 Seminar room I Seminar room I Seminar room I Seminar room I laboratory 3 Seminar room 75, laboratory 3
Veterinary obstetrics and gynaecology	Material and equipment of the clinic, ultrasound machines, X-ray, endoscopes, metabolite and hormone analyzers	P-17, P-18
Veterinary Biochemistry	PhastSystem electrophoretic separation system Ultimate 3000/ThermoScientific liquid chromatograph with accessories ISO-3100SD/Dionex compact isocratic system UV-VIS spectrophotometer Cary 60 with Peltier/Agilent Technologies	P35-411 P35-211 P-35-211,P-35-014 P-35-016

	Mastersizer 3000/Malvern laser particle counter	P35-211
Animal toxicology	TRACE O MAT combustion apparatus. Autoclave - pressure vessel, 60 l Autoclave STE-TAN Box laminar class II MB 120 Box UV 254 and 366 nm DESAGA Centrifuge cooled Universal 320 R CO2 incubator Transferpette S10 dosing device Transferpette S 2x Digester L 501 Digester lab.LD HPL1200+DTD ELISA washer IW 8 - 3D ELISA reader Apollo 11 Photodocumentation equipment.Quantum ST5+computer,monitor Photoluminescence microscope Deep freezer box Ultrasonic homogenizer HD2070 Horizontal blotting unit EV261 Immersion chiller with power control CO2 incubator, ICO105 med Gel chamber OmniPage Maxi Laminar box Inverted trinocular microscope IT415PH SET with camera KAPA2000 professional microscope+optical pre-set Konus microscope Routine microscope NIKON light microscope, fluorescence microscope with camera Multiprojector BENQMP 720 p Vacuum rotary evaporator INGOS RVO 400 Centrifuge K 24 PCR box UVC/T-AR pH meter OP 264 pH meter PH 539 pH meter with accessories pH meter with accessories InoLab 7110 SET Spekol ll. Spectrophotometer for ELISA Spectrophotometer Helios Gama UV/VIS Spectrophotometer Helios Gama UV/VIS Stereomicroscope with zoom SMZ Stereotaxic apparatus, digital + Micro Drill Gel dryer E6200 Light microscopes with camera: MOTIC + photocamera MOTICAM 2330, NICON Eclipse Tí + photocamera) Thermocycler telemetry kit for PCR Thermocycler with gradient C 1000 Biological thermostat with cooling TER80 Laboratory shaker Kavalier Orbital shaker PST-60HL-4 Scale AB 204 Analytical scale 2x Digital scale AM 50 Scale PRECISA 125 A xCELLidence system real-time cell analyzer)	P36
Alternatively models in Research	Material and equipment for molecular analyses: thermostats, autoclaves, refrigerators, freezers, boxes for DNA and RNA work, centrifuges, thermocyclers for PCR and qPCR, electrophoretic apparatus, sonifier	Pavilion 1

Methodology and statistical evaluation of a biological experiment	Statistical software (IBM SPSS Statistics, GraphPad Prism)	P17, Department of Morphological Disciplines
Animal nutrition and dietetics	Material and equipment for the nutritional evaluation of feeds, compound feeds and rations (dry matter, NL, structural and non-structural carbohydrates, ether extract, minerals) : drying oven, Mufl oven, Kjeltec Analyzer (1030 and 2300), Det Gras Analyzer, Dosi Fiber Analyzer, Ankom, automatic polarimeter AP 300, atomic absorption spectrophotometer, - for dietetic evaluation of feeds, rations: pH meters, semi-automatic titrator (Titroline 5000), Daisy II incubator. Material and equipment for the evaluation of the level of carbohydrate fermentation in rumen and intestinal contents (pH, UMK - acetic acid, propionic acid, butyric acid), and in blood serum the level of ketonic substances (acetoacetic acid and β-hydroxybutyric acid): two-column isotachophoretic analyzer EA100 and EA 101. Material and equipment for the analysis and evaluation of indicators of protein (total protein, albumin, urea), energy metabolism (triglycerides, NEMK, glucose) and metabolic load status of the liver (AST, GGT, bilirubin): automatic biochemical analyzer "ELLIPSE", spectrophotometers in the visible and UV region.	P 12, Laboratory 3,5,6 Physics laboratory

b) Availability of study materials (access to literature in line with syllabi sheets, access to information databases and other information sources, information technologies, etc.):
All literary resources for study outlined in the syllabi are available either in print or electronic form, all information databases purchased and licensed by the university are widely available to students.

c) Description and scope of distance education in the study programme with per course. Access data, manuals of e-learning portals. Procedures for the transition from in-person to distance learning.
UVMP in Košice also provides distance learning for all courses via the MOODLE and MS Teams platforms. Each student can access manuals either in electronic form or in the form of video instructions.

d) Partners of the university in the provision of educational activities of the study programme and characteristics of their participation: Centre of Biosciences, Slovak Academy of Sciences, Institute of Animal Physiology – External Educational Institution.

e) Characteristics of social, sporting, cultural, spiritual and community facilities:

UVMP in Košice provides its students with a wide range of opportunities for all-round enjoyment in all of the above areas (a detailed description is included in the internal evaluation report).

f) Mobility and internships opportunities (with contact details), application instructions, rules for recognizing this education:
Students of the study programme are guaranteed the opportunity to participate in mobilities. The entire agenda containing instructions and conditions for applying for mobility, conditions and rules of participation as well as rules for recognizing mobility as part of the study plan is covered by the Vice-Rector for International Relations and Internationalisation and the organisational unit managed by her, which is the UVMP Mobility Office. The whole process requires coordination with the supervisor, and is recommended after the study part of the study plan has been completed. Participation in mobility and other contexts are regulated in Article 42 of the Study Guidelines of the UVMP, Part B.

9. Required abilities and prerequisites of the candidate for the study programme

a) Required competences and prerequisites for admission to study:
They are laid down in Article 1 and Article 2, Part B, Part II Organisation of Studies of the Internal Regulations of the Study Guidelines of the UVMP.

b) Admission procedures:
These are laid down in Article 3 and Article 4, Part B, Part II Organisation of Studies of the Internal Regulations of the Study Guidelines of the UVMP. Examination boards for admission examinations are at least 4-member and are appointed by the Rector on an ad hoc basis according to the the study programmes to which students apply.

c) The results of the admissions procedure for the most recent period, which we consider to be the period of the standard length of study (4 academic years):
AR 2018/2019; 4 applicants applied, 4 applicants were accepted and 4 accepted applicants were enrolled,
AR 2019/2020; 6 applicants applied, 6 applicants accepted and 6 accepted applicants enrolled.
AR 2020/2021; 1 applicants applied, 1 applicants were accepted, and 1 accepted applicants were enrolled,
AR 2021/2022; 3 applicants applied, 3 applicants were accepted, and 3 accepted applicants were enrolled.

Admissions results for the last 6 years: 19 applicants applied and 19 accepted.

10. Feedback on the quality of education provided

a) Procedures for monitoring and evaluating students' views on the quality of the study programme:
The students of UVMP in Košice can evaluate the quality of teaching anonymously through an anonymous questionnaire after graduation, where they evaluate the quality of a particular study programme and the quality of the lecturers who provide the course. Monitoring of study programmes is also continuously carried out by the coordinators of individual fields (5) of science and research at UVMP.

b) Results of student feedback and related measures to improve the quality of the study programme:

The feedback and measures to improve the quality of the study programme are part of the Annual Reports on the Educational Activity at UVMP in Košice for individual academic years and the Annual report on activities UVMP 2021 for individual academic years. As part of the measures to improve the quality of the study programme, the vice-rector for education, study advisors and coordinators of individual fields of science and research step in and address the issues resulting from the feedback.

c) Results of alumni feedback and related measures for improving the quality of the study programme:
The results of alumni feedback and related measures to improve the quality of the study programme are included in the Annual Reports on the Activities of UVMP in Košice and Annual Reports on the Quality of UVMP in Košice for individual academic years. As part of the study programme quality improvement, the results of graduate evaluations are discussed once a year at the relevant committee for the establishment, modification and periodic evaluation of study programmes, where individual comments and proposals for improving the quality of the study programme are discussed. From the academic year 2022/2023, the UVMP will evaluate the readiness of graduates in the form of an electronic questionnaire for employers, which is available at https://forms.gle/z1h9u3rd2g9H589P7

11. Overview of long-term and continuous success in obtaining financial support

P.no.	Project number	From	To	Project name	Provider	Principal Investigator / Co-Principal Investigator
1	011UVLF-4/2013	2013	2015	Modern information technologies in the study of anatomy	CEGA	Dávid Maženský, DVM PhD.
2	006UVLF-4/2014	2014	2016	Animal anatomy 1. (bones, joints, muscles).	CEGA	Prof. Ján Danko, DVM PhD.
3	1/0374/14	2014	2016	Effect of essential oils and minerals on intestinal physiological processes and antioxidant protection in animals	SGA	Prof. Zita Faixová, DVM PhD.
4	1/0476/16	2016	2019	Study of the application of additives high in polyunsaturated fatty acids potentiating the effect of probiotics on the modulation of metabolic and reproductive processes in animals	SGA	Assoc. Prof. Drahomíra Sopková, DVM PhD.
5	013UVLF-4/2017	2017	2019	Application of progressive imaging technologies to the educational process of anatomy to increase the effectiveness of teaching and support integration with practice	CEGA	Assoc. Prof. Lenka Krešáková, DVM PhD.
6	1/0658/17	2017	2020	A comprehensive view of the impact of additives on the animal organism	SGA	Prof. Zita Faixová, DVM PhD.
7	APVV-17-0110	2018	2021	Injectable hybrid composite biocement	RDPA	Prof. Ján Danko, DVM PhD.
8	1/0241/18	2018	2021	The chicken embryo as an effective animal model in testing the toxicological effects of snake venom	SGA	Vladimír Petrilla, DVM PhD.
9	47/2019/UVLF	2019	2021	Research on innovative forms of treatment of bone defects by linking bioactive biomaterials with autologous growth factors	Other	Prof. Ján Danko, DVM PhD.
10	004UVLF-4/2019	2019	2021	Integration of the latest imaging technologies in the study of hard tissues in veterinary medicine	CEGA	Assoc. Prof. Katarína Vdoviaková, DVM PhD.
11	009UVLF-4/2019	2019	2021	Implication of progressive educational methods in the teaching of physiology	CEGA	Assoc. Prof. Drahomíra Sopková, DVM PhD.
12	1/0050/19	2019	2022	Regeneration of articular cartilage defects using innovative biomaterials	SGA	Prof. Eva Petrovová, DVM PhD.
13	009UVLF-4/2020	2020	2022	Stratigraphy of the vascular system in an innovative form of anatomy teaching	CEGA	Assoc. Prof. Lenka Krešáková, DVM PhD.
14	PVV-20-0184	2021	2024	Composite biomaterials with complex natural additives	RDPA	Prof. Ján Danko, DVM PhD.
15	APVV-20-0073	2021	2025	Chorioallantoic membrane - an in vivo model for studying biocompatibility of materials	RDPA	Prof. Eva Petrovová, DVM PhD.
16	017UVLF-4/2022	2022	2024	Implementation of information and imaging technologies in the study of the musculoskeletal system	CEGA	Assoc. Prof. Katarína Vdoviaková, DVM PhD.

12. Links to other relevant internal regulations and information regarding the study or the student of the study programme:

Study Guide Book at the UVMP for academic year 2022-2023
Directive on support of students and applicants to study with specific needs at the UVMP
Study guidelines of UVMP in Košice
Annual report on activities UVMP 2021