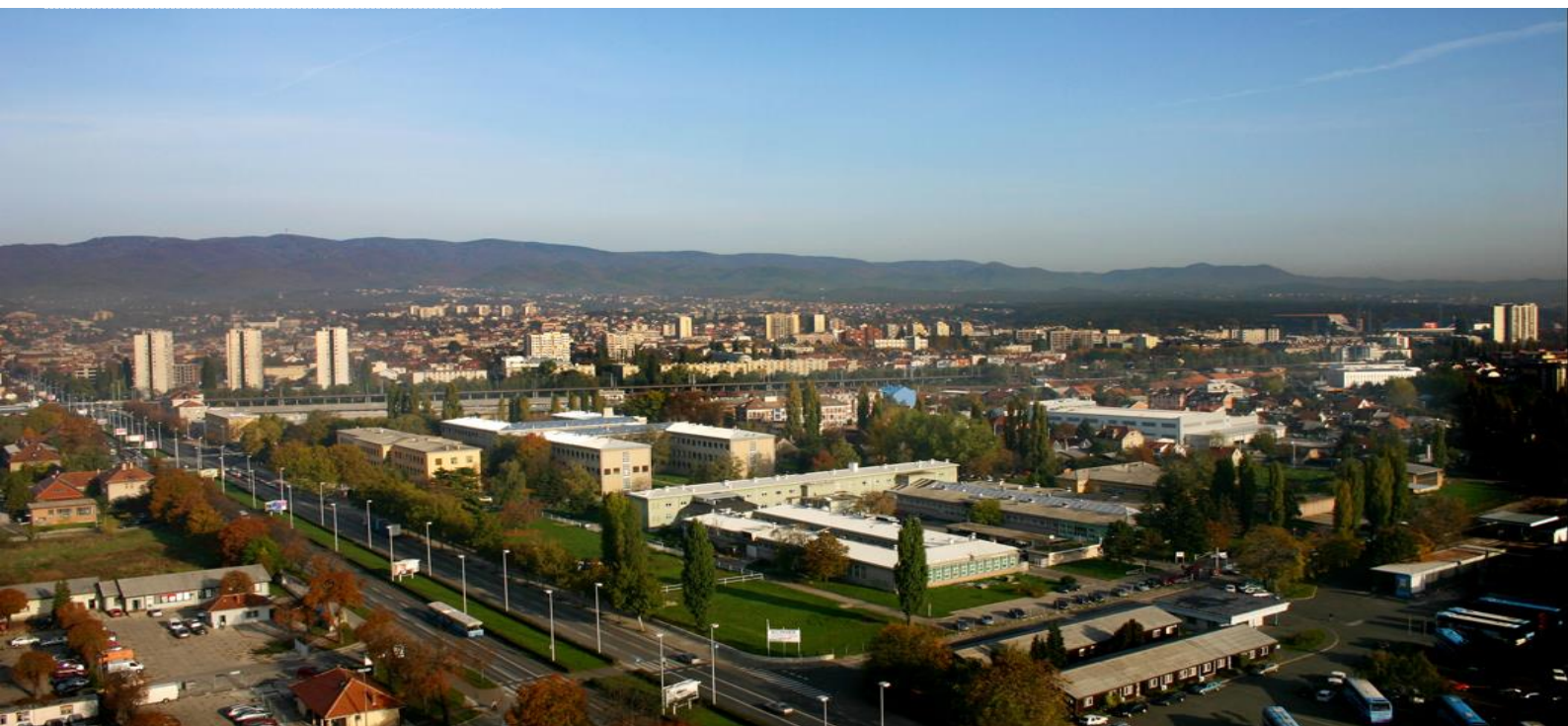


2023

EAEVE

Self Evaluation Report

ESEVT Visitation 17 - 21 April 2023



At the Service of One Health

FVMUZ

Faculty of Veterinary Medicine, University of Zagreb



Self Evaluation Report

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Introduction

Brief history of the VEE and of its previous ESEVT Visitations

The history of the Faculty of Veterinary Medicine, University of Zagreb (FVMUZ) encompasses period of a hundred years, reaching back at the beginning of last century. The FVMUZ was founded in 1919 as the School of Veterinary Medicine in Zagreb. Shortly after that, in December 1924 the School was renamed to the Faculty and became a permanent member of the University of Zagreb. More than a century the FVMUZ is the only institution in the Croatia which educates students in domain of the veterinary medicine.

First ESEVT evaluation was organised in 2003, and the FVMUZ acquired the *Approval* status. Next full visitation followed in 2013 and re-visitation was in 2015. After that the FVMUZ acquired *Approval* status. The FVMUZ decided to apply on ESEVT Stage 2 visitation in 2020. The first visitation was postponed due to the pandemic, so finally expert team visited FVMUZ in 2021 and the positive report was approved by European Committee of Veterinary Education (ECOVE). Since then the FVMUZ acquired *Accreditation* status.

Today the FVMUZ offers different study programs which are oriented towards the student, by integrating basic principles of scientific work, clinical training, professional standards and ethical values. Aiming to apply advanced educational methods and to recognize and reward the best students FVMUZ strive to be modern establishment dedicated to excellence.

Besides education and scientific research, the FVMUZ also carries out different professional activities in areas of veterinary public health and environmental protection, clinical and field diagnostics, supervision and professional expertise in veterinary medicine and animal husbandry, research and clinical trials of medicines intended for the protection of animal health, organization of livestock production, applied hygiene and technology in the production of food of animal origin.

The FVMUZ has four divisions, Veterinary Teaching Hospital (VTH), Research based teaching centres and Administration.

Divisions are higher organizational units, established on the basis of the synergy in academic, scientific and professional work of the compatible smaller units. Four divisions are:

- Basic and Pre-Clinical Sciences Division
- Animal Production and Biotechnology Division
- Veterinary Public Health and Food Safety Division
- Clinic Division

Veterinary Teaching Hospital (VTH) is an organizational unit of the FVMUZ established for the advancement and coordination of professional and clinic work, in line with the teaching areas and specialized fields of work, organized in accordance to Article 20 of the Statute. Research based teaching centres are organizational units which serve to advance the teaching, research, and professional activities of the FVMUZ.

Since last visitation (2013) among the many activities and achievements of our faculty we highlight the follow:

- Necessary biosecurity measures were implemented (documents adopted and published, premises and equipment adequately equipped and marked, necessary education carried out) and all these activities have been supervised by the Committee for Biosecurity
- The Office for Quality Assurance was established
- The integrated undergraduate and graduate program in English was launched
- Three residency programmes within the European Board of Veterinary Specialists were activated at FVMUZ
- A one-year rotation internship at VTH was launched
- The Media Relations Committee was established

- Reconstruction and equipping of the isolation unit had been completed
- The Veterinary Teaching Hospital was established
- Modernisation of The Ambulatory Clinic (AC) and consequent acquisition of new vehicles (4 vans) enabled working in small groups of students and better hands-on training in the field (case-based teaching instead of location-based teaching)
- The Office for EU Projects and Technology Transfer was established
- Reconstruction and equipping of the new training room for clinical hands-on training
- Project “Establishment of Postgraduate Specialist Studies in Veterinary Medicine in English” has started (total value € 229 009 for the duration of two years - European Social Fund)
- ERASMUS+ project “Pan-European soft skills curriculum for undergraduate veterinary education – SOFTVETS” has been launched. FVMUZ was the coordinator of the project, and partners were VEEs from Vienna, Ljubljana, Budapest and Hannover, together with Wirtshafts Universitaet Wien, EAEVE and International Veterinary Students' Association (IVSA)
- Clinical Skills Laboratory (CSL) was reorganised and located in the renovated room and new models were purchased by EU project
- Scientific and teaching-training facility “Wildlife centre” was established

The major problems encountered by the FVMUZ

The total allocation of governmental funding for higher education in the Croatia is significantly lower than the EU average. Additionally, the UNIZG have to reconsider the distribution system of funds allocated to the different establishments, especially in the group of biomedicine faculties where the costs (per student) of education for Doctor of Medicine (MDs) and Doctor of Veterinary Medicine (DVM) are among the highest in the world.

Almost all FVMUZ buildings are advanced in years and most of them were partially damage in the 2020 earthquakes, what resulted with the need of significant investments in renovation and maintenance.

The Version and the date of the ESEVT SOP which is valid for this Visitation is ESEVT Standard Operating Procedure (SOP) 2019 as approved at the Zagreb General Assembly, 30th of May 2019 and amended at the Turin General Assembly, 30th of September 2021.

Area 1. Objectives, Organisation and QA Policy

1.1. The VEE must have as its main objective the provision, in agreement with the EU Directives and ESG recommendations, of adequate, ethical, research-based, evidence-based veterinary training that enables the new graduate to perform as a veterinarian capable of entering all commonly recognised branches of the veterinary profession and to be aware of the importance of lifelong learning.

The VEE must develop and follow its mission statement which must embrace all the ESEVT Standards.

Mission

The mission of the Faculty of Veterinary Medicine University of Zagreb (FVMUZ) as the only scientific and educational institution in the Croatia in the field of veterinary medicine is excellence in veterinary education, scientific research, professional work, lifelong learning and international cooperation.

Vision

The vision of the FVMUZ is to become an example of a comprehensive teaching and research centre with high professional and ethical standards. The FVMUZ strives to be a dynamic centre of innovation and creativity dedicated to teaching, lifelong learning, professionalism, research and partnership with local and global veterinary communities.

Objectives

The main objectives of the FVMUZ are:

Teaching - FVMUZ delivers high quality undergraduate and post graduate veterinary education in accordance with all ethical and up-to-date teaching principles to prepare graduates for professional and personal success.

Research - FVMUZ is a dynamic research centre with interdisciplinary scientific projects and collaborative centres of excellence, striving to be nationally and internationally recognised in improving the health and the welfare of animals, humans and environment (One Health).

Professional work - FVMUZ provides outstanding veterinary care with the highest professional and ethical standards in all segments of the veterinary profession, fostering learning and clinical discovery and promoting models of best practices.

Financial operations - FVMUZ implements all activities to ensure positive financial operations and responsible fiscal policy.

Personnel policy - FVMUZ creates a highly motivated working environment based on trust, respect and wellbeing for students and staff, enabling them to collaborate, innovate and take care of one another.

International cooperation and mobility - FVMUZ promotes partnership and cooperation between the UNIZG constituents, and with all other higher education institutions in the region, EU and worldwide.

Key values

- High quality teaching
- Scientific excellence
- Animal welfare
- State of the art veterinary care

The study programme of veterinary medicine at the FVMUZ is carried out as Integrated Undergraduate and Graduate University Study (IUGUS) lasting 12 semesters. The IUGS

programme in Croatian is based on the needs of veterinary profession in Croatia, taking into consideration the Day One Competences (DOC), as outlined by EAEVE and FVMUZ. Also, the comprehensive study programme is implemented according to the standards of the Bologna Declaration and the Standards and Guidelines for Quality Assurance in the European Higher Education (ESG). In Croatia, veterinary medicine is a regulated profession, and therefore the IUGS programme is aligned with the provisions of the [Act on Regulated Professions and Recognition of Foreign Professional Qualifications](#) (OG 82/15, 70/19 and 47/20) and [Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications](#), and [Directive 2013/55/EU of the European Parliament and of the Council](#).

The principal objective of the IUGS programme proposed by FVMUZ is to ensure the ability of graduates to work as veterinarians, capable to implement the DOC, animal welfare and One Health principles in their professional activities. Throughout IUGS students develop competences progressively, acquiring required knowledge, skills and professional attitude for day one entry in veterinary profession. Also, the FVMUZ core curriculum prepare DVM graduates to the transition towards modern food systems and production practices which support the “Farm to Fork” principles, leading to sustainable agricultural development and healthy environment.

The IUGS programmes in Croatian and English are completely identical regarding the curriculum, rules and implementation of QA processes.

Standard 1.2. The VEE must be part of a university or a higher education institution providing training recognised as being of an equivalent level and formally recognised as such in the respective country. The person responsible for the veterinary curriculum and the person(s) responsible for the professional, ethical, and academic affairs of the Veterinary Teaching Hospital (VTH) must hold a veterinary degree. The decision-making process, organisation and management of the VEE must allow implementation of its strategic plan and of a cohesive study programme, in compliance with the ESEVT Standards.

Details of the VEE, official authority overseeing the VEE

Faculty of Veterinary Medicine, University of Zagreb
Heinzelova 55, 10000 Zagreb
Republic of Croatia
Tel: +385 1 239011
Fax: +385 1 24413901
Website: www.vef.unizg.hr
E-mail: dekanat@vef.unizg.hr

Establishment Head (Dean)

Marko Samardžija, DVM PhD, Full Professor

Vice-dean for IUGS and Students

Ksenija Vlahović, DVM, PhD, Full Professor

Vice-dean for finance and investment

Hrvoje Capak, DVM, PhD, Associate Professor

Vice-dean for science, postgraduate studies and international cooperation

Nino Maćešić, DVM, PhD, Full Professor

Vice-dean for IUGS in English and lifelong education

Marko Pećin, DVM, PhD, Assistant Professor

Vice-dean for quality control

Gordana Gregurić Gračner, DVM, PhD, Associate Professor

The new management of the FVMUZ, the Dean and the Vice-deans, took office on 1 October 2022.

The University of Zagreb (UNIZG) is the competent authority overseeing the FVMUZ. The UNIZG was founded in 1669, as the oldest university in Croatia and one of the older in Europe. The core of the UNIZG consists of 30 Faculties, three Academies and the Centre for Croatian Studies. In the 2021/22 academic year, the UNIZG has around 70 000 students.

The UNIZG is under the official authority of the national [Agency for Science and Higher Education \(ASHE\)](#). Study programmes proposed by faculties have to be approved by the UNIZG Senate and accepted by the ASHE. Final confirmation is granted by the [Ministry of Science and Education \(MSE\)](#).

The UNIZG has four major governing bodies in its structure: the Rector, Rector's Collegium, the Senate, and the University Council. The Rector as the head of the University is elected for a term of four years by the Senate. The Rector proposes Vice-rectors to the Senate. The Rector and the Vice-rectors together with seven Heads of scientific areas form the Rector's Collegium. The Senate is the main governing body of UNIZG. The Senate meets once a month and adopts new university legislature, study programmes, financial plans, investment plans, etc. Every four years the Senate elects a new Rector.

The University Council is a counselling body of twelve members: six appointed by UNIZG and six by public institutions (Croatian Parliament, Chamber of Commerce, City of Zagreb and City of Varaždin). The Council meets regularly every three months to oversee and discuss the activities of the UNIZG.

Brief description of the decision-making process

The Dean of the FVMUZ and Vice-deans are members of the Dean's Board (DB). The election and authority of the Dean is prescribed by the FVMUZ Statute (Articles 30 and 38). The Dean's representation and management duties include the responsibility of presenting the Annual report (including a budget plan) to the Faculty Council (FC) and the Rector.

The Extended Dean's Board (EDB) consists of the Dean, Vice-deans, Heads of divisions, the student representative from the UNIZG Student Council, and as of the 2022/23 academic year, there is also the FVMUZ Student-advisor of the Dean.

The Division is run by the Division Head. The election and authority of the Division Head is prescribed by the Statute (Articles 12 and 13).

The Unit is ruled by the Unit Head. The election and authority of the Unit Head is prescribed by the Statute (Articles 17 and 18).

The VTH Collegium is a board of the heads of the units within the VTH. The VTH Collegium elects the Head of the VTH by a two-thirds majority and this is then confirmed by the FC. The VTH Head coordinates the professional clinical work of the VTH. A teacher from the FVMUZ with a scientific-teaching title, employed in a unit that participates in the teaching and professional work of the VTH, may be elected as the VTH Head. The mandate of the VTH Head is three years and can be repeated once. The Advisory Committee (Collegium) of the VTH meets at least once a month, and the Head prepares, calls and chairs these sessions.

Figure 1. Organisational chart of the FVMUZ

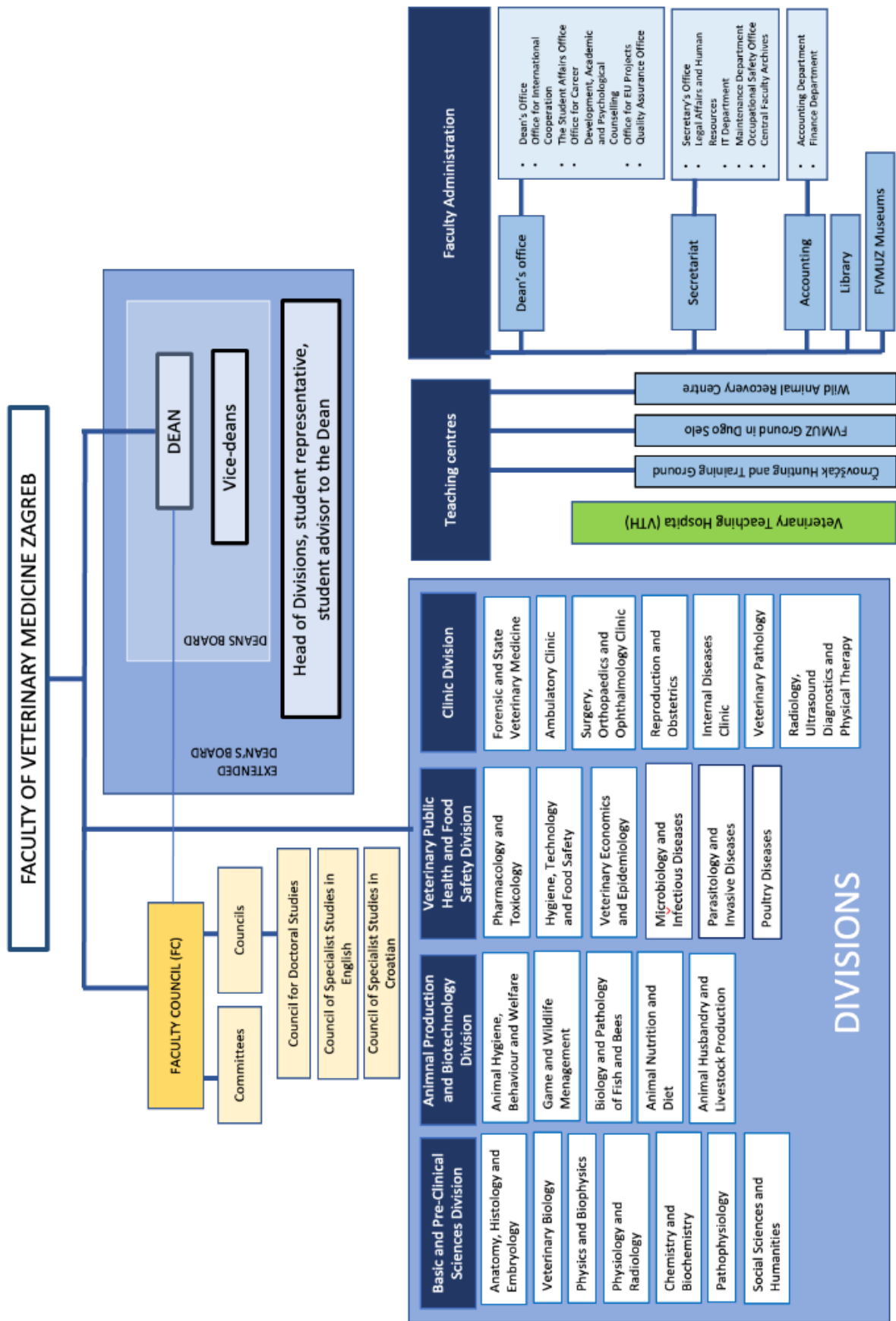


Table 1.1. Organisational units and unit heads

| <i>Organisational units</i> | <i>Head</i> |
|--|--------------------------|
| <i>Basic and Pre-Clinical Sciences Division</i> | <i>Tomislav Gomerčić</i> |
| <i>Animal Production and Biotechnology Division</i> | <i>Sven Menčik</i> |
| <i>Clinic Division</i> | <i>Mirna Brkljačić</i> |
| <i>Veterinary Public Health and Food Safety Division</i> | <i>Zrinka Štritof</i> |
| <i>Veterinary Teaching Hospital (VHT)</i> | <i>Nikša Lemo</i> |

| | |
|-------------------------------|---------------------------------|
| <i>Faculty Administration</i> | |
| <i>Dean's Office</i> | <i>Željana Klječanin Franić</i> |
| <i>Secretariat</i> | <i>Josip Brstilo</i> |
| <i>Accounting</i> | <i>Katarina Goleš</i> |

The current list of academic staff, their qualifications, full - time equivalent (FTE), teaching responsibilities and departmental affiliations is given in Appendix 1.1.

The Faculty Council (FC) is the expert council of the FVMUZ. According to the FVMUZ Statute (Article 43), the FC appoints and dismisses the Dean and Vice-deans, adopts the FVMUZ's development strategy, proposals for the Statute, study programmes, budget, final balance sheet of the FVMUZ and the Dean's annual report, implementing regulations of the FVMUZ, and accepts the curricula and plans for implementation.

Table 1.2. The composition of FC

| <i>Members of the FC</i> | <i>Mandate</i> |
|---|--------------------------|
| <i>All employees holding scientific-teaching, teaching and scientific titles in permanent employment relations at FVMUZ (permanent members).</i> | <i>Permanent members</i> |
| <i>Head of the Faculty Library (FL).</i> | |
| <i>The number of student representatives (some, as postgraduate students, are also external stakeholders) at FVMUZ, amounting to 15% of the total number of FC members.</i> | <i>3 years</i> |
| <i>Employee representatives holding associate or professional titles, five from each division as referred to in Article 12 of the Statute.</i> | |
| <i>One representative of the remaining employees.</i> | |

Nearly all permanent committees consist of seven members, where three members are proposed by the Dean, and each division proposes one member. In accordance with the FVMUZ Statute and [Quality Assurance Manual of the Faculty of Veterinary Medicine \(QAM\)](#), and the [Regulations on the Quality Assurance System at the Faculty of Veterinary Medicine](#), the Dean proposes all members of the Quality Assurance Committee (QAC). The QAC is the only permanent committee consisting of nine members. Members of all permanent committees are appointed by the FC. At the constituent session of the committee, the members elect a president among themselves, who then appoints a deputy. The student representative is a member of the Student Disciplinary Committee and the QAC. In the QAC, there is also a representative of the administrative staff and external stakeholders. The list of committee members is shown in Appendix 1.2.

Table 1.3. Permanent committees and its functions/responsibilities

| <i>Permanent committees</i> | <i>Function/Responsibilities</i> |
|--|--|
| <i>Committee for the Statute</i> | <i>Drafts general acts of the FVMUZ, proposes adoption and amendments to the general acts of the FVMUZ, gives authoritative interpretations of the Statute and other general acts of the FVMUZ, determines irregularities in the application of acts, resolves conflicts relating to the jurisdiction of working bodies, adopts consolidated texts of FVMUZ general acts when these acts have been amended at least three times, considers complaints relating to the violation of a FVMUZ act, notifies the council and the dean of the violation of FVMUZ acts, rules and other regulations, and proposes measures to prevent further violation.</i> |
| <i>Committee for the integrated undergraduate and graduate study (CIUGS) programme</i> | <i>Organises and aligns teaching processes in IUGS programmes, considers and prepares proposals relating to monitoring teaching processes in terms of developing curricula, and proposes acts and measures for the successful implementation of teaching processes.</i> |
| <i>Committee for Projects</i> | <i>Considers and prepares applications to registration for public competitions for research projects and tasks, supervises the introduction of junior researchers and their inclusion into certain projects, monitors the preparation of proposals for the acquisition of research and scientific equipment, prepare proposals for national and international scientific projects/funds.</i> |
| <i>Committee for Awards</i> | <i>Proposes candidates for awards and acknowledgements to be given to deserving teachers, scientists and other FVMUZ employees, individuals and institutions outside the FVMUZ, implements the award-giving process, monitors public awards competitions published by state authorities, institutions and other legal entities, and promptly informs the FC about these activities.</i> |
| <i>Student Disciplinary Committee</i> | <i>Conducts disciplinary proceedings against students in cases of violations of the provisions of the Regulations on the Disciplinary Responsibility of Students of FVMUZ, and prescribes disciplinary action and measures.</i> |
| <i>Staff Disciplinary Committee</i> | <i>Implements disciplinary actions against employees in accordance with separate Regulations.</i> |
| <i>Committee for Ethics in Veterinary Medicine</i> | <i>Makes decisions on ethical acceptability of research and its scientific justification in accordance with the Animal Protection Act. It also carries out other activities related to ethics in veterinary medicine.</i> |
| <i>Committee for Library and Publishing</i> | <i>Decides on the applicant's requests for the approval of manuscripts, classifies manuscripts by type, proposes a reviewer, proposes renovation and additions to library premises as needed, discusses and proposes measures in the field of publishing and IT activities.</i> |
| <i>Committee for Appointment to Scientific, Scientific-educational, Educational and Associate titles and Positions</i> | <i>Proposes the appointment of expert committees during the procedure for selection to scientific, scientific-educational and educational titles, proposes the adoption of expert committee reports during the procedure for the selection into titles, proposes general acts and measures in the field of organisation and job systematisation at FVMUZ.</i> |
| <i>Quality Assurance Committee (QAC)</i> | <i>Plans, coordinates, implements, monitor and assesses measures and activities within the framework of the QA system at FVMUZ. Detailed</i> |

| | |
|--|--|
| | <i>information on the role of the Committee is outlined in Article 12 of the Regulations on the Quality Assurance System at FVMUZ</i> |
| <i>Committee for the Implementation of the Code of Ethics of UNIZG</i> | <i>Give opinions or acts in cases of suspected violation of the Code of Ethics of the UNIZG. Gives an opinion on matters of principle, and on compliance of behaviour in specific cases with the principles and provisions of the Code of Ethics of UNIZG. The mandate is four years, and members are appointed by the Dean and confirmed by the FC.</i> |

Specialist Studies Councils and Doctoral Study Council

The FC appoints, at the Dean's proposal, the Council for Specialist Studies in Croatian and the Council for Specialist Studies in English as permanent working bodies. Each member of those councils is head of one particular specialist study programme.

The Doctoral Study Council is also a permanent council of the FC that manages the Doctoral Studies in Veterinary Sciences (DSVS).

Temporary committees established by a decision of the Dean are as follow: Media Relations Committee (MRC), Committee for VEF.Protocol (CVP), Committee for the Implementation of CEEPUS Program Activities of FVMUZ, Committee for the Implementation of ERASMUS+ Program Activities of FVMUZ, Committee for Informatics (CI), Committee for Lifelong Learning (CLL) and Biosecurity Committee.

Formal collaborations with other VEEs

The FVMUZ is a member of the Veterinary Network of European Student and Staff Transfers (VetNEST). The VetNEST is a network founded in 1993/94 by Central European universities and faculties of veterinary medicine (in Budapest, Brno, Kosice, Ljubljana, Vienna, Wroclaw and Zagreb) involved in mobility programmes of the CEEPUS (Central European Exchange Program for University Studies). Also, there are numerous FVMUZ bilateral contracts with EU VEEs, and VEEs around the world (China, Columbia, Cuba, Moldova, Mexico, Turkey, Ukraine, Venezuela). The FVMUZ currently has 11 active bilateral ERASMUS+ contracts with VEEs from Austria, Belgium (2), Czech Republic, Hungary, Slovak Republic, Poland, North Macedonia, Romania, Slovenia and Serbia.

Table 1.4. Name and degrees of the person responsible for the veterinary curriculum and for the professional, ethical, and academic affairs of the VTH

| | |
|---|---|
| <i>Name and degrees of the person(s) responsible for the veterinary curriculum</i> | |
| <i>Ksenija Vlahović, DVM, PhD, Full professor</i> | <i>Vice-dean for IUGS and Students</i> |
| <i>Marko Pećin, DVM, PhD, Assistant professor</i> | <i>Vice-dean for IUGS in English and Lifelong Education</i> |
| <i>Name and degrees of the person(s) responsible for the professional, ethical, and academic affairs of the VTH</i> | |
| <i>Nikša Lemo, DVM, PhD, Full professor</i> | <i>Full professor, Head of the VTH</i> |

Standard 1.3: The VEE must have a strategic plan, which includes a SWOT analysis of its current activities, a list of objectives, and an operating plan with a timeframe and indicators for its implementation.

The FVMUZ Development Strategy for the period 2023–2027 was adopted at the 12th Regular Session of the FC on 13 July 2022.

An updated SWOT analysis has been created in accordance to the UNIZG regulations, newly elected Dean's program, and based on the QA assessment. A summary of SWOT analysis is presented here:

STRENGTHS

- Only establishment for veterinary (DVM, MSc, PhD) education in Croatia
- Management that encourages the development and improvement of the QA system in all areas of activity
- Teaching staff with an internationally recognisable position in their scientific and professional fields
- Favourable ratio of the number of teachers to students
- Student-oriented teaching programme, aligned with the principles and standards of international veterinary education
- Well-balanced ratio of practical teaching at the VTH and an extramural part of the core curriculum
- Developed support models for professional orientation (Office for Students Affairs, Office for Career Development, Academic and Psychological Counselling)
- High quality doctoral study programme (PhD)
- Accessibility of VTH services 24/7 as referral or initial consultation centre (open to the public)
- Favourable geographical position in the region
- Numerous outgoing and incoming students and employee mobility
- Internationalisation of studies with a programme offered in English, with CPDs offered in English
- Increasing number of European Board of Veterinary Specialisation (EBVS®) Diplomates

WEAKNESS

- High maintenance costs of buildings categorised as architectural heritage and quite damaged by two earthquakes in 2020
- FVMUZ location in the city centre of the capital, which poses certain difficulties considering the transport and keeping of large animals, especially pigs
- Rigorous conditions under national regulations for selection to scientific, scientific educational and educational titles due to financial opportunities
- Unbalanced ratio of laboratory workers and technicians to academic staff
- Teaching staff overall underpaid compared to EU High cost of IT equipment and software

OPPORTUNITIES

- Reputation of FVMUZ as an institution with more than a century of tradition in higher education and scientific research
- Good cooperation with external institutions and stakeholders
- Connection of different scientific areas and initiation of interdisciplinary projects with other faculties, universities and scientific institutions
- Increased number of applications for projects financed by the EU and the possibility of using its structural funds
- The advantage of the regional position related to internalisation and study in English
- Activation of the FVMUZ alumni association (AMAC-VEF) aiming to connect with the FVMUZ alumnes who have achieved international recognition abroad
- Noticeable connections with local, national and international business entities and possibility to strength partnerships with the public and private sector
- Long-term education of employees through various workshops, seminars and courses to raise the level of quality in all areas and processes conducted at UNIZG and MSE
- Systematic strengthening of the internal quality assurance system to better support external assessments

THREATS

- High competitiveness in the field of biomedical research for obtaining research projects, in Croatia and the EU
- Public financing with a potentially reduced flow of funds for science from the state budget
- The outflow of experts due constant hiring by multinational companies
- Frequent earthquakes in the vicinity of Zagreb, which two major earthquakes in Zagreb in 2020
- Economic and energy crisis as a result of the war uncertainty in Europe
- Further reducing of the basic (state) funding due inflation

VEE Operating Plan

The FVMUZ development strategy (Appendix 1.3.) is based on the development of several basic areas of strategic planning (educational activity, scientific activity, financial operations, professional, administrative and personnel operations and quality system), elaborates in detail the strategic goals and plan of activities aimed to the development of the FVMUZ for the period 2023–2027.

Standard 1.4: The VEE must have a policy and associated written procedures for the assurance of the quality and standards of its programmes and awards. It must also commit itself explicitly to the development of a culture which recognises the importance of quality, and quality assurance, within their VEE. To achieve this, the VEE must develop and implement a strategy for the continuous enhancement of quality. The development and implementation of the VEE's strategy must include a role for students and other stakeholders, both internal and external, and the strategy must have a formal status and be publicly available.

Educational policy and strategy

Ensuring excellence in all forms of activities is one of the fundamental priorities of the FVMUZ, from the highest quality teaching to the latest research, which together ensure comprehensive support for students and employees, while also improving relationships with veterinarians and the general community. The aim of the QA system is to create mechanisms for promoting and achieving the highest level of quality in teaching, research, science, and professional and administrative activities at FVMUZ. QA on all levels, in cooperation with internal and external stakeholders, ensures the encouragement of excellence innovation and openness, and the promotion of a culture of quality, responsibility and cooperation. Acceptance by all employees is seen through common activities of numerous employees who together strive to achieve ongoing improvements in the development of the FVMUZ. Internal and external stakeholders are actively involved in the QA process.

Activities at FVMUZ, especially scientific research, international cooperation, administrative work, and organisational management are undertaken and supervised pursuant to standard ISO 9001:2015 (annually certified); accredited laboratories are established according to the ISO 17025 and audited annually.

At the end of each year, as the part of internal QA evaluation, the QAC prepares a report on the activities carried out in that year and after its adoption at the FC, submits it to the UNIZG and [Agency for Science and Higher Education \(ASHE\)](#), along with the action plans prepared for the next academic year, presenting the activities and possibilities for improvement. ASHE conducts regular evaluations of study programmes according to the ESG in five-year periods within the process of re-accreditation of higher education institutions and study programmes (last conducted in 2022), and the external independent periodic assessment of the internal quality assurance system (audit - last conducted in 2018). Since the 2022/23 academic year, after the successful national reaccreditation of the FVMUZ, a report to ASHE should be submitted every two years, and a five-year activity plan

should be drawn up within six months of receiving the certificate of successful national reaccreditation and after adoption at FC, it should be submitted to ASHE. External evaluation by EAEVE is conducted every 7 years.

FVMUZ ensures the collection of relevant information for effective quality management by regular monitoring of activities and set goals using verified and analysed data. FVMUZ carries out the following basic activities in which QA is implemented and the quality management system ensured: teaching, scientific and professional activities and organisational administration and management. In 2018, the Quality Coordinator (QC) was appointed in each unit, as the person facilitating communication between the Vice-dean for quality control and all FVMUZ staff.

The QCs (and their deputies) are appointed by the unit heads at the request of the Dean to improve the quality system and the dissemination of the information between FVMUZ management and employees.

In order to achieve the most efficient QA, it is necessary to involve external stakeholders adequately in the various processes of the FVMUZ. Meetings or consultations are used to collect data from different stakeholders, but conducting surveys also allows access to as many external stakeholders or organisations as possible. In addition, external stakeholders working in national regulatory or professional bodies meet regularly with FVMUZ staff (serving as active members of some committees) to discuss the state of the profession or the need for improvements at the FVMUZ level for the benefit of the profession.

Information related to the basic activities of the FVMUZ is regularly reported to employees, students and other stakeholders on a monthly basis (at FC sessions) or directly on the intranet in the form of the minutes of the FC. All documents related to QA are available on both the intranet and Internet.

Internal and external stakeholders are actively involved in QA. An example of good practice is the active role of students in decision-making at the FVMUZ level and their active participation in the work of FC and committees and the Extended Dean's Board.

The Deming Cycle or Plan-Do-Check-Act (PDCA) is the essence of the QA system according to ISO 9001. Continuous repetition of PDCA activities for each identified process creates the preconditions for achieving the ultimate goal, which is continuous improvement of overall system efficiency. An overview of the quality management system and process interactions is described in the [Quality Assurance Manual \(QAM\) according to ISO 9001: 2015](#) (2021). The written assessment procedure of QA could be seen in appendix 1.5.

The establishment of a Croatian system for QA in higher education and science, in line with the ESG, began in 2005 with the establishment of the national ASHE. The purpose of the ASHE is continuous work in the promotion of a culture of quality, the creation of a national network for quality improvement, linking the Croatian educational and scientific systems with the European network, and building connections with other institutions in order to apply the guidelines of the Bologna Process and the European higher education system. The introduction, development and advancement of QA at FVMUZ have been aligned with the Act on Quality Assurance in Science and Higher Education (OG 151/22). The foundation and framework of QA at FVMUZ are also fully compliant with the ESG and other legal acts.

Standard 1.5: The VEE must provide evidence that it interacts with its stakeholders and the wider society. Such public information must be clear, objective and readily accessible; the information must include up-to-date information about the study programme, views and employment destinations of past students as well as the profile of the current student population. The VEE's website must mention the ESEVT VEE's status and its last Self Evaluation Report and Visitation Report must be easily available for the public.

As part of fulfilling its public role, FVMUZ informs the interested public about the study programmes, qualifications acquired, teaching activities, scientific research achievements, project

activities and the professional services it offers through its clinics and laboratories. The official FVMUZ website ([HR](#)) ([ENG](#)) is the main means of informing the public about vision, mission and objectives, as well as the daily activities. In addition to the website and social media (Facebook, Instagram), printed materials are also used to inform stakeholders (information leaflets, study brochures, info-packages, etc.).

The Media Relations Committee (MRC) was established in 2016, and together with the IT Office manages all publicly available information and runs the website and social networks. At FVMUZ, there are authorised employees responsible for publishing content on the website and on social networks (Facebook, Instagram).

The presence of employees in the media, informing the general public about activities of FVMUZ and the veterinary profession is strongly encouraged. Interested parties can take a customer satisfaction survey via the [contact form](#) available on the website.

ASHE is the central body in Croatia that monitors the employability of graduates at the national level. As stated on the ASHE website, the systematic collection and analysis of data on student employability is driven by the practice of EU countries and the recognised importance of these processes for improving higher education and its better integration with the labour market. Every year, FVMUZ regularly participates in monitoring the employability of its students by collecting data from graduates and forwarding it to the ASHE for further processing. Enrolment quotas for the integrated study programme in Croatia are agreed for each academic year through the Integrated Undergraduate and Graduate Study (IUGS) and confirmed by the FC. Every year the data submitted by the Croatian Veterinary Chamber (CVC) and Croatian Employment Service (CES) are considered to align the quotas with the market demands. The FVMUZ informs students and graduates via the websites and social networks about opportunities of continuing their education. Information on post-graduate [specialist](#) and [doctoral studies](#) is publicly available on the official website where it is also possible to find the full study programmes and the necessary forms. Notices of enrolment in these programmes are published in several ways, and the deadlines for enrolment are sufficiently long to facilitate applications. Further support for graduates is also provided by the organisation of lifelong learning. The [alumni association AMAC-VEF](#), founded in 2012, coordinates the activities of its membership in Croatia and abroad. Among other things, it connects the membership in order to cooperate on scientific-teaching and professional-teaching tasks, and assists with the employment of unemployed members.

The profile of current students is shown in Appendix 1.4.

The FVMUZ website also mentions the ESEVT status of FVMUZ and last Self-Evaluation Reports (2013; 2020) as well as [Report on the Visit to the Faculty of Veterinary Medicine, University of Zagreb, 10–14 June 2013](#), [Final Report on the Re-Visitation](#) and [Quality Assurance Visitation Report](#) which are available via the FVMUZ website.

Standard 1.6: The VEE must monitor and periodically review its activities, both quantitative and qualitative, to ensure that they achieve the objectives set for them and respond to the needs of students and society. The VEE must make public how this analysis of information has been utilised in the further development of its activities and provide evidence as to the involvement of both students and staff in the provision, analysis and implementation of such data. Any action planned or taken as a result of this data analysis must be communicated to all those concerned.

According to Article 31 of the FVMUZ Statute, the former dean professor Nenad Turk, in June 2022 passed the Decision on the appointment of the Committee for the development of the FVMUZ Strategy for the period 2023–2027. The Committee analyses and uses relevant information for the purpose of effective management of the four main core activities – teaching, scientific research, professional work, and management (administration). A draft of the strategic plan is submitted to the units, students and stakeholders for discussion and amendments, and returned to the Committee.

QA has been recognised by both former and current management of FVMUZ as a strategic management tool. This is evident in the orientation of FVMUZ towards the creation of a QA system since the start of implementation of the Bologna Process, support of conducting external evaluations over the years, and the use of QM as an auxiliary mechanism for the development of FVMUZ. The [QA policy](#) is the basic framework for the implemented quality system and is published on the website so that all employees, stakeholders and public may be acquainted with it. The FVMUZ management is committed to providing and developing the necessary resources for implementation of the QA policy. The FVMUZ QA policy is regularly monitored and revised in accordance with needs and changes to the system.

The [documents of the QA system](#) at FVMUZ have been systematically regulated, revised and distributed by the Vice-dean for Quality Control and the QAC according to ISO 9001, and approved by the FC.

Standard 1.7: The VEE must undergo external review through the ESEVT on a cyclical basis. Evidence must be provided of such external evaluation with the assurance that the progress made since the last ESEVT evaluation was linked to a continuous quality assurance process.

During the visitation in June 2013, a major non-compliance related to biosecurity was noted, described as: *The requirements regarding physical facilities with respect to safety and health procedures are not met.* Due to this observed non-compliance, the FVMUZ was granted the “conditionally approved” designation. A re-visit in March 2015 proved that the non-compliance had been successfully resolved. Therefore, since May 2016, the FVMUZ has been designated as *fully approved* (valid for 7 years, until June 2023).

In order to meet the requirements with regard to occupational safety and health, the following activities were undertaken:

- The Biosecurity Committee consisting of seven members was established at FVMUZ. The Committee prepared a Biosecurity manual ([HR](#)) ([ENG](#)) that describes the general procedures, special requirements and procedures in cases of infectious diseases or treatment of certain categories of animals.
- The biosecurity officer (with a deputy) was appointed to be in charge of advising staff and students on the implementation of biosecurity measures at the FVMUZ level.
- A document was prepared detailing the procedures for FVMUZ vehicles returning from the field; washing and disinfection of vehicles is prescribed, and the vehicles are equipped with disinfection equipment, so that disinfection can be carried out in the field conditions.
- To improve the general level of safety and biosecurity, FVMUZ employed an independent safety expert to assist in drafting evacuation plans for each FVMUZ building (posted in visible places in the buildings). Exits, evacuation routes, hydrants, fire extinguishers, etc. were marked.
- [Instructions on the protection of workers and students from hazards due to exposure to biological and chemical agents at work were prepared.](#) All students (from 1st to 6th year of study), before starting the practical part of their course, must be familiar with these Instructions, and sign a statement confirming that they are informed about all biosafety issues related to all the hazards arising from working with animals, as well as with all the obligatory protective measures, protective clothing and footwear.
- Eye-washers, together with first-aid boxes are on site in all laboratories in which students perform practical work.
- The storage and handling of hazardous chemical products was improved and a special cabinet for storing hazardous chemicals were installed. Also, a central storage was established where all chemicals are collected, and kept in a fenced and supervised area. All the necessary documentation about the disposal of chemical waste is kept for five years.
- FVMUZ, together with UNIZG, is preparing a strategic plan for adapting the main building to be accessible for persons with disabilities. UNIZG has also an [Office for Students with Disabilities](#), which serves as an advisory service for all faculties. FVMUZ has its own coordinators for students with disabilities – one professor and one student.

- Persons responsible for medicines, reagents and other substances with a shelf life were appointed in the units and clinics. Forms were also developed to monitor the expiration dates of drugs, reagents, etc.
- A special vehicle (LIFTKAR) was procured, enabling the accessibility of the FVMUZ premises for persons with mobility difficulties.

Although the goal of the FVMUZ in 2018 was Stage 2 of the QA EAEVE Visitation, due to the pandemic and unfavourable epidemiological situation, this was not achieved until May 2021. [The Expert Committee confirmed that FVMUZ meets the European standards for acquiring the status of an accredited veterinary higher education establishment \(stage 2 - accreditation\).](#)

In addition to the main strengths of FVMUZ (commitment of the FVMUZ management to QA; commitment of employees, students and external stakeholders to joint work on the continuous improvement of education in the field of VM; noticeable student-friendly attitude; successful withdrawal of funds from international projects in favour of meeting the strategic goals of FVMUZ; effective Office for Career Development, Academic and Psychological Counselling (OCDAPC); excellent organisation and diversity of extramural teaching; effective logbooks for monitoring practical and clinical classes), the Expert Committee also observed the following shortcomings (minor non-compliances):

- Partial non-compliance with sub-standard 11.3 due to suboptimal feedback to students on the learning process that could be related to unsystematic continuous education of staff on pedagogical methods. During the last two years, a series of mandatory workshops was organised for teaching and non-teaching staff called “Personal and professional development workshops - teaching and non-teaching staff”.
- Partial non-compliance with sub-standard 11.7 due to the suboptimal possibility of complete closure of the Deming circle, i.e., the *plan-do-check-act* process. The FVMUZ development strategy for the period 2023–2027 foresees measurable indicators of success of the implementation of certain activities to contribute to the successful closure of the PDCA cycle.
- Partial non-compliance with substandard 11.8 due to a suboptimal self-evaluation report.

Comments on Area 1

The FVMUZ works continuously towards improving the culture of QA in accordance with its uniqueness and possibilities. The FVMUZ Development Strategy for the period 2023–2027 will be an effective tool in achieving goals listed in basic areas, thanks to the precise definition of indicators in the implementation of planned activities.

A newly adopted [Act on Scientific Activity and Higher Education](#) and newly adopted [Act on Quality Assurance in Higher Education and Science](#) as well as new UNIZG Statute (expected in April 2023) will necessarily result in the revision of existing acts and the adoption of new acts, and it will be necessary to align the existing legislation of FVMUZ with the national and other international documents.

It should be pointed out that two strong earthquakes in 2020 damaged campus buildings. This posed a significant challenge to the FVMUZ regarding provision of financial resources, synchronisation of the renovation timeline, and preparation of the precise plan due to relocation of all activities.

Suggestions for improvement in Area 1

The budget of about 11 million EUR from the EU Solidarity Fund (EUSF) will be invested in improvement and renovation of FVMUZ in the following 2 years. Despite extensive renovation activities the FVMUZ teaching processes will not be interrupted in any phase of reconstruction.

AREA 2. Finances

Standard 2.1: Finances must be demonstrably adequate to sustain the requirements for the VEE to meet its mission and to achieve its objectives for education, research and services. The description must include both expenditures (separated into personnel costs, operating costs, maintenance costs and equipment) and revenues (separated into public funding, tuition fees, services, research grants and other sources).

Description of the global financial process of the VEE

In general, FVMUZ is a state budget beneficiary, financed from the State Budget (through the Ministry of Science and Education (MSE)). As part of UNIZG pursuant to the financial plan for a three-year period. Sources of revenue are funded by national authorities such as MSE for the delivery of the study programme for Veterinary Medicine (VM) in Croatian, Ministry of Agriculture (MA) for certain professional and research activities, and the Croatian Science Foundation for research projects (see Area 10), etc. The budget includes the Faculty's own revenue, whereby the Faculty is financed in the amount of 60.6% from the state budget, 32.4% from its own revenue, and 7% from other revenue. Budgetary funds are allocated for employee salaries, overhead expenses (electricity, water, heating, utilities, and maintenance), and basic support for scientific activities, while the Faculty's own revenues are allocated according to the Regulations on standards and usage of income earned on the market. Decisions on the allocation of the Faculty's own income are rendered by the responsible person, i.e. the Dean, following proposals by the heads of units, in accordance with the financial plan. FVMUZ has autonomy and flexibility only in the use of its own financial resources.

FVMUZ constantly provides sufficient funds to achieve its education, research, and service objectives.

All financial activities are strictly regulated through the [Act on the Execution of the State Budget of the Republic of Croatia](#) (OG, 117/19, 32/20, 42/20, 58/20, 124/20, 135/20, 69/21, 122/21, 62/22, 131/22), [Act on Scientific Activity and Higher Education](#) (OG, 123/03, 198/03, 105/04, 174/04, 02/07, 46/07, 45/09, 63/11, 94/13, 139/13, 101/14, 60/15 and 131/17), and newly adopted [Act on Higher Education and Scientific Activity](#) (OG, 119/22), [Collective Agreement for Science and Higher Education and Appendix I. to the Collective Agreement for Science and Higher Education](#) (OG 9/2019) and others.

The costs of regular studies are paid in part or in full, from the state budget in accordance with the decision of the Government of the Republic of Croatia. The subsidy for study costs from the Croatian State Budget does not apply to study programmes that are fully implemented as IUGS English language programmes. The costs of that study are borne entirely by students. National students have the right to a full subsidy of participation in the study costs based on the [Decision of the Government of the Republic of Croatia, UNIZG Senate and the FVMUZ](#) on programme financing of public higher education institutions in Croatia in the 2018/19, 2019/20, 2020/21 and 2021/22 academic years.

Postgraduate University Specialised Studies and Doctoral Studies in the Veterinary Sciences are financed by the candidates and/or veterinary organisations. These revenues are prescribed by internal regulation documents of FVMUZ.

Tuition fees for the national study programmes are based on a 3-year decision of MSE. The biomedical group of university study programmes have the same budget (797 Euro) per student. For the international study programme, the FC is required to decide on tuition fee before enrolment in the next academic year. During the period of 2019/20 – 2021/22, the fee was € 9600.

In this system of financing, FVMUZ aims to generate as much revenue as possible on the market, especially in provision of intellectual and professional services, clinical work, and the organisation of specialised courses and workshops/conferences. Due to the importance of applying for as many EU and national projects as possible, the Office for EU projects was established in 2017 and the results are already evident (receiving around 1.5 mil Euro from European Social Fund (ESF)) and ERASMUS+ in the last three years).

Table 2.1.1. Annual expenditures during the last three academic years (in Euros)

| Area of Expenditure | 2021/22 | 2020/21 | 2019/20 | Mean |
|--------------------------|------------|------------|------------|------------|
| <i>Personnel</i> | 10,262,892 | 9,447,982 | 9,283,313 | 9,664,729 |
| <i>Operating Costs</i> | 2,607,302 | 2,307,551 | 2,616,998 | 2,510,617 |
| <i>Maintenance costs</i> | 243,294 | 243,053 | 227,994 | 238,113 |
| <i>Equipment</i> | 411,388 | 330,906 | 891,001 | 544,432 |
| <i>Total expenditure</i> | 13,524,876 | 12,329,492 | 13,019,306 | 12,957,891 |

*The last full academic year prior to the Visitation

Table 2.1.2. Annual revenues during the last three academic years (in Euros)

| Revenues source | 2021/22 | 2020/21 | 2019/20 | Mean |
|--|------------|------------|------------|------------|
| <i>Public authorities</i> | 8,623,716 | 8,008,491 | 8,380,515 | 8,874,506 |
| <i>Tuition fee (standard students)</i> | 321,954 | 327,193 | 298,990 | 316,046 |
| <i>Tuition fee (full fee students)</i> | 1,119,490 | 1,040,302 | 762,133 | 973,975 |
| <i>Clinical services</i> | 1,252,843 | 957,151 | 1,039,678 | 1,083,224 |
| <i>Diagnostic services</i> | 536,933 | 410,207 | 445,575 | 464,238 |
| <i>Other services</i> | 523,905 | 331,621 | 294,347 | 383,291 |
| <i>Research grants</i> | 388,176 | 491,912 | 367,351 | 415,813 |
| <i>Continuing Education</i> | 114,231 | 126,625 | 197,517 | 146,124 |
| <i>Donations</i> | 997,681 | 622,797 | 640,219 | 753,566 |
| <i>Other sources**</i> | 164,080 | 146,556 | 122,548 | 114,395 |
| <i>Total revenues</i> | 14,043,009 | 12,462,855 | 12,548,873 | 13,018,246 |

** Please specify (rents, publishing activity – library income, book sales, photocopying, diplomas, sponsorship, interest income, sale of apartments, refunds for damages, VAT correction)

Table 2.1.3. Annual balance between expenditures and revenues (in Euros)

| Academic year | Total expenditures | Total revenues | Balance*** |
|---------------|--------------------|----------------|------------|
| 2019/20 | 13,019,306 | 12,548,873 | -470,433 |
| 2020/21 | 12,329,492 | 12,462,855 | 133,363 |
| 2021/22 | 13,524,876 | 14,043,009 | 518,133 |

*** Total revenues minus total expenditures

Standard 2.2: Clinical and field services must function as instructional resources. Instructional integrity of these resources must take priority over financial self-sufficiency of clinical services operations. The VEE must have sufficient autonomy in order to use the resources to implement its strategic plan and to meet the ESEVT Standards.

A certain percentage of FVMUZ's own revenues, including the financing of clinical and field services, is planned every year and usually amounts to up to 25% of the Faculty's total budget. The greatest share of the FVMUZ's own revenues is generated from clinical and diagnostic work, i.e., VTH activity. Thus, when planning the budget, the FVMUZ incorporates revenues and expenditures from its own resources including those of the VTH. Most equipment investments are planned in the budget of own revenues, as well as partial building reconstruction.

The degree of the autonomy in the financial process depends on the financial plan of the FVMUZ as part of the Consolidated Financial Plan of UNIZG, which secures annual funds from the State Budget by the MSE. The needs of the FVMUZ for covering operational costs, costs of investment maintenance of facilities and equipment, as well as salaries of teaching staff are higher than the funds allocated from the Budget. This is included in the FVMUZ's fiscal plan that is drafted according to the prescribed guidelines (limits). However, the FVMUZ has not been able to influence the amount of approved funds for this, so a substantial portion of the costs of investment maintenance of facilities and equipment is covered from the FVMUZ's own income.

Standard 2.3: Resources allocation must be regularly reviewed to ensure that available resources meet the requirements.

Financial activities at the FVMUZ are performed by the Accounting office, which is divided into two sections, the Accounting Department and the Finance Department. Accounting evaluates, processes and publishes information about the Faculty, and forwards it to a wide range of stakeholders. The Dean and/or Vice-dean for finance and investment perform the final verification of documents after the Office staffs perform formal verification of documents.

The financing of the FVMUZ is presented cyclically to the FC for approval, and to external bodies in the form of an annual financial plan and final accounts (balance sheet), for the period of one budget year, in accordance with the national legislation.

The 3-year financial plan for investments in equipment and teaching resources is discussed and approved by the FC. Digitalisation of all activities, international staff education and partial renovation of facilities for patients, students and staff are constantly ongoing, depending on the financial possibilities, as is the replacement of equipment and vehicles.

The largest investment projects over the next three years will be the complete step by step building renovation due to earthquake damage (two major earthquakes in 2020) and energy renovation of facilities.

Comments on Area 2

The FVMUZ Strategy concerning finances and business stability put the focus on Government agencies and financial policy makers to raise awareness of the need to reconsider the system of distribution of funds allocated to faculties within the group of biomedical sciences, to which FVMUZ belongs. The costs of education for DVMs are the highest at the UNIZG, and this should be considered when allocating funds to the biomedical faculties.

Suggestions for improvement in Area 2

According to the suggestions in Area 1 during next two years the renovation of the FVMUZ campus will be finished and the FVMUZ management is dedicated to get favourable position in "Lump-sum" budget plan.

Area 3. Curriculum

Standard 3.1: The curriculum must be designed, resourced and managed to ensure that all graduates have achieved the graduate attributes expected to be fully compliant with the EU Directive 2005/36/EC (as amended by directive 2013/55/EU) and its Annex V.4.1. The curriculum must include the subjects (input) and must allow the acquisition of the Day One Competences (output) listed in Annex 2. This concerns Basic Sciences, Clinical Sciences in companion animals (including equine and exotic pets), Clinical Sciences in food-producing animals (including Animal Production and Herd Health Management), Food Safety and Quality, and Professional Knowledge.

Educational aims and the general strategy for the design, resources and management of the curriculum status

FVMUZ has developed and is implementing an Integrated Undergraduate and Graduate University Study (IUGUS) in Veterinary Medicine (VM) in line with the requirements of the Bologna Process and the requirements of the Croatian Qualifications Framework (CQF) and Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). In Croatia, the VM profession is a regulated profession, and therefore the IUGS programme is aligned with the provisions of the Act on Regulated Professions and Recognition of Foreign Professional Qualifications (OG 124/09, 45/11, 82/15, 70/19 and 47/20), [Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications](#), and [Directive 2013/55/EU of the European Parliament and of the Council amending Directive 2005/36/EC](#).

Defining learning outcomes (LOs) and delivering the study programme in line with the mission, vision and objectives of the FVMUZ is a guarantee of the recognition and mobility of Doctor of Veterinary Medicine (DVM), graduates of the FVMUZ, within the European Higher Education Area (EHEA) and the European Research Area (ERA). The anticipated LOs clearly reflect the competencies needed for inclusion in the labour market, continuing education, or other needs of the individual and society as a whole.

All students wishing to obtain the qualification of DVM must acquire the competencies included in the Diploma Supplement (DS), and the competencies adopted by [Day One Competences \(DOC\)](#) including the general academic and professional attitudes related to professional development, and the relevant generic and clinical skills.

The Curriculum is implemented through subjects covering all subject groups, as listed in European System of Evaluation of Veterinary Training (ESEVT) SOP Annex 2, to achieve the Objectives of the IUGS programme. The Curriculum is regularly reviewed, improved, adjusted and updated to ensure that it remains relevant, adequate and that the DOCs can be effectively achieved.

Graduates of the IUGS programme are awarded with the qualification of DVM in Veterinary Sciences. The degree and qualification in VM conform to Qualification Level 7.1.sv of the CQF Descriptor, which is in line with the European Qualification Framework (EQF).

For new graduates, [Croatian Veterinary Chamber \(CVC\)](#) issues the [license permitting them to practice veterinary medicine](#). International students receive a license in their home country in accordance with the legislation in force in that country.

Since 2016/2017, a study programme of veterinary medicine in English has been implemented. The IUGS programme in English is conducted in the same manner as studies in Croatian. The number of compulsory and elective subjects, and the three tracks are completely identical in both study programmes.

The curriculum design is based on the following principles:

- The modern design of the curriculum is the result of nearly a century of teaching tradition, application of modern scientific achievements, the Bologna Process and ESG.
- Competence-based learning outcomes acquired at the curriculum and subject level are defined and described in the subject syllabi and catalogue of learning outcomes.
- Teaching, learning and examination methods are constructively aligned with the learning outcomes.
- The IUGS programme is designed by consistently distributing and integrating study subjects so that students acquire the knowledge and skills necessary to develop clinical competencies.
- An interdisciplinary approach to teaching in which subjects are integrated horizontally and vertically, from both non-clinical and clinical disciplines.
- Student-centred learning: students are encouraged to participate actively in their own learning, fostering transferable skills such as problem-solving, exploratory learning, critical thinking, and self-directed learning.
- Study tracks¹ in the fifth academic year provide advanced competence training.
- As part of the study programme, students must complete a variety of practical training. For example, students are required to complete external practical training (EPT) in a different veterinary organisations and institutions. The entire practice programme is created such that the student is designated a mentor, and that programme implementation is monitored and up to date.
- The principles of One Health Concept have been introduced through the compulsory and elective subjects.
- By encouraging the development of digital technologies and artificial intelligence (DT&AI) through the acquisition of digital skills, the FVMUZ is modernising the profession and offering new services and products for the Croatian market and the global market.
- The current IUGS programme was adapted to the ECTS credit system.
- Each study year, the total student workload is 60 ECTS credits, with one semester consisting of 30 ECTS credits. One ECTS credit represents 25 to 30 hours of student workload during the subject².
- A skills lab was opened in 2022 and training has been gradually introduced into the curriculum.

Resources and management of the curriculum

In addition to the facilities on campus and the veterinary teaching hospital (VTH), the following partners are being integrated into curriculum delivery: [Croatian Veterinary Institute \(CVI\)](#) (18 instructor mentors), [Ministry of Agriculture \(MA\)](#), Board of Veterinary Medicine (BVM) (20 mentors), 53 veterinary stations and ambulatory services in the territory of Croatia (98 instructor mentors). The Črnovščak hunting and training ground operates as part of the FVMUZ and is used for the needs of teaching, research and professional work within the scope of the FVMUZ. Additional resources include the [National and University Library in Zagreb \(NSK\)](#) which has learning space and electronic resources, [University Computing Centre SRCE](#) (applications, repositories, collaboration tools, IT and intermediary systems).

The Vice-dean for IUGS and students together with Vice-dean for VSE and lifelong learning are in charge for the study programmes and should collaborate with the Quality Assurance Committee (QAC) as required. Faculty staff are responsible for delivering and documenting subjects. Each subject has a leader (Course Leader) who is responsible for aligning the subject content, teaching, and supervising the administration. Students and lecturers can find information related to the

¹Study tracks = Small Companion Animals (SCA); Farm Animals and Horses (FAH); Food Hygiene and Veterinary Public Health (VPH)

²One ECTS represents 25 to 30 student workload. They include active training, exams and all the necessary activities related to taking examinations. By completing the 12-semester curriculum, the student may acquire minimally 360 ECTS. Each subject is assigned a corresponding number of ECTS credits, allocated according to the main student activities and course workload.

curriculum on the FVMUZ website. Each year has a senior member of academic staff (Head of Year) who oversees the teaching and assessment for that year (see Appendix 3.4.).

Study tracks:

In the 10th semester of study, students select a study track: SCA, FAH or VPH and take the compulsory clinical subjects, subjects related to veterinary public health and other compulsory subjects within the selected study track. In the study tracks, intensive hands-on clinical training and problem-based learning in small groups is of the utmost importance. In these subjects, real and complex problems from everyday professional life are analysed. Furthermore, students are involved in seminars, practical work and discussions about scientific issues, and they make research-based decisions about further procedures.

During the winter semester of the 5th year of study, the Vice-dean for IUGS and students and the course leaders in each study track present students with the main characteristics of each study track and their subjects during the workshop. Students also receive a brochure (HR) (ENG) outlining each of the study tracks and their subjects. Detailed descriptions of the study tracks can be found in the Information Package (IP, catalogue of all subjects) (HR) (ENG). To date, interest has been nearly uniform for each study track. Description of the study tracks (SCA, FAH and VPH) and the number of students by study tracks are shown in Tables 3.1.A and B in Appendix 3.1.

Legal constraints imposed on curriculum by national/regional legislations and the degree of autonomy that the Establishment has to change the curriculum

Changes to study programmes are carried out in accordance with the regulations of the UNIZG and the FVMUZ. The IUGS Programme Committee (CIUGS) participates in the revision of the study programme once a year, usually in April. After the changes are presented to the CIUGS and the Quality Assurance Committee (QAC), they are accepted by the FC and forwarded for acceptance to UNIZG (through the Working Group for Study Programmes (WGSP), the University Quality Committee (UQC), and the Biomedical Council (BC). In short, study programmes must be approved by the FC and UNIZG, accredited by the Agency for Science and Higher Education (ASHE) and finally approved by the Ministry of Science and Education (MSE). Some members of the CIUGS and the QAC are representatives of students and external stakeholders, who thus participate directly in the work of the FVMUZ, evaluation, assessment and revision of curricula. After graduation, all students may evaluate the study programme as a whole and give their comments. Employers, i.e., veterinary organisations in which professional practice is performed, evaluate the study programme and the students, and are able to provide comments and recommendations for improvement. All surveys are reviewed and analysed, and comments are recorded so that they can be applied in the revision of the study programme. Meetings between the Dean and Vice-dean for IUGS with students are held as needed during the academic year to discuss the study programme. Meetings with external stakeholders are also organised to arrange extramural classes, clinical practice, or Ambulatory Clinic (AC).

Considering the recommendations received for the improvement of teaching, and the necessity to include new biomedical knowledge and didactic procedures in modern veterinary education, implementation of the DVM curriculum began with the start of the 2005/06 academic year. The six-year study programme covers a total of at least 360 ECTS credits. The current FVMUZ certificate issued by ASHE (Approval status) dates from 2015 and re-accreditation from 2022. When planning and proposing a new IUGS programme in English (2016/17), detailed planning was undertaken, with analysis of the justification of the performance and capacities of the FVMUZ, as well as compliance with the strategic goals of Croatia, UNIZG and FVMUZ.

Curricular overlaps, redundancies, omissions, and lack of consistency, transversality and/or integration are identified and corrected

The IUGS programmes at FVMUZ are regularly monitored to ensure they are up to date. The QA of the curriculum is regulated by the Statute of the FVMUZ (2017) (HR) (ENG) and the Regulations on IUGS programme (HR) (ENG), where the specific characteristics of the educational

objectives at various levels are clearly indicated. Each subject is assigned to a member of staff for oversight (Course Leader). The course leader is in the primary contact with the subject teachers. If a problem is identified, it is reported to the relevant CIUGS. The proposed curriculum change must be submitted to CIUGS if it constitutes an administrative, minor or major change to the programme. Administrative changes can be approved only by CIUGS, while both minor and major changes require FC approval (UNIZG or MSE).

Changes in the syllabus, which do not alter the expected LOs and competencies as specified in the accredited syllabus (up to 20% of the curriculum per year) are considered minor amendments. These changes to the curriculum can be initiated by course leaders or Heads of units and must be accepted by the FC. Minor amendments are made to the curriculum every year (2019/20; 2020/21; 2021/22). Possible imperfections in the curriculum are monitored at multiple levels. In accordance with the UNIZG regulations, all subject teachers, along with the course leader, are responsible for subject development. The course leader is responsible for setting the pedagogical subject programme and defining educational goals, LOs and student evaluation. They are also responsible for publishing and updating relevant subject information in the Information Package as the key document that is available on the current IUGS programme website for all who are interested.

At the end of every semester, anonymous feedback is provided about teachers and subjects through student surveys on the [ISVU online evaluation platform](#). As previously stated, the results of the survey, approval, supervision and periodic revision of study programmes are discussed by the CIUGS and the QAC.

In the last three years, FVMUZ has aligned the curriculum with the EU standards, and ensured national and international evaluation of the study programme with students as active members in daily activities, as seen from the [Yearbooks](#) and QA reports.

NB: If a VEE offers more than one study programme to become veterinarian, e.g., in different languages or in collaboration with other VEEs, all study programmes and respective curricula must be described separately in this Chapter 3. Similarly, if a VEE implements a tracking (elective) system in its study programme, it should provide a clear explanation of the tracking system in this Chapter.

Since 2016/2017, a IUGS programme of VM has been delivered in English. The programme in English is completely the same as Croatian programme and is delivered according to the same rules (approved by UNIZG and MSE) and same QA processes, except for those related to enrolment. The number of compulsory and elective subjects, and the three tracks are identical in both study programmes. The LOs and qualifications resulting from the study programme IUGC in English are published in the Diploma Supplement. The IUGS programmes in Croatian and English are not presented separately because they are completely identical.

All students enrol in 62 core subjects in their 1st to 6th year of study (including compulsory subjects related to an individual study track), while students select a total of 70 elective subjects (Type 1, see below).

With the exception of the core subjects which are compulsory for all students, the curriculum includes electives that students may choose from the list of the elective subjects (see Appendix 3.1.). Study tracks include compulsory subjects related to individual study tracks and electives related to individual study tracks.

Elective subjects are divided into:

Type 1 Electives: elective subjects that each student may select from the list of offered subjects. Electives (Type 1) are offered to all students from the 2nd to 12th semesters. The list of the 70 electives (name, number of hours and ECTS for each) is given in Appendix 3.1.

Upon selecting a study track, the student automatically selects the group of subjects in the 5th and 6th years of study that make up the selected study track.

Type 2 Electives: a group of subjects which are compulsory to elected study track (10th and 11th semester) is shown in Tables 3.1.4.a (SAC), 3.1.4.b (FAH) and 3.1.4.c (VPH) (Appendix 3.1.).

Type 3 Electives: a group elective subjects related to the study tracks (10th and 11th semesters) is shown in Tables 3.1.4.d (SCA), 3.1.4.e (FAH) and 3.1.4.f (VPH) (Appendix 3.1.).

In addition to the Curriculum hours shown in Table 3.1.1, students are required to enrol in a minimum 30 hours of Type 1 electives in the first, third, fourth, fifth and the sixth year and 60 hours in the second year. In the fifth and sixth year, students must enrol in 233 (SCA), 230 (FAH) or 230 (VPH) hours of Type 2 electives. In all study tracks, Type 3 electives must be completed with a total of 162 (SCA), 147 (FAH) or 144 (VPH) hours. More detailed information can be found in Appendix 3.1.

Table 3.1.1 Curriculum hours in each academic year taken by each student (2021/22)

| Academic year | Semester | Lectures | Seminars | Supervised self-learning | Laboratory and desk-based work | Non-clinical animal work | Clinical animal work | Other (specify) | Total h curriculum excl. electives* | Total h curriculum excl. electives* | Total h curriculum incl. electives* | |
|---|----------|-------------|------------|--------------------------|--------------------------------|--------------------------|----------------------|-----------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------|
| | | A | B | C | D | E | F | G | H | H | H | |
| Year 1 | S1 | 101 | 34 | 113 | 154 | 64 | | 52 | 518 | 1001 | 1031 | |
| | S2 | 95 | 32 | 96 | 59 | 160 | | 41 | 483 | | | |
| Year 2 | S3 | 116 | 28 | 179 | 109 | 113 | | 41 | 586 | 1119 | 1179 | |
| | S4 | 109 | 65 | 143 | 64 | 60 | | 92 | 533 | | | |
| Year 3 | S5 | 146 | 24 | 31 | 127 | 69 | 14 | | 411 | 812 | 842 | |
| | S6 | 160 | 6 | 38 | 12 | 95 | 90 | | 401 | | | |
| Year 4 | S7 | 139 | | 61 | 18 | 15 | 195 | 8 | 436 | 887 | 917 | |
| | S8 | 151 | 6 | 55 | 40 | | 183 | 16 | 451 | | | |
| Year 5 | S9 | 119 | 7 | 81 | 25 | 71 | 148 | | 451 | 777 | 807 | |
| | S10 | 95 | 30 | 66 | 25 | 20 | 90 | | 326 | | | |
| Year 6 | S11 | 46 | 20 | 61 | 35 | 24 | 91 | 9 | 286 | 646 | 676 | |
| | S12 | | | | | | 116 | 244 | 360 | | | |
| Total | | 1277 | 252 | 924 | 668 | 691 | 927 | 503 | 5242 | 5242 | 5452 | |
| <i>Sum of all academic years incl. study tracks</i> | | | | | | | | | | | | |
| Study tracks | | | | | | | | | Total h (E2)** | Total h curriculum incl. (E2)** | Total h (E3)*** | Total h curriculum incl. (E3) |
| | A | B | C | D | E | F | G | H | H | H | H | |
| 1-6 SCA | 1327 | 277 | 967 | 668 | 691 | 1032 | 503 | 223 | 5688 | 162 | 5850 | |
| 1-6 FAH | 1303 | 318 | 974 | 668 | 691 | 1015 | 503 | 230 | 5702 | 147 | 5849 | |
| 1-6 VPH | 1368 | 287 | 974 | 704 | 709 | 927 | 503 | 230 | 5702 | 144 | 5846 | |

*Type 1 Electives (E1)

**Type 2 Electives (E2)

***Type 3 Electives (E3)

For programme specification, please see the curriculum in Appendix 3.1.

Table 3.1.2. Curriculum hours taken by each student (2021/22)

| Subject | | Lectures | Seminars | Supervised self-learning | Laboratory and desk-based work | Non-clinical animal work | Clinical animal work | Other EPT, EMS | Total |
|--|---|----------|----------|--------------------------|--------------------------------|--------------------------|----------------------|----------------|-------|
| | | A | B | C | D | E | F | G | H |
| 1. Basic Subjects | Medical Physics | 16 | | | 38 | | | | 54 |
| | Chemistry (inorganic and organic sections) | 18 | | 11 | 36 | | | | 65 |
| | Animal biology, zoology and cell biology | 15 | 20 | 26 | 30 | | | 10 | 101 |
| | Feed plant biology and toxic plants | 10 | | 10 | 10 | | | | 30 |
| | Biomedical statistics | 14 | | 6 | 16 | | | | 36 |
| | 1- Total number of hours | 73 | 20 | 53 | 130 | | | 10 | 286 |
| 2. Specific veterinary subjects Basic Science | Anatomy, histology and embryology | 83 | | 94 | | 287 | | | 464 |
| | Physiology | 126 | 35 | 55 | | 169 | | | 385 |
| | Biochemistry | 31 | 12 | 12 | 29 | | | | 84 |
| | General and molecular genetics | 8 | 11 | 30 | 32 | | | | 81 |
| | Pharmacology, pharmacy and pharmacotherapy | 20 | 3 | 13 | 33 | | | | 69 |
| | Pathology (including pathological anatomy) | 90 | | 32 | | 105 | | | 227 |
| | Toxicology | 16 | 2 | 12 | 16 | | | 2 | 48 |
| | Parasitology | 28 | | 2 | 32 | | 10 | | 72 |
| | Microbiology | 27 | 27 | 12 | 60 | | | | 126 |
| | Immunology | 15 | | | 15 | | | | 30 |
| | Epidemiology | | | 6 | | 24 | | | 30 |
| | Information literacy and data management ¹ | | | | | | | | |
| | Professional ethics and communication | 18 | 6 | 10 | 12 | | | 12 | 58 |
| | Animal health economics and practice management | 10 | | 6 | 20 | | | | 36 |
| | Animal ethology ² | 29 | 22 | 120 | 24 | | | 20 | 215 |
| | Animal welfare | 8 | 8 | 26 | 24 | | | | 66 |
| Animal nutrition | 40 | | 35 | 44 | | | 36 | 155 | |
| 2- Total number of hours | 549 | 126 | 465 | 341 | 585 | 10 | 70 | 2146 | |
| 3. Clinical Sciences | Obstetrics, reproduction and reproductive disorders | 90 | | 35 | | 10 | 140 | | 275 |
| | Diagnostic pathology ³ | | | | | | 30 | | 30 |
| | Medicine ⁴ | 90 | | 30 | | | 120 | | 240 |
| | Surgery ⁵ | 82 | 7 | 37 | | | 111 | | 237 |
| | Anesthesiology ⁶ | 8 | | | | | 32 | | 40 |
| | Clinical practical training in common animal species ⁷ | 74 | 14 | 40 | 2 | | 120 150 | 180 9 40 | 629 |

| | | | | | | | | | |
|--|--|-------------|------------|------------|------------|------------|------------|------------|-------------|
| | <i>Preventive Medicine</i> | 1 | | 15 | | | 14 | | 30 |
| | <i>Diagnostic imaging</i> | 25 | | 16 | 20 | 15 | 15 | | 91 |
| | <i>Therapy in common animal species</i> | 15 | | 7 | | | 15 | | 37 |
| | <i>Propaedeutics of common animal species</i> | 45 | | 6 | | | 60 | | 111 |
| | 3- Total number of hours | 430 | 21 | 186 | 22 | 25 | 807 | 229 | 1720 |
| 4. Animal Production | <i>Animal Production, including breeding, husbandry and economics</i> | 69 | 23 | 104 | 90 | | 18 | 40 | 344 |
| | <i>Herd health management⁸</i> | | | | | | | | |
| | 4.- Total number of hours | 69 | 23 | 104 | 90 | 0 | 18 | 40 | 344 |
| 5. Food Safety and Quality, Veterinary Public Health and One Health Concept | <i>Veterinary legislation including official controls and regulatory veterinary services, forensic veterinary medicine and certification</i> | 25 | 30 | 36 | 7 | 24 | 4 | | 126 |
| | <i>Control of food, feed and animal by-products⁹</i> | 45 | 12 | | 18 | 2 | | 24 | 101 |
| | <i>Zoonoses¹⁰</i> | 26 | | | 10 | | 28 | | 64 |
| | <i>Food hygiene and food microbiology</i> <i>Food technology</i> | 60 | | 80 | 50 | 55 | | | 245 |
| | 5-Total number of hours | 156 | 42 | 116 | 85 | 81 | 32 | 24 | 536 |
| | TOTAL | 1277 | 232 | 924 | 668 | 691 | 867 | 373 | 5032 |
| Other | <i>Physical Education</i> <i>Introduction to English</i> <i>Veterinary Medical Terminology (IEVMT)</i> <i>Master thesis</i> | | 20 | | | | 60 | 130 | 210 |
| | TOTAL | 1277 | 252 | 924 | 668 | 691 | 927 | 503 | 5242 |

¹Included in different subjects;

²Partially included in the subject Environment, Animal Behaviour and Welfare;

³Included in the subject Special Veterinary Pathology;

⁴Included in Internal Diseases;

⁵Included in Surgery, Orthopaedics and Ophthalmology I II III;

⁶Included in the subject Surgery and Obstetrics and Reproduction II;

⁷Partially included in clinical subjects (see in curriculum Appendix 3.1.);

⁸Included in Herd Health, Veterinary Epidemiology and Veterinary Economics subjects;

⁹Included in the Food Hygiene and Technology subject and several other subjects

¹⁰ Partially included in General Microbiology, Special Microbiology, Infectious Diseases of Domestic Animals, Parasitology and Parasitic Diseases, and food safety subjects.

For programme specification, please see the curriculum in Appendix 3.1.

Table 3.1.2.a Curriculum hours taken by each student in study track: SCA, FAH and VPH (2021/22)

| | | <i>Sum of all academic years incl. study tracks</i> | | | | | | | |
|---------------------|---|---|------------|------------|------------|------------|-------------|------------|-------------|
| <i>Subject</i> | | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> | <i>E</i> | <i>F</i> | <i>G</i> | <i>H</i> |
| Study tracks | 1-6 SCA | | | | | | | | |
| | <i>Diseases and Treatment of Dogs and Cats I</i> | | | 23 | | | 45 | | 68 |
| | <i>Diseases and Treatment of Dogs and Cats II</i> | | 15 | 10 | | | 30 | | 55 |
| | <i>Diseases of Pet Birds, Exotic and Laboratory Animals</i> | 50 | 10 | 10 | | | 30 | | 100 |
| | <i>Total</i> | 50 | 25 | 43 | | | 105 | | 223 |
| | Total | 1327 | 277 | 967 | 668 | 691 | 1032 | 503 | 5465 |
| | 1-6 FAH | | | | | | | | |
| | <i>Diseases and Treatment of Horses I</i> | 13 | 36 | 40 | | | 41 | | 130 |
| | <i>Diseases and Treatment of Farm Animals II</i> | 13 | 30 | 10 | | | 47 | | 100 |
| | <i>Total</i> | 26 | 66 | 50 | | | 88 | | 230 |
| | Total | 1303 | 318 | 974 | 668 | 691 | 1015 | 503 | 5472 |
| | 1-6 VPH | | | | | | | | |
| | <i>Food Hygiene and Quality Control</i> | 11 | 4 | 15 | 24 | 6 | | | 60 |
| | <i>Veterinary Legislation and Food Safety Control</i> | 28 | 17 | 15 | | | | | 60 |
| | <i>Veterinary Public Health</i> | 52 | 14 | 20 | 12 | 12 | | | 110 |
| | <i>Total</i> | 91 | 35 | 50 | 36 | 18 | | | 230 |
| | Total | 1368 | 287 | 974 | 704 | 709 | 927 | 503 | 5472 |

For programme specification, please see the curriculum in Appendix 3.1.

Table 3.1.3. Practical rotations under academic staff supervision (excluding EPT)

| <i>Types</i> | <i>List of practical rotations Species/Disciplines</i> | <i>Duration (weeks)</i> | | <i>Year of programme</i> |
|---|--|---|--------------------|--------------------------|
| Intra-mural clinics (VTH) (Veterinary Teaching Hospital) | Companion Animals, Equine, Ruminant, Pigs, Poultry & Rabbits, Exotic pets, Birds, Pathology, Parasitology | VTH Compulsory subjects | | 3/4/5 |
| | | Surgery, Orthopaedics and Ophthalmology I, II and III. | (143 h) (41 weeks) | |
| | | Clinical Propaedeutics and Internal Diseases | (126 h) (30 weeks) | |
| | | Obstetrics and Reproduction, I and II | (140 h) (24 weeks) | |
| | | General Veterinary Pathology and Special Veterinary Pathology | (30 h) (14 weeks) | |
| | | General and Clinical Radiology, Methods of Physical Therapy and Diagnostics | (45 h) (14 weeks) | |
| | | Infectious Diseases of Domestic Animals | (81 h) (19 weeks) | |
| | | Parasitology and Parasitic Diseases | (10 h) (2 weeks) | |
| | | Poultry Diseases | (13 h) (7 weeks) | |

| | | | | |
|---|---|---|--|-----|
| | | Subjects in the study tracks SCA, FAH, VPH | | |
| | | Diseases and Treatment of Dogs and Cats I | (45 h) (4 weeks) | |
| | | Diseases and Treatment of Dogs and Cats II | (30 h) (8 weeks) | |
| | | Diseases and Treatment of Horses I | (41 h) (4 weeks) | |
| | | Diseases of Pet Birds, Exotic and Laboratory Animals | (12 h) (7 weeks) | |
| | | Diseases and Treatment of Farm Animals II | (47 h) (4 weeks) | |
| <i>Ambulatory Clinical (AC) / Herd Health Management (HHM)</i> | <i>Equine, Ruminants, Pigs, Reproduction all species, Diagnostic Imaging all species, Anaesthesiology all species</i> | Compulsory subjects | | 5/6 |
| | | AC | (120*h) (26 weeks) | |
| | | HHM | (15*h) (3 weeks) | |
| <i>FSQ/VPH Food Safety Quality and Veterinary Public Health</i> | <i>Food Hygiene and Technology</i> | FSQ/VPH Compulsory subjects | | 5/6 |
| | | Food Hygiene and Technology | 57 hours (7 weeks) 48*hours (5 weeks) | |
| | | Pharmacology | 2 hours | |
| | | Toxicology | 2 hours | |
| | | Parasitology and Parasitic Diseases | 4 hours | |
| | | Biology and Pathology of Aquatic Organisms | 1 hour | |
| | | Biology and Pathology of Beneficial Insects | 1 hour | |
| | | Infectious Diseases of Domestic Animals | 24 hours | |
| | | Poultry Diseases | 6 hours | |
| | | Veterinary Epidemiology | 2 hours | |
| | | Subjects in the study track VPH | | |
| | | Food Hygiene and Quality Control | 30 hours (24h+6h*) | |
| | | Veterinary Public Health | 24 hours (12h+12h*) | |
| <i>FSQ/ VPH</i> | <i>Food Hygiene and Technology</i> | FSQ/VPH Type 1 Electives | | 5/6 |
| <i>Type 1 electives VPH</i> | | Wildlife Diseases | 20 hours | |
| | | Toxicology of Poisonous Plants | 9 hours | |
| | | Diseases of Bees in Contemporary Production | 1 hour | |
| | | Emerging Infectious Diseases | 2 hours | |
| | | Zoonoses | 2 hours | |
| Parasitic Zoonoses | 20 hours | | | |

| | | | | |
|-----------------------------|-----------------------------|---|----------|---|
| <i>Type 3 electives VPH</i> | Type 3 Electives VPH | | | |
| | | Autochthonous Meat Products | 6 hours | |
| | | Autochthonous Dairy Products | 5 hours | |
| | | Hygienic Quality of Game Meat | 11 hours | |
| | | Hygiene and Quality of Poultry Meat | 14 hours | |
| | | Carcass Quality at the Slaughter Line | 8 hours | |
| | | Hygiene and Quality of Fish Meat | 6 hours | |
| | | Toxicology of Poisonous Plants | 9 hours | |
| | | Diseases of Bees in Contemporary Production | 2 hours | |
| | | Responsibilities in Veterinary Medicine | 2 hours | |
| | | Technological Systems of Poultry Production | 5 hours | |
| | | Diagnostic Veterinary Cytology | 20 hours | |
| <i>Other specify</i> | <i>Night shift work</i> | Professional-Clinical Work (PCW) | 32 hours | 5 |

*extramural clinical rotations

Clinical rotations are planned within the regular academic year running from 1 October to 15 June. Timetables for individual semesters are designed to enable hands-on training with a variety of animal patients as part of the compulsory subjects at all clinics. These are strictly hands-on procedures by students both in the intra- and extramural clinical rotations and in the ambulatory clinics under the supervision of an academic teacher.

Curriculum hours of extra mural studies (EMS) for each student

In the first four years of study, all students are required to carry out practical field work during mandatory subjects, outside of the Faculty. This field work is a part of basic, zootechnical, pre-clinical and clinical subjects. It is in accordance with programme progression requirements and complement core learning. Field work is defined as an off-campus supervised learning experience in which academic and non-academic persons are involved (see Appendix 3.5.). In the pre-clinical years (year 1/2), students undertake 96 hours of pre-clinical work placements/extra mural studies (EMS). In the clinical years (years 4/5/6) they undertake 33 hours extra mural studies.

Table 3.1.4. Curriculum hours taken as electives for each student

| <i>Electives (Type 1)</i> | <i>Lectures</i> | <i>Seminars</i> | <i>Supervised self-learning</i> | <i>Laboratory and desk-based work</i> | <i>Non-clinical animal work</i> | <i>Clinical animal work</i> | <i>Other (specify)</i> | <i>Total</i> | <i>H for each student</i> |
|---|-----------------|-----------------|---------------------------------|---------------------------------------|---------------------------------|-----------------------------|------------------------|--------------|---------------------------|
| | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> | <i>E</i> | <i>F</i> | <i>G</i> | <i>H</i> | |
| <i>Basic Sciences</i> | 124 | 149 | 84 | 14 | - | 54 | 24 | 449 | 30-60 |
| <i>Specific veterinary subjects Basic Science</i> | 179 | 103 | 92 | 115 | 15 | 146 | 13 | 663 | 30-60 |
| <i>Clinical Sciences</i> | 171 | 93 | 47 | 115 | 25 | 36 | | 487 | 30-60 |
| <i>Animal Production</i> | 60 | 85 | 63 | 4 | - | 74 | 17 | 303 | 30-60 |
| <i>Food Safety and Quality, Veterinary Public Health and One Health Concept</i> | 99 | 90 | 89 | 90 | 5 | - | 6 | 379 | 30-60 |

The total number of hours of electives to be taken by each student among the different subject groups is determined in the Study programme and in the IP. The minimum number of ECTS credits is defined in the curriculum for each study year or each study track (see Appendix 3.1.).

As not all semesters have an equal subject load of compulsory subjects, the student is required to enrol in Type 1 and Type 2 electives, or at least as many electives in a given semester to reach a total of 30 ECTS. There is an exact number of electives offered in each year of study. During the entire study programme, students are required to enrol in a sufficient number of Type 1 electives to attain at least 21 ECTS. Students enrol subjects with total of 14 ECTS credits per study track (Type 2 electives). Students take compulsory electives as part of their study track to broaden their professional horizons.

Optional subjects proposed to students (not compulsory)

The FVMUZ does not have optional subjects but gives students the opportunity to choose certain content that is not part of the curriculum of the current IUGS programme. Pursuant to the provisions of [Article 29 of the UNIZG Ordinance](#), the student is granted the right to horizontal mobility within UNIZG by enrolling in elective subjects within other university study programmes of the UNIZG that are not offered at the FVMUZ.

Core clinical exercises/practicals/seminars prior to the start of the clinical rotations

- **From the 1st to 4th semester**, students are in contact with animals, either those available at the FVMUZ facilities or during farm visits in the form extra mural studies (EMS) (related to the following subjects: Introduction to Veterinary Medicine, Zoology, Environment, Animal Behaviour and Welfare, Animal Breeds Characteristics, Basic Animal Nutrition, Domestic Animal Physiology, Animal Breeding and Production). In doing so, they are trained for adequate knowledge of the structure, ethological and physiological needs of animals, and learn the skills and competences necessary for their breeding, nutrition, welfare, reproduction and hygiene in general. From the very first year of studies, FVMUZ encourages and prepares students for self-study and lifelong learning. Bones (whole skeletons/fragmentary), fresh organs, whole carcasses and other materials (microscopic slides, museum collections, software, models, etc.) are routinely used in pre-clinical training. The carcasses used in practical teaching, e.g., of anatomy, are donated after euthanasia (selection is based on biosecurity assessment); fresh organs are procured from slaughterhouses, and the quantity of both is determined on the basis of the number of students at the subject level.
- **In the 5th and 6th semesters**, as part of the General and Special Veterinary Pathology subject, students participate actively in laboratory exercises and perform dissections of whole carcasses of different animal species. In the 5th semester, students acquire knowledge, skills and competencies necessary for responsible and reasonable use of veterinary drugs in the treatment of animals, ensuring the safety of food chains and environmental protection.
- **In the 6th semester**, students are trained for efficient communication with owners, the public, colleagues and authorities. They are trained for professional conversation, conversation in individual cases, and other communication using advanced technology. For acquiring clinical skills before working on live patients and in the form of a special classroom, integration of the CSL is underway. In the CSL, students can practice veterinary skills, techniques and can self-assess their knowledge. Clinical Propaedeutics is performed with theoretical and practical training on the clinic's own animals in small groups. Students begin to develop their clinical skills through problem-based teaching and mandatory clinical work (with appropriate supervision). In studying Clinical Propaedeutics, students learn to perform general examinations animal fixation methods of all organ systems, blood sampling, drug injection techniques, etc.
- **In the 7th and 8th semesters**, students are included in clinical subjects through lectures and laboratory exercises (reproduction, neurology, orthopaedics, ophthalmology, anaesthesia, etc., in smaller groups), where they can acquire theoretical and practical knowledge and clinical

experience through independent learning and mandatory clinical work with supervision. Students develop their clinical thinking and knowledge in aetiology and pathogenesis through diagnostics and examinations, treatments and accompanying procedures. They are also trained to use basic imaging equipment and perform an examination appropriate to the case, in accordance with good health and safety practices, and to assist all types of animals (including horses and exotic animals) in case of emergence. Clinical rotations are undertaken in small groups of students per teacher (from 4 to 6), also for night shifts and AC subjects.

- **In the 9th, 10th and 11th semesters**, students are trained to apply knowledge, skills and competencies in: preventive medicine, epidemiology, analytical skills, maintaining prescribed necessary documentation and making appropriate treatment plans and treatment management in the interest of patients (related to subjects Herd Health and Veterinary Epidemiology). Students perform AC work, including examination, diagnostics, therapy and general patient care, under teacher supervision. Students are able to improve their practical and clinical skills and acquire their first clinical experience in the field. They also acquire knowledge on applying principles of biosecurity, zoonotic disease control, environmental protection, sorting and disposal of medical waste. The One Health Concept is introduced in curriculum (related to subjects Infectious Diseases of Domestic Animals, Emerging Infectious Diseases, Zoonoses and Parasitic Zoonoses). During practical clinical work, students are required to describe all cases in the Ambulatory Clinic Logbook (Field work log) [\(HR\)](#) [\(ENG\)](#) and the Night Shift Logbook [\(HR\)](#) [\(ENG\)](#).
- The DOCs list is available to students, teachers and external stakeholders in the EPT Work Logbook [\(HR\)](#) [\(ENG\)](#) and other documents related to clinical subjects. It is also available on the [FVMUZ](#) website and other professional publications and [journals](#).
- The Faculty has a software programme ([VEF.Protocol](#)) for registering patients in clinics and it is intended for issuing prescriptions, recording findings in patient records, scheduling examinations and charging for services. The programme is available to all employees and students.
- Training for the professional ethics and legal responsibilities of veterinarians in relation to patients, owners, society and the environment is performed from the 1st to 11th semester and is contained within the following subjects (core and elective subjects): Veterinary Ethics, Environment, Animal Behaviour and Welfare, Introduction to Veterinary Medicine, History of Veterinary Medicine and Forensic Veterinary Medicine, Responsibilities in Veterinary Medicine and State Veterinary Medicine.
- Adequate knowledge of hygiene and technology for the production, manufacture and placing on the market of food for animals or food of animal origin intended for human consumption forms the basis of training through subjects in the 10th and 11th semester, e.g. Food Hygiene and Technology and Veterinary Public Health. In addition to these subjects, this is also delivered in the elective subjects (Type 2) in the study tracks VPH (3.1.4.d) and Type 3 elective subjects related to study track VPH (3.1.4.g) (see Appendix 3.1.).

Core clinical rotations and emergency services and the direct involvement of undergraduate students in it

FVMUZ organises practical clinical training in faculty clinics and compulsory training in external veterinary institutions. With appropriate supervision, students develop their clinical skills through problem-based teaching and compulsory clinical work. Clinical rotations are conducted in small groups of students per teacher, which also applies to night shifts and classes within the AC. All students are required to work the exact number of hours prescribed by the current IUGS programme for practical clinical training in and outside of the FVMUZ (Table 3.1.3.):

- rotations at FVMUZ clinics at the VTH;
- rotations within AC (outside FVMUZ);
- field teaching of HHM (outside FVMUZ).

VTH is an organisational unit (HR) (ENG), established to improve and coordinate the professional and clinical work and includes several units (see Figure 1: Organisational chart of FVMUZ in Area 1). Faculty clinics are open 24/7 year-round and serve as emergency and full veterinary care for different animal species. Clinical professional work and services are integrated under the VTH. All clinics are located at the FVMUZ and participate in the daily teaching and provision of care to patients of different animal species, including pets, exotic animals, horses and farm animals (Table 3.1.3). Accordingly, clinical rotations ensure that all students acquire practical experience with regular types of domestic and exotic animals. In order to achieve the compulsory rotations between clinical subjects and night duty, the syllabus is created in coordination with all clinical subjects. Head of units and course leaders are responsible for planning and carrying out compulsory clinical rotations. The Head of the Clinical division and head of the VTH coordinate plans, which are then forwarded to the responsible vice dean and the relevant committee. Classes are held in the premises of the clinics and are coordinated by the VTH. System administration is performed by the Office for Students for all subjects at FVMUZ, and there is no separate administration system for VTH.

During **intramural clinical rotations**, students acquire and perfect their knowledge, skills and competencies in direct contact with patients under the supervision of academic personnel. Specific cases are discussed and clinical thinking is required. Students are a part of the clinical team in every step, from the medical history, through clinical examinations and the results of various tests, to treatment, including surgical procedures and post-operative treatment. Furthermore, students take part in monitoring and treating patients in intensive care and during the parturition. Castration and sterilisation of cats, emergency patient admission, active participation in clinical rounds during class and night shifts are part of clinical rotations. FVMUZ provides access to a broad range of species and to a broad range of diagnostic and therapeutic facilities, including diagnostic imaging, anaesthesia, ophthalmology, dentistry, clinical pathology, intensive/critical care, surgeries and treatment facilities, ambulatory services and necropsy facilities in clinical rotations. Intramural clinical rotations are performed as part of the VTH and they are entirely performed in FVMUZ clinics, except for the 12 hours within the subject Obstetrics and Reproduction, 120 (AC), 14 (HH) and 48 (FSQ/VPH) hours which is performed as **extramural clinical rotations** of the FVMUZ (on contract basis). As mentioned before, the timetables for individual semesters are designed to enable hands-on training with a variety of animal patients as part of the compulsory subjects at all clinics. This ensures that students have access to patients in the VTH throughout the semester and during night shifts.

Ambulatory clinic (AC and HH)

AC and HH are also included in the extramural clinical rotations during the 10th and 11th semesters. AC is scheduled as a routine activity during the 10th and 11th semesters. Sixty external practitioners and the VTH staff are engaged in AC activities. Six to eight students participate in each visit. At the start of every rotation, students are familiarised with biosecurity measures, hygiene, their duties, and rights (see Appendix 3.2.). Students are required to wear the appropriate work clothes and keep the AC Logbook (Field work log).

HH - during that time, students visit animal farms and undergo special training in HH services, which is part of the Herd Health subject (herd visits, herd testing, necropsies, diagnostic/laboratory tests, and documentation). In clinical rotations, students are trained in HHM and practical skills, e.g., transrectal palpation, pregnancy diagnostics by ultrasound, blood and milk sampling, and herd data analysis.

Night shift work

All students in the 4th and 6th years must take part in the overnight emergency service (intramural clinical rotations) provided by the VTH (HR) (ENG). Students contact the teacher on duty at the Clinic for Internal Diseases at 4:00 p.m., when the shift starts and it lasts until 8:00 a.m. the following morning. In case of an excused absence, students must contact the Student Office to

reschedule their night duty. Students are required to wear the appropriate work clothes and bring their FVMUZ X-card (student identification card).

Teaching in slaughterhouses

Within the frame of VPH practical extramural clinical rotations (5 weeks 48 hours) performed from the 9th to 11th semesters related to the subjects Food Hygiene and Technology, Veterinary Public Health and Food Hygiene and Quality Control, students visit slaughterhouses (pigs, cattle and broilers), meat processing facilities, dairies (cheese production), the Zagreb market (fish market, traditional food sale), and laying hen farms with egg packaging. In slaughterhouses, students attend ante-mortem examinations of ruminants, pigs and broilers and post-mortem meat inspection in groups of up to six students. Under the supervision of official veterinarians and teachers, students perform independent examinations. To enable students to participate in VPH practical extramural clinical rotations the FVMUZ has signed the Agreement of cooperation with nine slaughterhouses, food processing and cheese making facilities as follow: cattle and pig slaughterhouse and meat cutting and processing plant *PIK Vrbovec plus d.o.o.*, poultry slaughterhouse *Emporium*, pig and ruminants slaughterhouse *Lorković*, pig and cattle slaughterhouse and meat processing plant *MM Medven*, pig and cattle slaughterhouse and meat cutting and processing plant *VAJDA*, pig and cattle meat cutting and processing facility *PPK Karlovac*, dairy and cheese production facility *Tradicijski sirevi*, laying hen farms and egg packaging facilities *LUNETETA* and *Kones Bi*) (see Appendix 4.4.).

Practical training of students in food hygiene at the FVMUZ facilities (laboratories) intramural clinical rotations (57 hours 7 weeks) is based on animal products obtained from the local market (raw meat and milk, dairy products, meat products, eggs, fish, shellfish). Classes are held in groups of ten students per teacher. During laboratory exercises, students write protocols (sample identification, analytical method procedure, results obtained and interpretation). Protocols are approved by teachers and documented in student personal files.

Selection procedures of the Electives by the students and the degree of freedom in their choice

Students are guided to select a primary and alternative study track in the 10th semester. If more students apply to a study track than there are available places, then more successful students have the advantage. Success is determined on the basis of achieved ECTS points and grade point average until enrolment in the 10th semester. Until now, the numbers of students per study track have been equal and no additional criteria have been applied (see Table 3.1.B for the number of students per study track in Appendix 3.1.)

Type 1 electives (Table 3.1.4.) are open to all students, regardless of the selected study track. Every year, the FC confirms the number of available places per elective. The Type 1 enrolment principle is based on first come, first choice. Students may enrol in any of the electives from the offered list in a particular semester, but also later in their studies, when they recognize the need for additional knowledge based on their personal preferences. The list of electives is available on the FVMUZ website and it is also published in the Student guide at the beginning of each academic year. When a student enrolls certain elective, it is registered in the Higher Education Institutions Information System (ISVU). The students' obligations towards the elective subject are the same as towards compulsory subjects. Based on the number of enrolled students, the implementation plan for each elective subject is made for each academic year.

Procedures to ascertain achievement of learning outcomes:

1) Pre-clinical:

- Attendance checks performed by the teacher during laboratory diagnostic subjects and propaedeutics practical work.
- Successful completion of the requirements of continuous assessment subjects.
- Opportunity to make up missing hours.

2) Clinical:

- Daily attendance checks (performed by the teacher).
- Constant student-teacher interaction (questions, discussions, observation and short practical assessments).
- Case presentations and discussions by students.
- Shifts outside regular working hours and during the night must be registered (with the required signature of the teacher).
- Opportunity to make up missing hours.

3) AC and HH:

- Constant student-teacher interaction (questions, discussions, observation and short practical assessments).
- Case presentations and discussions by students.
- Signed AC Logbook (Field work log) (HR) (ENG).
- Opportunity to make up missing hours.
- Analysis of HH with presentation by students.

4) EPT:

- Signed EPT Work Logbook (HR) (ENG).
- Opportunity to make up missing hours.

5) Night shift Work:

- Signed Night shift Work Logbook (HR) (ENG).
- Opportunity to make up missing hours.

While conducting practical work, students are required to maintain a Logbook on a standardised form (one for AC and one for EPT). The EPT Work Logbook contains brief instructions on the implementation of practical work and a questionnaire for the employer. The student is required to describe the work tasks performed on a daily basis, meaning that the EPT Work Logbook should list activities for each day of 30 days spent in the veterinary organisation, 5 days practical work on CVI and 3 days at the MA.

The list of DOCs that students should acquire are part of the EPT Work Logbook and the FVMUZ website. After completing practical work, the EPT Work Logbook is certified by the mentor at the veterinary institution. Upon completion of the practical work, the EPT Work Logbook is submitted for inspection to the head of EPT and the Vice-dean for IUGS and students.

In addition to the ISVU system for monitoring student attendance and activities, the VEF.Protocol software package is used for recording case-loads during the student practical training at the FVMUZ (see Area 5.4).

Standard 3.2: Each study programme provided by the VEE must be competency-based and designed so that it meets the objectives set for it, including the intended learning outcomes. The qualification resulting from a programme must be clearly specified and communicated and must refer to the correct level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area. The VEE must provide proof of a QA system that promotes and monitors the presence of an academic environment highly conducive to learning including self-learning. Details of the type, provision and updating of appropriate learning opportunities for the students must be clearly described, as well as the involvement of students. The Establishment must also describe how it encourages and prepares students for self-learning and lifelong learning

As outlined in Standards 3.1 the main focus of the FVMUZ programme is to fulfil the DOCs required by the ESEVT. The programme specifies the qualification and refer to the National Qualification Framework (see Appendix 3.8.). In order to ensure the educational aims are met,

FVMUZ has defined learning outcomes for every teaching module based on the qualification profile and the DOCs. The LOs were developed by FVMUZ experts and practitioners, and they are documented in the skills list and assessed by formative and summative examinations. In order to achieve educational aims, FVMUZ has defined continuous review and improvement of learning outcomes based on constant feedback from internal and external stakeholders, as well as assessment results. The compliance of the entire IUGS programmes with the national and international regulations is visible in the observance of the principles, values, goals and verification of the learning outcomes.

The IUGS programmes are based on the DOCs and are aimed to be student-centred. This results in teaching with a broad content of interdisciplinary areas. Problem-based learning or small group teaching in seminars and laboratory exercises supports active, networked learning. Early clinical experience combined with research into clinical case studies and presentations promotes scientific discourse. Continuous professional and teaching training of teachers, as well as a good mentoring relationship between teachers and students ensure mutual interaction and feedback.

Continuous monitoring of student activities through assessment elements at the FVMUZ encourages and prepares students for self-learning (see Appendix 8.1.). Students get involved in daily routine work on individual cases with planned time for self-learning to resolve specific problems on patients. That ensures that a student is prepared for self-learning.

- Student self-learning and self-assessment tools (tests, assignments, questions in the Learning Management System (LMS platform) have been implemented in the subjects of the IUGS programme.
- The university 3D Atlas manual of equine limbs uses 3D model technology to bring the concepts of equine limb osteology closer to the student in a simple and concrete way. This atlas is primarily intended for VM students so that they can more easily adopt the methodological units of the Anatomy with Organogenesis of Domestic Animals, which is taught in the first and second year of the IUGS programme. A similar example is anatomical model of a dog skull, which is used as an important teaching tool for mastering the subject Anatomy of Domestic Animals.
- With technical support, the specialty of FVMUZ is the [museum collection of the Unit of Veterinary Pathology](#), the [Unit of Forensic and Judicial Veterinary Medicine](#), the [Unit of Animal Breeding and Livestock Production](#), [Working Collection of Protected Animals](#), [Unit for Biology and Pathology of Fishes and Bees](#), the [Unit of Veterinary Biology](#) and Unit of Game and Wildlife and [virtual collection](#).
- The CSL was established as a part of clinics at FVUMZU. These activities continue the process of improving learning resources. Theoretical and practical training, along with the use of animal models, is enabled by mentors, student tutors, and additional instructions for self-learning.
- Up to 10 ECTS credits can be earned through extracurricular activities. For example, practical or artistic activity that is not regulated by the syllabus or IUGS programmes, student competitions, active participation of students in research, a professional workshop, seminar, or any other activity for which ECTS credits were not previously awarded. Basic principles, criteria and the process of awarding ECTS credits for student activities acquired outside of the curriculum are regulated by the [Regulation of the UNIZG](#).
- Along with regular integrated studies, foreign students can study at FVMUZ for a specific time (shorter or longer) through the ERASMUS KA103 (EU partner countries) and ERASMUS KA107 (non-EU partner countries) programmes.
- Administrator for English language studies in the Student Office, administrator in the Office for International Cooperation and the Vice-dean for science, postgraduate studies and international cooperation, and Vice-dean for VSE and lifelong learning provide support to foreign students.
- Lifelong learning is then promoted and encouraged through the rest of the programme via the online portfolio and the personal tutoring system. At minimum, students must meet with their personal tutor at least twice a semester.

Standard 3.3: Programme learning outcomes must: ensure the effective alignment of all content, teaching, learning and assessment activities of the degree programme to form a cohesive framework; include a description of Day One Competences; form the basis for explicit statements of the objectives and learning outcomes of individual units of study; be communicated to staff and students; be regularly reviewed, managed and updated to ensure they remain relevant, adequate and are effectively achieved.

Educational aims and strategy in order to propose a cohesive framework and to achieve the learning outcomes

Dedication to acquiring high standards in DVM education is manifested in systematic monitoring of national and global trends and continual adjustments of the teaching process to comply with legal and other regulations in teaching activities. Educational goals and strategies are set according to the EU Directives 2005/36 and 2013/55 and the national requirements. All students wishing to acquire the qualification of DVM need to acquire competencies included in the FVMUZ document, Diploma Supplement, and competencies acquired from the EAEVE named DOCs. In 2014, the MSE issued positive opinion on the compliance of the IUSG programme with EU Directive 2005/36EC. The FVMUZ created and implemented the IUGS programmes according to the requirements of the Bologna Process as well as the requirements of the CQF and the European Qualifications Framework (EQF). In that way, the part of the programme for acquiring skills and knowledge is fully aligned with the EU legislation. Based on the qualification profile, mutual learning outcomes are defined for every subject in the pre-clinical and clinical categories. Methods of teaching and learning, and forming exam questions, are adjusted with the learning outcomes. Comprehensive subject evaluation with annual revision of the IUGS programmes ensures that the curriculum goals are met, enabling the goals of training and qualification profiles to be continually adjusted to changes in social demand, thereby increasing the employability of graduates. Evaluation is performed at several levels:

- Regular evaluation of studies through a survey questionnaire - graduates have the opportunity to express their satisfaction with the study programme, the performance of the teaching processes and the evaluation of their knowledge, the attitude towards students and support during their studies, and are asked to give a general assessment of the outcomes of curriculum.
- Individual student feedback to Year Leader, Vice-dean for IUGS and students and Dean; Class representative feedback to Year Coordinators and [Dean's Student Adviser](#), Student representative reporting into the QAC.
- Feedback from placement providers for EMS.
- On certain occasions, the suggestions of the external stakeholders (such as veterinary practitioners) are included.
- Evaluation of individual subjects based on learning outcomes.
- Evaluation of the curriculum based on ability checks, exams and student monitoring.

The Establishment ensures that the learning outcomes fit with the ESEVT Day One Competences

Every year, the FVMUZ insists on improvements of the clinical work and communication skills. Practical parts of clinical subjects were always performed in smaller student groups (maximum of six students), and EPT with one student. During the development of the curriculum, the DOCs were the basis for establishing professional competencies, which are acquired through subjects. As a part of the CQF, the revision of all DOCs from IUGS programme was done. Also, during the last national accreditation by the ASHE in 2022, the compatibility of the learning outcomes at the IUGS programme at the level of individual subjects was analysed (see Appendix 3.6.). The learning outcomes achieved by completion of the IUGS programmes correspond to the descriptions of the level of the CQF.

The learning outcomes are decided, communicated to staff, students and stakeholders, assessed and revised

Changes in learning outcomes are usually prepared with amendments to the curriculum. The procedure for accepting amendments was described earlier under 3.1. It was previously stated that students can have meetings with teachers to discuss specific problems in their studies and are invited to give suggestions and opinions. Students are members of the CIUGS, QAC, FC and the Senate. Students take part in all important parts of creating changes in the studies and the study programmes. The activities and decisions of the FC are reported to the Senate of UNIZG, and then to the staff, students and stakeholders through incorporated changes in the Information Package (complete course catalogue) and subject syllabi (HR) (ENG), which are published on the FVMUZ website. The study programmes are fully published on the FVMUZ website (HR) (ENG) and are available to the general public, while the syllabi of individual subjects are available to internal stakeholders via the intranet. Detailed information on study programmes is also available to stakeholders through tools such as the ISVU (HR) (ENG) and the MOZVAG systems.

Standard 3.4: The VEE must have a formally constituted committee structure (which includes effective student representation), with clear and empowered reporting lines, to oversee and manage the curriculum and its delivery. The committee(s) must: determine the pedagogical basis, design, delivery methods and assessment methods of the curriculum; oversee QA of the curriculum, particularly gathering, evaluating, making change and responding to feedback from stakeholders, peer reviewers and external assessors, and data from examination/assessment outcomes; perform on going and periodic review of the curriculum at least every seven years by involving staff, students and stakeholders; these reviews must lead to continuous improvement. Any action taken or planned as a result of such a review must be communicated to all those concerned; identify and meet training needs for all types of staff, maintaining and enhancing their competence for the ongoing curriculum development.

The core curriculum is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The Regulation on the Study Programme Assessment Procedure of the UNIZG offers a precise description of how the LOs can be updated. Also, FVMUZ legal acts describe the process of analysing and updating subject LOs. This procedure is described in the Regulation on the IUGS programme and in the Regulation on Quality Assurance of the FVMUZ. If weaknesses are noticed, the QAC is entitled to contact the course leader about possible changes. Reports on student opinions are intended as basic tools for identifying redundancies and overlaps between subjects. In that way, the QAC annually monitors the effectiveness of amendments before the verification of the syllabus by the FC. Minimal overlaps between subjects are tolerated since they can favour a multi-layered vision of important arguments. Every year, meetings are held with mentors, student mentors, the Student Union, the Vice-dean for IUGS, Vice-dean for VSE and lifelong learning and students, and an administrator from the Student Office. The goal of the meeting is to resolve all problems and inform student representatives. If the need for another type of improvement is noticed, then this is considered as immediately action (e.g., the introduction of additional exam periods), during the academic year (e.g., changes to the schedule as necessary), or during the revision process of the study programme (e.g., the introduction of a new subject, such as Communication in Veterinary Medicine). Over the last three academic years, a more detailed revision of the curriculum has been performed, primarily concerning the elective subjects. As part of this change, certain electives were combined (to remove unnecessary overlap between subjects).

Changes in programme content that would significantly alter the curriculum, the final competencies of students or their qualifications (professional profile) must be approved by the FC and submitted to the UNIZG Working Group for Study Programmes. All subject teachers, together with the course leader, decide on the LOs of the subject.

All changes in the curriculum are published in the Information Package (complete course catalogue) for each academic year. Mentioned changes are communicated to all stakeholders, staff and students via the committee structure and online.

Standard 3.5: External Practical Training (EPT) is compulsory training activities organised outside the VEE, the student being under the direct supervision of a non-academic person (e.g. a practitioner). EPT cannot replace the core intramural training nor the extramural training under the close supervision of academic staff (e.g. ambulatory clinics, herd health management, practical training in FSQ and VPH). Since the veterinary degree is a professional qualification with Day One Competences, EPT must complement and strengthen the academic education inter alia by enhancing student’s professional knowledge.

Organisation of the EPT and how it complements the academic clinical training

External Practical Training (EPT) is compulsory training organised outside the FVMUZ, during the EPT the student being under the direct supervision of a non-academic person (veterinary practitioner). The 6th year of studies is primarily intended for practical training and extramural teaching. In the 6th year of study, compulsory EPT of 8 weeks (244 hours) is envisaged in the curriculum (18 ECTS credits). The EPT acquired knowledge and skills prepare the student for professional practice, so the requirement must be completed in one continuous period.

1. The subject Field-Professional Work (FPW) is performed exclusively as EPT outside the FVMUZ and is evaluated with 10 ECTS credits (30 days x 6 hours = 180 hours). Practical classes are conducted individually, in selected veterinary clinics.
2. Part of the subject Professional-Clinical Work (PCW) is evaluated with 8 ECTS credits. It involves 64 hours outside the FVMUZ. Practical training of students is performed in institutions involved in activities related to the study programme: Croatian Veterinary Institute in Zagreb (CVI) (5 days x 8 hours = 40 hours per student); Ministry of Agriculture (MA) (3 days x 8 hours = 24 hours per student).

The process of teaching, schedules, choosing of mentor or veterinary organisation, as well as duties and rights of students and mentors are described in specific documents available on the of FVMUZ web page ([HR](#)) ([ENG](#)) and are presented to all stakeholders (see Appendix 3.5.) in different meetings. Furthermore, practical subjects provide an opportunity to compare theoretical knowledge acquired during subjects with the knowledge acquired in everyday practice. The FVMUZ has established a good relationship with many practices who support the system and provide feedback for ongoing enhancement.

Table 3.5.1. Curriculum days of External Practical Training (EPT) for each student

| <i>Fields of Practice</i> | <i>Minimum duration (weeks)</i> | <i>Year of programme</i> |
|---|---------------------------------|--------------------------|
| <i>Production animals (pre-clinical)</i> <i>Companion animals (pre-clinical)</i> | | |
| <i>Production animals (clinical)</i> <i>Companion animals (clinical)</i> | <i>180 hours (6 weeks)</i> | <i>6</i> |
| <i>FSQ and VPH</i> | <i>64 hours (2 weeks)</i> | <i>6</i> |
| <i>Other</i> | | |

Standard 3.6: The EPT providers must have an agreement with the VEE and the student (in order to state their respective rights and duties, including insurance matters), provide a standardised evaluation of the performance of the student during their EPT and be allowed to provide feedback to the VEE on the EPT programme. There must be a member of the academic staff responsible for the overall supervision of the EPT, including liaison with EPT providers.

EPT providers are linked to the Establishment, assess the students and provide feedback to the Establishment

EPT includes 98 local veterinarians as volunteer instructors (2021/22) (see Appendix 3.5.). Veterinary organisations can apply to the EPT liaison of FVMUZ to become EPT providers. Based on the quality criteria prescribed by the Croatian Veterinary Chamber (CVC), they can become cooperating institutions for EPT. Collaboration agreements are signed individually between the EPT provider (member of the CVC) and FVMUZ. The agreement establishes the relationship between the EPT provider and FVMUZ in order to regulate the interaction between the student, the EPT provider and FVMUZ. Each student is assigned a mentor, appointed by the selected veterinary organisation, and the FC of FVMUZ confirms the appointment of the assigned mentor. The EPT provider signs off the student's logbook if the student's performance is satisfactory with regards to academic and clinical knowledge, ethics and teamwork. The logbook will not be signed off by the EPT provider if the student's performance based on the above-mentioned qualities is unsatisfactory, or when there is evidence of misconduct with regards to veterinary ethics and/or the EPT provider's internal rules.

Once the FC accepts the EPT volunteer instructors, the list is published on the FVMUZ website. Volunteer instructors can find relevant information about their activities ([HR](#)) ([ENG](#)) and give feedback on students through questionnaires that are part of the logbook.

To strengthen the connection between EPT volunteer instructors and the FVMUZ, workshops are held in small groups that offer continuous professional development. Instructor obligations are outlined in the brochure on the FVMUZ website.

The EPT provider of extramural teaching evaluates the study programme through the annual survey and has the opportunity to give opinion and comments. All these surveys are reviewed and analysed, and comments are recorded so that they can be used in the revision of the study programme.

Annual meetings with veterinary organisations are best places to obtaining feedback and informing stakeholders about improvements at the FVMUZ level. At the Faculty Day celebrations, relevant stakeholders at the local and national level meets regularly. Staff, students and other stakeholders are invited to listen to lectures given by distinguished colleagues from home and abroad organised by the AMAC-VEF and Club of Friends and Former Students of the FVMUZ, showing the excellent relationships between FVMUZ and the national/international scientific community.

A copy of one such agreement (Contract) is provided in Appendix 3.7.

Name of the academic person responsible for the supervision of the EPT activities

EPT Supervisor: Nikša Lemo DVM, PhD, Full Professor, ECVD

Standard 3.7: Students must take responsibility for their own learning during EPT. This includes preparing properly before each placement, keeping a proper record of their experience during EPT by using a logbook provided by the VEE and evaluating the EPT. Students must be allowed to complain officially and/or anonymously about issues occurring during EPT. The VEE must have a system of QA to monitor the implementation, progress and then feedback within the EPT activities.

Implications of students in the preparation, recording and assessment of their EPT

The Student Office and EPT supervisor support preparations for individual EPT in Croatia and abroad, and provide students with information on related forms, evidence and requests. Once students have fulfilled all the prescribed obligations related to the EPT, they submit their logbook for approval. After the logbook has been approved, it is stored in the student file. If the students wish to complete EPT outside of Croatia, this must be approved by the FVMUZ (OIC) and the UNIZG (COIC) before the start of EPT. The same quality criteria apply to foreign institutions as for national institutions. During the practice, the student is obliged to adhere to the prescribed measures of occupational safety, fire protection and other safety measures implemented by the employer, and

to fulfil the set of work tasks properly and adhere to other work obligations. Students are obliged to protect employer property, treat it carefully and conscientiously and be careful not to disturb the employer by their behaviour or actions. Students can find relevant information about EPT activities on the FVMUZ website ([HR](#)) ([ENG](#)).

Complaint process in place concerning EPT

Students have opportunity to give their opinion about the EPT in the final part of the logbook. In the case of a complaint related to the EPT, students can contact the EPT supervisor, OIC, COIC or Student Office at any time. Complaints are considered on a case-by-case basis.

Comments on Area 3

- In order to better communicate with stakeholders, the short-term improvement of the IUGS programmes was followed by the introduction of the subject Communication Skills in Veterinary Medicine. The introduction of the virtual collection of different educational materials, the establishment of CSL, improvements in professional education and the equipping of training rooms has significantly improved teaching process at FVMUZ.
- The LOs achieved upon completion of the study programme correspond to the descriptors of the CQF and EQF levels at which the programme is delivered and are defined in accordance with the requirements of the profession and internationally recognised standards for the veterinary profession, thereby ensuring programme up-to-date compatibility with EU legislative. The FVMUZ ensures learning and acquiring skills during practical training, and newly implemented organisational system of AC allowing work with smaller student groups and processing a greater number of cases on the field (related to large animals and pigs).
- Project VetNEST ERASMUS+ SOFTVETS ([Pan-European soft skills curriculum for undergraduate veterinary education](#)) was implemented with the participation of the Vetmeduni Vienna, the University of Veterinary Medicine Hannover, the University of Ljubljana and Vienna University of Economics and Business. The FVMUZ was the coordinator of the project. The aim of this project was to develop curriculum modules on interpersonal skills, entrepreneurship and digital skills for undergraduate veterinary medicine students.
- Students have the opportunity to rate their satisfaction with each teacher, subject and study programme. They are included in FVMUZ decision making and quality assurance system and can rate their satisfaction with improvements. We take special care to inform students about potential employment offers and relationship with [AMAC Domus UNIZG](#) and [AMAC-VEF](#).
- During the SARS-Cov-2 pandemic, teaching was organised as described in Appendix 3.3.

Suggestions for improvement in Area 3

- Considering the latest advances and the rapid growth of digital technologies in veterinary sciences and practice the FVMUZ participated in ERASMUS+ [project Digital education in veterinary studies – DEVet](#). According to the mentioned project necessary digital skills will be incorporated in the curriculum.
- Improve the monitoring of practical activities with the full implementation of the new EPT system for electronic document archiving (through implementation of the [VETFARM project](#)). This will simultaneously improve teacher competencies of veterinarians (volunteer instructors) necessary for field work practice (e.g., connect the FVMUZ with veterinary institutions for monitoring student work by specialised software).
- Introduce timetable software to better cope with the growing complexity of the timetable and better arrange available FVMUZ staff and facility requirements.

Area 4. Facilities and equipment

Standard 4.1: All aspects of the physical facilities must provide an environment conducive to learning, including internet access. The veterinary VEE must have a clear strategy and programme for maintaining and upgrading its buildings and equipment. Facilities must comply with all relevant legislation including health, safety, biosecurity, accessibility to people with reduced mobility, and EU animal welfare and care standards.

The entire FVMUZ campus is located at Heinzlova Street 55 (Appendix 4.1.) in the Zagreb city centre. The campus is easily accessible for students, staff and clients, having good connection to major roads and public transport networks. As an integrated campus, FVMUZ owns 58 783 m² of land, while the total area of facilities is 26 915 m² (including all levels: ground floor, first and second floor). The campus consists of 12 buildings (Appendix 4.2. Plan of the FVMUZ).



Figure 2. Photo of central buildings where Dean's Office, Administration, Teaching premises, Units, Laboratories, FL and the Archive are located.



Figure 3. Photo of the VTH. The VTH is separated from the Central buildings, and it is located on the south part of the campus.



Figure 4. Photo of the Isolation unit (1) and Diagnostic imaging unit (2).

The separate building for Isolation unit was constructed with capacity for companion animal, farm animals and equine patient's hospitalisation. For companion animals the three consulting rooms are available, as well as four rooms for hospitalisation. Farm animal and equine part is equipped with one consulting room and 4 premises for hospitalisation.

All FVMUZ facilities have high-speed wireless and wire internet access.

Equipment is maintained by qualified internal staff. Regular checks and internal or external audits on facility maintenance, workplace safety, animal welfare standards, biosecurity and environmental safety are carried out by qualified auditors.

The maintenance service of FVMUZ conducts constant supervision of all facilities. For most of the costs of maintaining and upgrading the campus, FVMUZ depends on its own revenues or special calls for investments through the state bodies (Governments or Ministry calls). A special renovation fund after the earthquake was established with the participation of the Government and EU project investment. The maintenance of FVMUZ infrastructure is carried out in accordance with the Annual Procurement Plan prepared by the Accounting Office, at the proposal of the head of the units, and approved by the FC.

In the last decade, significant funds have been invested in clinical, laboratory and other equipment. Most of these resources have been provided through EU and national projects, while smaller amounts have been provided from FVMUZ revenues. The premises of clinics, lecture halls, and laboratories for students or diagnostic/research laboratories have been modernised. Available equipment meets the requirements of high-quality teaching activities, professional work and research. Procurement of equipment is also monitored through the Accounting Office, based on the Annual Financial Plan. Should the need arise for new equipment procurements during the year, the process to modify the Plan is initiated at a FC session.

Biosecurity standards are applied in all areas of the FVMUZ work, supervised by the Biosecurity Committee (BC), which reports directly to the Dean office. The FVMUZ follows the strict biosafety and biosecurity procedures and regulations prescribed by the national legislation, EAEVE recommendations and FVMUZ Biosafety manual (HR) (ENG). In all relevant areas, the safety measures follow the Croatian regulations and the Law on occupational safety. [Instructions on the protection of workers and students from hazards due to exposure to biological and chemical agents](#)

at work were prepared. All students (from 1st to 6th year of study), before starting the practical part of their course, must be familiar with these Instructions, and sign a statement confirming that they are informed about all biosafety issues related to all the hazards arising from working with animals, as well as with all the obligatory protective measures, protective clothing and footwear.

All clinical buildings are on the ground floor and accessible to persons with reduced mobility. For other buildings, there is a portable wheelchair lift car. It has a powerful motor which allows a safely transport of disabled persons up and down the stairways.

For disabled persons the special parking places are provided and marked, located near the important organisational units.

Standard 4.2: Lecture theatres, teaching laboratories, tutorial rooms, clinical facilities and other teaching spaces must be adequate in number, size and equipped for the instructional purposes and must be well maintained. The facilities must be adapted for the number of students enrolled. Students must have ready access to adequate and sufficient study, self-learning, recreation, locker, sanitary and food service facilities. Offices, teaching preparation and research laboratories must be sufficient for the needs of the academic and support staff.

Table 4.1. Lecture halls

| <i>Hall No.*</i> | <i>Building identification</i> | <i>Area (m²)</i> | <i>Seating capacity</i> |
|------------------|----------------------------------|-----------------------------|-------------------------|
| 1 | <i>Large lecture hall</i> | 167 | 209 |
| 2 | <i>Physics lecture hall</i> | 87 | 80 |
| 3 | <i>Anatomy lecture hall</i> | 134 | 80 |
| 4 | <i>Physiology lecture hall</i> | 134 | 80 |
| 5 | <i>Chemistry lecture hall</i> | 135 | 80 |
| 6 | <i>Pathology lecture hall</i> | 134 | 76 |
| 7 | <i>Microbiology lecture hall</i> | 131 | 80 |
| 8 | <i>Clinical lecture hall</i> | 117 | 100 |
| <i>Total:</i> | | 1039 | 785 |

*location of lecture halls shown in Appendix 4.3. Map of lecture halls.

Table 4.2. Premises for group work (Number of rooms that can be used for supervised group work)

| <i>Lab No.</i> | <i>Internal room (laboratory/practicum)</i> | <i>Area (m²)</i> | <i>Number of workstations</i> |
|----------------|--|-----------------------------|-------------------------------|
| 1 | <i>Hygiene, Technology and Food Safety – Microbiological laboratory I</i> | 35.33 | 5 |
| 2 | <i>Hygiene, Technology and Food Safety - Microbiological laboratory II</i> | 86.96 | 5 |
| 3 | <i>Hygiene, Technology and Food Safety – Chemistry laboratory II</i> | 53.27 | 5 |
| 4 | <i>Internal Medicine – Laboratory</i> | 142 | 8 |
| 5 | <i>Microbiology and Infections – Laboratories</i> | 150 | 15 |
| 6 | <i>Poultry – Space for experiments with laboratory</i> | 137.77 | 12 |
| 7 | <i>Poultry – Bacteriological Laboratory</i> | 19.92 | 6 |
| 8 | <i>Poultry – Virology laboratory</i> | 18 | 6 |
| 9 | <i>Poultry – Molecular laboratory</i> | 20 | 6 |
| 10 | <i>Obstetrics – Laboratory for Assisted Reproduction</i> | 60 | 5 |
| 11 | <i>Radiobiology – Laboratories</i> | 19.8 + 15.6 | 10 |
| 12 | <i>Fish and Bees - Wet laboratory</i> | 29.7 | 10 |
| 13 | <i>Fish and Bees – Laboratory for General Diagnostics</i> | 28.3 | 6 |
| 14 | <i>Fish and Bees –Laboratory for Bee Diseases</i> | 11.2 | 6 |

Table 4.3. Premises for practical teaching work (Number of laboratories for practical work by students)

| <i>Room No.</i> | <i>Internal room (laboratory/practicum)</i> | <i>Area (m²)</i> | <i>Number of workstations</i> |
|-----------------|--|-----------------------------|-------------------------------|
| 1 | <i>Anatomy – Dissecting room I</i> | 233.36 | 114 |
| 2 | <i>Anatomy – Dissecting room II</i> | 69.67 | 20 |
| 3 | <i>Anatomy – Histology laboratory</i> | 217.26 | 63 |
| 4 | <i>Anatomy – Museum</i> | 223 | |
| 5 | <i>Pharmacology and Toxicology – Laboratory</i> | 156 | 60 |
| 6 | <i>Physics – Laboratory</i> | 116.30 | 30 |
| 7 | <i>Physics – Dark Lab I</i> | 13.47 | 2 |
| 8 | <i>Physics – Dark Lab II</i> | 14.72 | 2 |
| 9 | <i>Physiology and Radiobiology - Practicum</i> | 105 | 28 |
| 10 | <i>Hygiene, Technology and Food Safety - Laboratory</i> | 113.34 | 20 |
| 11 | <i>Animal Nutrition – Classroom – Practicum</i> | 60 | 25 |
| 12 | <i>Chemistry – Practicum</i> | 223 | 32 |
| 13 | <i>Game Biology, Pathology and Breeding Practicum</i> | 50.4 | 20 |
| 14 | <i>Radiology Practicum</i> | 40 | 20 (10 computers) |
| 15 | <i>Microbiology and Infections Practicum - Microbiology and Infectious Diseases</i> | 81 | 20 |
| 16 | <i>Parasitology –Laboratory</i> | 25 | 14 |
| 17 | <i>Pathophysiology – Laboratory</i> | 77 | 28 |
| 18 | <i>Pathophysiology – Computer classroom</i> | 50 | 16 |
| 19 | <i>Pathology – lecture hall, discussion microscope space/ 10 microscope seats for practical teaching</i> | 110 (98+12*) | 20 |
| 20 | <i>Fish and Bees – Laboratory</i> | 49.9 | 40 |
| 21 | <i>Fish and Bees –Dissecting room</i> | 18.1 | 8 |
| 22 | <i>Fish and Bees –Apiary</i> | 15.3 | 8 |
| 23 | <i>Parasitology - Classroom</i> | 63 | 40 |
| 24 | <i>Animal Husbandry Laboratory – Computer classroom</i> | 89.5 | 45 (25 computers) |
| 25 | <i>Animal Husbandry - Small computer classroom</i> | 33.5 | 15 |
| 26 | <i>Judicial and Administrative Veterinary Medicine – classroom</i> | 58.30 | 36 |
| 27 | <i>Obstetrics – computer classroom</i> | 25 | 16 |

The Clinical Skills Lab (CSL) was established and equipped (Appendix 6.1.) with models of small and large animals for practical training. The room size (87 m²) enables students to have a two classrooms, laboratory, and dressing room. The CSL, self-learning facilities and student premises are described in Area 6. Standard 6.2.

After the earthquake, the student restaurant and cafeteria on the FVMUZ campus has a limited capacity. However, student restaurants organised by SC UNIZG is available at [16 locations](#) on the public transport network. The FVMUZ campus is covered with nine vending and coffee machines, useful for students, employees, and clients.

The main locker room is placed in central building of FVMUZ and the VTH units have the separate locker rooms for students during the clinical rotations. Into the FVMUZ campus every separate unit has a minimum of two gender neutral toilets. The toilets open for student use are placed near the lecture rooms. During the clinical training for students five showers are available. During the night shift work, students have their own room equipped with locker, couch, bed, small kitchen, shower, and toilets. This room is placed in the central part of VTH.

For other activities students can use three large rooms in the central part of campus (also used by FVMUZ student associations), as well as outdoor spaces and the park.

Among the diagnostic/research laboratories at the FVMUZ, there are currently five laboratories accredited in accordance with ISO 17025:2007, which act as official and reference laboratories at the national level. These laboratories base their accredited methods primarily on the diagnosis of infectious and parasitic diseases of animals, and on cooperation with the CVB of the MA. The first accreditation was carried out in 2011, and in February 2016 the laboratories underwent re-accreditation, bringing them into a new five-year accreditation cycle. Currently, the accredited laboratories at the FVMUZ are:

- Laboratory for Honeybee Diseases, Fish and Bee Biology and Pathology Unit (APISlab)
- Laboratory for Equine Viral Arteritis, Microbiology and Infectious Diseases with Clinic (ARTERlab)
- Laboratory for Chlamydia, Poultry Diseases with Clinic (CHLAMlab)
- Laboratory for Equine Infectious Anaemia, Microbiology and Infectious Diseases with Clinic (IAKlab)
- Laboratory for Leptospirosis, Microbiology and Infectious Diseases with Clinic (LEPTOlab)

The accredited laboratories are not in regular use for IUGS students, except student scientific work, but they are regularly used for PhD research, continual professional development (CPD), scientific and professional activities.

In the FVMUZ campus most of units provide the opportunity for teachers (senior staff) to have own office, while two or three assistants and residents (junior staff) share the office.

Standard 4.3: The livestock facilities, animal housing, core clinical teaching facilities and equipment used by the VEE for teaching purposes must:

- **be sufficient in capacity and adapted for the number of students enrolled in order to allow safe hands-on training for all students**
- **be of a high standard, well maintained and fit for the purpose**
- **promote best husbandry, welfare and management practices**
- **ensure relevant biosecurity and bio-containment**
- **be designed to enhance learning.**

All hospitalisation and housing units in VTH are equipped to fit the good standard of practice and maintained to fit the purpose. The number and location of consulting room and surgical suites enable to involve the student in all activities of diagnostic and treatment clinical services. The facilities and equipment of VTH are constructed in accordance with biosecurity and biosafety standards (related to patients, students, employees and teaching staff).

Table 4.4. Places available for hospitalisation and animals to be accommodated in VTH

| | <i>Species</i> | <i>No. places</i> |
|--------------------------------|---|-------------------|
| <i>Regular hospitalisation</i> | <i>cattle</i> | <i>10</i> |
| | <i>horses</i> | <i>12</i> |
| | <i>small ruminants</i> | <i>15</i> |
| | <i>pigs</i> | <i>7</i> |
| | <i>dogs</i> | <i>39</i> |
| | <i>cats</i> | <i>13</i> |
| | <i>other (birds and exotic animals)</i> | <i>20</i> |
| <i>Isolation facilities</i> | <i>farm animals and horses</i> | <i>7</i> |
| | <i>small animals</i> | <i>23</i> |
| | <i>other (birds and exotic animals)</i> | <i>10</i> |

Table 4.5. Premises for clinical work and student training at VTH

| | | |
|--|------------------------------|-----------|
| <i>Small animals</i> | <i>No. consulting rooms</i> | <i>26</i> |
| | <i>No. surgical suites</i> | <i>8</i> |
| <i>Equine and food animals</i> | <i>No. examination areas</i> | <i>7</i> |
| | <i>No. surgical suites</i> | <i>3</i> |
| <i>Other (birds, reptiles, wildlife *)</i> | | <i>4</i> |

*with strict supervision

The necropsy room (Pathology unit), used for clinical teaching, is equipped with five tables and separate necropsy instruments set. Ventilation and refrigerator room are constructed due to biosafety instructions. Anatomy dissection rooms are used for preclinical student teaching and training. Except dissection equipment in anatomy room the smartboard and video presentation projector are used. The layout of tables in necropsy and dissection rooms enables teaching in a small group of students (4–8).

A description of the equipment used for clinical services (diagnostic, treatment, prevention, surgery, anaesthesia, physiotherapy, etc.) is provided in Appendix 4.5. Clinical services diagnostic and therapeutic equipment. Number of consulting rooms in separate VTH units enable the teaching and hands-on practicing in a small student group.

The necropsy room and laboratories in Hygiene, Technology and Food Safety are used for intramural practical teaching of FSQ and VPH. For extramural practical teaching in these topics, FVMUZ has a signed Agreement of cooperation with different companies. Separate parts of procedures listed in the curriculum (cattle, pigs, small ruminants and poultry slaughterhouses and meat processing plants, dairy and cheese production facility, laying hen farms and egg packaging facilities included) are practiced on field trainings. Agreements of cooperation with different companies are listed in Area 3. Standard 3.5.

Appendix 4.4. includes the map of the locations of FSQ, VPH, EPT, AC and HH training.

Standard 4.4: Core clinical teaching facilities must be provided in a veterinary teaching hospital (VTH) with 24/7 emergency services at least for companion animals and equines. Within the VTH, the VEE must unequivocally demonstrate that standard of education and clinical research are compliant with all ESEVT Standards, e.g., research-based and evidence-based clinical training supervised by academic staff trained to teach and to assess, availability for staff and students of facilities and patients for performing clinical research and relevant QA procedures.

For ruminants, on-call service must be available if emergency services do not exist for those

species in a VTH. The VEE must ensure state-of-the-art standards of teaching clinics which remain comparable with or exceeding the best available in the private sector. The VTH and any hospitals, practices and facilities (including EPT) which are involved with the curriculum must meet the relevant national Practice Standards.

FVMUZ clinics operate 24/7 year-round and serve as emergency care facilities for all common animal species. Clinical services are integrated in the VTH. For VTH patients, intensive care is provided 24/7. Residents, interns and students are involved in the treatment and care of patients in the VTH under supervision of academic staff. Patients can be first opinion cases (during standard working hours) or referred by vet practitioners due to the complexity of cases, or if they require a specialist examination and/or consultation (cardiology, dermatology, orthopaedics, nutrition, neurology, diagnostic imaging, gastroenterology, ophthalmology, reproduction, bird medicine, etc.). 24/7 emergency services for companion animals, equines and ruminants are organised in the VTH. Students and intern rotations are integrated part of emergency service. Teaching activities with students during emergency services are special financially support with fund of MSE and FVMUZ own revenues.

The work of the VTH is managed by head and deputy head, they coordinate professional and clinical work. The role and obligations of the VTH management is described in Area 1. Standard 1.2.

For VHT organisation, see the organisational chart of FVMUZ in Area 1. For student involvement in all fields of VTH please see Area 3, Standard 3.1. During intramural practice in different forms of clinical courses or night shift work, all necessary software programs for patient tracking are available to students.

The hands-on approach for the practice of all students is possible with the organisation of teaching in small groups (3-4 students per case). This standard is the same in clinical practicing in the VHT and in field work. For AC practice, students in the small groups train practical skills under the supervision of the teacher.

The FVMUZ has a Statement that outlines all the activities in the Practice Standard of VM drafted by the MA (Decision on compliance with the prescribed conditions in the veterinary practice of 18 April 2012). This act confirms the officially prescribed standard for veterinary clinics in Croatia and allow the veterinary activities (diagnostic, prevention, treatment, etc.).

Veterinary profession is regulated with main [Act on Veterinary Medicine](#) (Official Gazette, 82/13, 52 /21, 83/22, 152/22).

All staff involved in clinical work, as well as teaching and lecturing staff, are required to hold a License to work (lasting five years). The regulatory body for licensing veterinary medicine professionals is the CVC (<https://hvk.hr/licencija/>)

Standard 4.5: The VEE must ensure that students have access to a broad range of diagnostic and therapeutic facilities, including but not limited to: diagnostic imaging, anaesthesia, clinical pathology, intensive/critical care, surgeries and treatment facilities, ambulatory services, pharmacy and necropsy facilities.

During the teaching of clinical subjects at the VTH, students are given access to all the necessary content for teaching and patient tracking in accordance with the clinical disciplines they are currently working on. The description of student access to all relevant facilities and equipment is closely linked to the clinical course they are currently enrolled in. Student activity in clinical work starts during the 6th semester (with *Clinical Propaedeutics*) and lasts until the end of study program. All types of student teaching related to clinical work are described in detail in Area 3. Standard 3.1.

Standard 4.6: Appropriate isolation facilities must be provided to meet the need for the isolation and containment of animals with communicable diseases. Such isolation facilities must be properly constructed, ventilated, maintained and operated to provide for animal care and for prevention of spread of infectious agents. They must be adapted to all animal species commonly handled in the VTH.

The newest separate building has been in use since 2016 for hospitalisation of isolated animals. During its planning and construction on the FVMUZ campus, modern standards to provide for animal care and for prevention of spreading of infectious agents were implemented in the construction, ventilation, maintenance and operation. The isolation unit, as well as the Infectious Diseases Unit, was enclosed and separated on the campus field. Internal organisation of rooms and facilities was constructed to have four separate rooms with 23 places for small animal isolation and/or hospitalisation, and 7 separate places for equine and farm animal patients. In the area of the Infectious Diseases Unit, special biosafety and biosecurity rules are prescribed for both students and employees (*see Biosafety manual*) (HR) (ENG).

Standard 4.7: The VEE must have an ambulatory clinic for production animals or equivalent facilities so that students can practise field veterinary medicine and Herd Health Management under academic supervision.

AC as a part of the Large Animal VTH provides herd management services on a contractual and call basis. All details are listed in Appendix 3.5.

The services are provided for farms with herd health problems and farms that require a preventive herd health evaluation. Students are involved in this practical professional activity under academic supervision. Herd Health Management is taught during the 11th semester and AC during the 10th and 11th semesters. A group of 5 to 6 students travel to the farms with academic staff. The main activities performed by students on the farms are pregnancy diagnoses by hand and by ultrasound, breeding soundness evaluations, they analyse cattle and small ruminants herd housing/keeping, feeding, disease diagnoses at the herd level. The focus of farm visits, however, is the analysis of farm data. For a description of the vehicles and equipment used for the AC, please see Standard 4.8.

Standard 4.8: The transport of students, live animals, cadavers, materials from animal origin and other teaching materials must be done in agreement with national and EU Standards, to ensure the safety of students and staff and to prevent the spread of infectious agents.

FVMUZ uses nine different sized vehicles for study and clinical activities (122 seats in total, two buses with 28 seats each, one minibus with 18 seats, and 6 vans (8 seats each). The vehicles carry a laptop, ultrasound, instruments for treatment, medications, and medical equipment to provide professional veterinary care. Routinely, clients with equine or ruminants transport their animals in personal arrangements under national rule for animal transportation. During such arrival arrangements, biosecurity related information is gathered.

Animal carcasses intended for study from external clinics and farms and carcasses and organs from slaughterhouses are delivered to FVMUZ according to the current veterinary legislation in Croatia. FVMUZ manages the use of waste of animal origin (carcasses, organs, etc.). More details are available in Area 5. Standard 5.1.

Standard 4.9: Operational policies and procedures (including e.g. biosecurity, good laboratory practice and good clinical practice) must be taught and posted for students, staff and visitors and a Biosafety manual must be available. The VEE must demonstrate a clear commitment for the delivery of biosafety and biosecurity, e.g. by a specific committee structure. The VEE must have a system of QA to monitor and assure clinical, laboratory and farm services, including a regular monitoring of the feedback from students, staff and clients.

In order to be informed and educated about issues related to occupational safety, employees and students are provided (by the Vice-Dean for IUGS and students, Heads of Units, and outsourced agencies) with all information about the possible risks (chemical and biological) in an introductory class immediately after admission to FVMUZ (students), and during their first year of the employment (employees).

The level of management and responsibilities pertaining biosafety/biosecurity are *shown in the flowchart*.

In short, bodies included in biosafety/biosecurity are FC, the Dean, responsible Vice-Dean, QA and the Biosafety Committee, Biosafety Officer, heads of divisions, units and other bodies, course leaders, all staff and students. When looking at the level of authority, in the top-down flow, the highest place is occupied by the FC, then the dean, followed by the vice-dean and the Biosafety Officer, and below them are the heads, staff and students.

In terms of responsibility, the Dean is responsible for implementing all measures, the Vice-Dean is accountable to the Dean, and all other participants are responsible to the FVMUZ management and FC.

When looking at the bottom-up approach, all staff, students and heads can contact the Biosafety Officer or Vice-Dean, and/or the relevant committees. The Biosafety Officer may address the Vice-Dean. If there is a need for an urgent procedure, the Biosafety Officer or any other person may directly contact the Vice-Dean or the Dean. In the regular procedure, it is necessary to go through the committees and the FC.

The Guidelines on the protection of workers and students exposed to biological and chemical agents at work and a Biosafety manual at the FVMUZ ([HR](#)) ([ENG](#)) are available in Croatian and English on the official website, and serve as basic literature before undertaking any activities in the laboratories, clinics, etc. Also, students need to sign a specific statement related to their particular course after carefully reading these Guidelines. The Faculty employees and students are obliged to act in accordance with the general principles of prevention, perform work in a safe manner, and be aware of their obligations and responsibilities. Additionally, they must report any changes to working conditions and warn their superiors of specific biosecurity and biosafety deficiencies. The Heads of units are obliged to provide all the requirements for implementation of occupational safety, health surveillance and employee training. Personal protective equipment is provided and used where necessary. The Faculty provides goggles for work in the laboratories and dissection halls for each student. All around FVMUZ there are specific signs and, where necessary, posters containing information on the risks and instructions on measures to be taken in case of an emergency. SOPs are also available on disinfection of premises and vehicles, and quarantine protocols for patients with infectious diseases, as well as a protocol for notification of any outbreak of a notifiable disease, zoonoses or emerging disease. Special lockers for the storage of hazardous chemicals, as well as first aid cabinets and eye showers are available in laboratories. Escape plans and escape signs are visible in all buildings. All these activities have been implemented by the Biosecurity Committee, established in 2013. As a direct consequence, routine awareness of biosecurity and biosafety has improved substantially at FVMUZ. Together with the nominated Biosafety Officer, the QA Committee is also responsible for annual internal audits of biosecurity and biosafety.

The QA system is developed to monitor and assure clinical, laboratory and farm services, including a regular monitoring of the feedback.

Waste Management

Biological (carcasses, organs, laboratory waste, etc.) and chemical waste (chemical residues, used plastic and glassware) is generated during clinical and practical work. Depending on the type, waste is collected in respective containers and stored in a special facility, accompanied by specific form containing all the information about its origin, weight and date.

Currently, specific containers and bags are used, as described:

- plastic bins with red lids for infectious waste
- plastic bins with green lids for chemical and pharmaceutical waste
- yellow plastic bins for sharp waste
- plastic bags for carcasses, various organs and food of animal origin.

The FVMUZ has signed a waste disposal agreement with a certified company that collects different waste material. Waste is disposed of in the manner prescribed by the legal acts of Croatia in accordance with EU legislation. Also, a staff member is designated for waste management at FVMUZ, serving as a contact person for all issues arising.

At the end of 2021, a *Green Island* was built on the FVMUZ campus that will serve as a central collection point for waste generated at FVMUZ. This space is easily accessible to all employees and enables the separation of plastic, paper, metal and glass.

Comments on Area 4

As most buildings of the FVMUZ are + 50 years of age, it is extremely important to keep them well maintained. Additional damage to buildings and infrastructure was caused by several strong earthquakes during 2020 in Croatia (Zagreb and Petrinja). As mentioned earlier, the FVMUZ buildings are categorised as protected cultural heritage, and therefore any reconstruction work demands issuing of special national permits.

A core facility for proteomic, genomic and metabolomics analysis was established at FVMUZ to improve research and teaching activities. The funding was provided through EU fund ([ERA-CHAIR project](#), amount € 2.4 million).

Suggestions for improvement in Area 4

The FVMUZ continuously working on renewal of AC vehicles. During this academic year four vans were purchased as well as mobile claw trimming chute. For the next year FVMUZ is planning procurement of the new bus. Due to shortage of parking space, renovation of parking lot is in progress. Also, EV charging station for electric car is planned until 2025 (Go green agenda). The construction of the new student restaurant is planned for the period of the next three years.

Area 5. Animal resources and teaching material of animal origin

Standard 5.1: The number and variety of healthy and diseased animals, cadavers, and material of animal origin must be adequate for providing practical and safe hands-on training (in the areas of Basic Sciences, Clinical Sciences, Pathology, Animal Production, Food Safety, and Quality) and adapted to the number of students enrolled.

Evidence must be provided that these data are regularly recorded and that procedures are in place for correcting any deficiencies.

Global strategy of the VEE about the use of animals and material of animal origin for students the acquisition by each student of DOC

In accordance with EU Directive 2010/63 and national regulations, FVMUZ commits to using animals only for teaching and research purposes with special animal welfare approval, in coordination with the relevant internal (FVMUZ's Ethical Committee) and external (National Ethical Committee) regulatory authorities. The FVMUZ Strategy (A 2.3) is the continuous use of animals and materials of animal origin for acquiring the DOC by each student. The FVMUZ organizes pre-clinical and clinical training at VTH and facilities of scientific educational range and obligatory EPT in veterinary and other institutions. During the obligatory EPT, students visit all common animal species (ruminants, horse, pig, and poultry farms). Students also visit slaughterhouses, food processing plants, markets, etc., and learn about the important role of veterinarians in FSQ/VPH. The animals and materials of animal origin are used for teaching the following specific veterinary subjects: Anatomy (cadavers of euthanised animals, animal carcasses and organs from slaughterhouses, organs, bones, skeletons, veterinary simulation models, virtual programmes, 3D online atlas); Pathophysiology (blood samples and serum, urine), Physiology (healthy animals, laboratory animals, blood and serum, alternative methods); Veterinary Hygiene and Animal Welfare, Animal Production and Breeding (healthy animals); Propaedeutics (healthy and diseased animals, veterinary simulation models, alternative methods); General and Special Pathology (cadavers, organs from slaughterhouses, fixed organs (macro samples) and histological slides and digital histological slides); Veterinary Parasitology (healthy animals, organs from slaughterhouses, meat samples, faeces, and blood samples), Food Hygiene (carcasses and products of animal origin, organs from slaughterhouses), Internal medicine (healthy and diseased animals, veterinary simulation models), Surgery, Orthopaedics, and Ophthalmology (healthy and diseased animals, organs from slaughterhouses, cadavers of euthanised animals, veterinary simulation models); Reproduction and Obstetrics (healthy and diseased animals, organs from slaughterhouses, veterinary simulation models), Elective Clinical Subjects (healthy and diseased animals, veterinary simulation models) (see Table 5.1.1).

The specific strategy of the VEE to ensure that each student receives the relevant core clinical training before graduation

The VTH provides daily medical care for first opinion and referral cases. Primary cases are also accepted in the emergency clinic during the 24-hour shift and also include wild animals (contract with the City of Zagreb and Zagreb Zoo). Students have opportunities to be involved in both primary and referral medical care under supervision, such as physical check-ups, vaccination, medication for the prevention of parasite infection, surgical castration, and spaying dogs and cats as part of core clinical training. The FVMUZ provides an adequate number of cases for each student to be exposed to multiple medical issues, from individual animal consultations to complicated emergency services. Large animal clinics offer field services during extramural teaching as part of core curriculum, which mainly focus on referral and first-opinion cases. The FVMUZ uses external facilities for farm animals to keep this balance. Students also have practical training on healthy animals in the herd to be able to manage herd health. The number of animals seen by each student is documented in Table 5.1.3.

The procedures developed to ensure the welfare of animals used for educational and research activities

All procedures with live animals used for educational and research purposes and activities at FVMUZ are based on European (2010/63/EU) and Croatian ([Animal Protection Act 102/17, 32/19; Regulations on the protection of animals used for scientific purposes 135/06, 37/13](#)) legislation. Where possible, alternative teaching methods (e.g., simulation models) are used during the teaching process.

FVMUZ uses animals as permitted to ensure the welfare of animals for education and research activities. FVMUZ has a permit issued by the National Ethics committee to protect animals used for scientific purposes at the MA for the use including equines, cattle, small ruminants, pigs, mini pigs (HR-POK-020), freshwater fish, and zebrafish (HR-POK-018) for studies. Every researcher who plans to use the animal for scientific purposes must complete the course “Training course for persons working with test animals and animals to produce biological preparations” organised by FVMUZ as required. Each animal used for educational and research activities is registered in medical record system where all activities are noticed.

Procedure how the cadavers and material of animal origin for training in anatomy and pathology are obtained, stored, and destroyed

Anatomy, histology, and embryology: As mentioned previously, cadavers and materials of animal origin are obtained from the VTH of the FVMUZ and slaughterhouses. In addition to dogs, sheep, horses, hens cadavers, etc., other animals are also used in the teaching process, such as birds, reptiles, and sea mammals (dolphins). Those animals are referred with documents stating there is no biosecurity risk for students and employees. Following euthanasia, dogs and horses are donated for use in practical anatomy training (with consideration of the biosecurity risk). Before the start of the academic year or semester, the number of cadavers and animal-derived materials is determined by the number of students at the course level. Animal cadavers and organs are stored in refrigerators and/or freezers until use. Each subgroup of students works in pairs and uses the same animal carcass or organ repeatedly to make full use of it. Anatomical material and carcasses are handled in compliance with Biosafety requirements and disposed of by FVMUZ Pathology. Alternative study methods are also available for Anatomy, Histology, and Embryology (veterinary simulation models, virtual programmes, 3D online atlas).

Pathology: Cadavers for the training of necropsies are either obtained from animals (patients) regularly submitted to VTH (except the isolation unit) or from animals submitted for non-hazardous disposal. VTH cadavers are also obtained from external sources (e.g., veterinary clinics, private veterinary practitioners, and owners) with referral note and valid documents, while organs are procured from slaughterhouses (cows, sheep, goats, pigs). Cadavers are either fresh (shortly after euthanasia or death), cooled, or frozen. When a prompt diagnosis is needed, cadavers are refrigerated (0–4°C) and processed as soon as possible, while other cadavers and tissues are frozen at -18° until used. After necropsies, interesting organs/tissues/cases are either cooled, frozen, or rarely fixed in 10% neutral buffered formalin and sealed in glass jars. Furthermore, biopsy samples of organs and tissues with interesting or rare pathological processes, are fixed in neutral buffered formalin and preserved for teaching purposes as paraffin blocks. The FVMUZ manages utilisation of waste of animal origin (carcasses, organs, etc.) following the requirements of the national legal acts and disposed by a special disposal company ([Agroproteinka](#)).

Table 5.1.1. Cadavers and materials of animal origin used in practical anatomical training

| <i>Species</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|--|----------------|----------------|----------------|-------------|
| <i>Cattle</i> | | | | |
| <i>Plastinated Internal organs</i> | 1 | 1 | 0** | 1** |
| <i>Internal organs</i> | 61 | 71 | 26* | 52.7 |
| <i>Small ruminants</i> | | | | |
| <i>Cadavers</i> | 2 | 2 | 0* | 1.3 |
| <i>Plastinated Internal organs</i> | 8 | 8 | 0** | 8** |
| <i>Plastinated heads</i> | 2 | 2 | | 1.3 |
| <i>Heads</i> | 2 | 2 | 0* | 1.3 |
| <i>Limbs</i> | 6 | 2 | 0* | 2.7 |
| <i>Pigs</i> | | | | |
| <i>Cadavers</i> | 2 | 2 | 0* | 1.3 |
| <i>Plastinated Internal organs</i> | 14 | 14 | 0** | 14** |
| <i>Internal organs</i> | 61 | 71 | 26* | 52.7 |
| <i>Heads</i> | 2 | 2 | 0* | 1.3 |
| <i>Limbs</i> | 4 | 4 | 8 | 5.3 |
| <i>Companion animals</i> | | | | |
| <i>Plastinated cadavers</i> | 2 | 2 | | 1.3 |
| <i>Cadavers</i> | 30 | 27 | 0* | 19 |
| <i>Plastinated heads</i> | 4 | 4 | | 2.7 |
| <i>Heads</i> | 19 | 10 | 10* | 13 |
| <i>Plastinated limbs</i> | 11 | 11 | 11 | 11 |
| <i>Limbs</i> | 104 | 72 | 68* | 81.3 |
| <i>Equine</i> | | | | |
| <i>Plastinated internal organs</i> | 2 | 2 | 0** | 2** |
| <i>Plastinated heads</i> | 2 | 2 | | 1.3 |
| <i>Heads</i> | 3 | 1 | 0* | 1.3 |
| <i>Limbs</i> | 6 | 4 | 0* | 3.3 |
| <i>Poultry & Rabbits</i> | | | | |
| <i>Cadavers</i> | 25 | 30 | 26* | 27 |
| <i>Aquatic animals</i> | | | | |
| <i>Fish</i> | 105 | 105 | 30* | 80 |
| <i>Mediterranean mussel</i> | 30 | 30 | 0* | 20 |
| <i>Dolphin</i> | 3 | 3 | 2 | 2.7 |
| <i>Exotic pets</i> | | | | |
| <i>Other (specify)</i> | | | | |
| <i>Laboratory animals (rats)</i> | 50 | 50 | 0* | 33.3 |
| <i>Osteological material (domestic and wild animals)</i> | >500 | >500 | >500 | >500 |

* Decreased number due to COVID-19 and online teaching

** Applied in teaching since the 2020/21 academic year

Table 5.1.2. Healthy live animals used for pre-clinical training (animal handling, physiology, animal production, propaedeutics, etc.)

| <i>Species</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|------------------------------|----------------|----------------|----------------|-------------|
| <i>Cattle</i> | 220 | 220 | 30 | 156.7 |
| <i>Small ruminants</i> | 196 | 78 | 20 | 98 |
| <i>Pigs</i> | 250 | 190 | 210 | 216.7 |
| <i>Companion animals</i> | 6 | 7 | 5 | 6 |
| <i>Equines</i> | 179 | 36 | 3 | 72.7 |
| <i>Poultry & Rabbits</i> | 266 | 206 | 157 | 209.7 |
| <i>Exotic pets</i> | 61 | 59 | 59 | 59.7 |
| <i>Other (specify)</i> | | | | |

Table 5.1.3. Number of patients seen intramurally (in the VTH)

| <i>Species</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|------------------------------|----------------|----------------|----------------|-------------|
| <i>Cattle</i> | 13 | 11 | 18 | 14 |
| <i>Small ruminants</i> | 47 | 57 | 36 | 46,7 |
| <i>Pigs</i> | 0* | 0* | 0* | 0* |
| <i>Companion animals</i> | 8406 | 9101 | 7233 | 8246,7 |
| <i>Equines</i> | 360 | 244 | 255 | 286,3 |
| <i>Poultry & Rabbits</i> | 545 | 499 | 459 | 501 |
| <i>Exotic pets</i> | 792 | 941 | 738 | 823.7 |
| <i>Other:</i> | | | | |
| <i>Wild animals</i> | 24 | 8 | 14 | 15.3 |

*Due to the epizootic of African swine fever, keeping pigs in VTH clinics was not allowed

Table 5.1.4. Number of patients** seen extramurally (in the AC)

| <i>Species</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|------------------------------|----------------|----------------|----------------|-------------|
| <i>Cattle</i> | 1067 | 320 | 686 | 691 |
| <i>Small ruminants</i> | 2617 | 934 | 816 | 1455.7 |
| <i>Pigs</i> | 1217 | 92 | 144 | 484.3 |
| <i>Companion animals</i> | 181 | 169 | 245 | 198.3 |
| <i>Equines</i> | 297 | 129 | 215 | 213.7 |
| <i>Poultry & Rabbits</i> | 920 | 40 | 0* | 320 |
| <i>Exotic pets</i> | | | | |
| <i>Other</i> | | | | |

** Each patient has to be officially recorded and individually examined/treated by at least one student under the supervision of at least one staff member. Each live animal affected by one specific clinical episode is counted as a single patient.

Table 5.1.5. Percentage (%) of first-opinion patients used for clinical training (both in VTH and ambulatory clinics, i.e., Tables 5.1.3 & 5.1.4)

| <i>Species</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|------------------------------|----------------|----------------|----------------|-------------|
| <i>Cattle</i> | 90% | 90% | 90% | 90% |
| <i>Small ruminants</i> | 90% | 90% | 90% | 90% |
| <i>Pigs</i> | >90% | >90% | >90% | >90% |
| <i>Companion animals</i> | 60% | 60% | 60% | 60% |
| <i>Equines</i> | 60% | 60% | 60% | 60% |
| <i>Poultry & Rabbits</i> | >95% | >95% | >95% | >95% |
| <i>Exotic pets</i> | 80% | 80% | 80% | 80% |
| <i>Other (specify)</i> | | | | |

Table 5.1.6. Cadavers used in necropsy

| <i>Species</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|-------------------------------|----------------|----------------|----------------|-------------|
| <i>Cattle</i> | 16 | 15 | 2* | 11 |
| <i>Small ruminants</i> | 36 | 31 | 3* | 23.3 |
| <i>Pigs</i> | 15 | 12 | 3* | 10 |
| <i>Companion animals</i> | 314 | 330 | 277 | 307 |
| <i>Equines</i> | 5 | 20 | 10 | 11.7 |
| <i>Poultry* & Rabbits</i> | 117 | 98 | 140 | 118.3 |
| <i>Aquatic animals</i> | 116 | 116 | 56 | 96 |
| <i>Exotic pets</i> | 43 | 52 | 38 | 44.3 |
| <i>Other (specify)</i> | | | | |
| <i>Zoo animals</i> | 25 | 17 | 13 | 18.3 |
| <i>Laboratory animals</i> | 56 | 93 | 61 | 70 |
| <i>Wild animals</i> | 6 | 6 | 2 | 4.7 |

* *Decreased number due to COVID-19 and online teaching*

Table 5.1.7. Number of visits in herds/flocks/units for training in Animal Production and HHM

| <i>Species</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|-------------------------------|----------------|----------------|----------------|-------------|
| <i>Cattle</i> | 74 | 44 | 59 | 59 |
| <i>Small ruminants</i> | 67 | 43 | 29 | 46.3 |
| <i>Pigs</i> | 18 | 15 | 10 | 14.3 |
| <i>Poultry* & Rabbits</i> | 28 | 5 | 18 | 17 |
| <i>Aquatic animals</i> | 9 | 9 | 0* | 9** |
| <i>Other:</i> | | | | |
| <i>Equines</i> | 31 | 17 | 18 | 22 |
| <i>Apiary</i> | 11 | 11 | 0* | 11** |
| <i>Insects</i> | 1 | 1 | 0* | 1** |

* *No farm visits due to COVID-19 and online teaching*

** *Mean was calculated for only two academic years (2020/21 and 2021/22)*

Table 5.1.8. Number of visits in slaughterhouses and related premises for training in FSQ

| <i>Species</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|---------------------------------|----------------|----------------|----------------|-------------|
| <i>Ruminant slaughterhouses</i> | 3 | 3 | 2 | 2.7 |
| <i>Pig slaughterhouses</i> | 3 | 3 | 2 | 2.7 |
| <i>Poultry slaughterhouses</i> | 1 | 0 | 1 | 0.7 |
| <i>Related premises*</i> | 5 | 4 | 1 | 3.3 |
| <i>Other</i> | | | | |

* *Premises for the production, processing, distribution, or consumption of food of animal origin*

The number and variety of animals and material of animal origin for pre-clinical and clinical training, and the clinical services provided by the FVMUZ are decided

Heads of Units, and course leaders, are responsible for providing animals and materials of animal origin for the teaching process for each course in such a way as to ensure a sufficient number of animals and materials of animal origin in line with the number of students enrolled in each course. The process includes the purchase of animals, animal material, carcasses, organisation of transportation, etc. To ensure sufficient patients, VTH organises clinical activities, initiates contracts with external farms, ensures patient registration, monitors, and analyses data. VTH is open 24/7 and stakeholders are informed about this via syllabi (students), and at regular meetings (staff), while external stakeholders are informed about the FVMUZ services via the FVMUZ official website.

Standard 5.2: In addition to the training provided in the VEE, experience can include practical training at external sites, provided this training is organised under direct academic supervision and following the same standards as those applied in the VEE.

The organization and management of the external sites and the involvement of students in their running

The FVMUZ does not have a teaching farm on site. The FVMUZ has entered into formal relations with certain off-campus institutions/organisations that are better positioned to provide optimum teaching material (Belje Cooperation - dairy farm, pig farm, Faculty of Agriculture, Grassland Center – dairy farm, Međimurje Horse Stud Farm, Koka d.d. - broiler farm, Piko d.o.o. - laying hens farm, Pipo d.o.o. – hatchery, Fishery Poljana d.d., Dairy farm Zdenačka farma; Family farms OPG Džakula, OPG Barbara, OPG Antolčić, Ireks Aroma d.o.o., TSH Kušić promet d.o.o.) (see Appendix 3.5). Students are always on academic staff supervision during practical training on external sites. Thus, student planning, supervision, and monitoring are on par with on-campus rotations. All students are assigned to each site, thus developing practical skills in Veterinary Hygiene, Animal Welfare, Animal Production and Breeding, Propaedeutics, and, with direct participation in providing veterinary services, in bovine health management and equine medicine. Besides the practical training in handling and managing farm animals, all students are involved in the routine work and their running (e.g., disbudding, milking techniques, feeding, and data analysis). This includes applying and implementing diagnostics and monitoring, therapy, vaccination programs, pregnancy diagnostics and zootechnical measures. All applications are used to train veterinary students during clinical rotations (small groups, hands-on). In addition, students learn basic skills in herd health management.

Standard 5.3: The VTH must provide nursing care skills and instruction in nursing procedures. Under all situations, students must be active participants in the clinical workup of patients, including problem-oriented diagnostic approach together with diagnostic decision-making.

The nursing care skills are implemented and taught to undergraduate students

Students acquire nursing skills starting from the basic pre-clinical programme at the beginning of their studies in the first and second years up to the clinical programme (propaedeutics in the 3rd year). The direct encounter with a live animal begins already during the 1st semester of study within the subject Environment, Animal Behaviour, and Welfare, and continues with Animal Hygiene in the 2nd year, where students are introduced to ways of caring for and keeping domestic animals. Furthermore, specific nursing skills are developed as students take core species-specific health management courses in the 4th year of the veterinary curriculum. Specific care for individual animal species is part of the clinical subjects within practical training at VTH.

Group size for different types of clinical training to guarantee hands-on training for all students

The group size of courses is based on the requirements of the individual course. The standard student group size is 10 students for pre-clinical but involvement of additional teacher. In the 6th to 10th semesters, they are divided into subgroups of 4–6 students for studying clinical subjects. Six students participate as a group in the mobile AC activities (in one vehicle). In providing night veterinary services every student takes part in a group of up to four.

Hands-on involvement of students in clinical procedures in the different species both intramurally and extramurally

Students attain knowledge about Biosecurity requirements in the 1st year subject of study. It is important to emphasise that students are familiarised with the biosecurity measures specific to each pre-clinical and clinical subject. Their attention is also drawn not only to the application of

biosecurity measures in intramural but also in extramural classes during visits to farms or the premises of other veterinary institutions. Biosecurity manual ([HR](#)) ([ENG](#)).

Intra-mural: After initial clinical skills training on skills lab simulators, endotracheal intubation, intravenous catheterisation, suturing techniques, blood collection, anaesthesia machine set-up, use of anaesthesia monitoring equipment, aseptic preparation and scrubbing, and surgical field preparation, students are integrated into routine clinical work and are required to perform all hands-on procedures under the guidance and supervision of academic staff. Student groups are assigned to various services and are involved in daily medical care, including surgery, critical care, anaesthesia, reproductive procedures, management of emergencies, and VTH patients. In addition, they engage in patient communication, history review, case report writing, clinical examination, diagnostic and therapeutic procedures, development of diagnostic and treatment plans, and documentation under supervision. Students are trained in reproductive and obstetric care, including caesarean section. Finally, students participate in decision-making and assist in euthanasia when necessary. However, pursuant to Article 11 of the [Animal Welfare Act](#), euthanasia may only be performed by veterinarians. In pathology service, students first learn and practice animal dissection techniques and the basics of organ evaluation. They can then interpret the autopsy findings and match them with preliminary clinical reports.

Extra-mural Student involvement is the same as in intramural training. Extra-mural clinical practical training is performed by the Large Animal VTH through ambulatory clinic activities where students acquire clinical practical competencies in specific examination techniques, diagnostics, disease prevention and treatment, nursing, metabolic diseases, performing injections and surgery, equine dental care, rectal examination, mastitis detection, herd health management, communication with animal or farm owners, etc.

Procedures used to allow all students to spend extended periods in the discussion, thinking, and reading to deepen their understanding of the clinical case and its management

Students' discussions, critical thinking, and reading to deepen their understanding of the various physiological processes begin during pre-clinical and continue clinical courses. Students prepare presentations on relevant topics assigned by the lecturer or chosen individually. This is extended by case presentations and the discussion of relevant scientific publications in journal clubs. Clinical studies cover collecting the medical history and its evaluation, analysing, and presenting specific clinical cases to peers and lecturers, and performing self-assessment/analysis based on the subject matter, and students write a report focusing on the diagnostic plan and differential diagnosis. These presentations are mostly focused on diagnostic strategies, differential diagnosis, pathogenesis, prophylaxis, and treatment of the relevant case. These activities of supervised self-learning are monitored by academic staff.

In preparing for quality discussion, students can rely on scientific basis (PubMed, Medline, Scopus, etc.), and open educational resources.

Standard 5.4: Medical records must be comprehensive and maintained in an effective retrieval system (preferably an electronic patient record system) to efficiently support the teaching, research, and service programs of the VEE.

The patient record system of the FVMUZ

The FVMUZ has software called the VEF.Protocol (VEF.amb) for registering patients in clinics and used for writing prescriptions, discharge letters, recording findings in patient cards, scheduling examinations, and billing services, available to all staff and students. Each patient has its identification number on the medical record, containing all personal data of the owner/representative, identification of the specific animal, and case history. All clinical aspects of the medical history are recorded, as well as communication with the client if necessary.

Students use the VEF Protocol during clinical rotations and practical clinical exercises, during night shifts, and during clinical training related to the AC. Students receive their own access password for access to all data (same for all students), but financial mode of the program can be utilized only by supervision password. Same program is also used for recording caseloads during student practical training at FVMUZ, and for intern and resident caseload book.

Comments on Standard 5

The amounts of healthy and diseased small animals, cadavers, carcasses, and materials of animal origin are sufficient for basic, preclinical, and clinical training. The FVMUZ continues to improve preclinical and clinical training through projects ([HKO project](#) and [VETFARM project](#)). The number of cases of ruminants and horses seen seen-extramurally is higher than their number intramurally. This is due to the specific nature of veterinary services for these animal species. Most cases are treated on-site in barns or stables, and only some of the more difficult cases are referred to clinics. The lower number of ruminants and pigs is also directly related to the central city position of campus, national legislation, and the epizootiology situation. For biosecurity reasons (African swine fever), pigs are not referred to the FVMUZ VTH and access to large pig farms is very limited.

All procedures with live animals used for educational and research purposes and activities at FVMUZ are based on European (2010/63/EU) and Croatian (Animal Protection Law 102/17, 32/19; Rules on the protection of animals used for scientific purposes 135/06, 37/13) legislation. Where possible, alternative teaching methods (e.g., simulation models) are used during the teaching process.

FVMUZ is acquiring a novel animal record electronic platform to increase the availability and use of data for studies, teaching, and research.

Suggestions for improvement on Standard 5

There are several ways to increase the number of ruminants for bovine health management services and student education. The construction of the faculty farm and educational centre for practical training of students, continuing education of veterinary professionals and public education programs is planned for next years through projects. The faculty used the capital investments at the Faculty Farm and Education Centre in Dugo Selo to build an access road with adequate infrastructure for water, gas and sewerage. This will certainly improve clinical service and the practical teaching of students in this area. Nevertheless, the current number of extramural clinical training cases is sufficient, but further collaboration between agencies, the government, and farmers is necessary for improvement. FVMUZ aims to increase the number of agreements with farms. The FVMUZ aims to increase the use of lab dummies, simulation models, and e-learning.

Area 6. Learning resources

Standard 6.1: State-of-the-art learning resources must be adequate and available to support veterinary education, research, services and continuing education. When the study programme is provided in several tracks/languages, the learning resources must be available in all used languages. Timely access to learning resources, whether through print, electronic media or other means, must be available to students and staff and, when appropriate, to stakeholders. State-of-the-art procedures for bibliographical search and for access to databases and learning resources must be taught to undergraduate students.

The general strategy of the FVMUZ on learning resources is to encourage the creation of a motivational, creative and supportive environment for teaching and learning. The FVMUZ is dedicated to developing an incentive-driven, direct and virtual environment for learning and student activities. The FVMUZ has its own resources that encourage the development and implementation of e-learning, and all subjects are covered by the LMS platform with possible application of e-versions. This aspect of e-learning was especially developed during the pandemic. Digital transformation at FVMUZ is unfolding with national financial support through EU projects ([VetNEST ERASMUS+ SOFTVETS](#), [VEF EXPO CQF](#), [Digital education in veterinary studies – DEVet](#), [VETFARM](#)).

Most information about study programmes, admission procedures and requirements, progression and certification are available online in the Information Package (complete course catalogue) (IP). At the beginning of the academic year, the IP ([HR](#)) ([ENG](#)) is available to all students and staff. Teachers and students can obtain additional information on the IUGS programmes through the Higher Education Institutions Information System ([ISVU](#)).

Students are introduced to the IUSG programmes in detail at the first introductory class after enrolling at FVMUZ through the Guide for first year students, ([HR](#)) ([ENG](#)) and they also sign a statement that they are familiar with the IUGS programme.

Compulsory subjects, such as Introduction to Veterinary Medicine, and other subjects included in the first-year curriculum, introduce students to Learning Management System (LMS), structure and organisation of studies, and basic instructions how to use [LMS platform](#).

FVMUZ uses various e-learning tools to assist students with their studies, some of which are fully developed, and others which are emerging projects:

- FVMUZ students and staff have constant access and connection to the library and the other IT systems for study both from work and personal computers. For student and staff convenience, a free Wi-Fi network is available at the FVMUZ campus.
- Public access is provided for the subject syllabi ([HR](#)) ([ENG](#)) frequently asked questions ([HR](#)) ([ENG](#)), academic calendar ([HR](#)) ([ENG](#)), exam schedule ([HR](#)) ([ENG](#)), study completion schedule ([HR](#)) ([ENG](#)), enrolment criteria ([HR](#)) ([ENG](#)), protocol for students during night shifts at FVMUZ clinics ([HR](#)) ([ENG](#)) etc.
- Students can access all necessary and relevant information about clinical and non-clinical teaching activities through the annual information package, course syllabus, website, LMS system.
- Teaching is simultaneously modernised with a digital 3D anatomy atlas and a collection of morphological preparations of endangered animal species ([3D collection of three-dimensional models](#)).
- Application of new and modern interactive methods of teaching is reflected in the creation of a virtual collection of the educational materials from seven FVMUZ units with more than 1500 displays, 1500 photographs and 500 rotating preparations in 3D format. Furthermore, digital educational content has been created.
- [Plastified anatomical preparations](#); teaching models have been created.

- During clinical rotations, students are guided to use software at the VTH (VEF.Protocol).
- With the purpose of supporting the virtual learning environment (VLE) in 2022, a new e-learning office was established;
- The SRCE [Centre for e-Learning](#) (CEL) provides support to teachers and students in the process of e-learning.
- As an adaptation to teaching the new generations of students, different websites have also been established (such as the Instagram page “BeesConnect on VEF” which publishes current content that follows the education in beekeeping in digital form in a simple and easily accessible way; Instagram "vef_hista" that provides an overview of information from veterinary histology and embryology accompanied by a unique collection of images of organs and tissues).
- Creation of the [virtual museum collection](#) of the FVMUZ - in progress.
- Meanwhile, a series of softwares for individual subjects are in the process of integration into the teaching process with purpose to enable students, teachers and technicians to deliver lessons using modern didactic tools. The process of digitisation includes the transformation of different forms of information into digital form. Therefore, this topic arises as a strategically important interdisciplinary research theme at the FVMUZ level.

FVMUZ supports students in developing digital fluency and learn how to use modern tools important for success in their personal, academic and professional lives. Essentially, digital literacy is promoted by developing critical thinking, selecting appropriate information, creativity, media awareness, collaboration, and global connectivity. Digital fluency is further developed as follows:

- Microsoft Office 365 and data analysis software available to all students and staff (models, free statistical package)
- Online delivery via Google Zoom/ MS Teams with stream capture /Adobe

To ensure good understanding and responsible use of DT&AI as required competencies that students need to have from the first day from graduating (DOC), FVMUZ opens up new possibilities through projects (e.g., scanner for recording virtual histological preparation, diagnosis by applying artificial intelligence). The goal of this and similar scanners is to digitise histological preparations used in the field of histopathology, using DT&AI.

All students and staff are fully supported by the University [Centre for Research, Development and Technology Transfer](#) (CIRTT). The CIRTT regularly organises individual support, education and other events intended for researchers and students at UNIZG.

Suitable and innovative teaching methods are developed (digital learning, virtual mobility and innovation), as well as open access to digital and scientific information ([Faculty Library](#), [NSK](#), [HSTalks - The Biomedical & Life Sciences Collection](#), [Croatian Scientific Bibliography CROSKI](#), [Portal of Croatian scientific and professional journals HRČAK](#), [e-Veterinary Library](#)) that ensure access to educational contents.

Learning resources and other support mechanisms are available to all students, designed to meet their needs and adapted based on feedback of those using them. FVMUZ regularly monitors, checks and improves the effectiveness of the support services available to students.

Information is disseminated to students through the Office for OCDAPC, Student Affairs Office and the OIC through workshops, brochures, seminars, online materials, subjects, and meetings such as [Career Day](#), [Science Festival](#), [Open Door Day](#), [UNIZG exhibitions](#) and other events.

There are two official documents available, related to the [Faculty Library](#) (FL) and literature: Regulation of university teaching and literature publishing and Regulation on the structure and work of the FVMUZ central library. All requests for acquiring new literature are considered by the Library and Publishing Committee (LPC), which compiles a list for approval by the Dean. The head of the FL and course leaders are in charge of selecting the textbooks for the study programme. The UNIZG and MSE approve access to databases, and databases at the UNIZG level are shared

between UNIZG constituents. Course leaders or teachers can propose the purchase of books, the library checks where those books can be obtained, and the Dean approves the purchase. Students can also suggest the purchase of the books to the subject leader. In the case there is no available literature in the FL, the library can borrow books for students from the NSK.

Decisions on the new large systems and technologies on the campus are made by the faculty on the recommendations of project teams, teachers, individual units, and experts from the ICT services. Information about the introduction of large systems and technologies is disseminated through different channels in different ways (e.g., social media, direct personal email, website, e-learning platform). The FL has a page on the FVMUZ website, while the FL can inform users more quickly about news or changes via its Facebook (Meta) page.

Standard 6.2: Staff and students must have full access on site to an academic library administered by a qualified librarian, an Information Technology (IT) unit managed by an IT expert, an e-learning platform, and all the relevant human and physical resources necessary for the development of instructional materials by the staff and their use by the students. The relevant electronic information, database and other intranet resources must be easily available for students and staff both in the VEE's core facilities via wireless connection (Wi-Fi) and from outside the VEE through a hosted secured connection, e.g. Virtual Private Network (VPN).

Libraries

The FL is a special professional unit with the direct function of realising educational and scientific research activities, adapted to provide access to various literature and database sources. It enables the efficient use of information resources and the development of services for different users. All FVMUZ publications and student theses are archived in the FL, thus creating a new fund that reflects the intellectual potential of employees and students. On several occasions, the FL has enriched its collection with a large number of titles of foreign professional books through the SABRE Foundation. Also, a respectable number of [books](#) are written by [FVMUZ teaching staff](#).

First-year students receive training on using the library resources in the library and on searching individual electronic sources such as catalogues, bibliographic databases, citation indexes, publisher portals and providers of electronic resources and full-text e-journal packages. Library personnel educate students on how to find relevant documents. Users are also advised how to access to open access articles, journals and portals.

FVMUZ library staff and qualifications

The FL employs three full-time experts with the following qualifications: MA Librarian, MA Comparative Literature and Philosophy, (M. Phil. & Comp. Lit., M. Librar.); MA Librarian and Information Sciences (M. Ed. Philol. Croat., B. Archaeol., M. Librar. & Inf. Scienc.); BSc Bachelor of Science.

Opening hours and days

The opening hours of the FL and the reading room: every day from 8 am to 4 pm (during the winter and summer exam period the FL is open from 8 am to 9 pm).

Annual budget

The annual budget for the library is EUR 270.414. Open access for all students is available through NSK. The financial resources for the functioning of the NSK are secured from the State Budget. In 2022, a total of EUR 2.402.282 was earmarked for the NSK from the budget of the Ministry of Science and Education for e-source procurement. Over the past five years, from April 2016 to December 2021, the NSK has procured e-sources as part of the project entitled *Increasing access to electronic sources of scientific and expert information – e-Sources*, financed from the ESF. This EU project, valued at EUR 17.745.039, has improved access to foreign research publications and databases, so as to improve the research environment of Croatian scientists.

Location in the campus, global space, number of rooms, number of seats

The FVMUZ FL is located on campus, on the ground floor of building no. 1, and is officially included in the Register of Libraries of the City of Zagreb. In the FL, there is room for 40 students. The FL can seat 25 students in the reading room, and an additional 15 students within its premises. Apart from the reading room, students are free to use the student study room located under the library.

All FVMUZ students can use the premises and services of the National and University Library in Zagreb (NSK) on a daily basis. NSK is the national library of Croatia and central library of the University of Zagreb. It holds around 3 million items. Since 1995, the NSK has been located in a building in central Zagreb. User facilities: 1,100 seats, 64 seats in special collections reading rooms, 8 audio booths, 7 rooms for individual study, 2 rooms for group study, 100-seat conference room and 150 seats in the late hours reading room (9 pm to midnight).

Number of computers

FL Equipment: number of computers, number of electrical connections for portable PCs: 12 computers are available. A Wi-Fi network is provided, as well as e-learning (including an LMS learning platform with the possibility of publishing subject materials, computer exams, on-line exams, databases of exam questions and other tools for teaching and learning processes and self-assessment).

Software available for bibliographical search

The FL uses a specially created electronic system by ALEF, for processing the complete library materials, enabling the establishment of a national network of libraries. In addition to printed material, electronic journals with complete texts are available through the Booklet, which provides access to the bibliographic database through the Portal of Electronic Resources for the Croatian Academic and Scientific Community. The FVMUZ repository (DABAR) is an archive of student theses, dissertations, pre-printed papers, scientific and professional papers, research data, books, class materials, photographs, video and audio recordings, presentations and digitalised material. The number of stored objects is 675, and 81.3% are open access, which students and teachers can access at any time of day or night with an electronic identity through the AAI@EduHr system. Access to e-resources on the electronic resources portal - NSK is realised through a national license for public institutions in the science and higher education system enlisted in the Register of scientific organizations under MSE. Academic Complete: e-books are a database that includes more than 150,000 titles of multidisciplinary content and is available to an unlimited number of users, also providing downloads of book chapters. Databases can be searched using ProQuest One Academic. Remote access to the ProQuest platform outside the IP network of institutions with access rights can be achieved by selecting a proxy server (on the main menu of the e-sources Portal) or via Shibboleth access. HRCĀK is the central portal for all Croatian scientific and professional journals in one place. Users are provided with easy access to searching for journals and papers by selecting (alphabetically or by scientific field) or searching by various fields. In the DABAR platform (Digital academic archives and repositories), the FVMUZ is represented with 496 titles. Databases show authors and titles of textbooks, where they are stored and how many copies can be borrowed or used in the reading room. It also shows data on the newest edition of teaching materials. Students become users of the FL by enrolling. Books can be borrowed in the FL upon the presentation of a student ID card. Borrowed books are recorded electronically.

Brief description of the subsidiary libraries

Students are provided with various learning resources (teaching materials, sufficient number of the necessary literature, availability of library space, necessary computer programs, etc.). The specificity of the FVMUZ units are their small libraries, equipped with books, journals and other literature related to their specific area of interest, which is an added value for students when preparing for mid-terms or exams, or if they need additional learning space. Students may also use the FVMUZ museum collections of pathology, anatomy, wildlife and the history of VM.

The accessibility for staff and students to electronic learning resources

All staff and students have access to the IT Service Desk which provides support. Requesting support can also be done via phone or email. IT services has specialised units covering the virtual learning environment, supporting IT in lectures and teaching rooms.

Posting information and teaching content within the LMS platform is the responsibility of teachers and subject leaders. Each student should participate in e-learning classes in a manner determined by the syllabus of each particular subject. All students have equal opportunity to access IT equipment. A user account (address@vef.hr-AAI) is assigned to students, which is part of the Croatian Academic and Research Network (CARNet). This account enables students to access LMS, ISVU, e-mail, literature databases, intranet, etc. Furthermore, power supply (smart benches) and wireless internet connections (Eduroam) are available throughout the FVMUZ campus. At the Faculty, there are four computer classrooms dedicated exclusively to educational use (Unit of Animal Breeding and Livestock Production, Hall A with 25 computers and Hall B with 15 computers; Unit of Pathophysiology, Hall C with 16 computers; Obstetrics Clinic, Hall D with 16 computers; FL with 12 computers).

Electronic learning resources on and off campus (Wi-Fi, VPN, etc.)

A wireless computer network has been established at FVMUZ, enabling students, teachers and guest lecturers to connect their laptops to the internet. Wireless computer networks are available in all important areas (FL, large lecture hall, seminar halls, Dean's office and teachers' offices). All rooms in the FL have internet access via Eduroam or Wi-Fi. Access to the full-text licensed databases, e-journals packages or e-books is available from computers on the FVMUZ network. Texts are accessible through a set of IP-numbers or from home with a remote access password. Video conference equipment enables holding, watching and participating in virtual lectures and meetings, was purchased in cooperation with CARNet. All equipment is of adequate functionality and is regularly renewed, upgraded and serviced.

Standard 6.3: The VEE must provide students with unimpeded access to learning resources, internet and internal study resources, and equipment for the development of procedural skills (e.g. models). The use of these resources must be aligned with the pedagogical environment and learning outcomes within the programme and have mechanisms in place to evaluate the teaching value of changes in learning resources.

Learning resources, Internet and internal study resources, and equipment for the development of procedural skills

The FL collection now includes 40 140 units of books and other library materials: 10 327 volumes of textbooks of mandatory literature, 34 697 printed foreign journals and 7 039 printed national journals (veterinary books: 31 900, veterinary periodicals: 36 863; veterinary e-books on CD/DVD: 246; veterinary e-periodicals: 12; other books: 8 370; other periodicals: 4 896). In addition to printed material, electronic journals with full texts are available through the bibliographic database.

E-learning is supported by a faculty-based learning management system called LMS which provides basic subject information, various teaching materials (pdf files, videos, ppt files, mid-terms, approach to student e-mails). MSE approves access to numerous scientific and research databases on the Portal of electronic resources for the academic and scientific community of the National and University Library in Zagreb (NSK). There are 46 biomedicine and medicine databases such as Scopus, Web of Science, JSTOR, Medline, ScienceDirect. Students have open access to the Digital academic archives and repositories – DABAR that registers and archives student MSc and PhD theses. The [Centre for the e-learning \(CEL\)](#) was established at the University Computing Centre of UNIZG in 2007. The CEL holds a central role in the systematic implementation of e-learning at the UNIZG. The fundamental objectives of the CEL are to:

- provide support to teachers, students, e-learning teams and institutions,
- provide and maintain a reliable and generally accessible university platform for e-learning,

- support the university network of people involved or interested in e-learning,
- promote and foster e-learning implementation.

[University Computing Centre - SRCE](#) includes a list of all links to the information system, several IT services (e.g., e-mail, cloud service, subjects and e-learning). For IT services they also help with individual inquiries and virtual online subjects.

Significant source for further improving students' research activity is scientific journal "[Veterinarski arhiv](#)" (Vet. arhiv) published by the FVMUZ. The Vet. arhiv is one of the oldest scientific journal in the field of veterinary medicine (it is active since 1931). There are currently four such journals and employees of the FVMUZ are either editorial board members or editors.

The first journal „[Veterinarska stanica](#)“ (VS) was published as a bulletin of the former Business Association of Veterinary Stations in the second half of 1970. Since that time, the journal has changed several publishers. Croatian Veterinary Institute became its publisher on January 1, 2009;

The scientific and professional journal of students of veterinary medicine, "[Veterinar](#)", was founded in 1938. "Veterinar" comes out twice a year.

The Croatian Veterinary Chamber and FVMUZ are owner of the scientific and professional journal "[Croatian Veterinary Record](#)" (CVR).

Organisation and supervision of the skill lab

Clinical training is gradually improved by training on [models](#). For this purpose, the CSL for training was opened in 2022 (see Appendix 6.1.). The arrangement of space and procurement of equipment were enabled through the two projects ("[Establishment of postgraduate specialist studies in veterinary medicine in English \(UP.03.1.1.02.0026\)](#)" and [HKO](#) project) and students now have a classroom, laboratory, smaller classroom and dressing room at their disposal. The laboratory is equipped with the following models: three models of a dog for training of different emergency medicine procedures (endotracheal intubation, implanting venous access port, cardiopulmonary resuscitation procedures); a model of a dog's head, a model of a dog's leg for training venepuncture and applying bandaging techniques in dogs; a model for the rectal examination of a horse with a silicone model of a horse's intestine, and a mare's reproductive organs in different phases of the sexual cycle; horse head model for training equine venepuncture and regional anaesthesia techniques. Theoretical and practical training, along with the use of animal models, is enabled by mentors, student tutors, and additional instructions for self-learning.

Comments on Area 6

The FVMUZ systematically monitors and improves student support resources for study programmes. In accordance with the possibilities and adopted strategic goals, investments will continue to be made in the development of resources for learning and teaching processes.

Suggestions for improvement in Area 6

In spring 2023, the LMS system will start to be migrated to the university's Merlin system. This will open additional extended opportunities for learning. The newly established e-office will support a complete virtual learning environment at the FVMUZ.

Area 7. Student admission, progression and welfare

Standard 7.1: The VEE must consistently apply pre-defined and published regulations covering all phases of the student “life cycle”, e.g., student admission, progression and certification. In relation to enrolment, the VEE must provide accurate and complete information regarding all aspects of the educational programme in all advertisings for prospective national and international students. Formal cooperations with other VEEs must also be clearly advertised.

Educational programmes, learning outcomes, admission procedures and requirements for national and foreign students, etc. are advertised to prospective students

FVMUZ advertises its programmes and admission procedures on both the [University](#) and Faculty websites ([HR](#)) ([ENG](#)) and the National Information Centre for applications to study programmes at higher education institutions “[Become a student](#)”. The application criteria and process are described on the FVMUZ website in both Croatian and English. The public call for admission is published on the UNIZG website.

In addition to the website, printed materials are also used to inform stakeholders (information leaflets, study brochures, info-packages, etc.). Promotional campaigns for study programmes usually begin with the University Festival and Open Door Day, and other public activities (campaigns on social networks “[Enrol in veterinary medicine](#)”). FVMUZ understands the need to share information with the community, which is particularly evident in the organisation of events such as the [Open Door Day](#) and [Reptilomania+](#), publishing the [Yearbook](#), and active participation in the [Museum Night](#) and Science Festival events.

Full descriptions of the IUGS programmes are available on the FVMUZ website ([HR](#)) ([ENG](#)). The website provides detailed information of all subjects. The subjects’ descriptors provide detailed information on content, learning outcomes, prerequisites, assessment and instruction for students. As stated in Standard 6.1, the programme [syllabus](#) ([HR](#)) ([ENG](#)) together with enrolment criteria ([HR](#)) ([ENG](#)), academic calendar ([HR](#)) ([ENG](#)), exam schedule ([HR](#)) ([ENG](#)), study completion schedule ([HR](#)) ([ENG](#)) are publicly available ect.

The main source of all numerical data collected at FVMUZ is certainly the [Yearbook](#), published every year and covering the last academic year. The data for the Yearbook are provided by staff, students, senior staff, vice-deans and the dean.

Standard 7.2: The number of students admitted must be consistent with the resources available at the VEE for staff, buildings, equipment, healthy and diseased animals, and materials of animal origin.

Table 7.2.1. Number of new veterinary students admitted by the FVMUZ

| <i>Type of students</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|--------------------------|----------------|----------------|----------------|--------------|
| <i>Standard students</i> | <i>135</i> | <i>130</i> | <i>134</i> | <i>133</i> |
| <i>Full fee students</i> | <i>35</i> | <i>28</i> | <i>25</i> | <i>29.3</i> |
| <i>Total</i> | <i>170</i> | <i>158</i> | <i>159</i> | <i>162.3</i> |

* The last full academic year prior the Visitation

Table 7.2.2. Number of veterinary undergraduate students registered at the FVMUZ Standard students

| <i>Year of programme</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|--------------------------|----------------|----------------|----------------|--------------|
| <i>First year</i> | <i>177</i> | <i>162</i> | <i>171</i> | <i>170</i> |
| <i>Second year</i> | <i>113</i> | <i>134</i> | <i>139</i> | <i>128.7</i> |
| <i>Third year</i> | <i>142</i> | <i>147</i> | <i>158</i> | <i>149</i> |
| <i>Fourth year</i> | <i>160</i> | <i>160</i> | <i>134</i> | <i>151.3</i> |
| <i>Fifth year</i> | <i>109</i> | <i>97</i> | <i>90</i> | <i>98.7</i> |
| <i>Sixth year</i> | <i>91</i> | <i>85</i> | <i>118</i> | <i>98</i> |
| <i>Total</i> | <i>792</i> | <i>785</i> | <i>810</i> | <i>795.7</i> |

Table 7.2.2.a Number of veterinary undergraduate students registered at the FVMUZ Full fee students

| <i>Year of programme</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|--------------------------|----------------|----------------|----------------|-------------|
| <i>First year</i> | 36 | 30 | 32 | 32.7 |
| <i>Second year</i> | 29 | 26 | 22 | 25.7 |
| <i>Third year</i> | 27 | 21 | 8 | 18.6 |
| <i>Fourth year</i> | 19 | 9 | 5 | 11 |
| <i>Fifth year</i> | 8 | 4 | - | 6 |
| <i>Sixth year</i> | 4 | - | - | 4 |
| <i>Total</i> | 123 | 90 | 67 | 93.3 |

Table 7.2.3. Number of veterinary students graduating annually

| <i>Type of students</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|--------------------------|----------------|----------------|----------------|-------------|
| <i>Standard students</i> | 94 | 128 | 91 | 104.3 |
| <i>Full fee students</i> | 2 | - | - | 2 |
| <i>Total</i> | 96 | 128 | 91 | 105 |

Table 7.2.4. Average duration of veterinary studies for those graduating in 2021

| <i>Duration (6 years with intercalation)</i> | <i>% students who graduated in 2021</i> |
|--|---|
| <i>Duration 6 years</i> | 24 |
| <i>+ 1 year</i> | 58.3 |
| <i>+ 2 years</i> | 12.5 |
| <i>+ 3 years or more</i> | 5.2 |

Table 7.2.5. Number of postgraduate students registered at the FVMUZ

| <i>Programme</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|-------------------------|----------------|----------------|----------------|-------------|
| <i>Interns</i> | 5 | 2 | 5 | 4 |
| <i>Residents</i> | 6 | 7 | 7 | 6.7 |
| <i>PhD students</i> | 14 | 15 | 23 | 17.3 |
| <i>Others (specify)</i> | | | | |

Standard 7.3: The selection and progression criteria must be clearly defined, consistent, and defensible, be free of discrimination or bias, and take into account the fact that students are admitted with a view to their entry to the veterinary profession in due course. The VEE must regularly review and reflect on the selection processes to ensure they are appropriate for students to complete the programme successfully. If the selection processes are decided by another authority, the latter must regularly receive feedback from the VEE. Adequate training (including periodic refresher training) must be provided for those involved in the selection process to ensure applicants are evaluated fairly and consistently.

Enrolment in the IUGS programme in the Croatian Language

All applicants who have completed secondary school in Croatia for at least four years or an equivalent secondary school abroad, where they attended classes in biology, chemistry and physics for at least two years, may apply for admission to the IUGS programme in Croatian under the same conditions established by the Act on Scientific Activity and Higher Education (OG 123/03, 198/03, 105/04, 174/04, 2/07, 46/07, 45/09, 63/11, 94 /13, 139/13, 101/14, 60/15, 131/17 and newly adopted [Act on Higher Education and Scientific Activity 119/22.](#)) the [Regulations on IUGS programme](#), and within the established quota for enrolment of full-time students. Students must meet the psycho-physical abilities for study. FVMUZ enrolls students within the quota proposed by the FC and approved by the Senate of the UNIZG.

Selection

The National Centre for External Evaluation of Education (NCVVO) implements the Final State High School Exam (FSHS-EX) (*Matura exit exam*). A national website (www.postani-student.hr) releases the results of the FSHS-EX and ranks students accordingly. Ranking lists are drawn up based on the results of the FSHS-EX, grades obtained at the secondary-school level, and specific achievements (sport and/or national contests or competitions). The allocation of all admission criteria is decided at the FVMUZ level and approved by the FC.

The list of applicants for admission to the IUGS is compiled according to the following scoring system: Grades obtained at secondary-school level; Results of the state exam for the subjects: Croatian at A level, Mathematics at A level, Foreign language at A level, (one of) Elective subject: (Biology/Physics/Chemistry), Specific achievements (1st to 3rd place in national or international competition in Biology/Chemistry/Physics or professional subjects of veterinary schools), and results of the Psychomotor test.

Admission procedures for full fee students

As mentioned previously, there are no separate procedures for studying in English (except in the conditions of enrolment). Link to the enrolment document for studying in English: <https://www.vef.unizg.hr/en/studying/>. Description of the [admission procedures for Full fee students](#) (see Appendix 7.1.).

Appeals Process

Pursuant to Article 11 of the [Regulation on IUGS programme](#), any complaint on the psychomotor skills grade should be submitted to the Vice-dean for IUGS and students and the Students within 24 hours of release of the results. The final decision on complaints is made by the Dean based on the statement of the legal unit and the test administrator. The [Ordinance on taking the FSHS-EX](#) prescribes the method and deadlines for submitting complaints related to possible irregularities in the execution of the FSHS-EX, or of grades. Applicants submit both types of complaints in writing to the school examination committee, which issues an opinion on the justification of the complaints and forwards it to the NCVVO.

The Establishment aligns the number of admitted students with the available educational resources and the biosecurity and welfare requirements

In the process of defining the quota, FVMUZ conducts an analysis of trends, teacher workload, capacity of the facilities, the expected interest for the study, as well as the number of currently unemployed graduates (verified every year with the [Croatian Veterinary Chamber, CVC](#)). Before proposing an enrolment quota, FVMUZ proposes a quota to the CVC in line with the current needs and the situation on the labour market, and the CVC issues its opinion on the proposed quota. Data on the employability of veterinarians are also requested from the Croatian Employment Service. All collected data are presented by the Vice-Dean for IUGS to the FC, which approves the enrolment quota for that year. That decision goes to the Senate for approval.

Prospective number of new students admitted by the VEE for the next 3 academic years

It is anticipated that over the next three academic years, approximately 135 new students will be admitted per year to the IUGS in Croatian. In the same period, there will be 35 new FVMUZ Full fee students in IUGS in English per year.

Standard 7.4: There must be clear policies and procedures on how applicants with disabilities or illnesses are considered and, if appropriate, accommodated in the programme, taking into account the requirement that all students must be capable of meeting the ESEVT Day One Competences by the time they graduate.

Fulfilment of health requirements is confirmed by a certificate from the authorised school doctor. Health requirements are detailed in the [Regulation on IUGS programme](#) (Article 11). Applicants are advised on a case-by-case basis. As there are no interviews for student admission, no special

selection committee is needed. Enrolment conditions, criteria and the formation of the list of registered applicants are explained under the selection Criteria of this chapter (see above).

The Student Affairs Office (HR) (ENG) and the Office Career Development, Academic and Psychological Counselling (OCDAPC) (HR) (ENG) are the two main places where students can receive advice on career guidance, psychological and legal counselling. Support is also provided to students with disabilities. Students have an ongoing opportunity to convey their problems and concerns to the staff of the Student Affairs Office or the Office of OCDAPC, either in person or by e-mail. They can also use the same services at the UNIZG. In coordination with the office at the UNIZG for students with disabilities, based on the decisions for each student, it is possible to organise the adaptation of teaching materials, production and adaptation of audio recordings of lectures, digitisation of literature, launching e-subjects, educational assistance, volunteer services, contacts with associations and relevant institutions. The UNIZG publishes printed materials for better student welfare: (for example: [National Higher Education Equity Policy](#), [Guidelines for Enhancing the Support System for Students with Disabilities in Higher Education in the Republic of Croatia](#), [Rules of Procedure for Adopting Recommendation on Adjusting the Teaching Process and the Way of Taking Exam](#), etc.).

FVMUZ teachers, in cooperation with the Student Affairs Office and the Vice-dean for IUGS and students, monitor and respond to the needs of students from vulnerable groups. After the earthquakes that hit the cities of Zagreb and Petrinja, the FVMUZ issued a notice to cover tuition fees for students from earthquake-affected areas. The practice of the FVMUZ is also to provide socially disadvantaged students with an alternate payment schedule for tuition fees (payment in instalments) or to meet their needs by allowing them to study for free (all documentation on such procedures is kept in the Student Office).

Standard 7.5: The basis for decisions on progression (including academic progression and professional fitness to practise) must be explicit and readily available to the students. The VEE must provide evidence that it has mechanisms in place to identify and provide remediation and appropriate support (including termination) for students who are not performing adequately. The VEE must have mechanisms in place to monitor attrition and progression and be able to respond and amend admission selection criteria (if permitted by national or university law) and student support if required.

Progression criteria and procedures for all students

Students attain the right to progress to the next year of study by fulfilling all the prescribed obligations and passing the exams. The rules for student progress are described in the Information Package (IP) (HR) (ENG) and the Student Guide (SG) (HR) (ENG) (see Appendix 3.2.), which is available on the FVMUZ website at the beginning of each semester/academic year. Also, each year in April, course leaders discuss and revise the progression rules, which are then forwarded to the Committee for IUGS and later accepted by the FC (and subsequently published on the website and SG).

In accordance with the [Decision of the Government of the Republic of Croatia, UNIZG Senate](#) and the [FVMUZ](#), students earning 55 ECTS credits in the 2020/2021 academic year are exempt from tuition fees for the 2021/2022 academic year.

Students who have earned fewer than 30 ECTS credits must pay the tuition fee in the maximum amount, as prescribed by the Decision of the Government of the Republic of Croatia and the UNIZG Senate.

Students who have earned 30 to 54 ECTS, when enrolling in the next academic year, will pay a tuition fee in an amount based on the number of ECTS credits earned and their grade point average (see Appendix 7.3.).

Analysis of data on student progress is conducted regularly, data are available to teachers and students, and data on progress and completion of studies are published in the FVMUZ Yearbook and are available in the ISVU and MOZVAG systems.

Remediation and Support for Students Who Underperform

Students can take the exam in the same subject maximally four times. The 4th time student takes the exam, it is in front of an exam committee. Students may enrol in the same subject no more than twice in a row. If the student does not pass the exam even after re-enrolling in the subject (after a total of eight attempts), student will lose the right to study at FVMUZ. Students with obvious difficulties can use the service for Office Career Development, Academic and Psychological Counselling.

Advertisement to students and transparency of criteria/procedures

Students are familiarised with the criteria and methods of evaluating LOs in every subject at the start of class, through the LMS and via the unit websites. Criteria and methods for evaluating LOs are part of the syllabus for every subject. Students can monitor their grades through the LMS and ISVU systems. All criteria and procedures are outlined in the curriculum and other relevant documents, including the description of the subject in the LMS. Students can access their transcripts of grades via the LMS. Evaluation modality and exam criteria are announced during the first class and via the LMS at the start of the semester. First year students go through a comprehensive introductory programme and are given guidelines by their mentor. Students themselves can seek advice elsewhere, including the Student Affairs Office and Student Office.

Description of the rate and main causes of attrition

The FVMUZ monitors study success rates annually and overall, for every offered programme. In most cases, students transfer to another university or study programme within the first two years.

The number of enrolment quota is set by FVMUZ and UNIZG. Other decisions regarding enrolment quotas are made by authorised committees, at the proposal of the UNIZG Rector's Collegium, nine months before the start of the academic year. In the year in which enrolment is planned, the UNIZG Senate passes a decision on criteria for proposing enrolment places (quotas) for integrated undergraduate and graduate studies. On the basis of the established criteria, the FC sets the enrolment quotas, which are then verified by the Senate. Mentioned decision is then published on the UNIZG website. Following the Decision of the Senate and Article 77 of the Act on Scientific Activity and Higher Education (OG 123/03, 198/03, 105/04, 174/04, 2/07, 46/07, 45/09, 63/11, 94 /13, 139/13, 101/14, 60/15 and 131/17) admission to study is the basis on a public announcement published by UNIZG at least six months before the start of classes. The public announcement consist: the conditions for enrolment, number of available places for enrolment, the procedure, information on documents to be submitted and application deadlines for the competition and enrolment.

Standard 7.6: Mechanisms for the exclusion of students from the programme for any reason must be explicit. The VEE's policies for managing appeals against decisions, including admissions, academic and progression decisions and exclusion, must be transparent and publicly available.

Mechanisms for the exclusion of students

Student status can be lost by not enrolling in the next academic year or semester or by not acquiring at least 35 ECTS credits in two consecutive academic years.

The loss of student status can be caused by not taking exams as established by Article 71, paragraph 4 of the [Statute of the UNIZG](#). Therefore, if the student does not pass the exam even after re-enrolling the subject (after the 8th exam in total), student loses the right to study at FVMUZ.

The disciplinary measure of exclusion from studies can be foreseen and pronounced only for serious disciplinary offenses. The student's disciplinary responsibility, especially disciplinary acts, disciplinary procedure and disciplinary sanctions, are prescribed by the FVMUZ general act Regulations on the Disciplinary Responsibility of Students of FVMUZ ([HR](#)) ([ENG](#)).

A student withdrawing from studies is issued a certificate indicating the duration of study, the total ECTS credits earned and the list of passed exams with the associated ECTS credits and grades achieved. A note about the withdrawal is entered in the student document.

Description of the appeal processes

The grade appeal process is described in the “[Regulation on IUGS programme](#)” (Article 50). A student has the right to appeal a grade within 24 hours of receiving the results. The dean, within 48 hours of receiving the appeal, appoints an examination committee (EC) of three members and the exam is repeated in front of the EC. The exam must be repeated within three days of the student's appeal. Over the last 3 years, a total of eight formal appeals have been made.

Standard 7.7: Provisions must be made by the VEE to support the physical, emotional and welfare needs of students. This includes, but is not limited to, learning support and counselling services, career advice, and fair and transparent mechanisms for dealing with student illness, impairment and disability during the programme. This shall include provision of reasonable adjustments for disabled students, consistent with all relevant equality and/or human rights legislation. There must be effective mechanisms for resolution of student grievances (e.g., interpersonal conflict or harassment).

Support to students starts in the first "Welcome day" at FVMUZ. The meeting is devised and run by staff (Leader of the 1st year of study, Dean, Vice-dean for IUGS programmes) and students together.

Student welfare

Adequate support for students has been ensured through the new Office Career Development, Academic and Psychological Counselling (OCDAPC) ([HR](#)) ([ENG](#)), as well as the existing *Student Affairs Office* (SAO). ([HR](#)) ([ENG](#)). The SAO was founded in the 2010/11 academic year and since then employees of the SAO are ready to serve students in both Croatian and English. One of the SAO tasks is to promote, monitor and protect the rights and interests of the FVMUZ students. It provides advisory services from the day students apply to the FVMUZ until their graduation day. At the SAO, the Vice-dean for IUGS is available to students. For Croatian and English students at the UNIZG there are also two offices that provide student support: [Croatian OCDAPC UNIZG](#) and [English OCDAPC UNIZG](#). The SAO and the UNIZG publishes printed materials for better student welfare (for example: [National Higher Education Equity Policy](#), [National Plan for Improving the Social Dimension of Higher Education in the Republic of Croatia 2019](#), [Vulnerable Groups in High Education in the Republic of Croatia](#), [Strategy for the Development of the Student Support of the University of Zagreb \(2013 – 2025\)](#) ect.)

Teaching administration

Each year has a senior member of academic staff (Head of Year) who oversees the teaching and assessment for that year (see Appendix 3.4.). Students may contact the Head of Year by email at any time throughout the academic year, to obtain academic assistance.

Mentoring and tutoring

The [applicable Regulations](#) define the participation of teachers and assistants in the mentoring system, which has been implemented at the FVMUZ since 2010/11. From the first year of study, students are divided into smaller groups (of approximately two students) and a mentor (academic staff). Mentor is required to provide their students with basic instructions for their studies, and to be

at the student's disposal for questions and advice throughout the academic year. Introductory meetings are organised for first-year students to facilitate their introduction to academic life and familiarise them with the [teaching and other activities](#) of FVMUZ. Consultation hours for students are announced before the beginning of classes.

Student life at the FVMUZ

Student participation in the FVMUZ's activities is described in the FVMUZ Statute, and other [UNIZG legal acts](#). Cohesion and collaboration between FVMUZ staff and students are achieved by:

- Active participation of students in decision-making (student representatives on FVMUZ committees).
- Support for students in their scientific-research activities (mentoring).
- Support for students in their extracurricular activities (student associations).
- Care for students with special needs during the teaching process.
- FVMUZ has work guidelines for the inclusion of students with special needs (disabled).
- Demonstrators (students who assist teaching staff in conducting practical work) are encouraged as part of their veterinary education.
- Every academic year, the [Dean's Award](#) for success in the studies is awarded to encourage success in studies and recognise the best students. The criteria for the award are prescribed in manuals and the [Acts of the Faculty](#) and [UNIZG](#).

Student associations

Students can join the Student Council of the UNIZG (SCUZ), International Veterinary Students' Association ([IVSA](#)), Equus, [SportVef](#), [Vet society](#) or in the [choir Ab Ovo](#) (academic FVMUZ choir). FVMUZ and students have established various student associations that enable students to participate in extracurricular, cultural and educational activities. There are two active student associations with their respective sections: U.S.V.M. "Equus" (with its sections for exotic animals Exoteam Equus, equestrian section, and botanical section ArborVEF) and the [Association of Veterinary Medicine Students](#) (USVM; with its associated sections - [SportVEF](#), [IVSA](#), [Debate Club](#), and [Vet Society](#)). There is also the [Hunting Section "Dr. Oto Rohr"](#) which students can also participate in. Like other UNIZG constituents, FVMUZ also has its own [Student Council](#) with 17 members from the IUGS programme and eight members of postgraduate studies, elected by the entire student body, as their representatives at the FVMUZ and UNIZG. Student associations encourage an exchange of student's experiences, organise various events, excursions, congresses, workshops, exhibitions ([Reptilomania +](#)), etc.

Student mobility

[The Regulations on International Mobility](#) (effective from 20th of April 2017) regulate the basic principles of mobility for incoming and outgoing students at the University of Zagreb, the students' rights and obligations, the ECTS coordinator role at the University and its constituents, as well as other issues related to the implementation of mobility programs. FVMUZ supports student mobility through bilateral agreements and participation in mobility programmes ([ERASMUS](#), [CEEPUS](#), etc.), and welcomes foreign students during their mobility programmes. Recently FVMUZ is the leading faculty of UNIZG in terms of the number of student mobilities, with a substantial waiting list (all clinic placements are filled one year in advance). Mobilities are advertised mainly via the [website](#) and [Office for International Cooperation](#) (OIC) providing completely information about ERASMUS, CEEPUS, AUF, etc. There is also an OIC at FVMUZ, and regular consultations of interested students with Vice-dean for science, postgraduate studies and international cooperation are held. Notifications to students are also available on the website, Facebook page and via e-mail. The 12th semester of IUGS is a mobility window, as student practice can also be performed abroad, through ERASMUS+, CEEPUS, [AUF](#), etc. (see Appendix 7.2.). Positive examples of student practice through ERASMUS+, CEEPUS, AUF and other mobility programmes are regularly published in the student journal *Veterinar*.

Possibility of volunteering at FVMUZ

Through [volunteer contracts](#), interested students are able to participate in practical work in different units, such as assisting in obstetrics and reproduction, assisting during surgical procedures in clinics, laboratory work and animal care. (Other documents related to volunteering: [Law on Volunteering](#), [Code of Ethics for Volunteers](#), [Appendix Volunteer agreement](#), [Certificate of volunteering](#) and [Certificate of competence](#)).

Student rooms, health care and student nutrition

Student rooms are located in the main building of the FVMUZ and in building no. 6, where students can spend the whole day (open from 8 am to 9 pm) or use them for their own organisational needs. Student associations also use those facilities. Coffee, drink and snack vending machines are available in some of the FVMUZ buildings. Students participating in night shifts and at the clinic premises can use room equipped with beds.

Student Journal [Veterinar](#)

Since 1938, students have been continuously publishing the journal *Veterinar*, which publishes professional and original scientific papers from various fields of VM. Each published scientific-professional paper was created in collaboration between students and their mentors.

Student standard (accommodation, food and Student Service)

UNIZG students have [16 Student Centre](#) restaurants and three private restaurants at their disposal. Students can be entitled to a direct right to accommodation in student dorms on the basis of their grade point average (GPA), social conditions, special conditions or disability. Student dorms are equipped with computer networks and free internet service. Along with the items listed, as part of student dorms there are restaurants, classrooms, recreational resources, a foreign language school, medical and dental office, coffee shops, pastry shops and post office. UNIZG students are entitled to use the [Student Service](#) which is administered by the Student Centre, offering temporary and periodical jobs to students who want or need to work so they can acquire new work experience or generate additional income.

Every academic year, university scholarships are awarded to successful students and to students of poor financial status.

Medical examination for students

A medical examination of freshmen in the 1st year of study is mandatory. Throughout their studies, students can contact their student physician ([HR](#)) ([ENG](#)). Preventive and specific health care for full-time students is provided by school medicine teams, usually consisting of a school medicine specialist and a nurse. English and Croatian students can find all the necessary information on UNIZG website [Student health and wellbeing](#). Each individual team is responsible for a specific faculty. The Ministry of Health has approved the pre-exposure rabies vaccination for students and staff members of the FVMUZ unit. This vaccination is administered to FVMUZ clinic staff members and students from the 3rd year of study, according to the schedule.

Student Identity Card (X-Card)

The X-card is the identification card for full-time students of the UNIZG, which allows them to fulfil their rights. It is used to prove student status so that students can benefit from student privileges, such as subsidised food, preferential public transport rates and lower prices in some public institutions. Information to the students on using this card can be found at FVMUZ ([HR](#)) ([ENG](#)) and the [UNIZG level](#). Students need the X-card if they want to dine at student restaurants. The IP contains X-Card information.

The SO prepares all information for freshmen about the X-Card, and students receive their X-Card in the introductory lecture in the first week of classes.

Direct communication with students

Direct communication with existing and future students is possible through the page “Frequently Asked Questions” ([HR](#)) ([ENG](#)). The FVMUZ has an e-mail address for student questions, which are forwarded to ECTS coordinators. Professors offer consultation hours for students, and they are available to them via e-mail. The FVMUZ organises workshops and presentations for students. The goal is to continually inform students on current questions.

Information or data related to studies

The Ministry of Science and Education collects and processes information or data related to studies, students or teachers through the ISVU. Students can access it with their AAI Identity. The user account (AAI identity) is part of the Croatian Academic and Research Network [CARNet](#). This account enables students to access the [LMS platform](#) and the ISVU, e-mail, literature databases, intranet, etc. The student can find several sources that show the learning outcomes ([HR and ENG](#)). These are the Information Package ([HR](#)) ([ENG](#)), individual subject syllabi ([HR](#)) ([ENG](#)), and on the website under [CIUGS](#) there are catalogues of all LOs for compulsory, compulsory-elective and elective subjects.

Description of the mechanisms for resolution of student grievances

Student questions and complaints are resolved according to the principle of subsidiarity, i.e., according to the time and place scale. Accordingly, student questions and complaints are commonly resolved at FVMUZ. If the problem cannot be solved that way, students can submit their claim and necessary documentation to the UNIZG. Students have a daily opportunity to present their problems and questions to the Student Office and Student Affairs Office, either in person or by e-mail. Also, they can use the same services at the UNIZG. Any complaints are resolved in a timely manner, according to the legal acts of the UNIZG and FVMUZ. A student legal attorney is available at UNIZG for mediating between individuals to assure student rights and obligations. The purpose of counselling available at the UNIZG is to assist students in dealing with the most important problems related to faculty adjustment, learning problems, reproductive health (sexually transmitted diseases, pregnancy and family planning), chronic health problems, drug abuse and other forms of addictions.

English and Croatian students can find all the necessary information on the UNIZG website:
in English - [Student Counselling and Support Centre](#);
in Croatian: [Student legal attorney UNIZG](#), [Student Services](#).

Standard 7.8: Mechanisms must be in place by which students can convey their needs and wants to the VEE. The VEE must provide students with a mechanism, anonymously if they wish, to offer suggestions, comments and complaints regarding compliance of the VEE with national and international legislation and the ESEVT Standards.

The mechanisms allowing students to provide their needs, complaints, comments and suggestions to the VEE

Student rights and responsibilities are established under the [Regulation on IUGS programme](#). Furthermore, students and their representatives can address the FVMUZ, Vice-Rectors and Rector of UNIZG for questions about their education at any time. This open-door policy is considered a crucial part of everyday quality control. Since students are represented in relevant committees, they can provide input on all relevant issues. A system of student disciplinary responsibility has been established (supported by the Regulation on Student Disciplinary Responsibility ([ENG](#)) ([HR](#))) together with a complaint reporting system ([Instructions on receiving complaints, forms for reporting complaints](#)). Also, a [confidential person](#) was appointed for internal reporting of irregularities and this procedure is described in the [Regulation on Reporting Irregularities](#). In accordance with the provisions of the [UNIZG Code of Ethics](#), a [three-member commission and](#)

[their deputies](#) were appointed at FVMUZ. This commission acts as an advisory body in the implementation of the Code of Ethics and the development and application of ethical standards in a specific area. The Ethics Committee issues opinions on matters of principle as well as on the compliance of behaviour in specific cases with the principles and provisions of the Code of Ethics, for which purpose it can also conduct proceedings in accordance with the provisions of the [University's Code of Ethics](#).

Comments on Area 7

During lockdown, and especially after it ended, and students returned to the premises of the FVMUZ, a larger number of visits were recorded to the Office Career Development, Academic and Psychological Counselling. The visits were often related to anxiety with regard to COVID-19 or the earthquakes, and students were provided with counselling support. There was particularly intensive communication by e-mail, which was also the most frequently used form of communication. If students needed psychological assistance, they were instructed that they could find help through special student doctors' offices from the official lists of the UNIZG and the FVMUZ. A network of complementary policies, processes and supports at the level of both the UNIZG and the FVMUZ function effectively and efficiently to manage this area.

Suggestions for improvement in Area 7

- More attention should be paid to rewarding excellence, not only in learning but also for other activities (tutoring systems, international exchange, engagement of students in research, QA activities, student support services...).
- More academic coaching sessions should be dedicated to first year students to improve their self-management skills, such as time management, organisation and learning skills.

Area 8. Student assessment

Standard 8.1: The VEE must ensure that there is a clearly identified structure within the VEE showing lines of responsibility for the assessment strategy to ensure coherence of the overall assessment regime and to allow the demonstration of progressive development across the programme towards entry-level competence.

The curriculum clearly defines methods of testing and scoring, and the examination schedule. Students are assessed objectively as described in the current UNIZG and FVMUZ criteria and rules ([Regulation of IUGS programme](#), [Statute of the UNIZG](#), etc.). The assessment of students correlates with the syllabus and the whole study programme, by targeting the LOs. Students are informed about the method used in the exams and the criteria that will be applied at the beginning of each specific subject. Assessment information are available before the start of subjects in the Information Package and each subject syllabus ([HR](#)) ([ENG](#)). All syllabi are available via the intranet and are password protected. A standardised form has been in use since 2016/17 for both IUGS programmes, Croatian and English. In the introductory lecture, course leaders outline the information of assessment to students. Students are provided with timely feedback on the results they achieved in exams. Feedback on grading is given orally, via LMS or ISVU platform, in accordance with General Data Protection Regulation (GDPR).

At FVMUZ, LOs are the basis of evaluating and grading. Results of evaluation are expressed by a grade that is the result of monitoring and verification through summative and formative evaluation. (Formative evaluation means continuous studying in all compulsory subjects, while Summative evaluation is used for compiling the final grade for compulsory subjects and elective subjects).

The main component of the teaching process is evaluating acquired LOs connected competencies. The FVMUZ focuses on assessment through exams based on LOs to determine if students have acquired the required knowledge and skills (DOC).

Verification means testing with oral tests, written exams, online knowledge tests, systematic monitoring, seminar papers, colloquiums, evaluation of achievements in the achievement of LOs during the teaching process, and other ways that can show the level of adoption of learning outcomes.

Questions on the written final exam may include: multiple-choice questions, true/false, short-answer questions, linking, random short-answer matching, inserting an answer, essay, calculation questions, descriptive question. For written exams, the following applies: written, multiple choice, short answer questions.

Class activity is evaluated during class. It includes attendance and achievement success through critical presentations, essays, oral presentations, project tasks, mathematical tasks, practical tasks, and individual or group presentations.

Participating in practical work includes preparation, solving tasks from the exercises and assessing knowledge, in accordance with the defined LOs.

The seminar paper is a class activity based on expanding a specific thematic unit. It implies the writing of a paper (seminar) defined by the LOs of individual subject and an oral presentation, individually or in a group.

There are two types of knowledge assessment at the FVMUZ: (1) colloquium organised during classes to assess student knowledge on specific subject matter of the subject; and (2) Final exams assess knowledge of the entire subject matter (LOs established by the study programme). Forms of colloquiums used may differ.

Continuous monitoring procedures, evaluating LOs (through a colloquium or final exam) are detailed in each subject syllabus.

According to the above [Regulations of IUGS programme](#), the final exam may be taken by a student who has met all the prescribed obligations determined by the study programme and has registered to the exam within the deadline (Article 49).

The number of absences and the justification of absences are regulated in Articles 41, 42 and 43 of the [Regulations of IUGS programme](#).

ECTS credits are acquired after the successful fulfilment of all stipulated obligations and the application of appropriate methods for evaluating the established LOs, i.e., after passing the exam.

The teacher keeps official records of the results and stores them in the archives of the unit and in the ISVU.

The number and time of exams are regulated in Article 51 of the [Regulation of IUGS programme](#).

Assessment methodologies

Theoretical knowledge - For the verification of theoretical knowledge in the subjects, in addition to the continuous verification of knowledge, summation assessments are applied, depending on the exam method applied: only oral exams, only written exams, or a combination of written and oral exams. Theoretical knowledge is verified by written exams using different types of questions for assessing cognitive and procedural knowledge. Questions for written exams are subject to extensive QA processes that extend through several stages: (pre)review (creating a database of questions); exam review (composing the exam) and subsequent review (after the review). Written electronic exam questions are generated by experts and aligned with the LOs. The post-review draws on a variety of sources (comments made by students viewing their examinations, statistical analyses).

Pre-clinical practical skills - Pre-clinical practical skills are primarily assessed in a structured oral examination. The exam is designed in such a way that each area of a particular subject is allotted about few minutes for an answer. In subjects with a continuous assessment of knowledge, additional examination may include an examination of an on-site demonstration of a skill.

Clinical practical skills - Exam questions and the entire examination is conducted as a structured oral exam, in which the examiners noted the question, answers and points for each candidate. All examinations are competence-based and test both specialist veterinary knowledge and skills and professional attitude, to determine whether students have acquired the DOC. During Clinical practice, students are required to keep an [Ambulatory Clinic Logbook](#). The DOC list is available to students, teachers and external stakeholders in the logbook and other documents related to extramural and clinical subjects.

Soft skills - Communication skills are integrated in the curriculum (Communication Skills in Veterinary Medicine and other clinical subjects). Other soft skills, i.e., time management, dealing with pressure, the contribution of students during teamwork, creative task to solve a given topic are evaluated through the exam.

Standard 8.2: The assessment tasks and grading criteria for each unit of study in the programme must be published, applied consistently, clearly identified and available to students in a timely manner well in advance of the assessment. Requirements to pass must be explicit. The VEE must properly document the results of assessment and provide the students with timely feedback on their assessments. Mechanisms for students to appeal against assessment outcomes must be explicit.

Processes for ensuring the advertising and transparency of the assessment criteria/procedures

The criteria, rules and procedures for assessment of students are defined by the Regulations on IUGS of the FVMUZ, the Act on Quality Assurance in Science and Higher Education, and the Regulations on the Quality Assurance System at the UNIZG and the [Statute of the UNIZG](#). Those activities include the organisation of colloquiums and exams, criteria and methods of assessment by examiners and commissions, transparency of assessment and quality assurance of the entire knowledge assessment process. The integrated grading system implemented by the decision of the FC and currently in place, records student attendance and all student activities assessed throughout the subject, and the formation of the final grade includes all achievements mentioned above with the achievement during the final exam (see Appendix 8.1.).

Other measures ensure the transparency of assessment criteria:

- Students can receive additional information at the introductory class of a particular subject and in the Student Office (informational meetings about exam regulations with detailed definitions).
- Consultation and discussion time is provided for students after the colloquium or exam.
- Lecturers can obtain information at regular staff training workshops.

Processes for awarding grades, including explicit requirements for barrier assessments

With the aim of applying the ECTS credit system, achieving horizontal and vertical mobility of students, transparency and the correct presentation of the final LOs of all subjects in the diploma and Diploma Supplement, student success in the exam is expressed by with numerical grade from 1 to 5 and a numerical system that is compared with the ECTS grade system from A to F, according to Article 71, paragraph 3 of the [Statute of the UNIZG](#): F (insufficient), D (sufficient), C (good), B (very good) and A (excellent). The following grades and binding grading framework are generally used:

| Scale | Grade |
|----------|--------------------|
| to 59 | 1 (insufficient) F |
| 60 – 76 | 2 (sufficient) D |
| 77 – 84 | 3 (good) C |
| 85 – 92 | 4 (very good) B |
| 93 – 100 | 5 (excellent) A |

Detailed rules on the maximum possible score and the rules governing repeat examinations are set out in the individual documents (syllabus) ([HR](#)) ([ENG](#)).

Processes for providing students a feedback post-assessment and a guidance for requested improvement

- At the introductory class of each subject, the teacher familiarises students with student obligations and the methods of monitoring achievement during the semester and exams, which includes information on obtaining the status of an attended or passed subject and the method of assessment.
- Teachers offer scheduled appointments for consultations before the actual exam and are available to students via e-mail.
- The student registers to take an exam via the ISVU before the start of the exam period according to the published deadlines. The schedule of registered students is visible in the ISVU and must be published no later than 24 hours before the start of the exam on the notice board or the LMS platform of the organisational unit. If a student cannot take the exam for any reason, they are required to cancel it through the ISVU, within the set deadlines for cancellation.

- Exam results are first released on a preliminary basis in the LMS platform or notice board and students have a chance of inspecting the written exam by commenting on every question. This is followed by a subsequent review and, if necessary, correction of the exam results. The exam results are discussed individually with students during or at the end of the exam.
- Final results are then published in the ISVU and upon publication they immediately become visible to students. Application forms and printed records of the held exam must be delivered to the Student Office upon completion of the exam.
- A special record is kept for the final exam. Exam data is kept individually for each student at the unit levels and at the Student Office. At the unit levels, data is entered in the ISVU, on the application form and on the student record card. At the Student Office the data is stored in the ISVU and the application form is stored in the personal file of each student.
- After written exams students have the possibility to access the examination documents and can discuss it with the teacher. Course leaders continuously work on improvement, especially in the creation, conducting and assessment of final exams.

In addition to providing opportunities for correcting mistakes and progressing, FVMUZ encourages student motivation and self-esteem through quality feedback. In accordance with the curriculum and LOs, the procedures for evaluating LOs have been permanently improved.

The appeal processes against assessment outcomes (see details in Standard 7.6)

Standard 8.3: The VEE must have a process in place to review assessment outcomes, to change assessment strategies and to ensure the accuracy of the procedures when required. Programme learning outcomes covering the full range of professional knowledge, skills, competences and attributes must form the basis for assessment design and underpin decisions on progression.

The examination regulations are integrated into the curriculum pursuant to current UNIZG and FVMUZ criteria and rules ([Regulation of IUGS](#), [Statute of the UNIZG](#)) and thus fall within the remit of the IUGS Programme Committee and Quality Management Committee. The CIUGS is responsible for organising, communicating and monitoring these examinations.

Cycle Assessment Strategy for Examinations:

1. Regular check of the EU directives, ESEVT standards; Fair, objective and precise assessment conditions; Monitoring and alignment of examination regulations (Vice-dean for IUGS and students; CIUGS and QAC).
2. Development and peer review of examination questions; Development of new examination formats; Organisational support of assessments (Vice-dean for IUGS and students; Teaching and examination staff).
3. Internal monitoring and analysis of grades, student's and teacher's feedback (Teaching staff; Students; Administrative units; QAC).

During development of the undergraduate curriculum, the format and content of examinations were constructively aligned to the predefined learning outcomes.

The link between learning outcomes and assessment design

By introducing Formative assessment of students and assessing all activities during class, continuous work is encouraged, which promotes better mastery of the material and achieving the required levels of LOs. By taking a systematic approach to LOs, we intend to establish the quality connection between LOs, methods of learning, assessing the achievements and grading. For the quality of the evaluation process, FVMUZ considers very important that students receive quality feedback on their achievements. We believe that timely given information help students in their self-regulation of learning.

Standard 8.4: Assessment strategies must allow the VEE to certify student achievement of learning objectives at the level of the programme and individual units of study. The VEE must ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach.

System to certify student achievement of learning

FVMUZ ensures the achievement of the LOs at the level of each subject and the study programme as a whole. During the teaching of all subjects, according to the Regulations on IUGS, attendance of lectures, seminars and exercises is continuously monitored, as are activities in seminars and exercises, and the results of colloquiums. The sum of points thus gained is added to those obtained in the final exam, which ultimately allows for the formation of the final grade for that subject (Tables 8.4a, b and c) (see Appendix 8.1.).

The final exam of a subject is a final check of the acquired knowledge and skills. The precisely established system of monitoring and grading students during the teaching process, with regular reporting to students on the points earned, also allows transparency in the teacher-student relationship, eliminating possible disagreements. The introduction of this method of monitoring students during teaching activities and its evaluation encourages continuous work that promotes a better understanding of the subject matter and achieving the required levels of LOs. The grading system of the exams seems well balanced and reflects the efforts towards objective evaluation and does not rely only on the final summative assessment.

The strategy for encouraging students to take an active part in the learning process

Students are encouraged to take active part in the learning process by elements of activity assessment in practical classes and seminars, during formative assessment. In this context, organisation of classes contributes to active ways of working with students (experimentation, role-play, simulation, educational games, and creative application of what they have learned). Formative assessment is implemented, with the goal of verifying the progress in achieving the LOs and providing feedback to the teacher and student on how to achieve the desired LOs. At the beginning of the teaching process, assessment elements and criteria are determined for each element (Tables 8.4. a, b, c) (see Appendix 8.1.). Teachers encourage student responsibility for learning in different ways, such as:

- Creating optimal conditions for each student to realise their potential and achieve the LOs. Therefore, the professor monitors the work and progress of each student and provides feedback.
- Clarifying and discussing with students how to achieving LOs (criteria, standards).
- Ensuring interaction and dialogue about learning (between teachers and students; among students) that enables the development of self-evaluation skills and encourages reflection in learning.

Standard 8.5: Methods of formative and summative assessment must be valid and reliable and comprise a variety of approaches. Direct assessment of clinical skills and Day One Competences (some of which may be on simulated patients), must form a significant component of the overall process of assessment. It must also include the quality control of the student logbooks in order to ensure that all clinical procedures, practical and hands-on training planned in the study programme have been fully completed by each individual student.

In accordance with the regulations of the UNIZG, all subject teachers, together with the course leader, decide on the goals and LOs of the specific subject. The Regulations on the Study Programme Assessment Procedure of University Undergraduate, Graduate, Integrated Undergraduate and Graduate, and Vocational Studies at UNIZG precisely describe how the LOs can

be updated. Also, the legal acts of FVMUZ describe the process of analysis and updating subject LOs. The procedure is described in the Regulations on IUGS, the Regulations on the quality assurance system and other relevant documents. In conclusion, the successful mastery of all LOs at the level of the integrated study programme is manifested in passing or positive assessment of compulsory and elective subjects, and a prepared and defended diploma thesis. The annual Information Package and the subject syllabus describe the subject objectives and LOs. The increasingly frequent introduction of e-learning, within the permitted percentages, to the subjects of the integrated study programme enables the application of new, modern tools, such as self-evaluation, which allow students to check their level of knowledge during the subjects.

Comments on Area 8

In recent years, mainly within the scope of EU projects, various workshops have been organised for FVMUZ teachers with the aim to improving teacher competencies and skills. The list of workshops and participants is provided in Appendix 9.2. The new workshops are planned with aim that participants should be able to select and implement appropriate teaching methods with regard to LOs, provide feedback and encourage active student involvement during the teaching process, and implement the recommendations for more effective communication with different stakeholders in the teaching process.

Suggestions for improvement in Area 8

- Student self-assessment tools (such as quizzes in Moodle or Kahoot, workshop in Moodle) should be improved. Mentioned tools assist students in preparing for final exams and strengthen the process of active learning.
- Further development of platform for conducting and verification of exams, in digital form.

Area 9. Academic and support staff

Standard 9.1: The VEE must ensure that all staff are appropriately qualified and prepared for their roles, in agreement with national and EU regulations and must apply fair and transparent processes for the recruitment and development of staff. A formal training² (including good teaching and evaluation practices, learning and e-learning resources, biosecurity and QA procedures) must be in place for all staff¹ involved with teaching. Most academic staff (calculated as FTE) involved in veterinary training must be veterinarians. It is expected that more than 2/3 of the instruction that the students receive, as determined by student teaching hours, is delivered by qualified veterinarians.

More than two-thirds of the academic staff participating in the delivery of the IUGS programme are trained veterinarians, while the remaining lecturers are experts in other areas according to their competencies. Non-veterinarians participate in basic subjects (chemistry, biochemistry, physics, English, etc.) and also in FSQ and VPH. The list of current academic staff, qualifications, their FTE, teaching responsibilities and departmental affiliations is given in Appendix 1.1. The list of scientific publications by the VEE academic staff in peer reviewed journals during the last three academic years is given in Appendix 10.1. The selection and filling of positions among employees and academic staff is performed in accordance with the assessment of current resources of the FVMUS and drafting of the annual recruitment staffing plan. The plan with a detailed job description is sent for approval to UNIZG and the Ministry of Science. Upon approval of the plan, UNIZG and Ministry issue approvals for each individual position. This is a general process for both curricula and we do not employ specifically for the English curriculum. UNIZG reviews the alignment with the existing plans and total university quotas for all positions. Staffing for an individual area is the responsibility of the Head of Unit. If they identify the need for new staff then that is discussed at [Committee for Appointments to Scientific, Scientific-Educational, Educational and Associate Titles and Positions](#) (Allocation Committee) and a case produced to be presented by the Dean to FC. Once a post has been agreed and put on the staffing plan replacements for staff are approved at FC. Public calls for applications for new candidates and job competitions are prescribed by the national, UNIZG and FVMUZ regulations, and published in the OG, media, on the website and on the [Euraxess portal](#).

Furthermore, the scientific and practical experience of academic staff is evaluated through an assessment of teacher activities every five years in line with the prescribed procedure (Appendix 9.1.). For monitoring the teaching and scientific competencies of academic staff, FVMUZ has set up the Allocation Committee which continually tracks the professional development of teaching staff, organises, executes and improves their advancements according to the established procedures for ensuring the development of scientific and teaching competencies (see Appendix 9.1).

The FVMUZ action plan for each year provides a guideline for teacher training at the FVMUZ. The academic staff on the IUGS programme undergo teacher training. The programme followed is determined by their level of involvement with the curriculum. Every year, teachers have the opportunity to attend training courses organised by the FVMUZ or the SRCE. The FVMUZ teachers also attended Active Learning and Critical Thinking courses to raise their teaching competencies. The Office for Career Development, Academic and Psychological Counselling organised training for FVMUZ teachers and support staff on various topics on the national level, such as:

- o Fundamentals of Didactics and Methodology,
- o Monitoring and Assessment of Learning Outcomes,
- o Teaching Process and Methods,
- o Teaching Unit Preparation,
- o Collaborative Learning.

As continuous improvement of teachers' professional and teaching competencies is one of the main goals of the QA system, special workshops (Appendix 9.2.) were organised within the HKO project that enabled teachers to upgrade their teaching competences. Also, through the SOFTVETS project (coordinated by FVMUZ, funded by ERASMUS) numerous workshops related to the acquisition of

soft (life) skills of teachers and students (communication, entrepreneurial, digital skills) were conducted. English language courses were provided through the project *Establishment of postgraduate master studies of veterinary medicine in English* for academic and administrative staff.

The development of scientific, teaching and professional competencies of assistants and post-doctoral students is performed systematically, in line with the procedure defined by the general act of the FVMUZ, and the [Regulations on evaluating the work of assistants, and assistant supervisors](#).

Unit heads familiarise employees with job descriptions and internal acts regulating workplace safety. The employee is acquainted with the general rules of workplace safety, fire protection, and biosecurity in effect at FVMUS. Mandatory training in fire protection and biosecurity, etc. is conducted with the delivery of written materials and workshops for employees.

To improve general safety and biosecurity, FVMUZ engaged an independent expert to assist in drawing up evacuation plans for each FVMUZ building (and posted in visible places in the buildings), and all exits, hydrants, fire extinguishers, etc. are marked. The Dean appoints the Biosecurity Committee.

Standard 9.2: The total number, qualifications and skills of all staff involved with the programme, including teaching staff, ‘adjunct’ staff, technical, administrative and support staff, must be sufficient and appropriate to deliver the educational programme and fulfil the VEE’s mission. A procedure must be in place to assess if the staff involved with teaching display competence and effective teaching skills in all relevant aspects of the curriculum that they teach, regardless of whether they are full or part time, residents, interns or other postgraduate students, adjuncts or off-campus contracted teachers.

Table 9.2.1. Academic staff** of the veterinary programme

| Type of contract | 2021/22 | 2020/21 | 2019/20 | Mean |
|------------------------|---------|---------|---------|--------|
| Permanent (FTE) | 113 | 115 | 115 | 114.33 |
| Temporary: | | | | |
| Interns (FTE) | 5 | 2 | 5 | 4 |
| Residents (FTE) | 7 | 6 | 5 | 6 |
| PhD students (FTE) | 38 | 37 | 35 | 36.66 |
| Practitioners (FTE) | 4 | 5 | 4 | 4.33 |
| Others (specify) (FTE) | 12 | 12 | 13 | 12.33 |

* The last full academic year prior the Visitation

** All staff included in this table must have received training to teach and to assess undergraduate students. Practitioners involved with EPT are not included in this table.

Table 9.2.2. Percentage (%) of veterinarians in academic staff

| Type of contract | 2021/22 | 2020/21 | 2019/20 | Mean |
|------------------|---------|---------|---------|-------|
| Permanent (FTE) | 94.95 | 95.04 | 95.04 | 95.01 |
| Temporary (FTE) | 90.27 | 89.85 | 90.32 | 90.14 |

Table 9.2.3. Support staff of the veterinary programme (administration, library, technical staff, staff working and operative workers)

| Type of contract | 2021/22 | 2020/21 | 2019/20 | Mean |
|------------------|---------|---------|---------|--------|
| Permanent (FTE) | 130 | 130 | 138 | 132.66 |
| Temporary (FTE) | 8 | 6 | 5 | 6.33 |
| Total (FTE) | 138 | 136 | 143 | 138.99 |

Table 9.2.4. Research staff of the VEE (all personnel funded from research funds)

| <i>Type of contract</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|-------------------------|----------------|----------------|----------------|---------------|
| <i>Permanent (FTE)</i> | <i>17</i> | <i>10</i> | <i>11</i> | <i>12,66</i> |
| <i>Temporary (FTE)</i> | <i>14</i> | <i>12</i> | <i>13</i> | <i>13</i> |
| <i>Total (FTE)</i> | <i>155</i> | <i>157</i> | <i>154</i> | <i>155.33</i> |

Prospected number of FTE academic and support staff of the veterinary programme for the next 3 academic years

The number of FTE academic and support staff is prospected to remain stable. FVMUZ does not plan any significant changes in the number of academic and support staff in the next three academic years, with the exception of periodically renewing of the positions opened following retirement.

Selection into a scientific title

The teaching staff are recruited pursuant to the [Labour Act \(OG 93/14, 127/17, 98/19, 151/22\)](#) and [Collective Agreement for Science and Higher Education](#). Advertisement is open and transparent. Selection into a scientific title has been a prerequisite for selection into a teaching title since 2022 when the new [Act on Higher Education and Scientific Activity \(OG 119/22\)](#) was adopted. The selection process begins with the submission of the applicant's application to the Allocation Committee. At least three years must pass since the last selection for a new application. The Allocation Committee appoints a selection committee (SC) composed of three members (each member must hold at least the same scientific title for which the applicant is applying) from the same scientific branch as the applicant. One SC member should not be an employee of the FVMUZ. The SC evaluates the application and submits its report to the Allocation Committee, which analyses the report in accordance with the conditions for scientific advancement. If all criteria are met, the application is forwarded to the [Scientific Board of Veterinary Medicine](#) of the MSE for approval. The FC must approve each phase of these activities. If all criteria have not been met, the application is declined (at any of the above stages).

Selection into a teaching title

Based on the annual employment plan, the unit submits an application for advancement of a teacher. The Allocation Committee appoints a selection committee (as above). If all criteria are met, the report is forwarded to UNIZG. The UNIZG Committee (part of the [Biomedical Council](#)) evaluates the report and if positively assessed, the report is forwarded to the Biomedical Council for approval. The FC must approve each phase of these activities. Final approval is given by the [UNIZG Senate](#). In the case when candidate cannot meet the requirements (five years since the previous selection), they may apply for re-selection into same position. The criteria for re-selection are prescribed by the national legislation.

The Allocation Committee proposes to the FC the appointment of a SC to elect the best candidates and proposes to the FC the acceptance of reports of the SC. During initial employment as an assistant (junior researcher), clearly defined criteria of excellence are considered, including success in studies and additional achievements in scientific work, involvement in teaching and continuous work in the unit, and other candidate achievements.

All support staff are employed in permanent positions. Support staff are recruited pursuant to the [Labour Act \(OG 93/14, 127/17, 98/19, 151/22\)](#) and [Collective Agreement for Science and Higher Education](#). After the FVMUZ body receives approval for recruitment, it is authorised to commence a public competition that is announced according to the rules. The required competencies of support staff are formally prescribed in the job description of the position. The programme for the selection, recruitment and training to perform specific duties (including continuing education) of support staff is conducted as follows: support staff are selected by the organisational unit where they will work, which also defines the job description. After a vacancy is publicly advertised, the person responsible for the appointment invites applicants to an interview with newly appointed committee that selects the best candidate based on their competencies. Human Resources prepares the

employment contracts. Support staff also participate in English study program. In order to be able to participate, an English language course was held for them as well. A work plan is prepared for the new employee assistant, and it is evaluated every year. A mentor is appointed for each assistant on the unit level. Doctoral development plan is also prepared for new employed assistant. Support staff has a probationary period of three to 6 months and is then evaluated. These plans are the responsibility of the heads, mentors, and heads of laboratories. The Office for Career Development, Academic and Psychological Counselling also conducts personal and professional development workshops for teaching and support staff, where participants have the opportunity to develop personal skills. During the academic year, a cycle of workshops is conducted for groups of teaching and support staff (see Appendix 9.2.).

Interns are selected through a public competition that is published once a year [on the FVMUZ website](#). The selection is made based on academic achievements and other supportive documents. Applicants applying for this public competition, who meet the prescribed requirements will be interviewed by appointed committee, which may include a language test and practical work with patients to check the motivation, knowledge and skills relevant to the job they are hired to.

The formal rules governing outside work, including consultation and private practice, by staff working at the VEE

In accordance with Article 64 of the [FVMUZ Statute](#) (2017), and [decisions of the UNIZG Senate](#), the scientific, teaching or professional activities of FVMUZ employees outside the FVMUZ, and financial and other interests stemming from those activities, should not be in any conflict of interest with the FVMUZ or the UNIZG. Teachers and associates in full-time employment at FVMUZ cannot conclude employment agreements with any other legal entities without the approval of the Dean. External teaching activities by FVMUZ employees at other higher education institutions, outside the University, shall be conducted by an agreement between the FVMUZ and the higher education institution, pursuant to a general act of the FVMUZ. Those activities may not exceed 30% of the employee's regular teaching activities at the FVMUZ, and must have the Dean's approval.

Standard 9.3: Staff must be given opportunities to develop and extend their teaching and assessment knowledge and must be encouraged to improve their skills. Opportunities for didactic and pedagogic training and specialisation must be available. The VEE must clearly define any systems of reward for teaching excellence in operation. Academic positions must offer the security and benefits necessary to maintain stability, continuity, and competence of the academic staff. Academic staff must have a balanced workload of teaching, research and service depending on their role. They must have reasonable opportunities and resources for participation in scholarly activities.

The teaching staff also engage in research, professional work, and organisational work in varying proportions in accordance with the [Collective Agreement for Science and Higher Education](#). Employment contracts at FVMUZ are based on the legislation, and national frameworks and agreements. Contracts and job descriptions define the nature and distribution of staff tasks. Direct supervisors must ensure compliance with this policy. Employees facing challenging and problematic situations are advised to contact the following independent counselling and assistance: FVMUZ Officer of the Independent Union of Research and Higher Education Employees of Croatia, [Officer for Reporting Irregularities](#), and Officer for the Protection of Employee Dignity. Analysis of the teaching load for each teacher is based on the database that is linked to the syllabus and personnel data. All teachers with a scientific teaching title should have at least the minimum teaching load in accordance with the standards for the hourly schedule.

In 2005, FVMUZ introduced a standardised method of recording all forms of teaching ([Teaching Records](#)). Teachers are obliged to record the hours of teaching activities and the number of students participating. Records of teaching activities performed must be in accordance with the syllabus. The

records are certified by the course leader, and each teacher signs them in paper form. These records are analysed annually by the Vice-dean for IUGS and Students.

In accordance with Article 67 of the FVMUZ Statute (2017), employees and other deserving individuals may receive awards and prizes for their work and contribution to the affirmation of the FVMUZ, in the form and in the manner established by the general act adopted by the FVMUZ Council.

Standard 9.4: The VEE must provide evidence that it utilises a well-defined, comprehensive and publicised programme for the professional growth and development of academic and support staff, including formal appraisal and informal mentoring procedures. Staff must have the opportunity to contribute to the VEE's direction and decision-making processes. Promotion criteria for academic and support staff must be clear and explicit. Promotions for teaching staff must recognise excellence in, and (if permitted by the national or university law) place equal emphasis on all aspects of teaching (including clinical teaching), research, service and other scholarly activities. Description of the programmes devoted to academic and support staff for their professional growth and development, the appraisal and promotion procedures, the mentoring and supporting procedures, their implication in the decision-making processes

FVMUZ continuously ensures the professional development of academic staff, who are required to constantly improve their teaching skills, in accordance with the national regulations ([Decision of the Rector's Board OG 122/17](#)). On the following link the tables with criteria for specific titles can be found: <https://www.vef.unizg.hr/o-fakultetu/povjerenstva-fakultetskoga-vijeca/povjerenstvo-za-izbor-u-znanstvena-znanstveno-nastavna-nastavna-i-suradnicka-zvanja/>. If the criteria are not met, the person goes to re-election and remains in the same position for the next 5 years.

Below are a few of the many prescribed forms of development:

- Publication of university textbooks, scientific books or manuals,
- Proposing and introducing new or innovated course content, new experimental or practical teaching methods,
- Mentorship for graduate theses and publication of papers in co-authorship with students,
- Professional development in the scientific field, profession or teaching in renowned institutions,
- Presentation of their work at scientific conferences,
- Mentorship in postgraduate (doctoral) studies,
- Publication of scientific papers in scientific journals in co-authorship with doctoral candidates,
- Membership in the editorial boards of scientific journals,
- Editorships in anthologies of papers from scientific conferences or scientific books,
- Review of articles in scientific journals or anthologies from scientific conferences,
- Invited lectures in renowned foreign institutions.

Academic staff are encouraged to participate in various courses, congresses and workshops to acquire new knowledge, especially courses related to improving teacher competencies, professional work, etc. These activities are organised by the FVMUZ or through possible participation in other institutions. On-going opportunities for administrative and support staff are also available to build additional competencies (e.g., ERASMUS residencies).

Mobility of teachers, associates and administrative staff is an integral part of the process of higher education, with clearly defined rules and procedures that ensure equal conditions for all applicants. Mobility and international cooperation at the FVMUZ are carried out through participation in international projects and mobility programmes, as well as multilateral and bilateral agreements with national and foreign institutions (see Appendix 9.3.).

After the completion of international workshops or congresses, employees are required to submit a brief report on the activities carried out and register their stay abroad in [the Records of International Cooperation](#). The public is informed about all these activities in the FVMUZ Yearbook.

Standard 9.5: A system for assessment of teaching staff must be in operation and must include student participation. Results must be available to those undertaking external reviews and commented upon in reports.

One of the criteria necessary for advancement is certainly the student assessment, which is carried out by mandatory surveys on [available at the UNIZG](#). UNIZG processes these surveys and sends the results back to FVMUZ. The results are confidential and may only be shown to the teacher who has been surveyed. Each teacher must have at least two positively evaluated surveys in a period of five years for his / her promotion (election) to a higher scientific/teaching title. Survey is obligatory document to be presented to the election committee (regulated by acts of the Rectors' Assembly and FVMUZ).

Several mandatory and permanent surveys are conducted on an annual basis, and, if necessary, at a different time point, some specific ones. Permanent surveys regarding the employees are annual evaluations of doctoral students and their mentors, as well as assistants and their advisor. The QAC and other bodies receive and analyze mentioned surveys at its sessions. The results and analysis of this surveys are regularly presented at the FC session. The analysis and results of these surveys are also done in the same way – through the QAC and FC.

Students give feedback on clinical teaching in different means. Questions about clinical training and practical work are part of the survey on the evaluation of study program in general. Also, special surveys on clinical training are conducted during the academic year, such as a survey on satisfaction with Ambulatory Clinic. The results of these surveys are presented to FC members during the sessions, which gives students an insight into the results of the surveys.

Comments on Area 9

The FVMUZ human resources (HR) are responsible for the new recruitment of employees. A balanced annual plan aims to retain current employment and enable new recruitment of highly competent candidates. Assessments and competitions of academic and support staff are conducted following the principles of expedience, respect for human dignity, equality, publicity, transparency, impartiality, non-discrimination, objectivity, quality, and life-long learning.

Since 2022, attendance at the Workshops for personal and professional development (with 16 different topics) aimed to increase teacher competencies has been mandatory for assistants and postgraduates.

Suggestions for improvement in Area 9

In line with strategic goals the FVMUZ will strengthen strategic partnerships within VetNEST association in the area of teaching and enable exchanges of teachers and expert staff through different exchange programmes.

Increase the teaching capacities and competencies by including academic staff in the process of expert education (veterinary practitioners who provide EPT).

Area 10. Research programmes, continuing and postgraduate education

Standard 10.1: The VEE must demonstrate significant and broad research activities of staff that integrate with and strengthen the veterinary degree programme through research-based teaching.

The research activities of the VEE contribute to research-based veterinary education

Education, professional work, and scientific research are fundamental activities of the FVMUZ. The academic staff of the FVMUZ is encouraged to perform high-quality research and regularly publish scientific and professional publications in national and international journals. Lectures are committed to integrating scientific knowledge into the lectures to ensure the integration of research-based teaching principles into the IUGS programme. During the last five years, the FVMUZ has increased its visibility on the international academic scene, published more papers in international journals, executed many international projects, and improved its doctoral programmes. In the period from 2016 to 2022, covered by the strategic programme of scientific research (SPSR), the FVMUZ academic staff published 441 scientific articles in cooperation with scientific organisations in Croatia, and in collaboration with international institutions. Of this number, 345 were published in journals listed in the Web of Science Core Collection (Wo SCC.)

Table 10.1.1. List of the major funded research programmes in the Establishment which were ongoing during the last full academic year prior to the Visitation

| <i>Scientific topics</i> | <i>Grant/year (€)</i> | <i>Duration (years)</i> |
|---|-----------------------|-------------------------|
| <i>Digital education in veterinary studies – DEVet</i> | <i>23,639.00</i> | <i>2021-2022</i> |
| <i>Improvement and Increasing of the Wildlife Rescue Centre Capacities – WildRescueVEF</i> | <i>360,484.46</i> | <i>2021-2023</i> |
| <i>Development of an innovative cow-side test for the diagnosis of subclinical mastitis in dairy cows</i> | <i>331,418.02</i> | <i>2020-2023</i> |
| <i>Improving professional practice with farm animals and horses at the FVMUZ - VETFARM</i> | <i>164,957.13</i> | <i>2020-2023</i> |
| <i>Metabolic approaches to novel biomarker discovery and deep phenotyping in kidney and cardiac diseases of dogs - MetaDog</i> | <i>31,523.90</i> | <i>2018-2022</i> |
| <i>Metal-binding biomolecules and health disturbances of freshwater organisms exposed to industrial wastes</i> | <i>43,841.43</i> | <i>2020-2023</i> |
| <i>Development of higher education occupational standards, qualification standards and improvement of IUGS using CQF at the FVMUZ</i> | <i>174,074.30</i> | <i>2019-2022</i> |
| <i>Carrier-parasite interaction: relationship of three different carrier types to Fascioloides magna methyl invasion</i> | <i>42,101.59</i> | <i>2018-2022</i> |
| <i>Preventing the extinctions of Dinaric-SE Alpine lynx population through reinforcement and long-term conservation (LIFE Lynx)</i> | <i>46,900.43</i> | <i>2017-2024</i> |
| <i>Food lipids, gender, and age in the pathogenesis of metabolic syndrome – Diet Met Syn</i> | <i>33,090.96</i> | <i>2017-2021</i> |
| <i>Novel Bone Regeneration Drug Osteogrow: Therapeutic Solution for Lumbar Back Pain - OSTEOproSPINE</i> | <i>41,291.75</i> | <i>2018-2022</i> |
| <i>Competence Centre 3LJ</i> | <i>24,203.79</i> | <i>2020-2023</i> |
| <i>Potential of microencapsulation in cheese production</i> | <i>20,637.62</i> | <i>2020-2023</i> |
| <i>Diagnostic significance of calprotectin in early detection of inflammatory conditions</i> | <i>33,200.53</i> | <i>2019-2023</i> |
| <i>Appliance of effective microorganisms in apiculture</i> | <i>5,976.10</i> | <i>2019-2023</i> |
| <i>Improving cooperation between fishermen and scientists for the purpose of introducing advanced technologies for marking fishing gear, protecting fish health, and preserving the</i> | <i>10,181.50</i> | <i>2020-2022</i> |

| | | |
|--|-----------|-----------|
| <i>environment</i> | | |
| <i>Promoting innovation of fermented foods</i> | | 2021-2025 |
| <i>Best practices and innovations for a sustainable beekeeping B-THENET</i> | 30,000.00 | 2022-2026 |
| <i>Innovative functional lamb meat products</i> | 22,663.40 | 2018-2022 |
| <i>H2020 "MANNA" ("Molecular Animal Nutrition")</i> | 49,552.20 | 2018-2022 |
| <i>Spatial ecology of wolves in the area of Plitvice Lakes National Park</i> | 8,654.27 | 2017-2022 |
| <i>Spatial ecology of lynx in the area of Plitvice Lakes National Park</i> | 8,300.13 | 2017-2022 |
| <i>Usefulness of beta glucans and other immunomodulators from the remains of mushrooms and industrial hemp in organic farming of animals and the offer of their products for human consumption</i> | 64,033.34 | 2020-2024 |

Standard 10.2: All students must be trained in scientific methods and research techniques relevant to evidence-based veterinary medicine and must have opportunities to participate in research programmes.

Undergraduate students are initiated to bibliographic search, scientific methods and research techniques, and writing of scientific papers

The relevance of evidence-based decision-making and the scientific approach to the multiple challenges of the veterinary profession is emphasised in several ways in the curriculum. Within the first three years of study, students become familiar with the research terminology and the importance of statistics and effective data representation within the regular and elective subjects, e.g., Basic Statistics in Veterinary Medicine, Veterinary Epidemiology, Fundamentals of Scientific Research. Students are also trained to be concise in report writing and/or the presentation of scientific data. To be familiar with literature research students participate in journal clubs and book reading sessions. In the final year of study, students are required to focus more on evidence-based thinking, particularly in small-group clinical rotations and other professional practical training (PPT) activities, as well as during the writing of the Master's Thesis (MT). The interaction between the student and the MT mentor during correcting the student's MT is considered a key moment for critical thinking and improving report writing and bibliographic research skills.

Undergraduate students are offered to participate to research programmes on a non-compulsory or compulsory basis

The Master's thesis research project is a compulsory part of the curriculum. Students must register the subject of their MT no later than when enrolling in the 12th semester. The [Catalogue of MT topics](#) is regularly published on the FVMUZ website. FVMUZ students are involved in non-compulsory scientific research, and the best are rewarded by receiving the [Rector's Award](#) given by UNIZG (see Appendix 10.2). The purpose of this award is to encourage scientific research and promote student scientific creativity. Furthermore, students can also compete with their research for the [Dean's Award](#). Students can also participate in different research conducted in cooperation with Faculty staff, publish the obtained results in the student journal [Veterinar](#) for students of veterinary medicine, and give oral/poster presentations at the international congress "Veterinary Science and Profession" organised once every two years by the Faculty. In order to recognise students' scientific and research work, the [1st Student Science Day](#) was organised on 5 November 2021. This event aims to bring science closer to students, enabling their greater involvement in project activities at FVMUZ. For this purpose, the winners of the Rector's Award presented their research and experience in scientific work, and selected project leaders gave a brief overview of project goals and presented opportunities for students to get involved in project activities. Among the student projects at the FVMUZ, one of the most important is *Digicyte*, presented at the AI2FUTURE conference, dedicated to artificial intelligence in Croatia, as a participant in the programme of the [ZICER Start-up Factory](#). In short, *Digicyte* is a new way of analysing tissues, cell and tissue fluid

using a newly developed scanner called Marvin. The founders and leaders of this project are students of the IUGS programme.

Minimum requirements for the Master's thesis, its supervision and its assessment

A MT may be a critical appraisal of literature or original scientific paper, written under the supervision of a mentor and in which students demonstrate that they have knowledge in a specific field. A member of the teaching staff with a scientific teaching title or a senior assistant/post-doctorand registered in the Register of Scientists of Croatia may serve as a mentor for a MT. A scientific paper receiving the Rector's Award, or a paper published in an indexed journal, whose co-author or first author is a student, may also be recognised as equivalent to the student's scientific MT. The student's specific contribution to the paper should be outlined. Students must register the subject of their MT no later than when enrolling in the 12th semester. When the student has completed the MT, one unbound final version of the MT and one copy in electronic form is submitted. Along with the final version of the MT, it is also necessary to enclose a certificate of authenticity of the MT, generated by the Turnitin Program, signed by the mentor and the student, and the proposed members for the credential committee. The FL maintains a [Repository of PhD dissertations and MTs](#) on the DABAR website (see Standard 6.2.), pursuant to the current regulations on public access and the protection of copyright of published papers. Instructions for writing a MT with forms, criteria, procedures, and deadlines are available on the web ([HR](#)) ([ENG](#)).

Standard 10.3: The VEE must provide advanced postgraduate degree programmes, e.g., PhD, internships, residencies, and continuing education programmes that complement and strengthen the veterinary degree programme and are relevant to the needs of the profession and society.

Table 10.3.1. Number of students registered at postgraduate clinical training

| <i>Training</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|---|----------------|----------------|----------------|-------------|
| <i>Interns (Companion Animals)</i> | 5 | 2 | 5 | 4 |
| <i>Total</i> | 5 | 2 | 5 | 4 |
| <i>Residents:</i> | | | | |
| <i>Veterinary Dermatology</i> | 1 | 1 | 1 | 1 |
| <i>Veterinary Pathology</i> | 1 | 1 | 1 | 1 |
| <i>Zoological Medicine</i> | 1 | 1 | 1 | 1 |
| <i>Veterinary Neurology¹</i> | 1 | 1 | 1 | 1 |
| <i>Veterinary and Comparative Nutrition²</i> | 1 | 1 | 1 | 1 |
| <i>Veterinary Cardiology³</i> | 1 | 1 | 1 | 1 |
| <i>Veterinary Anaesthesia and Analgesia⁴</i> | 1 | 1 | 1 | 1 |
| <i>Total</i> | 7 | 7 | 7 | 7 |
| <i>Other (non-EBVS programmes):</i> | | | | |
| <i>Postgraduate University Specialist Studies (2-years programs)</i> | | | | |
| <i>Internal Medicine</i> | 3 | 1 | 4 | 2,7 |
| <i>Sanitation</i> | 1 | | | 0.3 |
| <i>Theriogenology of Domestic Animals</i> | 1 | | | 0.3 |
| <i>Surgery, Anaesthesiology, and Ophthalmology with Veterinary Dentistry</i> | 12 | | 14 | 8.7 |
| <i>Pathology and Breeding of Domestic Mammals</i> | 2 | | 1 | 1 |
| <i>Veterinary Pathology</i> | 3 | | | 1 |
| <i>Microbiology and Epizootiology</i> | 1 | | | 0.3 |
| <i>Exotic and Pet Animals Breeding and Pathology</i> | | | 1 | 0.3 |
| <i>Implementation of Veterinary Food Safety Procedures in a Slaughterhouse Facility</i> | | 2 | | 0.7 |
| <i>Total</i> | 23 | 3 | 20 | 15.3 |

1 collaboration with University of Veterinary Medicine Hannover; 2 collaboration with Ghent University;

3 collaboration with Ludwig Maximilians Universität München; 4 collaboration with Université de Liege

Table 10.3.2. Number of students registered postgraduate research training

| <i>Degrees</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|----------------|----------------|----------------|----------------|-------------|
| <i>PhD</i> | <i>14</i> | <i>15</i> | <i>23</i> | <i>17.3</i> |

Table 10.3.3. *Not applicable.*

Table 10.3.4. Number of attendees in continuing education courses provided by the VEE

| <i>Courses</i> | <i>2021/22</i> | <i>2020/21</i> | <i>2019/20</i> | <i>Mean</i> |
|--|----------------|----------------|----------------|-------------|
| <i>Animal Welfare in Slaughtering</i> | <i>4</i> | <i>11</i> | | <i>5</i> |
| <i>Biosecurity Measures on Apiaries</i> | <i>62</i> | | | <i>20.7</i> |
| <i>African Swine Fever in Wild Boar – Basics and Preventive Measures</i> | <i>167</i> | <i>328</i> | <i>63</i> | <i>186</i> |
| <i>Applied Disinfection, Disinsection and Deratization</i> | <i>14</i> | <i>14</i> | <i>16</i> | <i>14.7</i> |
| <i>Veterinary Hygiene and Disinfectant Course</i> | <i>17</i> | <i>34</i> | <i>77</i> | <i>42.7</i> |
| <i>Training Course for Persons Working with Test Animals and Animals to Produce Biological Preparations</i> | <i>38</i> | <i>34</i> | <i>41</i> | <i>37,7</i> |
| <i>Ante-mortem and Post-mortem Inspection of Bovine, Porcine, Ovine, Caprine and Equine Animals</i> | <i>15</i> | <i>36</i> | <i>36</i> | <i>29</i> |
| <i>Veterinary Controls and Inspections within Establishments Producing Food of Animal Origin – Meat and Meat Products</i> | <i>28</i> | | | <i>9.3</i> |
| <i>Bee Disease Suspicion and Apiary Sampling</i> | | <i>70</i> | <i>51</i> | <i>40.3</i> |
| <i>Veterinary Controls and Inspections within Establishments Producing Food of Animal Origin (Module 3) Milk and Milk Products</i> | | <i>15</i> | | <i>5</i> |
| <i>Veterinary Controls and Inspections within Establishments Producing Food of Animal Origin (Module 4) Meat and Meat products</i> | | <i>20</i> | <i>33</i> | <i>17.7</i> |
| <i>Behaviour and Farm Animal Welfare</i> | | <i>1</i> | | <i>0.3</i> |
| <i>Hygiene of Housing and Keeping Ruminants on Family Farms</i> | | <i>1</i> | | <i>0.3</i> |
| <i>Sanitation Measures in Veterinary Medicine</i> | | <i>1</i> | | <i>0.3</i> |
| <i>Post-mortem Diagnosis of Trichinella</i> | | | <i>6</i> | <i>2</i> |
| <i>Total</i> | <i>345</i> | <i>565</i> | <i>323</i> | <i>411</i> |

Prospected number of students at post-graduate programmes for the next 3 academic years

In 2021, the project [Establishment of postgraduate master studies of veterinary medicine in English \(UP.03.1.1.02.0026\)](#) was implemented, and certificates were obtained for 15 new postgraduate study programmes. The programme [Pig Production and Health Management](#) is one accepted by Veterinary Continuous Education (VetCEE) in Europe. The plan is to enrol students in program in English in the 2023/24 academic year.

No significant changes in the number of postgraduate students are envisaged, so it is expected that the numbers will remain like in the period 2019–2022.

The postgraduate clinical trainings of the VEE contribute to undergraduate veterinary education and potential conflicts in relation to case management between post- and undergraduate students are avoided

The senior teaching staff trains undergraduate and postgraduate students, supporting their clinical development through internships and residency programmes. Postgraduate students provide hands-on professional training to undergraduate students where appropriate. FVMUZ provides the required number and distribution of animal patients among postgraduate and undergraduate students. This is possible because the VTH has a significant number of patients, which is growing yearly. Therefore, the clinical training of postgraduates is not considered to compete with the clinical training of undergraduate students.

The continuing education programmes provided by the VEE are matched to the needs of the profession and the community

At FVMUZ, Committee for lifelong learning is established many years ago. All continuing education programs must be approved and published at the web page of FVMUZ and other related organisations (see table 10.3.4.). FVMUZ aims to positively impact society through the professional activities of teachers and associates. Therefore, professional activities are encouraged, recorded, and recognisable throughout the veterinary profession. As part of Continuing Education (lifelong learning), FVMUZ offers several core courses each year with a planned annual schedule (see Appendix 8.2.). Furthermore, it also provides *ad hoc* courses required by the veterinary profession. Each course must follow the prescribed procedure for applications, be completed with a final report, and offer anonymous questionnaires to attendees. According to the needs of the profession and the DVM, the specialisation opportunities will be introduced, tailored to the needs of DVM, so that students can choose part of a study programme and thus obtain a post-graduate certificate or PG diploma. With this approach, specialist studies become a direct part of lifelong learning, without the obligation to acquire the title of University Specialist. As the permits for these studies have been obtained, the enrolment of the first participants is expected in the winter semester of the 2023/024 academic year. Furthermore, FVMUZ academic staff is frequently invited to lectures and seminars for practitioners, industry, and others organising courses at a local level.

Standard 10.4: The VEE must have a system of QA to evaluate how research activities provide opportunities for student training and staff promotion, and how research approaches, methods and results are integrated into the veterinary teaching programmes.

The mechanism used by the VEE to ensure that its research activities contribute to research-based education.

Research-based education is one of the priorities of FVMUZ. Several formats have been established to ensure that research activities contribute to research-based education, including house officer seminars and journal clubs. In addition to compulsory courses, students are encouraged to participate in symposia, summer schools, and workshops. Interesting cases from different clinical and non-clinical disciplines are directly implemented in the teaching process and round tables. Furthermore, the academic staff apply their research experience to various fields of veterinary medicine, focusing on evidence-based teaching.

The research, continuing and postgraduate education programmes organised by the VEE are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The FVMUZ research strategy is developed and approved in close collaboration among the UNIZG Council, Senate, FC, Dean, and FVMUZ Divisions/Units. The Vice-rector for Science, Postgraduate Studies and International Collaboration is responsible for the structural alignment of PhD programmes. Council for Doctoral Study is the permanent committee of the FC that manages the programme Doctoral Studies in the Veterinary Sciences (DSVS). The Council for Doctoral Study (CDS) consists of seven professors selected according to their scientific competencies, and each of the four FVMUZ Divisions is equally represented in the Council. The CDS holds monthly

sessions, in accordance with the Rules of Procedure of the Council for Doctoral Study, and the Regulations on Doctoral Study. The Postgraduate Studies Office provides administrative support to doctoral students and their mentors. The Curriculum of the DSVS is revised regularly. According to the University of Zagreb (UNIZG), doctoral students and mentors evaluate each other on an annual basis on the official forms. Mentors draw up a doctoral student's development plan and submit an annual report on the implementation of that plan, which is also an assessment. Doctoral students additionally fill out an annual online survey on the study, their satisfaction with the mentor, etc. The CDS reviews all surveys, analyses, and endorses them. The analysis is presented at the FC session and sent for further evaluation to UNIZG. Information on the DSVS is communicated to internal and external stakeholders and published on the FVMUZ website. DSVS is delivered in line with the [Regulations on Doctoral Studies at the Faculty on Veterinary Medicine of the University of Zagreb](#), and its QA is regulated by Article 19. DSVS has been also [awarded](#) the designation of high quality in 2017 by the ASHE for a 5-year period.

FVMUZ also delivers Postgraduate University Specialist Studies (120 ECTS). Upon completion, the title of *univ. spec.* is acquired. Those studies are a crucial part of the concept of lifelong learning, and they increase professional knowledge, skills, and competencies. The Council for Specialist Studies (CSS) is comprised of the heads of the specialist study programmes and is responsible for those studies, in line with the valid regulations. FVMUZ offers lifelong learning core courses each year with a planned annual schedule. In addition, the Committee for Lifelong Learning coordinates and manages the continuing education programme. Each course must follow the prescribed procedure for applications, be completed with a final report, and offer anonymous questionnaires to attendees. The continuing education courses are communicated to prospective participants via the FVMUZ website and by advertisements in the periodical of the CVC.

Comments on Area 10

A significant number of residents and specialists is the hallmark of FVMUZ, which is essential for the regional development of specializations in Southern-Central Europe. Research, postgraduate, EBVS specialists' programmes and continuing education programmes closely integrate the research and study process, strengthen the FVMUZ curriculum, and are relevant to the profession's needs.

Postgraduate master studies of veterinary medicine in english were implemented, and certificates obtained for 15 new study programmes. The programme *Pig Production and Health Management* is one accepted by VetCEE.

Suggestions for improvement in Area 10

Following the Vision and Mission of FVMUZ, it is necessary to continuously increase activities and cooperation at the international level, and to intensify activities, especially considering the execution of international scientific research projects. Special support and encouragement should be provided to FVMUZ scientists for leaderships of international projects with the aim of a more significant presence and recognition of the FVMUZ in the ERA. It is important to keep tracks with EBVS new colleges and continuously support our staff to apply for the residency opportunities.

ESEVT Indicators, Zagreb

Excel spreadsheet sent separately and also embedded as Appendix 11



ESEVT Indicators

| | | | | | |
|--|--|--------------------------------------|-----------|-----------|-----------|
| Name of the Establishment: | | FVMUZ | | | |
| Name & mail of the Head: | | Marko Samardžija smarko@vef.unizg.hr | | | |
| Date of the form filling: | | 12/30/2022 | | | |
| Raw data from the last 3 full academic years | | 2021/2022 | 2020/2021 | 2019/2020 | Mean |
| 1 | n° of FTE academic staff involved in veterinary training | 113 | 115 | 115 | 114,33 |
| 2 | n° of undergraduate students | 915 | 875 | 877 | 889,00 |
| 3 | n° of FTE veterinarians involved in veterinary training | 113 | 115 | 115 | 114,33 |
| 4 | n° of students graduating annually | 96 | 128 | 91 | 105 |
| 5 | n° of FTE support staff involved in veterinary training | 138 | 136 | 143 | 139 |
| 6 | n° of hours of practical (non-clinical) training | 1359 | 1374 | 1379 | 1370,6667 |
| 7 | n° of hours of clinical training | 927 | 913 | 883 | 907,66667 |
| 8 | n° of hours of FSQ & VPH training | 536 | 536 | 536 | 536 |
| 9 | n° of hours of extra-mural practical training in FSQ & VP | 48 | 48 | 28 | 41,333333 |
| 10 | n° of companion animal patients seen intra-murally | 8406 | 9101 | 7233 | 8246,6667 |
| 11 | n° of ruminant and pig patients seen intra-murally | 60 | 68 | 54 | 60,666667 |
| 12 | n° of equine patients seen intra-murally | 360 | 244 | 255 | 286,33333 |
| 13 | n° of rabbit, rodent, bird and exotic patients seen intra-mu | 1337 | 1440 | 1197 | 1324,7 |
| 14 | n° of companion animal patients seen extra-murally | 181 | 169 | 245 | 198,3 |
| 15 | n° of individual ruminants and pig patients seen extra-mu | 4901 | 1346 | 1646 | 2631,0 |
| 16 | n° of equine patients seen extra-murally | 297 | 129 | 215 | 213,7 |
| 17 | n° of visits to ruminant and pig herds | 159 | 102 | 98 | 119,7 |
| 18 | n° of visits of poultry and farmed rabbit units | 28 | 5 | 18 | 17,0 |
| 19 | n° of companion animal necropsies | 314 | 330 | 277 | 307,0 |
| 20 | n° of ruminant and pig necropsies | 67 | 58 | 8 | 44,3 |
| 21 | n° of equine necropsies | 5 | 20 | 10 | 11,7 |
| 22 | n° of rabbit, rodent, bird and exotic pet necropsies | 99 | 145 | 99 | 114,3 |
| 23 | n° of FTE specialised veterinarians involved in veterinary | 7 | 6 | 7 | 6,7 |
| 24 | n° of PhD graduating annually | 18 | 10 | 9 | 12,3 |

Name of the Establishment

Date of the form filling:

Calculated Indicators from raw data

| | Establishmen | Median | Minimal | Balance ³ | |
|------|---|---------------------|---------------------|----------------------|---------|
| | values | values ¹ | values ² | | |
| I1 | n° of FTE academic staff involved in veterinary training / n° of undergraduate students | 114,000 | 119,00 | 0,13 | 113,874 |
| I2 | n° of FTE veterinarians involved in veterinary training / n° of students graduating annual | 1,089 | 0,87 | 0,59 | 0,499 |
| I3 | n° of FTE support staff involved in veterinary training / n° of students graduating annual | 1,324 | 0,94 | 0,57 | 0,757 |
| I4 | n° of hours of practical (non-clinical) training | 1370,667 | 905,67 | 595,00 | 775,667 |
| I5 | n° of hours of clinical training | 907,667 | 932,92 | 670,00 | 237,667 |
| I6 | n° of hours of FSQ & VPH training | 536,000 | 287,00 | 174,40 | 361,600 |
| I7 | n° of hours of extra-mural practical training in FSQ & VPH | 41,333 | 68,00 | 28,80 | 12,533 |
| I8 | n° of companion animal patients seen intra-murally / n° of students graduating annually | 78,540 | 70,48 | 42,01 | 36,530 |
| I9 | n° of ruminant and pig patients seen intra-murally / n° of students graduating annually | 0,578 | 2,69 | 0,46 | 0,114 |
| I10 | n° of equine patients seen intra-murally / n° of students graduating annually | 2,727 | 5,05 | 1,30 | 1,429 |
| I11 | n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annual | 12,616 | 3,35 | 1,55 | 11,071 |
| I12 | n° of companion animal patients seen extra-murally / n° of students graduating annually | 1,889 | 6,80 | 0,22 | 1,666 |
| I13 | n° of individual ruminants and pig patients seen extra-murally / n° of students graduating | 25,057 | 15,95 | 6,29 | 18,762 |
| I14 | n° of equine patients seen extra-murally / n° of students graduating annually | 2,035 | 2,11 | 0,60 | 1,440 |
| I15 | n° of visits to ruminant and pig herds / n° of students graduating annually | 1,140 | 1,33 | 0,55 | 0,592 |
| I16 | n° of visits of poultry and farmed rabbit units / n° of students graduating annually | 0,162 | 0,12 | 0,04 | 0,117 |
| I17 | n° of companion animal necropsies / n° of students graduating annually | 2,924 | 2,07 | 1,40 | 1,524 |
| I18 | n° of ruminant and pig necropsies / n° of students graduating annually | 0,422 | 2,32 | 0,97 | -0,548 |
| I19 | n° of equine necropsies / n° of students graduating annually | 0,111 | 0,30 | 0,09 | 0,018 |
| I20 | n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually | 1,089 | 2,05 | 0,69 | 0,396 |
| I21* | n° of FTE specialised veterinarians involved in veterinary training / n° of students gradua | 0,063 | 0,20 | 0,06 | 0,000 |
| I22* | n° of PhD graduating annually / n° of students graduating annually | 0,117 | 0,15 | 0,09 | 0,029 |

¹ Median values defined by data from Establishments with Approval status in April 2016

² Recommended minimal values calculated as the 20th percentile of data from Establishments with Approval status in April 2016

³ A negative balance indicates that the Indicator is below the recommended minimal value

* Indicators used only for statistical purpose

Comments regarding indicator

The number of hours specified in points 6*. up to 9*. refers to hours of compulsory courses enrolled by ALL students of the IUGS program, independently of the Croatian or English program. Specific data on the number of hours for each study track (SCA, FAH or VPH) and electives are given in Appendix 3.1.

118 n° of ruminant and pig necropsies / n° of students graduating annually

The number of ruminant and pig necropsies was reduced during COVID-19 pandemic. With the halting of direct teaching activities at the UNIZG from 16th March to 5th June 2020, learning and study process at the FVMUZ were held remotely in all subjects planned in the curriculum. Adjustments due to exceptional COVID-19 circumstances are in general described in Appendix 3.3.

Glossary

| | |
|---------------------|--|
| AAI@EduHr | Electronic identity |
| Ab Ovo | Academic FVMUZ Choir |
| AC | Ambulatory Clinic (Field Service Clinic) (Out-Patients' Clinic) |
| ALEF | The FL specially created electronic system |
| AMAC - UNIZG | Almae matris alumni Universitatis studiorum Zagrabiensis |
| AMAC-VEF | Almae Matris Alumni Croaticae, Faculty of Veterinary Medicine Zagreb |
| ASHE | Agency for Science and Higher Education |
| AUF | L'Agence universitaire de la francophonie |
| BC | Biomedical Council |
| BVM | Board of Veterinary Medicine |
| CARNet | Croatian Academic and Research (NETwork) |
| CDS | Council for Doctoral Study |
| CEEPUS | Central European Exchange Program for University Studies |
| CEL | Centre for e-learning |
| CES | Croatian Employment Service |
| CFW | Clinical Field Work |
| CI | Committee for Informatics |
| CIRTT | University Centre for Research, Development and Technology Transfer |
| CIUGS | IUGS Programme Committee |
| CLL | Committee for Lifelong Learning |
| COIC UNIZG | Central Office for International Cooperation UNIZG |
| CPD | Continual Professional Development |
| CQF | Croatian Qualifications Framework |
| CROSKI | Croatian Scientific Bibliography |
| CSL | Clinical Skills Laboratory |
| CSS | Council for Specialist Studies CSS |
| CVB | Croatian Veterinary Board |
| CVC | Croatian Veterinary Chamber |
| CVI | Croatian Veterinary Institute |
| CVP | Committee for VEF.Protocol |
| CVR | Scientific and professional journal "Croatian Veterinary Record" |
| DABAR | Digital Academic Archives and Repositories |
| DB | Dean's Board |
| DEVet | Digital Education in Veterinary Studies |
| DOC | Day One Competences |
| DS | Diploma Supplement |
| DSVS | Doctoral Studies in the Veterinary Sciences |
| DT&AI | digital technologies and artificial intelligence |
| DVM | Doctor of Veterinary Medicine |
| EAEVE | European Association of Establishments for Veterinary Education |
| EBVS | European Board of Veterinary Specialist |
| EC | Examination Committee |
| ECOVE | European Committee of Veterinary Education |
| ECTS | European Credit Transfer System |
| EDB | Extended Dean's Board |
| EHEA | European Higher Education Area |
| EMS | Extra Mural Studies |
| EPT | External Practical Training |
| EQF | European Qualification Framework |

| | |
|--------------------------|--|
| EQUUS | Student Association at the FVMUZ |
| ERA | European Research Area |
| ERA-CHAIR project | FP7-ERA Chair Project "VetMedZg" (Grant Agreement 621394) |
| ERASMUS | European Community Action Scheme for the Mobility of University Students |
| ESEVE | European System of Evaluation of Veterinary Training |
| ESF | European Social Fund |
| ESG | Standards and Guidelines for Quality Assurance in the European Higher Education Area |
| EU | European Union |
| EUSF | EU Solidarity Fund |
| FAH | Study track - Farm Animals and Horses |
| FC | Faculty Council |
| FL | Faculty Library |
| FPW | Field - Professional Work |
| FSHS-EX | Final State High School Exam |
| FSQ | Food Safety and Quality |
| FVE | Federation of Veterinarians of Europe |
| FVMUZ | Faculty of Veterinary Medicine University of Zagreb |
| GDPR | General Data Protection Regulation |
| GPA | Grade Point Average |
| HH | Herd Health |
| HHM | Herd Health Management |
| HRČAK | Portal of Croatian scientific and professional journals |
| ICT | Information, Communications and Technologies Services |
| IEVMT | Introduction to English Veterinary Medical Terminology |
| IP | Information Package (complete course catalogue) |
| ISO | International Organization for Standardization |
| ISVU | Higher Education Institutions Information System |
| IUGS | Integrated Undergraduate and Graduate Study |
| IVSA | International Veterinary Students' Association |
| LMS | Learning Management System |
| LO | Learning Outcomes |
| LPC | Library and Publishing Committee |
| MA | Ministry of Agriculture |
| MOZVAG | MOZVAG is an information system to support the evaluation procedures of study programs and higher education institutions, which is carried out by ASHE. The system includes data on universities, study programs and performance conditions (teachers, subjects, and other data) and external evaluations. |
| MRC | Media Relations Committee |
| MSE | Ministry of Science and Education |
| MT | Master Thesis |
| NCVVO | Nacionalni centar za vanjsko vrednovanje obrazovanja, National Centre for External Evaluation of Education |
| NISpVU | Nacionalni informacijski sustav prijave na visoka učilišta, National Online Application System |
| NSK | National and University Library in Zagreb |
| OCDAPC | Office for Career Development, Academic and Psychological Counselling |
| OG | Official Gazette |
| OIC | Office for International Cooperation |
| OS | Occupational Standard |
| PCW | Professional-Clinical Work |
| PDCA | Plan-Do-Check-Act cycle |

| | |
|-------------------------------|--|
| QA | Quality Assurance |
| QAC | Quality Assurance Committee |
| QAM | Quality Assurance Manual |
| QC | Quality Coordinator (at the Units) |
| SAO | Student Affairs Office |
| SC | Selection Committee |
| SCA | Study track - Small Companion Animals |
| SCUNIZG | Student Council of UNIZG |
| SER | Self-Evaluation Report |
| SG | Student Guide |
| SOFTVETS | Project “Pan-European soft skills curriculum for undergraduate veterinary education |
| ERASMUS | SportVef” Student Society at the FVMUZ |
| SOP | Standard Operating Procedures |
| SPSR | The Strategic Programme of Scientific Research |
| SRCE | University Computing Centre |
| SWOT | Strengths, Weaknesses, Opportunities, and Threats |
| UNIZG | University of Zagreb |
| UQC | University Quality Committee |
| USVM | Association of Veterinary Medicine Students |
| VEE | Veterinary Education Establishment |
| VEF EXPO CQF (HKO) | “Development of standards for occupations and qualifications and improvement of the integrated undergraduate and graduate studies of veterinary medicine at the Faculty of Veterinary Medicine Zagreb” (project) |
| VetCEE | Veterinary Continuous Education |
| VetNEST | Veterinary Network of European Student and Staff Transfer |
| VLE | Virtual Learning Environment |
| VM | Veterinary Medicine |
| VPH | Veterinary Public Health (study track) |
| VPN | Virtual Private Network |
| VS | journal „Veterinarska stanica“ |
| VTH | Veterinary Teaching Hospital |
| WGSP | Working Group for Study Programmes |
| WoSCC | Web of Science Core Collection |
| X-CARD | Student identity card (“iksica”) |

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- 9.1. Documents related to promotion in scientific-teaching titles
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- 10.1. List of scientific publications from the VEE
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Appendix 11 ESEVT Indicators, Zagreb

At the Service of One Health



UNIVERSITY OF ZAGREB

FACULTY OF VETERINARY MEDICINE

Heinzelova 55, 10000 Zagreb, Croatia
Phone: ++ 385 1 2390111; Fax: ++ 385 1 2441390
E-mail: fakultet@vef.unizg.hr