



SELF-EVALUATION REPORT

Faculty of Veterinary Medicine University of Zagreb

February, 2022

Class:

Reg Number:

Adopted at the session of the Faculty Council held on February 16, 2022

Name of the evaluated higher education institution: Faculty of Veterinary Medicine

Name of the university within which the evaluated higher education institution is located:
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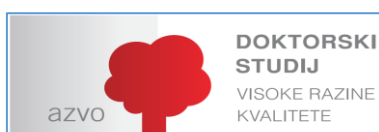
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Short description of the Faculty of Veterinary Medicine

The Faculty of Veterinary Medicine (FVMUZ) is a legal entity with the status of a public institution, a constituent of the University of Zagreb, and operates independently following the principles of academic freedom, academic self-government and autonomy. FVMUZ is registered in the Register of Commercial Court in Zagreb, Higher Education Institutions and the Scientific Research Legal Entities Register.

FVMUZ organizes and conducts university studies and conducts scientific and professional work in the scientific field of biomedicine and health, the field of veterinary medicine, as well as lifelong learning programs of doctors of veterinary medicine (DVM). It is one of the oldest faculties in the Republic of Croatia (founded in 1919), with its long tradition and established criteria of excellence, inseparable from the development of the veterinary profession in Croatia.

In addition to education and scientific research, FVMUZ conducts activities in many other areas, which supports the fact that veterinary medicine is an extremely dynamic profession. By the time of this Self-Evaluation Report was published, 8338 students had graduated from the FVMUZ and obtained the title of Doctor of Veterinary Medicine, 1414 Master's Candidates graduated (740 of them 740 got the title Masters of Science and 675 university specialist) and 1031 Doctors of Science graduated, which significantly improved the scientific potential of our country.

1. A brief history of the development of the Faculty of Veterinary Medicine

The year of the establishment of the Faculty of Veterinary Medicine is 1919, when the Veterinary College in Zagreb was founded with 12 Departments:

- Department of Systematic and Topographic Anatomy
- Department of Physiology
- Department of Histology and Embryology
- Department of Pharmacology with pharmacy
- Department of Animal Husbandry
- Department of General Pathology, Pathological Anatomy and Forensic Veterinary Medicine
- Department of Special Pathology and Internal Diseases of Domestic Animals
- Department for Livestock Infections and Clinic for Infectious Diseases
- Department and Clinic of Surgery
- Department and Clinic for Obstetrics
- Department of Hygiene of Animal Products (Meat and Milk), Parasitology and Microbiology
- Polyclinic

On November 13, 1919, the first lecture was held at the Veterinary College in Zagreb. The study lasted eight semesters, and students enrolled in 21 compulsory courses. After completing all the exams, the graduate would receive the title of graduate veterinarian.

Among the most important dates it is necessary to mention:

- In 1920, the Department of Anatomy was built
- In 1922, the Department of Histology and Embryology, the Department of Physiology and the Department of Infectious Diseases and Microbiology were established
- In 1922/1923 the Clinic for Internal Diseases of Equidae and Carnivores, the Surgical Clinic and the Polyclinic were opened
- In 1923, Department of Hygiene of Animal Products (Meat and Milk), Parasitology and Microbiology was divided into the Department of Veterinary Hygiene and Microbiology, Department of Hygiene of Animal Products; Department of Special Pathology and Internal Diseases of Domestic Animals was divided into the Department and Clinic for Special Pathology and Therapy of Equidae and Carnivores and the Department and Clinic for Special Pathology and Therapy of Ruminants, Pigs and Poultry
- In 1923, the number of compulsory subjects increased from 21 to 25
- In 1924, the Veterinary College was transformed into the Faculty of Veterinary Medicine, and the Faculty began its work in the academic year 1925/1926
- In 1936, the number of compulsory subjects increased to 38, optional to 11, and study program last 5 years (10 semesters)
- In 1952, the Ambulatory Clinic was founded
- In 1959, the Department of Morphology and Physiology, the Department of Infectious and Invasive Diseases, the Department of Zootechnics and Hygiene and the Department of Pathology and Therapy were founded
- In 1982, the Club of Students and Working People of the FVMUZ was founded, in which special student activities, different events of social and cultural content were held; Students restaurant was opened at the campus

After 1990, radical political and economic changes were carried out, which resulted in changes in education and science, and the most important is the implementation of the Bologna Process and the change of the title of graduate veterinarian to the title of doctor of veterinary medicine.

2. Scientific-teaching activity and lifelong learning

Integrated undergraduated and graduated study program of veterinary medicine

FVMUZ is the center of teaching and scientific excellence in the field of veterinary medicine and its four branches:

1. basic and preclinical veterinary sciences

2. animal production and biotechnology
3. veterinary clinical sciences
4. veterinary public health and food safety

Since 1996, following the criteria of the University of Zagreb (UNIZG) and considering the recommendations of the World Veterinary Association (WVA) and the European Association of Establishments for Veterinary Education (EAEVE), a new curriculum for the study of veterinary medicine was developed. This curriculum was revised in 2002 and at the beginning of the academic year 2005/2006, the implementation of the newly developed curriculum began.

The university graduate study is conducted as an integrated undergraduate and graduate study of veterinary medicine, lasts for six years (12 semesters), and upon its completion the academic title of DVM is acquired. During the first four years, the student attends theoretical and practical courses in social, basic, zootechnical, preclinical and clinical subjects. In the last two years, students participate in theoretical and practical courses related to clinical subjects, public health and mandatory elective courses in the chosen track:

- a. Farm animals and horses
- b. Hygiene and technology of animal foods and veterinary public health
- c. Small animals

In addition, students participate in practical work in veterinary organizations, farms and the food industry (extramural classes held through the Ambulatory clinic and organized field work), thus fully acquiring knowledge and skills for future careers.

During the study, student also enrolls in elective courses within 20% of the whole study program. The choice of such subjects is relatively large, and the electives are divided into general subjects common to all three track and subjects related to individual track. The student can choose elective in the enrolled semester, but also later during the study, when they see the need for additional knowledge according to their preferences. In this way, students also shape their qualifications.

Upon completion of the integrated undergraduate and graduate university study of veterinary medicine, the student is fully trained and has acquired competences to work in following areas (according to the Diploma supplement):

- Health care and animal treatment
- Veterinary public health,
- human environment protection, field, clinical and laboratory diagnostics,
- prevention and control of contagious diseases and zoonoses, development of program for improving veterinary service role in animal husbandry and in production of foodstuffs of animal origin,
- animal and environment protection, promotion of ethical and human behaviour towards animals

Obtaining a degree in veterinary medicine provides the opportunity to continue education in postgraduate specialists or doctoral studies, or inclusion in lifelong learning programs to upgrade existing knowledge within the acquired qualifications.

From 2016/2017 the study program of veterinary medicine is conducted in English, which is completely complementary to the Croatian study program.

Postgraduate university specialised master studies (CPD)

The dynamics of veterinary medicine and the rapid development of new knowledge and techniques require continuous improvement in the profession. With the aim of developing professional skills at the FVMUZ, 16 postgraduate specialist studies are conducted, lasting one or two years, with an emphasis on practical work.

The Faculty conducts the following specialised courses:

1. Surgery, Anaesthesiology and Ophthalmology with Veterinary Dentistry
2. Pathology and breeding of domestic carnivores
3. Hygiene and Technology of Foodstuffs of Animal Origin
4. Veterinary Pathology
5. Sanitation
6. Microbiology and Epizootiology
7. Swine Production and Health Care
8. Exotic and Pet Animals Breeding and Pathology
9. Theriogenology of Domestic Mammals
10. Animal welfare
11. Pathology and Breeding of Domestic Mammals
12. Game Breeding and Pathology
13. Laboratory Animals Breeding and Pathology
14. Forensic Veterinary Medicine
15. Implementation of Veterinary Food Safety Procedures in a Slaughterhouse Facility
16. Reproductive health management of dairy cows

As part of the project *Establishment of postgraduate specialist courses in veterinary medicine in English*, funded by the European Social Fund (ESF), FVMUZ prepared and at the end of 2021 obtained permits from the Ministry of Science and Education (MSE) to enrol students in 15 postgraduate specialist studies. In addition, two additional studies are currently under evaluation. Of these studies, four have been referred to the Veterinary Continuous Education in Europe (VETCEE) approval process and are being evaluated by nominated panels.

Study programs for which a permit from the MSE has been obtained are:

1. Forensic Veterinary Medicine
2. Farm Animal Welfare
3. Farm Biosecurity
4. Health Protection in Breeding and Reproduction of Small Ruminants
5. Porcine Health and Production (u vrednovanju od strane VETCEE)
6. Bovine Health and Production (u vrednovanju od strane VETCEE)
7. Wildlife Health and Management
8. Agri Food Chain Microbiology

9. Veterinary Pathology
10. Honeybee Health Protection
11. Veterinary Epidemiology
12. Reproduction in Farm Animals, Equines and Small Animals
13. Laboratory Animal Medicine (evaluated by VETCEE)
14. Small animal emergency and critical care medicine
15. Veterinary physical therapy and rehabilitation_certified canine rehabilitation practitioner (CCRP)

The evaluation process still includes:

1. Veterinary Surgery – Small Animals
2. Companion Animal Medicine (evaluted by VETCEE)

It is necessary to mention that FVMUZ is involved in the training of European veterinary specialists (Diplomates) through four training programs (residency program). The programs have been approved by the European College of Veterinary Pathology, European College of Veterinary Dermatology, European College of Zoological Medicine and the European College of Veterinary Sports Medicine and Rehabilitation. Three new European veterinary specialists (ECVP, ECZM, ECVSMR) have been successfully trained in these programs. There is currently a new resident on the ECZM program.

Postgraduate university doctoral studies in Veterinary sciences

The doctoral program of FVMUZ is the only program at the national level that provides postgraduate doctoral education for DVM. The postgraduate doctoral study of Veterinary Science is the highest level in the vertical of veterinary education, and is designed according to the principles of the Bologna Declaration, modeled on modern doctoral studies at Western European universities.

In the pursuit of achieving the highest possible degree of excellence, the doctoral study emphasis on methodological, theoretical and practical knowledge and the science. The ultimate goal of the study is to create and develop autonomous research capacities, which are a necessary basis for students to create an academic or career in the science.

This study marks the mobility of students in choosing subjects in accordance with the topic of their doctoral thesis. In addition to internal mobility, students can collect a number of ECTS credits by listening to the necessary content at another veterinary establishment, or faculties within the UNIZG. In addition, FVMUZ, with the new Ordinance on doctoral studies, enabled its complete interdisciplinarity and openness to other professions.

The internationalization of studies is also carried out through dual doctorates within the HORIZON 2020 MANA project, as well as through the participation of foreign students in the study. Upon completion of the study, the student is able to participate in scientific projects, follow scientific literature in the relevant field, write scientific papers, communicate with the scientific community in the world, propose or participate in proposals for new scientific

projects, participate in research and teaching processes, is qualified for further postdoctoral training in scientific research institutions around the world, and can be involved in the work of public and private research institutes.

Since the last accreditation in 2017, the doctoral study of Veterinary Science has been marked with a high level of quality.



Figure 1. Certificate awarded to the doctoral study of Veterinary Science in 2017 by ASHE

Lifelong learning

Lifelong learning is carried out in cooperation with the Croatian Veterinary Chamber (CVC, professional association of veterinarians in Croatia), through the organization and implementation of courses that are scored to extend the license to perform veterinary activities. The FVMUZ has so-called regular (*core*) courses, in addition to which it conducts courses based on decisions of competent institutions, such as the Ministry of Agriculture, or at the request of veterinarians according to specific issues and depending on the number of interested parties.

3. Scientific research activity

According to the excellence of scientific research, FVMUZ is a prestigious Croatian institution, actively present in the European Research Area, as evidenced by constant participation in international projects and the organization of scientific and professional conferences. Furthermore, FVMUZ is a center of scientific excellence whose potentials, in cooperation with different entities, are used in the research and in the development of existing high-tech products.

Research cooperation has been established through international projects with scientists from abroad or through institutional cooperation based on bilateral agreements signed between the FVMUZ and veterinary establishments in Vienna, Budapest, Brno, Kosice, Ljubljana, Sarajevo and Wroclaw. A special form of cooperation was established with the Veterinary University in Vienna, where many employees of the FVMUZ attended training.

In addition to education and professional-clinical work, scientific research is the basic activity of the FVMUZ. In the last five years, FVMUZ has achieved noticeable visibility on the international academic scene, increased the number of scientific publications in international journals, implemented a significant number of projects funded by international funds and improved doctoral studies. In academic year 2020/2021, 154 scientific papers were published (without overlapping authorship), of which about 70 papers were published in the journals of the 1st and 2nd quartiles. Looking at the impact factor (IF), more than 70 papers were published in journals with an IF higher than 1, which is often cited as the median for the field of veterinary medicine, or as much as 21% of papers were published in journals with IF greater than 4. As part of the celebration of the *Day of the Faculty*, an award was given for published paper with the highest IF, on which the FVMUZ employee is the first author. The award-winning paper was published in the journal *Antioxidans* with an IF of 6,313. It should be noted that, as co-authors, FVMUZ staff also published papers in journals with even higher IF, such as the journal *Cell* (2019, IF = 41.58).

The project activity is conducted in a dynamic environment and is further improved by obtaining three projects funded by the ESF and one project funded by ERDF, led directly by the FVMUZ. These projects are aimed at raising the capacity of scientific and teaching activities, internationalization of postgraduate specialist studies, development of occupational standards and qualification standards in accordance with the Croatian Qualification Framework (CQF), improvement of professional practice on large animals and capacity building for wildlife sanctuary. In addition, in the conditions of less frequent announcement of tenders by the Croatian Science Foundation, FVMUZ has realized several EU projects, either on its own or as a partner to other institutions, such as ERDF, ERDF, LIFE +, ERASMUS +, COST, HORIZON, EMRO Germany, etc. Enhanced cooperation with the enterprises through projects ERDF, OPKK, EMRO Germany, COST, FVE EVERI, etc. should also be emphasized. In addition, different projects also continue to be conducted in cooperation with public nature protection institutions, counties and cities.

4. Organization, management and activities of the FVMUZ

FVMUZ is a public scientific-educational institution whose organization, management and activities are regulated primarily by the provisions of the Act on Scientific Activity and Higher Education, the Act on Veterinary Medicine, the Act on Institutions and the provisions of the Statute of the UNIZG. Moreover, Statute of the FVMUZ is the establishment's foundational document where all processes are described. The activities of the FVMUZ are carried out by

the divisions, departments and clinics, scientific-teaching polygons, University Veterinary Teaching Hospital (VTH) and administrative and professional services.

Organizational scheme of the FVMUZ through divisions, departments, and clinics:

1. Basic and pre-clinical sciences division:

- Department of Anatomy, Histology and Embryology
- Department of Veterinary Biology
- Department of Physics
- Department of Physiology and Radiobiology
- Department of Chemistry and Biochemistry
- Department of Pathophysiology
- Department of Social Sciences and Humanities

2. Animal production and biotechnology division

- Department of Hygiene, Ethology and Animal Welfare
- Department of Hunting and Wildlife
- Department of Biology and Pathology of Fish and Bees
- Department of Nutrition and Dietetics of Animals
- Department of Animal Husbandry and Livestock Production

3. Clinics division

- Ambulatory Clinic
- Surgery, Orthopaedics And Ophthalmology Clinic
- Reproduction and Obstetrics Clinic
- Internal Diseases Clinic
- Department of Veterinary Pathology
- Department of Radiology, Ultrasound Diagnostics and Physical Therapy
- Department of Forensic and Judicial Veterinary Medicine

4. Veterinary public health and food safety division

- Department of Pharmacology and Toxicology
- Department of Hygiene, Technology and Food Safety
- Department of Microbiology and Infectious Diseases with Clinic
- Department of Parasitology and Parasitic Diseases with Clinic
- Department of Poultry Diseases with Clinic
- Department of Veterinary Economics and Epidemiology

5. Scientific-educational polygons

- Hunting-training grounds Črnovšćak

6. Veterinary Teaching Hospital

7. Faculty administration

a) Deanery

- a. Dean's office
- b. Office for international cooperation
- c. Office for students

- d. Office for career development, academic and psychological counseling
 - e. Office for EU projects
 - f. Office for quality
- b) Secretariat
 - a. Secretary's office
 - b. Legal affairs and human resources office
 - c. IT office
 - d. Maintenance office
 - e. Office of safety at work
 - f. Central Faculty archives
- c) Accounting
 - a. Accounting department
 - b. Finance department

8. Library

9. Museums of the FVMUZ

The **Faculty Council (FC)** is the expert council of the FVMUZ. Members of the FC are:

1. employees elected to scientific-educational, educational and scientific titles employed in appropriate positions and titles
2. twenty representatives of employees elected to associate or professional titles, five from each division, elected by employees of the above titles
3. representatives of students of integrated undergraduate and graduate and postgraduate studies, the number of which is 15% of the total number of members of the FC.
4. representative of non-teaching staff and head of the Library

FC may set up permanent and temporary committees to study specific issues, make reports or prepare decisions within its scope. The permanent committees of the FC are:

1. The Statute Committee
2. The Integrated Undergraduate and Graduate Study (IUGS) Programme Committee
3. The Projects Committee
4. The Awards Committee
5. The Student Disciplinary Committee
6. The Staff Disciplinary Committee
7. The Committee for Ethics in Veterinary Medicine
8. The Library and Publishing Committee
9. The Committee for Appointment to Scientific, Scientific-educational, Educational and Associated titles
10. The Quality Management Committee

FVMUZ also has a Doctoral Studies Council and a Specialist Studies Council, as well as temporary committees established by a decision of the Dean: The Biosecurity Committee, the Lifelong Learning Committee and the Media Relations Committee.

The Faculty Management consists of the dean and vice-deans, who also make up the **Dean's Board**. The Extended Dean's Board consists of dean, vice-deans, heads of divisions and student representative. The election and authority of the Dean is prescribed by the Statute (Articles 30 and 38). The work of the **departments/clinic** is managed by the **Heads of departments/clinics** who are elected by the employees of the relevant departments/clinic for a term of three years, and this may be repeated once for the next term. Significant decisions at the departments/clinic level are made by the collegium of the department/clinic. The division is led by the **Division Head**, who is elected by the Division Council for a three-year term, which may be repeated once. The Head coordinates the work of the departments and implements the decisions of the Division Council. At the divisional level, decisions of minor importance, in addition to the Council, may also be made by the Division's collegium formed of heads of all departments/clinics within the division.

The Dean, as the head of the FVMUZ, is assisted by up to six vice-deans who are in charge of a particular field of activity:

Vice-dean for integrated undergraduate studies and students - supervises and manages all tasks related to the implementation, monitoring, analysis and improvement of the integrated studies of veterinary medicine in the Croatian language, and assists students working in the Office for Students and Career Counselling.

Vice-dean for finances and investments - supervises and manages accounting operations, participates in the preparation of financial plans, the Faculty's budget, investment and maintenance planning, public procurement procedures, preparation of final accounts, and other financial matters, and coordinates maintenance and investment plans.

Vice-dean for human resources, organization and management - supervises and manages the work of the offices within the Administration, and prepares employment plans. In cooperation with the Secretary, he/she drafts legal acts and sends them for adoption. He/she is responsible for harmonization of legislation with the normative acts of the competent ministries and the UNIZG, as well as rationalization and improvement of the efficiency of the work of the joint services in the Faculty Administration.

Vice-dean for science, postgraduate education and lifelong learning - is responsible for all activities related to enrolment, monitoring, analysis and promotion of postgraduate doctoral and specialist studies and lifelong learning. He/she oversees the submission and implementation of scientific projects and the work of the Project Office. Monitors and encourages the scientific work of staff and students.

Vice-dean for international cooperation and undergraduate studies in English - coordinates the work of the Office for International Cooperation and organizes international exchanges of students and teachers. Supervises and manages all activities related to enrolment, monitoring, analysis and enhancement of integrated veterinary medicine studies in English, and assists students on this study programme.

Vice-dean for quality control - supervises the implementation and manages the quality control system through monitoring, analysis and improvement of all activities at the Faculty. He/she is also the head of the Office for Quality and the QM Committee.

5. Professional activities

In addition to scientific and teaching activities, FVMUZ also performs other tasks in the field of veterinary medicine, ie. participates in the organization of veterinary services, livestock production and production of food and animal products; participates in veterinary public health and environmental protection; improves development of veterinary profession; introduce new knowledge and methods in the protection of animal health; performs clinical and field diagnostics and treatment of diseases, and participates in the control of zoonosis; performs and provides expertise in veterinary and livestock production; develops and promotes all forms of animal protection and veterinary ethics and humane treatment of animals and the environment.

The VTH is an efficient unit made up of clinics that provide daily care to patients of different animal species: pets, exotic animals, horses and farm animals. In order to ensure quality education for students from Croatia and abroad, provide services to patients and conduct modern scientific research, the VTH includes:

- Surgery, Orthopaedics And Ophthalmology Clinic
- Reproduction and Obstetrics Clinic
- Internal Diseases Clinic
- Department of Veterinary Pathology
- Department of Radiology, Ultrasound Diagnostics and Physical Therapy
- Department of Microbiology and Infectious Diseases with Clinic
- Department of Parasitology and Invasive Diseases with Clinic
- Department of Poultry Diseases with Clinic

Within the FVMUZ there are several laboratories that perform daily laboratory diagnostics in the field of medical biochemistry, laboratory hematology, cytology, parasitology, microbiology, virology, mycology, serology, molecular biology, toxicology, bacteriology, and hygiene, technology and food safety. The work of the laboratory is in accordance with the rules of good laboratory practice, and the control of the quality of work is carried out on a daily basis. In addition to professional services to the VTH of the FVMUZ and legal and private persons, laboratories are involved in the teaching and scientific work of the FVMUZ, other components of the UNIZG and scientific institutions.

At the FVMUZ, there are currently five laboratories accredited in accordance with the EN HR ISO 17025: 2017 standard, which act as official and reference laboratories of the Republic of Croatia (RH). These laboratories base their accredited methods primarily on the diagnosis of infectious and parasitic animal diseases and cooperation with the Ministry of Agriculture, the Directorate of Veterinary and Food Safety and the Ministry of Health. The first accreditation

was carried out in 2011, and in April 2021, the laboratories passed the accreditation, which introduces them to a new five-year accreditation cycle.

Currently, the accredited laboratories at the Faculty are:

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

6. Quality system-history of development and improvement of quality system

The quality assurance (QA) system at the FVMUZ is an integral part of the development of the Faculty and a necessary part in achieving its mission and vision. Study programs and other forms of teaching activity are monitored through periodic internal and external audits, especially by the Agency for Science and Higher Education (ASHE) and EAEVE. Other processes carried out at the FVMUZ (scientific research, professional work, international cooperation, administration, management) are carried out and supervised in accordance with ISO 9001: 2015, which has been in use at the Faculty since 2014.

QA in teaching, scientific research and professional activities is a fundamental orientation of the FVMUZ. The goal of the QA system is to build mechanisms for promoting and achieving the highest level of quality in teaching, research, science, professional and administrative activities at the Faculty. The quality management system is provided at all levels of the FVMUZ in cooperation with internal and external stakeholders, and in accordance with the principles of public interest, encouraging excellence and innovation, efficiency, openness and promoting a culture of quality, responsibility and cooperation.

From ac. yr. 2006/2007, a Committee for quality management of teaching was established at the FVMUZ level, which during ac. yr. 2007/2008 expands the competence and changes the name to the Quality Management Committee (QMC). In those academic years, the FC, at the proposal of the Dean, appointed a vice-dean for quality management and lifelong learning. From 2018, the title and activities of this vice-dean were changed and it became the vice-dean for quality control.

As one of the basic acts of the FVMUZ, the FC in 2011 and then in 2019 passed the Ordinance on the quality assurance system at the FVMUZ. In 2011, the first accreditation of the Faculty's laboratories was carried out in accordance with ISO EN HR 17025: 2007, and the laboratories of the Division of Veterinary Public Health and Food Safety accredited seven methods related to the diagnosis of diseases of different animal species. Since 2016, the laboratory of the

Division of Animal Production and Biotechnology (APISlab) is on the list of accredited laboratories of the FVMUZ, with two accredited methods.

At the beginning of 2014, as a permanent working body for quality management of the FVMUZ, the FC established the *Office for the Establishment and Management of the Quality System* (Office for Quality). In the same year, at its session on 19 February 2014, the FC decided to initiate the procedure of introducing a quality management system according to the international standard ISO 9001: 2008. The faculty is still certified in accordance with ISO 9001: 2015.

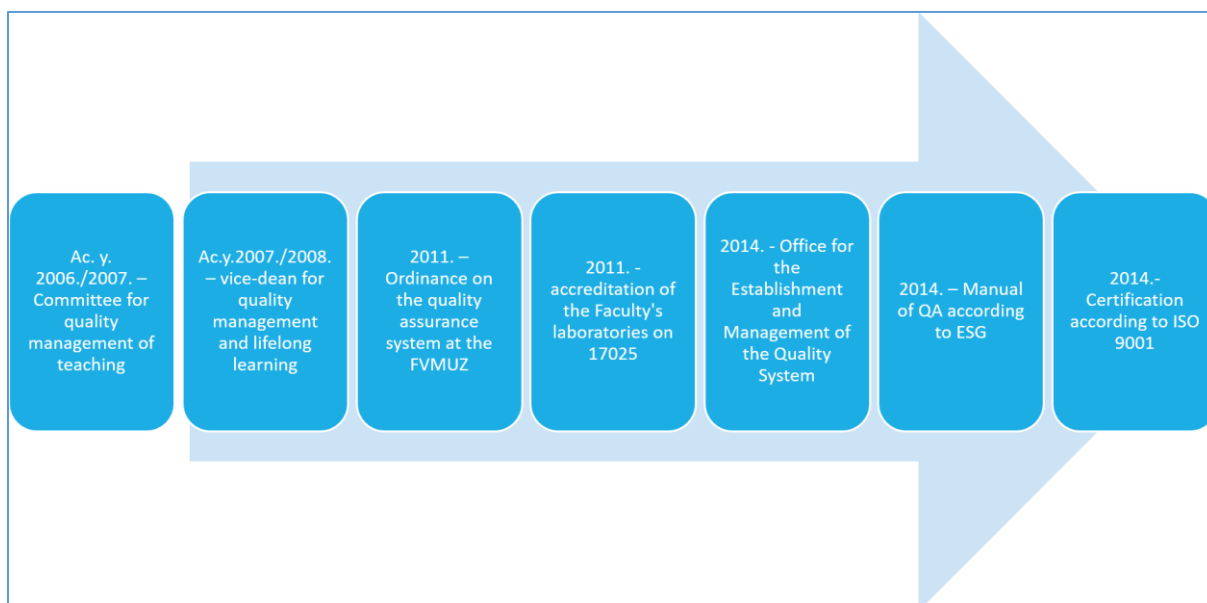


Figure 2. History of the development of the quality system of the FVMUZ (from 2006 to 2014).

Apart from mandatory accreditations and re-accreditations, participation in the **Audit of Higher Education Institutions** conducted by ASHE in 2018 was extremely important for further development and improvement of the quality system of FVMUZ. Regarding quality assessment, the Expert Committee assessed then that all elements of evaluation (Quality Policy, Planning and Management, Implementation and Monitoring, Evaluation, Improvements, Innovation and Impact) are in a developed phase.



Figure 3. Certificate issued by ASHE after the audit conducted in 2018

The **visitation done by EAEVE** is extremely important in positioning the FVMUZ in Europe and beyond. EAEVE is responsible for the evaluation of veterinary establishments not only in Europe but also around the world, in order to ensure quality standards and compliance with Directive 2005/36 on the recognition of professional qualifications, according to which DVM belong to regulated professions. FVMUZ therefore underwent the first visitation procedure in the early 2000s, while the last full visitation took place in 2015, since the FVMUZ has been on the list of European veterinary establishments designated as **Approved**. In order to follow this successful series, but also to advance in the development of the quality system, the Management of the FVMUZ in 2018 expressed a desire to implement a Stage 2 visitation (accreditation) and received an affirmative response from EAEVE and a visitation date in April 2020. Due to the COVID-19 disease pandemic, a visitation was conducted in May 2021. The visiting team confirmed that the FVMUZ meets European standards for acquiring the status of accredited veterinary higher education establishments (stage 2 - accreditation), which puts the FVMUZ in the chosen company of accredited veterinary higher education establishments and became the only accredited veterinary establishment in this part of Europe.



Figure 4. Certificate issued by EAEVE after the visitation in 2015.

Performance according to high standards and with a clear and measurable QA system is necessary for the entire FVMUZ and therefore the main goal of the quality system must be to conduct all activities at the highest level, with comprehensive transparency, efficiency and fairness, with the aim of ensuring the trust of stakeholders - students, external associates, and employees.

Description of the course of writing of Self-Evaluation Report

The Accreditation Council of the ASHE at its 128th session held on June 29, 2021 adopted the Plan for Reaccreditation of Higher Education Institutions in 2022, according to which the FVMUZ should be reaccredited in ac.y. 2021/2022.

On November 8, 2021, FVMUZ received a notification stating that the visit of the expert committee is scheduled for March 2022, ie in the period from 21 to 25 March 2022, and that the deadline for submission of documentation and data entry in MOZVAG dated 21 February 2022.

On October 22, 2021, the Dean appointed administrators to work in the MOZVAG system, and a total of ten employees began updating and recording the necessary data in the MOZVAG system, related to study programs, human and spatial resources, financial operations, bibliographic data, project activity and international cooperation. Due to the COVID-19 pandemic, the staff of the FVMUZ participated in online workshops organized by the ASHE, as follows:

- On the work in the MOZVAG system by reviewing the materials and recordings of the webinar held on December 8, 2020 and participating in the additional meeting on the work in the MOZVAG for administrators held on November 16, 2021
- On Requirements for CROSB I Administrators and Project Activity Database Administrators (POIROT) held on October 14, 2021 (online)

On February 2, 2022, FVMUZ received the Decision of the ASHE stating that, due to the current epidemiological situation, the re-accreditation procedure will be carried out through the hybrid model.

Preparations of the Self-Evaluation Report and Data Entry into MOZVAG included meetings of the vice-dean for quality control with appointed administrators of MOZVAG (December 13, 2021; January 18, 2022; February 2, 2022), and members of the QMC (November 11, 2021; January 17, 2022; February 7, 2022). Also, at least once a week, the Dean's Board discussed preparations for re-accreditation, and the vice-dean for quality control reported to the dean and vice-deans on the activities undertaken.

The following employees participated in the preparation of the Self-Evaluation Report and Data Entry into MOZVAG:

- Dean's Board (Dean and vice-deans)
- Administrative staff (Ž. Klječanin Franić, V. Pavičić, I. Lehunšek Panić)
- Members of the QMC
- System administrators of MOZVAG, CROSB I and POIROT (S. Zrilić, K. Pahinger, V. Pšenica, S. Vindiš, M. Jović, M. Poletto, R. Purgar, L. Bakić, L. Radin)

Self-Evaluation Report and Data Entry into MOZVAG (in Croatian and English) were officially accepted at the session of the Faculty Council on February 16, 2022.

I. Internal quality assurance and the social role of the higher education institution (ESG 1.1, ESG 1.7, ESG 1.8)

1.1. The higher education institution has established a functional internal quality assurance system

Internal quality assurance system includes and evaluates all activities of the higher education institution (study programmes, teaching process, student support, support to students from under-represented and vulnerable groups, learning resources, scientific/artistic activity, professional activity, etc.) and provides underlying documentation. Internal quality assurance system seeks to involve all stakeholders of the higher education institution (students and external stakeholders - employers, alumni, representatives of professional organisations, civil society organisations and internal stakeholders).

The higher education institution adopted a quality assurance policy, which is a part of its strategic management and is achieved through the implementation of the strategy, including the strategic research agenda, involving a period of at least five years.

The implementation of the strategy includes SWOT or similar analysis, strategic goals, programme contract goals (where applicable), operational plan, defined responsibilities for implementation, monitoring mechanisms and the report on its implementation.

The stakeholders recognize the strategy as an effective tool for improvement. The higher education institution systematically collects and analyses data on its processes, resources and results, and uses them to effectively manage and improve its activities, as well as for further development.

The higher education institution uses various methods for collecting data on quality (student satisfaction surveys, peer review, feedback from employers and/or associates, graduates etc.).

The higher education institution is committed to the development and implementation of human resource management policies (managerial, scientific-teaching, artistic-teaching, administrative, professional and support resources), in accordance with professional principles and standards.

Internal quality assurance system

The establishment of the QA in higher education in the Republic of Croatia, in accordance with the ESG, began in 2005 with the establishment of the ASHE, in order to continuously promote quality culture by creating a national network for quality improvement, connecting the Croatian educational and scientific system with the European network, and building links with other institutions in order to implement the guidelines of the Bologna Process and the European Higher Education Area (EHEA).

The introduction, development and improvement of the QA system (QAS) at the FVMUZ is in line with the Law on Quality Assurance in Science and Higher Education (OG 45/09). The basis and framework of the QA are also fully in line with the ESG and other legal acts. QAS at the FVMUZ is an integral part of the development and an instrument in the strategic approach to achieving the mission and vision of the FVMUZ. The QAS is continuously subject to evaluation and improvement, in order to respond to the needs of stakeholders and the community. Ensuring the quality of teaching, study programs and other activities are monitored by periodic internal and external supervision, especially by the ASHE, the Croatian Accreditation Agency (CAA), EAEVE and Bureau Veritas (BV). QAS also largely depends on the support of the highest management, which is an exceptional advantage of the FVMUZ. Also, QAS is recognized as a tool of strategic management, which is evident in the strategy of the FVMUZ and through the orientation of the FVMUZ towards the implementation of the QAS system since the beginning of the Bologna Process, and above all through support for external evaluations.

Above the QAS based on ESG, activities of the FVMUZ (especially scientific research, international cooperation, administrative affairs and management) are carried out and monitored in accordance with ISO 9001: 2015 (annual certificate) and accredited laboratories are established according to ISO 17025 and are regularly inspected annually.

QAS documents

The documents of the QAS at the FVMUZ are systematically edited, audited and distributed by the vice dean for quality control, Quality Coordinators (QC) and the QMC, and if necessary approved by the FC. All documents are available in paper or digital form (inter- and intranet). The basic acts and documents, in addition to the Statute and regulations, are the Quality Policy (QP) and manuals of the QAS (University and Faculty), available on the official website and in paper form (<https://www.vef.unizg.hr/en/internal-quality-control/>).

The **Quality Assurance Manual** serves as a guide and benchmark for all internal and external stakeholders, and as an overview of legal and joint measures and activities that the UNIZG and the FVMUZ are implementing or planning to ensure quality. This Manual contains a list of standards, objectives, activities and examples of good practice for each of the areas of QA.

Following documents are available on the website and in paper form:

- The QA Manual of the UNIZG – the document on the QA system of the University with which the Manual of the Faculty complies.
- The QA Manual of the FVMUZ - contains basic guidelines and the objectives of the integrated system of management (<https://www.vef.unizg.hr/wp-content/uploads/2020/03/Quality-assurance-manual-VEF-version-1.pdf>).
- Research Strategy of the UNIZG – the fundamental document of the University with which all the Strategies of the constituents are synchronized
- Strategic Plan 2018-2022 and Research Strategy of the FVMUZ – the basic documents in which the key tasks for further development are described, with the strategic goals for each activity (<https://www.vef.unizg.hr/wp-content/uploads/2021/05/DEVELOPMENT-STRATEGY-OF-THE-FACULTY-OF-VETERINARY-MEDICINE-OF-THE-UNIVERSITY-OF-ZAGREB-IN-THE-PERIOD-2018.pdf>)
- University and Faculty Regulations – detailed description of operational implementation of law for all constituents and FVMUZ, in line with the national legislation and University (<https://www.vef.unizg.hr/o-fakultetu/organizacija-fakulteta/akti/>).
- University and Faculty forms - controlled documents that ensure systematic collection of data, uniform reporting, evidence of internal compliance with its own established system of quality, as well as evidence of compliance with the requirements of the QA.
- Other documents in accordance with ISO 9001 or EAEVE rules (<https://www.vef.unizg.hr/sustav-kvalitete/>)
- Documents related to ISO 17025 (Quality Manual, SOP, forms, etc.) available via intranet

In accordance with the Ordinance on Quality Assurance of the UNIZG from 2019, the body in charge of QAS is the QMC. Currently, this Committee has 9 members, from employees in the scientific-educational titles, to external stakeholders, representatives of administrative staff and students(<https://www.vef.unizg.hr/o-fakultetu/povjerenstva-fakultetskoga-vijeca/povjerenstvo-za-upravljanje-kvalitetom/>).

Internal and external stakeholders

Internal and external stakeholders are actively involved in the QAS. 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 faculty bodies (FC and committees) and the Extended Dean's Board. In order to achieve the most efficient QAS, it is necessary to adequately involve external stakeholders in the various processes of the FVMUZ. Accordingly, the active role of external stakeholders in the revision of the study program (which has already started as part of the VETFARM project) is visible. Meetings or consultations are used to collect data from different stakeholders, but conducting surveys also allows access to as many external stakeholders or organizations as possible (eg surveys for employers). In addition, external stakeholders working in national regulatory or professional bodies meet regularly with FVMUZ staff (serving as active members of various committees) to discuss the state of the profession or the need for improvements at the FVMUZ level for the benefit of the profession as a whole.

Strategy of the FVMUZ

FVMUZ adopts its own short-term strategy based on the UNIZG Strategy. Strategic goals related to QAS are also part of such a short-term strategy. The strategy is developed for a period of five years, and action plans and implementation reports are prepared every year. At the end of each year, the QMC prepares a report on the activities carried out and sends it to the UNIZG and the ASHE. The currently valid Strategy is publicly available on the website (<https://www.vef.unizg.hr/wp-content/uploads/2021/05/DEVELOPMENT-STRATEGY-OF-THE-FACULTY-OF-VETERINARY-MEDICINE-OF-THE-UNIVERSITY-OF-ZAGREB-IN-THE-PERIOD-2018.pdf>). The Strategy Development Committee, appointed by the Dean, collects, analyzes and uses relevant data for the purpose of effective planning of the development of four basic activities - teaching, scientific research, professional work and management. The heads of divisions, the dean and all vice-deans participate in the development of the Strategy. The draft strategy is sent to the departments for discussion, amendments and is returned to the Commission for further drafting. In this way, the employees of the FVMUZ are involved in the development of the strategy. The final document is confirmed by FC. As since 2019, a member of the Extended Dean's Board is also a student representative, so in the drafting of the Strategy for the period 2023.-2027., student will also actively participate.

During the development of the Strategy of the FVMUZ for the period 2018-2022, the credibility of the objectives and the fulfillment of strategic goals could not be assessed without insight into the current situation at the national, regional and wider international level. The SWOT analysis (analysis of strengths, weaknesses, opportunities and threats), prepared as part of

the mentioned Strategy, lists the most important advantages and disadvantages of the FVMUZ in the environment of the academic community of the UNIZG.

STRENGTHS

- Reputation of the Faculty of Veterinary Medicine as an institution with almost a century of tradition in higher education and scientific research
- Proactive management that encourages raising the level of quality in all areas of activity
- Competent teaching staff that occupies a leading position in their scientific and professional fields in the Republic of Croatia and has national, regional and international recognition
- Student-centered teaching, in line with the principles and standards of international veterinary education
- Favorable ratio of the number of teachers and students of the Faculty, which enables teaching in small groups
- Good representation of all forms of practical teaching
- Institutionalized cooperation with external collaborating institutions
- Developed support models for students (mentoring system and Student Office)
- Successful research activity of several research groups with excellent results in the national and international environment
- High level of doctoral study quality
- Quality cooperation with scientists and teachers of related institutions in the country and the world
- Satisfactory overall laboratory equipment, with accreditation of various testing methods
- Availability of services at the clinics of the Faculty of Veterinary Medicine during 24 hours
- Favorable geographical position with regard to regional positioning
- Regular positive evaluation of external vocational (EAEVE) and national higher education organizations (ASHE)
- Strong internationalization - Integrated study of veterinary medicine in English

WEAKNESSES

- Outdated IT infrastructure
- Multiplication and underutilization of existing scientific equipment, high maintenance costs
- Insufficient connection of basic and preclinical departments with clinics and clinical departments
- Fragmentation and insufficient connection of research groups and projects
- Insufficient development and application of the career guidance system for new young teachers
- Uneven development of departments, clinics and laboratories
- Lack of collaborative interdisciplinary research and projects and insufficient number of research and professional projects with other state institutions and the economy

- Insufficient use of the system of rewarding and motivating scientists and teachers, ie insufficiently developed mechanisms for encouraging top research and breakthroughs in teaching

OPPORTUNITIES

- Encouraging external evaluations for better positioning in Europe (EAEVE, VETCEE)
- Raising the quality of incoming students by testing additional skills before enrollment (psycho-motorical skills)
- Better connection of different scientific fields and launching interdisciplinary projects with other universities and scientific institutions
- Increasing the number of applications for projects funded by the European Union and the possibility of using such funds
- Strengthening cooperation and teamwork between clinics and departments in research and professional work with the aim of creating a unique institutional framework
- Development and accreditation of those laboratories that have a market justification for additional income of the Faculty
- Taking advantage of the regional position related to teaching in English
- Connecting with local, national and international economic entities and strengthening partnerships with the public and private sectors
- Better use of the AMAC-VEF association to connect with scientists who came from the Faculty and have achieved international recognition abroad
- Education of employees through various workshops, seminars and courses to raise the level of quality in all areas and processes

THREATS

- High competitiveness in the field of biomedical research for obtaining research projects, in Croatia and the EU
- Restricting the new employment of scientists and inadequately stimulating young people for scientific work
- Unstable way of financing with potentially reduced inflow of funds for science from the state budget
- Lack of funds for the purchase of scientific equipment, especially capital
- Going abroad of young veterinary doctors immediately after graduation or after acquiring additional levels of education

Quality policy

The Quality Policy (QP) is the basic framework for QAS and is published on the FVMUS's website so that all employees, stakeholders and the public are aware of it. The QP is monitored during the internal audit and audited in accordance with the needs and changes in the QAS. Also, QP is regularly checked during external evaluations. The latest version of the QP from

2019 is available on the official website of the FVMUZ (<https://www.vef.unizg.hr/wp-content/uploads/2020/03/Quality-Policy-VEFUNIZG.pdf>).

THE FACULTY OF VETERINARY MEDICINE - QUALITY POLICY

The Faculty of Veterinary Medicine in Zagreb (hereinafter: The Faculty) is actively and consistently committed to permanently improving the quality of all its teaching, research and professional activities, while respecting national and international standards, linking past experience and all the activities that have highlighted it to date as one of the leading higher education institutions in the Republic of Croatia.

The performance indicators of the Faculty's quality policy are evaluated by internal and external evaluations, regular surveys of all stakeholders, according to the "Quality Assurance Manual", in accordance with the mission and vision of the Faculty.

The quality assurance system is aimed at continuous monitoring and ensuring the excellence of teaching, research and professional work, in relation to students, employees, as well as other stakeholders, and is implemented by:

- *defining the mission, vision and strategic framework for the development of the Faculty and the modes of their realization;*
- *developing a quality assurance system based on "Standards and Guidelines for Quality Assurance in the European Higher Education Area- ESG", national, university and Faculty standards, while promoting the active role of all Faculty units, and actively encouraging student engagement in the quality assurance system*
- *procedures for periodic internal and external independent audits of the quality assurance system, in accordance with the guidelines of the Agency for Science and Higher Education;*
- *continuous updating of study programmes based on innovative scientific knowledge, especially with the aim of effective inclusion of graduates in the labour market and the possibility of their quality response to the consequent dynamic demands;*
- *continuous improvement of the knowledge of teachers and associates, acquiring new and / or enhancing existing competences, and involving students in research and projects;*
- *continuous and systematic strengthening of scientific research and professional work, publication of research results and transfer of acquired knowledge, with the aim of improving the status and reputation of the Faculty in public;*
- *responsible and clear financial management aimed exclusively at the development of the Faculty and continuous improvement of the conditions for teaching, scientific research and professional activity;*
- *co-operation with internal and external stakeholders: students, employees, academia, industry, and the local and national social community.*

The Quality Policy is the basic framework for the quality system implemented and is published to make it known to all employees, stakeholders and the public.

The mission and vision are certainly part of the strategic documents of the FVMUZ. These documents are available on the official website in Croatian (<https://www.vef.unizg.hr/o-fakultetu/o-fakultetu/o-fakultetu/>) and English (<https://www.vef.unizg.hr/en/o-fakultetu/general-information/vision-mission/>), and are part of the Strategy for the period 2018-2022.

Mission and vision

a. Mission

The mission of the FVMUZ, as the only scientific and educational institution in the Republic of Croatia in the field of veterinary medicine, is excellence in veterinary education, scientific research, professional work, lifelong learning and inter-institutional and international cooperation.

The FVMUZ systematically develops nationally and internationally recognizable excellence in education and science based on the establishment of a quality system and the transfer and application of knowledge for the benefit and prosperity of the wider community. The priority of the action is students, for whom educational programs have been developed with elaborated learning outcomes, a list of competencies and acquired skills and knowledge. Teaching is based on a research approach, vertical and horizontal integration of subjects and the possibility of choosing within three tracks in the integrated undergraduate and graduate university study, or the possibility of choosing between 16 postgraduate studies. In cooperation with the economy and the public sector in Croatia and abroad, the FVMUZ actively participates in the creation of advanced knowledge and technologies in the fields of biomedical, biotechnical and natural sciences, especially in basic, preclinical and clinical veterinary sciences, animal production and veterinary public health and food safety.

b. Vision

The vision of the FVMUZ is to become an example of a comprehensive teaching and research center of high standards of the 21st century. The activities at the FVMUZ will be based on the constant improvement of scientific, teaching and professional work, respecting the highest ethical standards, and on a cooperation-ready and innovative environment.

In the field of **education**, the FVMUZ should become a clearly recognizable and competitive higher education institution adapted to market requirements, with a clear strategic concept of teaching development (integrated and postgraduate studies).

In the field of **scientific research**, the FVMUZ should remain a dynamic research center marked by interdisciplinary scientific projects and collaborative centers of excellence.

In the field of **professional work**, the FVMUZ should become the main carrier of lifelong learning and training of experts at the highest standards in all segments of the veterinary profession, and institution with the highest level of veterinary services in Croatia.

In **financial** operations, the FVMUZ should implement all actions to ensure positive financial operations and responsible fiscal policy.

In creating **personnel** policy, the FVMUZ should become a place of employment for the best young professionals, scientists and teachers, who will receive strong support at the beginning and later in their careers, enabling continuous advancement and training in cooperation with leading world institutions.

In the field of **international cooperation and mobility**, the FVMUZ should become an internationally recognized scientific-educational and professional institution that promotes partnership and cooperation between the constituent parts of the UNIZG and other higher education institutions in the region and the world.

Data collection and analysis

The culture of quality can be defined as the ability of the institution to incorporate QAS into its daily work and thus achieve continuous QA. We believe that at the FVMUZ we have successfully implemented the QAS related to ESG standards, especially in the field of teaching. This can be seen through the results of internal and external evaluations, at the national and international level, and through the satisfaction of stakeholders, especially students.

Feedback from students and other stakeholders is collected in several ways. These are certainly various surveys, where students and other stakeholders can give an assessment, but also comment on the processes carried out at the FVMUZ (point out shortcomings or possible improvements). Such activities are carried out throughout the year, are analyzed and the results are presented at FC sessions.

Meetings with students and stakeholders are also ways to gather feedback. If the need for improvement is identified, then this is considered immediately (eg introduction of additional exam deadlines), during the academic year (eg changes in the schedule as needed) or during the study program revision process (eg introduction of a new subject, such as Communicology in Veterinary Medicine).

Several mandatory and ongoing surveys are conducted annually. An example of mandatory surveys is the evaluation of teachers' work (a prerequisite for career advancement). According to the Statute of the UNIZG, which prescribes regular monitoring of the teaching activities of employees in scientific-educational titles, the QMC of the FVMUZ organizes a student survey every semester. The survey is conducted before the end of classes and before the exam deadlines, and includes the assessment of individual teachers work and students' perceptions of teacher expertise in the field they teach, assessment of teaching quality, attitude towards students and work motivation (the survey is available in Croatian and English).

According to the regulations of the UNIZG and the FVMUZ, each employee in the scientific-educational title must have at least two positively evaluated student surveys in a period of five years. Assessment of teacher work is conducted with a standardized questionnaire at the UNIZG level using the paper / pen method (from the winter semester 2020/2021 online via

the ISVU system). The dean and vice dean for quality control are acquainted with the results of the survey of all teachers. Poorly graded teachers (with a grade of less than 3) first interview the dean and vice dean to analyze the situation, and then make a self-assessment (in the prescribed form in accordance with the UNIZG QA Manual). For such teachers, the survey needs to be repeated in the next academic year.

The survey on the *study program in general* is conducted continuously, every academic year. The survey for the assessment of integrated undergraduate and graduate university studies can be completed by all students of the FVMUZ prior graduation. This survey contains groups of questions related to the evaluation of the services at the FVMUZ and the general conditions of study; to the entire study program; to teaching and assessment performance; to the attitude towards students and support in studying; to the general assessment of studies. With this survey, students have the opportunity to give their comments on the quality of studies, identified their dissatisfaction and possible improvements.

In accordance with the Ordinance on the evaluation of the work of assistants, postdoctoral fellows and supervisors of assistants, the assessments of assistants and their supervisors are collected annually, which are sent through the QMC for adoption to the FC.

Examples of specific surveys are those related to distance learning activities (conducted after the lockdown and during the pandemic of COVID-19), surveys on student satisfaction with teaching in certain subjects (eg Ambulatory clinics), etc. The analysis of these surveys is performed by the vice dean for quality control and the QMC, and the results are presented at FC sessions.

As well described in EUA CASE STUDIES 2007, adopting a culture of quality requires a stable structure consisting of strong management and an active role of external stakeholders. As the organizational structure of the FVMUZ has been developing for a long time and certainly has its peculiarities, we are aware that it is not enough to take over the model of someone's quality system, but we try to adapt it to our institution. Our goal is to identify the historical, cultural and professional characteristics that define the FVMUZ and to develop strategic goals in accordance with them. Aware of the fact that the FVMUZ management cannot forcibly implement a quality system, we involve various internal and external stakeholders in the QAS, retaining strong leadership that constantly promotes the initiation of a quality culture and the QAS itself.

1.2. The higher education institution implements recommendations for quality improvement from previous evaluations

The higher education institution analysed the recommendations for improvement and undertakes activities on the basis of previous internal and external evaluations.

The higher education institution analyses improvements and plans further development accordingly.

The internal evaluation of the implemented activities and the effectiveness of the QAS is conducted once a year by the QMC. Annual reports are submitted for adoption to the FC, followed by the ASHE and the UNIZG. At the same time, action plans for the next academic

year are being prepared, in which activities and opportunities for improvement are presented. External evaluation of the FVMUZ is carried out at different intervals - national re-accreditation is carried out every 5 years; EAEVE visitation every 7 (10) years; ISO 9001 and ISO 17025 audits each year (with possible extension to 18 months).

The recommendations of all these evaluations are the basis for continuous improvement and are considered when developing action plans and taking further action. Continuous improvement of overall performance is the ultimate goal of the FVMUZ. The interaction of PDCA methodology (Deming Circle) and process approach is the essence of the quality management system according to ISO 9001. Continuous repetition of actions - plan, do, check and act - for each identified process creates the preconditions for achieving the ultimate goal, which is continuous improvement of the overall efficiency of the established system. An overview of the quality management system and process interactions is described in the Quality Manual according to ISO 9001: 2015 (PK-03, issued in September 2021).

Recommendations and improvements based on previous external evaluations

a) Recommendations and improvements based on the re-accreditation of the FVMUZ in 2015 (ASHE)

The re-accreditation procedure was conducted at the FVMUZ in March 2015, while the *Accreditation Recommendation* was submitted in December of the same year. Based on the recommendation of the ASHE, the Minister of Science and Education issued a certificate of compliance for performing higher education and scientific activities.

In terms of quality assessment, the FVMUZ was evaluated with *mostly implemented* and *fully implemented* grades, with the need for subsequent monitoring of activities which included harmonization and submission to the ASHE of the Strategic Program of Scientific Research for at least five years and adoption of an Action Plan once a year. The report of the Expert Committee for Reaccreditation of the Faculty of Veterinary Medicine in 2015 provided an insight into the observed features of good practice, advantages and disadvantages:

FEATURES OF GOOD PRACTICE

1. Accredited laboratories;
2. Quality management assurance system;
3. Descriptors of curriculum, learning objectives and competencies;
4. Early exposure to clinical work;
5. Emphasis on student care (counselling, restaurant, extracurricular activities, mentoring programme).

ADVANTAGES OF THE INSTITUTION

1. Spacious and well-resourced institution;
2. Enthusiastic student body and junior researchers/teachers;
3. Enthusiastic and competent management team providing clear evidence of significant change over the relevant time period;
4. Early and extensive clinical training provided in the veterinary curriculum;
5. Investment in the professional development and careers of junior faculty teachers.

DISADVANTAGES OF THE INSTITUTION

1. Large size and the significant cost of ongoing maintenance and enhancement of the facilities;
2. Some duplication of resources in terms of space and equipment;
3. Economic climate and related limitations on personnel and research funding;
4. Limited translation of strategy into objectives and key performance indicators;
5. Fragmented Departmental structure creating inefficiency in the execution of strategy and preventing development of critical mass in strategic research and service areas.

All recommendations made by the Expert committee during the re-accreditation process were considered and an Action Plan was developed in accordance with the objectives, which consists of activities appropriate for each recommendation, deadline and implementation indicators, description of implementation and responsible persons or bodies. According to the re-accreditation recommendations, the QMC prepared an Action Plan and a related Annual Report every year as follows:

- Action Plan of the FVMUZ for the period from July 1, 2016 to July 1, 2017
- Annual report on the implementation of the action plan of the FVMUZ for the period from July 1, 2016 to July 1, 2017.
- Action plan for improving the quality of the FVMUZ for the period from October 1, 2017 to October 1, 2018.
- Annual report on the implementation of the action plan of the FVMUZ for the period from October 1, 2017 to October 1, 2018.
- Action plan for improving the quality of the FVMUZ for the period from November 2, 2018 to October 31, 2019.
- Annual report on the implementation of the action plan of the FVMUZ for the period from November 2, 2018 to October 31, 2019.
- Action plan for improving the quality of the FVMUZ for the period from November 2, 2019 to October 31, 2020.
- Annual report on the implementation of the FVMUZ for the period from November 2, 2019 to October 31, 2020.
- Action Plan for Improving the Quality of the FVMUZ for the period from November 2, 2020 to October 31, 2021.

- Annual report on the implementation of the Action Plan of the FVMUZ for the period from November 2, 2020 to October 31, 2021.
- Action Plan for Improving the Quality of the FVMUZ for the period from November 2, 2021 to October 31, 2022.

During the re-accreditation process, post-monitoring of the FVMUZ was proposed in order to determine the quality improvement related to the harmonization of the Strategic program of scientific research for a period of at least five years. Therefore, in 2016, the Working Group for the development of Strategic Research Program of the FVMUZ for the period 2016-2022 was established. The mentioned Working Group started drafting a comprehensive document aimed at enabling the scientific progress of the FVMUZ based on a long tradition, leading role in all forms of education in veterinary medicine, dedicated research, as well as recognition in the field of transfer of knowledge, technology and innovation.

In addition to the above action plans and the Strategic Program of Scientific Research, some of the most important improvements based on the recommendations given during the re-accreditation are:

- The Short-Term Strategy of the FVMUZ for the period 2018-2019 has been developed (Recommendation 1.1).
- The employee satisfaction assessment based on the model 360 has been initiated (Recommendation 1.6).
- Forms for subject syllabuses have been developed in Croatian and English so that all information on the subject is available to students and teachers in one document (Recommendation 2.3).
- Projects financed from the ESF have been submitted and accepted, which will increase the level of teaching quality (the so-called HKO (CQF) project) and improve the process of working on farm animals (the so-called VETFARM) (Recommendation 2.5).
- The reform of the Ambulatory Clinic started in 2017/2018, and new vehicles (4 vans) were procured, which enabled work with smaller groups of students and processing of a larger number of cases in the field (especially large animals and pigs) (Recommendation 2.5.)
- The Office for Career Development, Academic and Psychological Counseling has been established (Recommendation 3.2).
- The internship program has been accepted and has been implemented regularly since the ac.y. 2018/2019 (Recommendation 6.3.).
- As part of the European specializations within the European Board of Veterinary Surgeons, several resident programs have been activated (currently 4) (Recommendation 6.3).
- An integrated undergraduate and graduate study in English was started with the duration of 6 years (12 semesters). The study began in the ac.y. 2016/2017. and is

fully aligned with the Croatian study program. The number of available places per year was 25, which has now been expanded to 35 (Recommendation 6.4).

- Professional work at the clinics of the FVMUZ has been placed under the auspices of the VTH in accordance with the amendments to the Statute approved in 2017 (recommendation 7.5).

b) Recommendations and improvements based on the 2018 external independent assessment (ASHE)

The ASHE, through the Expert Committee, conducted the audit of the FVMUZ in March 2018. The Committee worked in accordance with the Audit Criteria of the ASHE, which are harmonized with the ESG. The task of the Committee was to assess whether the QAS of the FVMUZ is functional, purposeful and coherent, and whether it contributes to the mission and overall development of the UNIZG and all its activities. During the procedure, the Committee identified the strengths, weaknesses and good practice of the FVMUZ and made recommendations for the next period.

The Summary of the Final Audit Report of the FVMUZ shows that the level of development of the Faculty's QAS was assessed as the Developed Phase:

Conclusion

On the basis of the analysis of submitted documentation, interviews conducted with HEI's stakeholders, and other evidence collected during the site visit, the Expert Panel reached a conclusion that internal quality assurance system of the Faculty of Veterinary Medicine, University of Zagreb, is in the following stage of development by individual audit criteria:

- 1) Quality policy: DEVELOPED PHASE;
- 2) Planning and management: DEVELOPED PHASE;
- 3) Implementation and monitoring: DEVELOPED PHASE;
- 4) Evaluation: DEVELOPED PHASE;
- 5) Improvements, innovations, impact: DEVELOPED PHASE.

During this evaluation, recommendations were given that were the basis for the development of a two-year Action Plan and a subsequent Report on the implemented Action Plan. Some of the most significant improvements based on the recommendations made during this audit are:

- Action plan for improving the quality of the FVMUZ for the period from October 1, 2018 to October 1, 2020.
- Report on follow-up of the FVMUZ for the period from October 1, 2018 to October 1, 2020.
- Appointment of the quality coordinator of the departments / clinic as a person who enables better and simpler communication between the vice dean for quality control and all employees of the department / clinic or the Faculty as a whole

- Appointment of external stakeholders and representatives of administrative staff to the QMC
- Appointment of a representative of non-academic staff as a member of the FC
- A Quality Manual in accordance with ISO 9001: 2015 (September 2021) (PK-03) has been developed, which combines parts of the ISO 9001 standard and ESG standards and guidelines (quality system integration)
- Raising teacher competencies by attending courses “Active learning and critical thinking in higher education” (through the CQF project)
- Conducting internal trainings for FVMUZ staff (for course leaders, auditors, as part of visitation preparations, as part of project activities, etc.)
- Digital transformation of the FVMUZ began with the introduction of *e-office*; a new website has been created (in Croatian and English), and the server infrastructure has been modernized for better security and accessibility

c) Recommendations and improvements based on the 2015 EAEVE visit

During visitation in June 2013, conducted by a seven-member EAEVE committee, a major non-compliance was noted, related to biosafety and working conditions, described as: *The requirements regarding physical facilities with respect to safety and health procedures are not met*. Due to the observed non-compliance, the FVMUZ received the conditionally approved label, and resolve it within a period of 18 months. A re-visit during March 2015 proved that the non-compliance had been successfully resolved. Therefore, from May 2016, the FVMUZ was marked as *full approved* (valid for 7 years, until June 2023).

- In order to meet the requirements with regard to safety and health protection, the following activities have been undertaken:
- The Committee for Biosecurity consist of seven members was established at the FVMUZ. The Committee prepared Biosecurity Manual that describes general procedures, as well as special requirements and procedures in cases of infectious diseases or treatment of certain categories of animals.
- A person (and replacement) has been appointed to be in charge of advising staff and students on the implementation of biosecurity measures at the FVMUZ level
- A document has been prepared detailing the procedures with FVMUZ vehicles after returning from the field; washing and disinfection of vehicles is prescribed, and the vehicles themselves are equipped with disinfection equipment so that disinfection can be carried out in the field.
- To improve general level of safety and biosecurity FVMUZ employed an independent expert with the help of which evacuation plans were made for each building of the FVMUZ (placed in visible places in the buildings); exits, 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 have been prepared. All students (from 1st

to 6th year of study), before starting the practical part of the course, must be familiar with these Instructions, and sign a statement confirming that they are informed about all biosafety issues related to the all hazards arising from working with animals, as well as with all obligated protective measures, protective clothing and footwear.

- The eye-washers together with first-aid boxes are on the site in all laboratories in which students perform their practical work.
- The storage and handling of hazardous chemical products in is improved and special cabinet for storing the hazardous chemical were installed. Also, a central place has been established where the chemicals of the FVMUZ are stored, which is located in a fenced and supervised area, and all the necessary documentation on the disposal of chemical waste is kept.
- The Faculty together with the University of Zagreb is preparing a strategic plan for adapting the main building to be suitable for disabled people. The part of the University of Zagreb is also the Office for disabled students, and they served as advisory service for all the Faculties. FVMUZ has his own coordinators for disabled students – one professor and one student.
- Persons responsible for medicines, reagents and other consumables with a shelf life have been appointed at departments and clinics. Forms have also been developed to monitor the expiration dates of drugs, reagents, etc.
- A vehicle (liftcar) was procured, which enables the availability of the FVMUZ space for people with mobility difficulties (wheelchairs).

d) Recommendations and improvements based on EAEVE 2021 accreditation

Although the goal of the FVMUZ in 2018 was to join the so-called stage 2, accreditation of QAS by EAEVE, due to the pandemic and unfavorable epidemiological situation, this action was achieved in May 2021. During the three days, 70 different stakeholders (FVMUZ employees, students, external stakeholders) participated in the visitation, primarily through interviews related to management and staff, study program, teaching resources, postgraduate studies, scientific and professional work. The main link between all the mentioned meetings was the QAS, especially the procedures for planning, implementing, monitoring and improving the mentioned processes and activities. The Expert Committee finally confirmed that the FVMUZ meets European standards for acquiring the status of an accredited veterinary higher education establishment (stage 2 - accreditation).

The evaluation system developed by EAEVE over the years, which provides visits to institutions that educate students in the field of veterinary medicine, has shown how important it is in the academic environment to have a European standard in place that accompanies development policies and keeps the educational threshold high. Visited and accredited veterinary establishments confirm to the public that study programs reach a pre-prescribed, planned and comparable level of quality, and students themselves gain

confidence that their education will reach defined standards and that they will eventually acquire competencies and knowledge needed for independent work.

Expert Committee noticed following advantages:

- commitment of the FVMUZ management to quality assurance
- commitment of employees, students and external stakeholders to joint work on the continuous improvement of education in the field of veterinary medicine
- noticeable student-friendly attitude
- successful withdrawal of funds from international projects in favor of meeting the strategic goals of the FVMUZ
- effective Office for Career Development, Academic and Psychological Counseling
- excellent organization and diversity of extramural teaching
- effective logbooks for monitoring practical and clinical classes

Observed shortcomings (minor non-compliances) were:

- 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
- partial non-compliance with sub-standard 11.7 due to the suboptimal possibility of complete closure of the Deming circle, ie the plan-do-check-act process
- partial non-compliance with substandard 11.8 due to suboptimal SER

e) Recommendations and improvements based on quality system certification according to ISO 9001 (from 2014 to 2021)

The certification procedure, ie the first audit of the quality management system of the FVMUZ, was carried out according to the requirements of the ISO 9001:2008 by two auditors from *Bureau Veritas* in September 2014. The auditor's position was that the quality management system is in line with the requirements of the standard and that it achieves appropriate efficiency. The general recommendation for improvement was to increase the participation of all organizational units of the FVMUZ in the QAS. After the audit, a certificate was issued in the field of: **Services in higher education, scientific research, laboratory-diagnostic and professional-clinical work.**

During the first supervisory audit, one non-compliance was noticed, related to the method of receiving complaints. The non-compliance was resolved by creating an SOP for receiving and resolving complaints and the corresponding Complaint Reporting form. An Instruction to service users / patient owners on how to submit a complaint has been prepared and is available at the FVMUZ web page (<https://www.vef.unizg.hr/wp-content/uploads/2021/04/complaint-instructions-FVMUZ.pdf>). The Satisfaction Questionnaire has been prepared, to monitor the satisfaction with the services offered by the

FVMUZ. A meeting was held with the heads of departments/clinics, to present the above documentation in more detail. The mentioned procedure is certainly an improvement through the systematic monitoring of complaints at the FVMUZ level and their inclusion in the measurement of system performance.

f) Recommendations and improvements based on laboratory accreditation in accordance with ISO 17025 (2011-2021)

At the FVMUZ, there are currently five laboratories accredited in accordance with the ISO EN HR 17025:2017, which act as official and reference laboratories of the Republic of Croatia. These laboratories base their accredited methods primarily on the diagnosis of infectious and parasitic animal diseases and in cooperation with the Ministry of Agriculture, the Veterinary and Food Safety Directorate and the Ministry of Health. The first accreditation was carried out in 2011, and in April 2021, the laboratories passed the audit, which introduces them to a new five-year accreditation cycle.

The advantages of accreditation are numerous, and some of them are certainly:

- the presence of laboratories on the market, resulting in financial gain
- existence of reference laboratories in the premises of the FVMUZ
- high quality of testing and reliability of the obtained results, which are also internationally recognized
- advantage in participating in domestic and international projects
- the possibility of collecting materials for scientific research

1.3. The higher education institution supports academic integrity and freedom, prevents all types of unethical behaviour, intolerance and discrimination

The higher education institution supports academic integrity and freedom, upholds the ethical standards and preserves academic integrity and freedom.

The higher education institution effectively uses mechanisms for preventing unethical behaviour, intolerance and discrimination.

The higher education institution carries out activities related to the sanctioning of unethical behaviour, intolerance and discrimination.

The system for managing conflicts and resolving irregularities is functional at all levels of the higher education institution.

The work of employees of the higher education institution, its students and external stakeholders, is based on ethical standards in higher education.

The higher education institution systematically addresses issues of academic dishonesty (plagiarism, cheating etc.)

The FVMUZ has established several mechanisms that support academic integrity and freedoms, help prevent all forms of unethical behavior, intolerance and discrimination, in which the Student Office, the Office for Career Development, Academic and Psychological

Counseling, and the Disciplinary Committees for students or employees play an important role. In accordance with the Code of Ethics of the UNIZG and the FVMUZ internal acts, especially the Ordinance on Disciplinary Responsibility of Workers, any type of discrimination based on race, gender, religion, age and nationality, sexual orientation and sexual harassment is considered a serious violation of duty. Also, a serious violation of duty is considered disrespect for the dignity of students in terms of extremely rude and inappropriate behavior towards students, the use of simple and derogatory words and physical and psychological abuse. All members of the university community should be respected as persons in accordance with the guaranteed rights to life, integrity and dignity. As students of different backgrounds, religions, cultures and worldviews study at the FVMUZ, every form of direct and indirect discrimination based on religion, ethnicity, race, gender, sexual orientation, lifestyle, property status, origin, marital and marital status, pregnancy, family obligations, age, disability, physical appearance, political affiliation and health status is inadmissible. Likewise, any sexual harassment involving repeated unwanted verbal and physical suggestions of a sexual nature to another person, physical harassment, repeated unwanted jokes and remarks that are sexually colored, including reference to gender and sexual orientation, is unacceptable.

The Committee for the **Code of Ethics** of the UNIZG has also been established at the FVMUZ, whose role is to give opinions or act in cases of suspected violation of the Code of Ethics of the UNIZG. A system of disciplinary liability of employees (supported by the Ordinance on disciplinary responsibility of workers of the FVMUZ) and a system of reporting complaints in accordance with ISO 9001 (Instructions for receiving complaints, complaint forms) is in place. Also, a confidential person for internal reporting of irregularities has been appointed and the Ordinance on reporting irregularities has been drafted.

The main activities of the **Student Office** are related to individual and group counseling; aiding in fulfilling teaching obligations; monitoring individual rights and interests of students; solving problems in relations with teachers and associates of the FVMUZ; addressing the specific needs of students; providing information to teaching staff on ways to adapt the teaching of students with disabilities. The **Office for Career Development, Academic and Psychological Counseling** is a place where students can get help and support in learning, as well as professional psychological help. A student lawyer (**ombudsman**) is available through the UNIZG to address issues of academic relations and protection of academic rights and freedoms of students (<http://www.unizg.hr/studiji-i-studiranje/podrska-studentima/studentски-pravobranitelji/>).

Student Disciplinary Committee

The Student Disciplinary Committee conducts disciplinary proceedings against students in case of violations of the provisions of the Ordinance on disciplinary responsibility of students of the FVMUZ and prescribes disciplinary acts and measures.

The Staff Disciplinary Committee

The Staff Disciplinary Committee is a permanent committee of the FC of the FVMUZ, which operates according to the Ordinance on Disciplinary Responsibility of Employees of the FVMUZ and the Rules of Procedure of the FC. This Committee conducts investigative actions and evidentiary procedure in order to determine the commission of a severe violations, decides on the violation of the employee's duty and proposes a disciplinary measure. The decision to initiate disciplinary proceedings for a serious breach of duty is made by the dean, and the Committee is obliged to conduct disciplinary proceedings in the form of a hearing to establish the facts, present all evidence, hear the perpetrator and witnesses. After the discussion, the Committee decides on the violation of the employee's work duties and proposes a disciplinary measure. The Committee is obliged to inform in writing the person against whom disciplinary liability has been initiated about the procedure and about the decision. The Ordinance on Disciplinary Responsibility of Employees of the FVMUZ prescribes, among other things, the types of violations of work duties, measures for violations of work duties, and the work of the Committee.

Committee for Ethics in Veterinary Medicine

In order to ensure ethics in professional and scientific work, the FVMUZ established the Committee for Ethics in Veterinary Medicine. The activities covered by this Committee are related to the requirements for issuing decisions on ethical acceptability of research that are considered as experiments under the Animal Protection Act or are not considered as experiments (non-experimental clinical veterinary practices).

Tools to prove plagiarism, transcription and falsification of results

From the academic year 2021/2022., in order to raise the quality of academic work, the FVMUZ applies a system for verifying the authenticity of papers - *Turnitin* (through a national license). This system is intended for teachers and mentors as a tool to facilitate the verification of the authenticity of student and other works, and for students themselves, as a tool for self-verification of their own works. The *Turnitin* system compares papers published in available and commercial databases, currently available and archived websites, and with a database of already reviewed papers within the *Turnitin* system, and will certainly help prove plagiarism, transcription or falsification of results.

1.4. The higher education institution ensures the availability of information on important aspects of its activities (teaching, scientific/artistic and social)

Information on study programmes and other activities of the higher education institution is publicly available in Croatian and at least one world language.

The higher education institution informs stakeholders on the admission criteria, enrolment quotas, study programmes, learning outcomes and qualifications, forms of support available to students.

Information on the social role of the higher education institution is made available to stakeholders.

The higher education institution informs stakeholders about other indicators (e.g. pass rate analyses, graduate employment, drop-out rates, outcomes of previous evaluations, etc.)

As part of fulfilling its public role, the FVMUZ informs the interested public about the study programs it conducts, qualifications acquired by attending teaching activities, scientific research achievements, project activities and professional services it offers through its clinics and laboratories. The official website of the FVMUZ is the basic way of informing the public about daily activities (www.vef.unizg.hr). In addition to the website, printed materials are also used to inform stakeholders (information leaflets, study brochures, info-packages, etc.).

In order for the wider society and potential students to recognize that the FVMUZ offers a quality and attractive higher education program for future work in the veterinary profession, it is important to work on continuous and meaningful promotion. Promotional campaign for study programs usually begins with the University Festival and Open Day, and other public activities (campaigns on social networks "Enroll in veterinary medicine", <https://www.vef.unizg.hr/o-fakultetu/smotra-2020/>, launched through the CQF and VETFARM projects). For the needs of the campaign, promotional videos, brochures and leaflets are produced, in the production of which the students of the FVMUZ also participate.

FVMUZ understands the need to share information to the community, which is especially evident in the organization of events such as Open Day and Reptilomania +, publishing Yearbook, and extremely active participation in Museum Night and Science Festival. The Media Relations Committee was established in 2016 and together with the IT Office takes care of all publicly available information, runs the website and social networks. At the FVMUZ, there are officially authorized employees who are responsible for publishing content on the website, as well as on social networks (Facebook, Instagram). The availability of information on official websites and other media has improved the relationship with various stakeholders and raised the general level of public confidence in the FVMUZ.

The presence of employees in the media and informing the general public about topics in the field of activities of the FVMUZ and the veterinary profession as a whole is strongly encouraged. Interested parties can contact FVMUZ via the contact form available on the website. A protocol for responding to inquiries and requests received in this way within 48 hours has been established.

1.5. The higher education institution understands and encourages the development of its social role

The higher education institution contributes to the development of economy (economic and technological mission of the university).

The higher education institution contributes to the development of the local community.

The higher education institution contributes to the foundations of the academic profession and the accountability of teachers for the development of the university and the local community.

The development of its social role is a part of higher education institution's mission (e.g. development of civil society, democracy, etc.).

Sports events

In recent years, employees of FVMUZ have regularly participated in sports events organized primarily in the city of Zagreb. In 2017, 2018 and 2019, employees participated in the largest business race in the B2Run Zagreb region, and after a two-year break due to the pandemic, they also participated as a team in the 10th Zagreb Cener (<https://www.vef.unizg.hr/novosti/dogadanja/veterinarski-fakultet-na-ht-b2run-zasto-volimo-ovu-utrku/>; <https://www.vef.unizg.hr/novosti/veterinarski-fakultet-na-zagrebackom-nocnom-ceneru/>)

As the scope of work increases, so does the importance of teamwork, and by supporting extracurricular activities, employees from different organizational units are encouraged to meet more often in different circumstances. This increases team spirit and work motivation and improves process results, ie builds the identity of a higher education institution whose goal is to develop a culture of quality and encourage employee and student satisfaction, which, at the end, increases the contribution to society in which we live.

Cultural events

For years, the FVMUZ has been regularly participating in the Museum Night, and on the last Friday in January it opens the doors of its departments and clinics and introduces visitors to valuable museum material. Interesting workshops for all ages are also organized, and the special feature of our museum spaces is that they can be visited in the company of a pet animal. In the past few years, the public could see many interesting things: skeletons of domestic and wild animals, old and modern surgical equipment and instruments, preparations of pathologically altered organs, medals of our athletes and canine sports, museum exhibition related to various animal species - from bees to giraffes (<https://www.vef.unizg.hr/novosti/noc-muzeja-na-veterinarskom-fakultetu-izmedu-stvarnog-i-digitalnog/> <https://www.vef.unizg.hr/novosti/stota-obljetnica-suzivota-noc-muzeja-2020-na-veterinarskome-fakultetu/> <https://www.vef.unizg.hr/o-fakultetu/zivot-na-vef-u/noc-muzeja/> <https://veterina.com.hr/?p=67537>)

Exhibitions

Exhibitions of paintings and photographs have been held at the FVMUZ on several occasions, the themes of which are related to the activities of the FVMUZ (animals, horse motifs, photographs taken at the FVMUZ hunting ground, philatelic exhibition) (<https://www.vef.unizg.hr/novosti/dogadanja/otvorenje-izlozbe-animalistika-na->

[veterinarskome-fakultetu/](#) <https://www.vef.unizg.hr/novosti/dogadanja/otvorenje-izlozbe-ljepota-krajolika-bogatstvo-dozivljaja/> <https://www.vef.unizg.hr/novosti/dogadanja/dani-lovstva-na-veterinarskome-fakultetu-prica-iz-crnovscaka/>
<https://www.vef.unizg.hr/novosti/dogadanja/filatelisticke-izlozba-povodom-100-te-obljete-veterinarskog-fakulteta-i-izdanja-jubilarne-postanske-marke/>
<https://veterina.com.hr/?p=81655>)

Academic Choir of the Faculty of Veterinary Medicine *Ab ovo*

The Choir of the FVMUZ was re-established on February 14, 2011 after a twenty-year break, and from that ac. yr. bears the name *Ab Ovo*. During the last years, under the direction of mo. Josipa degl'Ivellio, it has grown into a choir of about forty members, mostly students of the FVMUZ and active and retired staff, but also friends who love and want to sing (<https://www.vef.unizg.hr/o-fakultetu/zivot-na-vef-u/akademski-zbor-veterinarskog-fakulteta/> <https://www.youtube.com/watch?v=2ZgiVxlzHf8> <https://www.facebook.com/Akademski-zbor-i-orkestar-Veterinarskog-fakulteta-Ab-ovo-648144798569469/> <https://www.vef.unizg.hr/novosti/vijesti/odrzan-je-svecani-koncert-akademskog-zbora-ab-ovo-i-gostiju/>)

Cooperation in the field of archiving

On the occasion of the 100th anniversary of the FVMUZ, the text *Archival and Museum Heritage of the Faculty of Veterinary Medicine* by prof. dr. Petra Džaje and Edita Francišковиć, was published. It describes the archive and museum material and a brief history of the FVMUZ. (<https://www.vef.unizg.hr/novosti/vijesti/arhivsko-i-muzejsko-naslede-veterinarskog-fakulteta-u-zagrebu/>)

Cooperation with museums

Prof. dr. Tajana Trbojević Vukičević and assistants Magdalena Kolenc and Kim Korpes from the Department of Anatomy, Histology and Embryology participated in the exhibition *Avars and Slavs at the Archaeological Museum in Zagreb* where they prepared a horse skeleton from the second half of the 7th century, found in Stari Jankovci (<https://www.vef.unizg.hr/novosti/dogadanja/suradnja-zavoda-za-anatomiju-s-arheoloskim-muzejom/>).

In the City Museum of Čazma, teachers of the Department of Veterinary Biology participated in the museum workshop *World People, and our people from Čazma - Aleksandar Marks and Dr. Ivo Horvat*, within the museum educational program MY HOMELAND - IT'S ME. On that occasion, they held two herbarium making workshops at the Čazma Elementary School for sixth grade students. For citizens, they held a lecture on the work of prof. dr. Ivo Horvat at the FVMUZ in the period from 1947 to 1963. (<https://www.vef.unizg.hr/novosti/12354/>)

Socially useful learning - Blue project

As part of the Blue Project - contribution to the development of socially useful learning programs at the FVMUZ, the Education Center at the FVMUZ was opened. A total of 18 months of the project brought new experiences, knowledge, partnerships and socially useful projects. The project involved 30 students of the FVMUZ, their professors, mentors from civil society organizations- the Association of Argonauta from Murter and the Maritime Education Center from Pula, and volunteers. The joint action resulted in 10 socially beneficial projects that will certainly have a long-term effect on the protection of the marine environment, ie the protection of dolphins and sea turtles. The goals of the project have been fully met: students have contributed to the community by designing and implementing projects and become active citizens, and the long-term partnership of the involved partners, after the success of the project and excellent cooperation, will certainly be achieved through some future project proposals. Socially useful learning shows the student as much as they knows and can do, and proves to the teacher that the skill given to a subject has been acquired. (<https://www.vef.unizg.hr/zik-projekti/plavi-projekt/>)

Patronage

FVMUZ is the sponsor of the campaign *The first four are the most important* conducted by the association *How Dogs Communicate*. (<https://www.vef.unizg.hr/novosti/vijesti/prva-cetiri-su-najvaznija/>)

Humanitarian actions organized by students and staff

During the academic year, student associations and employees of the FVMUZ organize several humanitarian events, which raise funds or other necessary things for citizens' associations, animal shelters, individuals, etc. (<https://www.vef.unizg.hr/studij/urkaps/4-humanitarni-advent-na-vefu/> <https://studentski.hr/vijesti/hrvatska/veterinarski-fakultet-i-ove-godine-prikuplja-donacije-za-potrebite>)

Popular lectures

Lecture on stress

Since the past year and a half of work at the FVMUZ, and everyday life have been marked by pandemics and earthquakes, which brought many limitations and caused considerable stress to many people, a lecture on stress was organized for employees and students of the FVMUZ on September 21, 2021. Mrs Andreja Kostelić Martić, Master of Clinical Psychology, EMDR therapist and psychotherapist of cognitive-behavioral therapy gave a lecture *Stress causes disease, but not always and not in all people - Review of protective psychological factors* (<https://www.vef.unizg.hr/novosti/dogadanja/predavanje-o-stresu/>)

Red dress day

In order to point out the danger of stroke in women of younger age, on January 31, 2021, a lecture was held on the dangers of stroke organized by the student association *Equus*.

Popularization of science

Science Festival and Open Day

For several years now, the FVMUZ has been regularly participating in the Science Festival, as part of which the teachers hold popular lectures and interesting workshops at the Nikola Tesla Technical Museum. During the week of the Science Festival, there is an Open Day where visitors to the Faculty can participate in workshops related to various areas of veterinary activities: colors in laboratory diagnostics, recognizing traces of large carnivores, ultrasound, chemical immobilization with a blower, rescue dogs in action, etc. (<https://www.vef.unizg.hr/novosti/dogadanja/dan-otvorenih-vrata/>)

Introducing science to the youngest

The Department of Veterinary Biology participates in the workshop *Comparative presentation of zoological preparations* for gifted children of primary school age within the PANDA 4 project. The project is one of the best approaches to work with gifted children. The PANDA 4 project is implemented by Bioteka - an association for the promotion of biology and related sciences (<https://www.vef.unizg.hr/zik-obavijesti/panda-4-prva-radionica-zavoda-za-veterinarsku-biologiju/>)

Cooperation with the local community

As the FVMUZ is active in all segments of animal protection, from caring for wounded and abandoned animals, to cooperation with associations that care for them, it is a regular partner of the City of Zagreb in organizing the International Animal Day. FVMUZ has been a registered recovery center for strictly protected wild animals that have been found exhausted, sick, wounded or poisoned, with the aim of treatment, rehabilitation and safe return to nature, within the Ministry of Environmental Protection and Energy, since 2017. As part of the recovery center (<https://www.vef.unizg.hr/novosti/oporaviliste-for-wild-animals/>).

1.6. Lifelong learning programmes delivered by the higher education institution are aligned with the strategic goals and the mission of the higher education institution, and social needs

There is evidence that general goals of the lifelong learning programmes are in line with the mission and strategic goals of the higher education institution.

There is evidence that general goals of the lifelong learning programmes are in line with social needs.

Revision and development of lifelong learning programmes is carried out systematically and on a regular basis.

In accordance with the Strategic Goal 2. of the Development Strategy of the FVMUZ, the Committee for Lifelong Learning was established, with the purpose of improving the organization of courses and easier monitoring of their implementation. FVMUZ offers permanent (*core*) courses in cooperation with the Croatian Veterinary Chamber, it is open to course proposals by veterinarians, and participates in the establishment of courses based on requests from competent authorities, primarily the Ministry of Agriculture.

The obligation after each course is to assess the satisfaction of the participants with the course itself through survey forms, and in this way the participants have the opportunity to give suggestions for improvements.

According to the needs of the profession and DVM, the possibility of specialization will be introduced, tailored to the needs of DVM, so that students can choose only part of the study program and thus obtain a postgraduate (PG) 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 the mentioned studies have been obtained, the enrollment of the first participants is expected in the winter semester of ac.y. 2022/2023.

II. Study programmes (ESG 1.2, ESG 1.9)

2.1. The general objectives of all study programmes are in line with the mission and strategic goals of the higher education institution and the needs of the society

There is evidence that general goals of all study programmes are in line with the mission and strategic goals of the higher education institution.

The justification for delivering study programmes, with regard to social and economic needs, is provided and includes an analysis of resources of the higher education institution required for delivering study programmes. If the higher education institution delivers study programmes leading to degrees in regulated professions, it accepts the recommendations of professional organisations that govern their licencing.

The higher education institution produces competitive professionals for national and international labour markets

FVMUZ is a public university and a component of the UNIZG, which is the only one that organizes and conducts university studies and develops scientific and professional work in the field of veterinary medicine in Croatia. The *integrated undergraduate and graduate university study program Veterinary Medicine in the Croatian language* is based on the needs of its own country, considering the programs of leading European veterinary faculties and European professional associations. Also, the modernly designed study program is performed according to the standards of the Bologna system and ESG guidelines. The six-year university study program offers more opportunities for practical work, and more attention is paid to ensuring the quality of teaching and acquired competencies.

The launch of the first *integrated undergraduate and graduate university study Veterinary Medicine in English* in the Republic of Croatia is a significant contribution to the international affirmation of the UNIZ and it enable FVMUZ to prepare students for the open international labor market. Additional interest in enrolling in such a study program can be seen through the membership of the Republic of Croatia in the EU, especially for students from non-EU countries. By achieving this goal, FVMUZ has positioned itself as the leading higher education institution in the region in the field of veterinary medicine.

The integrated undergraduate and graduate university study program in English is conducted in the same manner as the study in Croatian. The number of obligatory and elective courses and three tracks are completely identical in both study programs. The study program in English has stated learning outcomes and described qualifications that are published in the Diploma Supplement (DS).

After the last full accreditation conducted in 2013 and the accreditation of the QAS in 2021 by the EAEVE, FVMUZ is included in the list of positively evaluated veterinary establishments, indicating that duration of integrated undergraduate and graduate university studies is in line with EU recommendations and Directive 2005/36/EC. Documents issued by EAEVE, together with other world or European veterinary organizations (eg the Federation of Veterinarians of Europe, FVE), describe in detail *Day One Competences*, defining which competencies and skills should be developed within a subjects and acquired by students. These competences are included in the study program of the Faculty of Veterinary Medicine in Zagreb.

The profession of veterinary medicine in the Republic of Croatia belongs to the *regulated professions*, therefore the program of integrated undergraduate and graduate study of veterinary medicine is harmonized with the provisions of the Act on Regulated Professions and Recognition of Foreign Professional Qualifications (OG 82/15, OG 70/19 and OG 47 / 20) and with the provisions of 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.

As the mentioned study program and the FVMUZ itself are accredited by EAEVE, so graduates can be successfully employed throughout the EU, without the need to nostrificate the diploma. Also, the current study program enables student mobility within the European Higher Education Area (EHEA).

2.2. The intended learning outcomes at the level of study programmes delivered by the higher education institution are aligned with the level and profile of qualifications gained

The higher education institution has clearly defined the learning outcomes of the study programmes, and they are aligned with the mission and goals of the higher education institution.

The higher education institution checks and ensures that the learning outcomes at the level of courses are aligned with the learning outcomes at the programme level.

Learning outcomes achieved in the study programme are aligned with the CroQF and EQF level descriptors.

In defining learning outcomes, the higher education institution acts in line with professional requirements and internationally recognized professional standards, ensuring that the programme is up to date.

The intended learning outcomes clearly reflect the competencies required for employment, continuing education or other individual/society needs.

Defining learning outcomes and conducting a study program in line with the mission, vision and goals of the FVMUZ are a guarantee of recognizability of the DVM, a graduate of the FVMUZ, within the EHEA and the European Research Area (ERA). FVMUZ has developed and is implementing an integrated study program in veterinary medicine according to the requirements of the Bologna Process, in accordance with the European Directive on Professional Qualifications in Regulated Professions, and the requirements of the Croatian Qualifications Framework (CQF). As the development and evaluation of occupational standards and qualification standards is underway with the financial resources from the ESF Fund, this part of the study program and acquired knowledge and skills will be fully harmonized in near future.

All students wishing to obtain the qualification of DVM must acquire the competencies included in the DS, and the competencies adopted by EAEVE (*Day One Competence*) (https://www.eaeve.org/fileadmin/downloads/eccvt/List_of_subjects_and_Day_One_Competences_approved_on_17_January_2019.pdf), including general academic and professional attitudes for professional development as well as relevant generic and clinical skills.

The compliance of the complete integrated university study program with national and international regulations is visible in the observance of principles, values, goals and

verification of LO. A total of ten LO have been recorded at the integrated study level, which are fully harmonized with the LO of individual subjects (in Croatian and English). CQF will facilitate the revision and development of a new, modern study program in the coming period. Completion of the integrated undergraduate and graduate university study program Veterinary Medicine results in acquiring of LO at levels 6, 7 and even 8 (<https://www.azvo.hr/hr/uncategorised/1311-opisnice-razina-ishoda-ucenja>), while students acquired a qualification at level **7.1. sv - university graduate studies and integrated undergraduate and graduate university studies**. The total workload for obtaining a qualification upon completion of an integrated university study is a minimum of 300 ECTS credits at levels 6 and 7 or higher of LO, of which at least 60 ECTS credits are at level 7. Upon completion of postgraduate specialist studies, level **7.2 is acquired - qualifications acquired upon completion of postgraduate specialist studies**. The total workload for acquiring the qualification is a minimum of 60 ECTS credits at level 7 or higher of LO. Upon completion of the doctoral study, level **8.2 is acquired - qualifications acquired upon completion of postgraduate university (doctoral) studies**. The condition for obtaining the qualification is at least three years of scientific research in full-time equivalent, the result of which are original scientific papers with a relevant international review. The anticipated LO clearly reflect the competencies needed for inclusion in the labor market, continuing education or other needs of the individual and society as a whole. After completing the integrated undergraduate and graduate university study program, the student acquires the right to enroll in postgraduate studies (specialist and doctoral levels), and at the professional level the holder of this qualification is authorized to use the academic title of DVM / dr.med.vet./ and to perform work in the area for which he acquired the title.

2.3. The higher education institution provides evidence of the achievement of intended learning outcomes of the study programmes it delivers

The higher education institution ensures the achievement of intended learning outcomes of the study programmes it delivers.

The higher education institution continually revises and improves the teaching process on the basis of evidence on the achievement of the intended learning outcomes (for example, tests, seminar papers, presentations, etc.)

FVMUZ ensures the achievement of the LO at the level of each subject and the study program as a whole. During the teaching of all subjects, according to the Ordinance on integrated undergraduate and graduate studies (http://www.vef.unizg.hr/wp-content/uploads/2018/11/a19_20110222-pov-03-pravilnik_o_integriranom_preddiplomskom_i_diplomskom_studiju.pdf) attendance to lectures, seminars and exercises is continuously monitored, as well as the activities at the seminars and exercises, and the results of colloquia. The sum of points thus gained is added to those obtained in the final exam, which ultimately allows the formation of the final grade for a particular subject of study (Tables 1, 2, 3).

Table 1. Courses with lectures, seminars and practicals

Teaching activity	Minimal points	Maximal points
Lecture attendance	3	6
Seminar attendance	4	6
Practical attendance	4	6
Seminars/practical activity	5	10
Midterm /colloquium	20	32
Final exam	24	40
Total	60	100

Table 2. Courses with lectures and practicals

Teaching activity	Minimal points	Maximal points
Lecture attendance	3	6
Practical attendance	8	12
Practical activity	5	10
Midterm /colloquium	20	32
Final exam	24	40
Total	60	100

Table 3. Courses with seminars and practicals

Teaching activity	Minimal points	Maximal points
Seminar/practicals attendance	11	18
Seminar/practicals activity	5	10
Midterm /colloquium	20	32
Final exam	24	40
Total	60	100

After determining the sum of points earned in the defined categories, the student receives a grade based on a criterion (grades 1 to 5) (Table 4).

Table 4. Scale to determine the grade based on gained points.

Points	Grade
Up to 59	1
60 – 76	2
77 – 84	3
85 – 92	4
93 – 100	5

In this way, the percentage of knowledge acquisition (the number of points is also the percentage of knowledge acquisition) can be determined, which visibly defines the actual degree of student success in a particular subject. In addition, the quality of this system is recognized in the gradual acquisition of knowledge and skills during the teaching process, so that 60% is acquired through continuous student work, and 40% can be achieved additionally, through the final exam. This way of assessment is clearly described in the syllabus for each subject, with the stated LO and the goal of that same subject.

By taking the final exam of an individual subject (course), final check of the acquired knowledge and skills is performed. Precisely established system of monitoring and grading students during the teaching process, with regular reporting to students on the points gained, also allows transparency in the teacher-student relationship, which eliminates possible disagreements and contributes to a positive work climate. The introduction of the described method of monitoring students during the teaching activities and its evaluation encourages continuous work that promotes better understanding of the subject and achieving the required levels of LO.

Increasingly frequent introduction of e-learning within the allowed percentages in the courses of the integrated study program enables the application of new, modern tools, such as self-evaluation, which allows students to check the level of knowledge while attending individual courses.

In conclusion, the successful mastering of all LO at the level of the integrated study program is manifested in the passed or positively assessed obligatory and elective subjects, and the prepared and defended diploma thesis.

The integrated undergraduate and graduate university study of veterinary medicine ends with the defense of diploma thesis, which is prescribed by the Ordinance on integrated undergraduate and graduate studies. In short, the student chooses the topic for the thesis from the proposed list or personally arranges the topic with the mentor, and are obliged to apply it until enrollment in XII. semester of study. The thesis can be based on data from scientific experiments or be written as a review article based on scientific and professional literature that the student must critically process and use expertly.

In accordance with the regulations of the UNIZ, all teachers in the subject together with the course leader, decide on the goals and LO of the subject. The *Ordinance on the procedure for evaluating study programs of university undergraduate, graduate, integrated undergraduate*

and graduate and professional studies at the University of Zagreb precisely describes how LO can be updated. Also, the legal acts of the FVMUZ describe the process of analysis and updating the LO of the subject. The procedure is described in the *Ordinance on integrated undergraduate and graduate studies*, the *Ordinance on the quality assurance system* and other relevant documents. The annual Informational Package and the course syllabus describe the course objectives and LO.

At the end of the study program, each student has the opportunity to fill out a survey on satisfaction with the full study program. Analysis of filled questionnaires can improve the teaching process, considering grades and comments on possible improvements.

2.4. The HEI uses feedback from students, employers, professional organisations and alumni in the procedures of planning, proposing and approving new programmes, and revising or closing the existing programmes

Development activities related to study programmes are carried out systematically and regularly, involving various stakeholders.

Planning and proposing new study programmes includes an analysis of justification for delivering a study programme, resources and alignment with the strategic goals at the local and regional level, and other needs of society.

The higher education institution provides evidence on the justification for delivering same or similar study programmes within the same university.

The higher education institution publishes up-to-date versions of study programmes.

The higher education institution records the changes to study programmes and analyses their fitness for purpose.

The Strategy on Education, Science and Technology “*New Colors of Knowledge*” of the Republic of Croatia was drafted in 2014 and is designed to propose measures that are in line with the envisaged strategies of the EU and the goals expected to be achieved by 2025 ([https://mzo.gov.hr/UserDocsImages/dokumenti/Obrazovanje/Strategija% 20obrazovanja,% 20znanosti% 20i%20tehnologije.pdf](https://mzo.gov.hr/UserDocsImages/dokumenti/Obrazovanje/Strategija%20obrazovanja,%20znanosti%20i%20tehnologije.pdf)). The mentioned Strategy states that the main goal in the field of higher education is the improvement of study programs and consistent implementation of the Bologna reform, while ensuring a quality staff structure and an efficient and developmentally stimulating system of financing higher education institutions, which will improve the student standard with special attention for the social dimension of studying.

The aforementioned Strategy of the Republic of Croatia states that one of the goals is to: *internationalize higher education and integrate it more strongly into the European and world higher education area (Objective 7), especially through the measure of encouraging the introduction of teaching in foreign languages (Measure 7.2), noting that greater incoming student mobility is possible only if Croatian higher education institutions increase the offer of courses / modules, ie entire studies in English (or some other) language. The introduction of individual courses in English is a good start to improve mobility, but in the long run it should lead to the offer of rounded units of 30 ECTS credits that a student can collect during one semester. Furthermore, it is important to ensure that all studies in foreign languages are offered in all areas.* "

When planning and proposing a new integrated undergraduate and graduate university study of veterinary medicine in English, detailed planning was undertaken, with analyzes of the justification of performance and capacity of the FVMUZ, and compliance with strategic goals of the Republic of Croatia, UNIZG and FVMUZ. This study program, developed on the basis of the requirements of society and the labor market, meets the needs of Croatians and citizens from the region and the world who for several years have shown a constant interest in education at the FVMUZ-

FVMUZ is a public university and a component of the UNIZG, being the only one that organizes and conducts university studies and develops scientific and professional work in the field of veterinary medicine in Croatia. Therefore, valid study programs are the basis of education in the field of veterinary medicine in the Republic of Croatia and there are no similar study programs within the same University.

The basic tools for revising and improving the teaching process are certainly monitoring the progress through the study, successful achievement of LO, and feedback from various stakeholders, especially students and teachers. Study programs (integrated, postgraduate and doctoral) are fully published on the FVMUZ website and are available to the general public, while syllabuses of individual subjects (courses) are available to internal stakeholders via the intranet. Detailed information on study programs is also available to stakeholders through tools such as the Higher Education Information System (ISVU) and the MOZVAG system.

As mentioned in Chapter 2.3, changes in study programs are carried out in accordance with the regulations of the UNIZG and the FVMUZ. After the changes are presented to the Committee for Integrated Undergraduate and Graduate Studies and the Committee for Quality Management, they are accepted by FC and sent for acceptance to the UNIZG (through the *Working Group for Study Programs, University Quality Committee, and Biomedical Council*). In short, study programs must be approved by the FC and the UNIZG, accredited by the ASHE and finally approved by the Ministry of Science and Education.

Members of the Committee for Integrated Undergraduate and Graduate Studies and the Committee for Quality Management are also representatives of students and external stakeholders, who thus directly participate in the work of the FVMUZ, evaluation, assessment and revision of curricula. All students after graduation have the opportunity to evaluate the study program as a whole and give their comments. Employers, ie veterinary organizations in which professional practice is performed, evaluate the study program and students and have the opportunity to provide comments and ideas for improvement. All surveys are reviewed and analyzed, and comments are recorded so that they can be used in the revision of the study program. Meetings of dean and vice-deans with students are held as needed during the academic year to discuss the study program. Meetings with external stakeholders are also organized to arrange extramural classes, clinical practice or Ambulatory Clinic.

2.5. The higher education institution ensures that ECTS allocation is adequate

The higher education institution allocates ECTS credits in accordance with the actual student workload, based on the analyses of feedback from stakeholders in the teaching process, or other procedures.

Students are provided with feedback on the results of the analysis of gathered information and the implemented changes

The European Credit Transfer and Accumulation System (ECTS) describes credits as a load on students according to pre-defined LO in each course and at the level of the study program. At the FVMUZ, one ECTS course takes 25 to 30 student hours. ECTS credits include active teaching, exams and all necessary activities related to the acquisition of knowledge. One academic year has 60 ECTS (total student workload during the year), ie one semester carries 30 ECTS credits. Upon completion of the 12-semester curriculum, the student can acquire a minimum of 360 ECTS, which corresponds to level 7.1-sv of the CQF and EQF. Each course is awarded an appropriate number of ECTS credits, distributed according to the main activities of the student and the workload of the course (Informational package). Also, during the studies, the student enrolls in elective courses within 20% of the total study program. (Information package, https://www.vef.unizg.hr/wp-content/uploads/2021/10/za-web_informacijski_ENG_21_22-MARTINA.pdf).

The Ordinance on Integrated Undergraduate and Graduate Studies and the study program itself were last completely revised about ten years ago, so the FVMUZ has begun the process of amending both. The main goal is to modernize the curriculum, its harmonization with European directives and regulations of the EAEVE and the standards of occupations and qualifications in accordance with the CQF and the EQF. One of the activities that will precede the change of the study program will certainly be the harmonization of ECTS credits with the actual student workload, in order to enable constructive settlement of student obligations and assigned ECTS credits to each course. An amendment to the Ordinance on Integrated Study is underway, which will, among other things, prescribe the method of examination in elective courses (eg introduce evaluation of courses without grading or with descriptive grading), which will also affect student workload and ECTS credits.

2.6. Student practice is an integral part of study programmes (where applicable)

The higher education institution allows for learning and obtaining new skills through student practice, where applicable.

Where applicable, student practice is an integral part of study programmes and is organised outside the higher education institution, in cooperation with the labour market.

Student practice is carried out in a systematic and responsible manner, ensuring the achievement of intended learning outcome regarding student practice.

External practical training (EPT) and student practice (SP)

The integrated study envisages that each student who enrolled in XII. semester performs EPT and SP in two obligatory subjects: **Field-Professional Work** lasting a total of 180 teaching hours and **Professional-Clinical Work** of 120 teaching hours. During the duration of these

courses, students will apply the knowledge acquired during their studies in a specific institution and expand their practical knowledge and skills. During this practice, the student is trained under the supervision of an expert (professional mentor) to independently perform professional work. A person who is a DVM with at least three years of work experience in the veterinary profession may be appointed as a professional mentor. The veterinary organization is obliged to organize the monitoring of the student work and to provide the conditions for the successful performance of clinical work. During the practice, the student is obliged to adhere to the prescribed measures of safety at work, fire protection and other safety measures implemented by the employer and to properly fulfill the set work tasks and adhere to other work obligations. The student is obliged to protect the property of the employer, treat it carefully and conscientiously and be careful not to harm the employer by his behavior or actions.

Practical training of students is performed in institutions that deal with activities in accordance with the study program:

1. VTH of the FFVMUZ
2. Croatian Veterinary Institute (CVI) in Zagreb
3. Veterinary organizations (clinics) throughout Croatia
4. Ministry of Agriculture of the Republic of Croatia, Veterinary Directorate

The subject **Field-Professional Work** is performed exclusively as a EPT that is conducted outside the FVMUZ and is evaluated with 10 ECTS credits. Practical classes are conducted individually, in the selected veterinary organizations. One student is assigned to one mentor appointed by the selected veterinary organizer, and the FC of the FVMUZ confirms the appointment of the assigned mentor. The student is obliged to do an EPT lasting 30 working days.

The subject **Professional-Clinical Work** is a form of clinical and non-clinical teaching and is evaluated with 8 ECTS credits. It is conducted at the FVMUZ and outside the FVMUZ. During the course of this course, students perform three forms of practical work that are different in place and duration.

Students who, within the Erasmus + program, perform a student practice outside the Republic of Croatia, are required to obtain a *Traineeship evaluation form*. This form is compiled by the SP mentor in agreement with the student on the basis of the following relevant documentation: *Learning Agreement for Traineeships*, *Traineeship Certificate* and *Monthly report*.

During the student practice, the student is obliged to keep the Logbook (<https://www.vef.unizg.hr/wp-content/uploads/2018/10/dnevnik-strucne-prakse-novi.pdf>). The Logbook contains brief instructions on the implementation of SP and questionnaire for the employer. The student is required to describe the work tasks covered on daily basis, which means that the logbook should contain activities for all 30 days spent in veterinary

organization, 8 days of professional clinical work at the Croatian Veterinary Institute in Zagreb, 5 days in the Ministry of Agriculture and 2 night shifts at the VTH of FVMUZ. List of Day One Competences and Minimum Practical Competences that students should obtain are part of the logbook. After completing the SP, logbook certifies the mentor in the veterinary institution. After the end of the SP, the logbook is submitted for inspection by the head of SP and vice-dean for integrated studies and students.

III. Teaching process and student support (ESG 1.3, ESG 1.4, ESG 1.6)

3.1. Admission criteria or criteria for the continuation of studies are in line with the requirements of the study programme, clearly defined, published and consistently applied

The criteria for admission or continuation of studies are published.

The criteria for admission or continuation of studies are consistently applied.

The criteria for admission or continuation of studies ensure the selection of candidates with appropriate prior knowledge, which is aligned with the requirements of the study programme.

The higher education institution has effective mechanisms for recognising prior learning

Enrollment in the integrated undergraduate and graduate study of Veterinary Medicine in the Croatian language

FVMUZ enrolls students within the quota proposed by the FC and approved by the Senate of the UNIZG. The invitation for applicants is published at least six months before the beginning of the academic year, on the FVMUZ website and on the website www.postani-student.hr. Enrollment quotas are determined each year for the upcoming academic year. In ac. yr. 2020/2021 the enrollment quota was 135 students (134 + 1).

When defining the enrollment quota, a discussion is held every year at the session of the Committee for Integrated Study Program. When defining the quota, the Faculty considers the workload of teachers and space capacity, expected interest in studies, as well as the number of currently unemployed graduates (which is checked every year at the Croatian Employment Service and the Croatian Veterinary Chamber). From the beginning of ac. yr. 2009/2010, students are enrolled on the basis of a unique list of applicants (based on success in high school, passed mandatory exams at the state matura and the results of additional tests, ie Psychomotoric Test at the FVMUZ), formed by the National Information System of Higher Education (NISpVU).

The list of registered candidates for enrollment in the integrated undergraduate and graduate university study of Veterinary Medicine is compiled according to the following scoring system:

Prerequisite for enrollment: Attendance in Biology, Physics and Chemistry for at least two years during a four-year highschool education.

Out of a total of 1000 points, the candidate can achieve:

1. Grades obtained at secondary-school level – up to 250 points (25%)
2. Results of the compulsory state exam (matura) for the subjects:
 - a) Croatian language at A level – up to 150 points (15%)
 - b) Mathematics at A level – up to 50 points (5%)
 - c) Foreign language at A level – up to 100 points (10%)
 - d) Elective subject at state exam (matura) (one of): Biology or Physics or Chemistry – up to 300 points (30%)
3. Psychomotoric test – up to 100 points (10%)
4. Specific achievements (1st to 3rd place in national or international competition in Biology, Chemistry, Physics or professional subjects of veterinary schools) – up to 50 points (5%)

Candidates from the EU, instead of the Croatian language at the state matura, are recognized as having passed their *first language* as part of their final exam. Those candidates must pass the B2 level of Croatian language at the National Center for External Evaluation of Education. Passing the Croatian language exam at B2 level is also mandatory for foreign citizens (candidates from outside EU member states).

If the candidate has not completed two years of teaching Latin in high school, he/she must pass that language until enrollment in the second year of study.

Enrollment in the integrated undergraduate and graduate study of Veterinary Medicine in English

In ac. yr. 2016/2017, a new six-year integrated study program of veterinary medicine in English was introduced (<https://www.vef.unizg.hr/en/studiranje/integrated-under-graduate-and-graduate-course-in-veterinary-medicine/about-the-study-program/>). Enrollment in this study program is primarily based on previous high school success. When applying, it is necessary to submit originals or certified copies of high school certificates for all years of high school, and matura certificates with an official transcript of the grade. If the candidate holds diplomas from other studies (finished after high school), they are also considered when evaluating applications. Special attention is paid to the results obtained in science subjects. Also, preference is given to students with an international matura, who should have at least 32 points in science subjects at a higher level.

Enrollment quota for this study program from the academic year 2020/2021 amounts to 35 students. The following documents are also considered when enrolling:

- completed application form
- preparatory school certificate, if any
- proof of English language proficiency (TOEFL, IELTS, CAE, etc.)
- proof of knowledge of Latin language, if any
- CV and motivation letter explaining the reasons for choosing the Veterinary Medicine program
- Certificate (s) or proof of "practical" experience in working with DVM, if any.

These documents are collected after the announcement of the Call for Applications on the website of the FVMUZ. Applications are accepted by e-mail within 3 defined registration deadlines (January, April and July). Upon receipt of applications, the Enrollment Committee (composed of 3 employees of the FVMUZ) within a short time (defined in the Call for Applications) sends a notice of its decision to accept student. Also, a waiting list is being prepared for those candidates whose applications and documents have been evaluated and approved by the Enrollment Committee, but were not immediately accepted (due to the large number of received files of higher quality level). (<https://www.vef.unizg.hr/hr/studying/enrollment-to-veterinary-studies-in-english/>).

3.2. The higher education institution gathers and analyses information on student progress and uses it to ensure the continuity and completion of study

Procedures for monitoring student progress are clearly defined and available.

The information on student progress in the study programme is regularly collected and analysed.

The higher education institution ensures adequate mechanisms for analysing student performance and pass rates, and initiates necessary actions accordingly.

Students of integrated undergraduate and graduate studies acquire the right to advance to the next year of study by fulfilling all prescribed obligations and taking exams. The rules for student progress are described in the Informational Package and the Student Guide, which is available on the FVMUZ website at the beginning of each semester / academic year (<https://www.vef.unizg.hr/wp-content/uploads/2022/01/STUDENT-GUIDE-FOR-THE-SUMMER-SEMESTER-OF-THE-2021-2022-ACADEMIC-YEAR.pdf>). Also, every year in April, course leaders discuss and revise the rules of progress in several years of study, which are then forwarded to the Committee for Integrated Studies and accepted at the FC session (then published on the website, in Informational Package and in Student Guide).

A student is allowed to advance to a higher academic year if he/she has acquired at least 45 ECTS credits. The remaining ECTS credits (up to a total of 60) must be acquired no later than before enrollment in the winter semester of the next academic year. Students who have not met the requirements for full enrollment in the higher semester of study (45 ECTS) can enroll only courses from the list of compulsory courses (for example, 30 ECTS credits earned in the first year of study will allow students to enroll in courses with 30 ECTS in the second year).

In accordance with the Decision of the Government of the Republic of Croatia and the Senate of the UNIZG, students who in the ac.y. 2020/2021. achieved 55 ECTS credits are exempt from tuition fees for the ac.y. 2021/2022. Students who have achieved less than 30 ECTS credits pay the tuition fee in the maximum amount, prescribed by the Decision of the Government of the Republic of Croatia and the Senate of the UNIZG. Students who have achieved 30 to 54 ECTS, when enrolling in for the next academic year, will pay a tuition fee in the amount based on the number of ECTS credits achieved and the average grade.

The students with the best grades per academic year are awarded prizes and recognitions of the FVMUZ once a year, at a solemn session of the FC, with the award criteria prescribed by the *Ordinance on the awarding of prizes and recognitions*.

The study program clearly defines the methods of assessment and the schedule of exams. Students are objectively evaluated according to the valid criteria and rules of the UNIZG and the FVMUZ. Student assessment correlates with the entire study program and is based on LO. Students are informed about the way of taking the exam and the criteria that will be applied at the beginning of each course.

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 Yearbook of the FVMUZ and are available in ISVU and MOZVAG systems.

3.3. The higher education institution ensures student-centred learning

The higher education institution encourages various modes of programme delivery, in accordance with the intended learning outcomes.

Various teaching methods are used that encourage interactive and research-based learning, problem solving and creative and critical thinking (for example, individual and group projects, cooperative learning, problem-based learning, field work and other interactive methods).

The HEI continually evaluates and adapts teaching methods and different modes of programme delivery.

Teaching methods are adapted to a diverse student population (non-traditional student population, part-time students, senior students, under-represented and vulnerable groups** etc.).*

The higher education institution ensures the use of state-of-the-art technologies to modernise teaching.

Available and committed teachers contribute to the motivation of students and their engagement.

The higher education institution encourages autonomy and responsibility of students.

**Under-representation in higher education is defined as a lower participation of a certain group of students in relation to their percentage in general population, and situation in other European countries. The under-represented groups are as follows: students whose parents have lower educational qualifications; female students in technical fields and male students in humanities; mature students; students with disabilities; students with children; students belonging to the Roma minority.*

***Vulnerability is perceived as difficulties in the academic or social integration of students, associated with certain personal characteristics of students*

Organization of teaching activities

In accordance with the regulations of the UNIZG and the FVMUZ, teaching in study programs is carried out in various forms, according to the anticipated LO. Lectures, seminars and various forms of exercises are the basic ways of teaching, and the size of groups depends on specific requirements and thematic units. Teaching activities are organised by heads of departments / clinics and course leaders. The FVMUZ organizes classes in its own premises within the campus, as well as extramural activities in veterinary and other institutions. As part of fieldwork, students attend classes on farms with ruminants, horses, pigs and poultry. Also, part of the teaching is organised in slaughterhouses, food processing plants, public markets, etc., in order to gain insight into the veterinary public health and food hygiene. FVMUZ signs official agreements on cooperation with various external bodies, such as veterinary organizations and all other institutions that employ veterinarians (farms, reproduction centers, dairies, slaughterhouses, fish farms, apiaries, etc.).

FVMUZ provides adequate funds and facilities for the continuous implementation of the study program, as well as support for students. Appropriate spatial resources (classrooms, laboratories, clinics, library, student rooms, etc.), modern equipment (computers, smart boards, microscopes, etc.) and literature (books, scripts, access to databases, electronic books) are provided for successful learning). FVMUZ has the space, staff and equipment to fully satisfy the number of students according to national regulations, which is regularly decided, communicated, evaluated and audited by heads of departments/clinics, course leaders, Dean's board, committees and FC.

Pre-clinical training

As veterinary medicine is a specific study, it is important to note that, from the first year, students are in contact with live animals, either available on campus or during farm visits, in the form of fieldwork (related to subjects *Introduction to Veterinary Medicine; Environment,*

behavior and animal welfare; Breeding characteristics of animals; General animal nutrition; Physiology of domestic animals; Animal breeding and production, Hygiene and keeping of animals, etc.). Bones (single or whole skeletons), fresh organs, whole carcasses and other materials (microscopic preparations, museum collections, software, models, etc.) are routinely used for preclinical training. Carcasses used in practical teaching of eg. anatomy are donated after euthanasia (selection is based on biosafety assessment); fresh organs are procured from slaughterhouses, and the quantity of both is decided on the basis of the number of students at the subject level, before the academic year or semester. In the 3rd year of study, as part of the courses *General and Special Veterinary Pathology*, students actively participate in practical exercises and perform dissections of whole carcasses of different animal species.

Clinical training

FVMUZ organizes practical clinical training in its own clinics and compulsory extramural training in other veterinary institutions. Students develop their clinical skills through problem-based teaching and compulsory clinical work, with appropriate supervision. Clinical rotations are conducted in small groups of students per teacher (from 4 to 6), which also applies to night shifts and classes from the Ambulatory Clinic. During the practical clinical training, students are required to keep a logbook. *Day One Competences* (DOC) students acquire through theoretical and practical knowledge and clinical experience. The DOC list is available to students, teachers and external stakeholders in the logbook and other documents related to extramural and clinical training. The FVMUZ has software called the Ambulatory Protocol (VEF Protocol) for recording patients in clinics, and is intended for writing prescriptions, discharge letters, recording findings in patient cards, scheduling examinations and billing services, and is available to all staff and students. Faculty clinics are open 24/7 throughout the year and serve as emergency and full veterinary care for various species of animals. Clinical services are integrated under VTH. Patients are referred to FVMUZ clinics by private veterinarians due to the complexity of the cases or if a specialist examination is required (from cardiology, dermatology, neurology, gastroenterology, ophthalmology, reproduction, etc.).

Training in veterinary public health and food safety

Within the practical classes conducted from IX. to XI. semesters in *Hygiene and Food Technology* and *Veterinary Public Health*, students visit slaughterhouses (pigs, cattle and broilers), meat and milk processing facilities, public markets and laying egg farms. In slaughterhouses, students follow *ante mortem* examinations of ruminants, pigs and broilers and *post mortem* examinations of meat in groups of up to 6 students. Under the supervision of veterinary inspectors and teachers, students perform examinations independently. Practical classes in food hygiene in the premises of the FVMUZ (laboratory exercises) are performed on products of animal origin obtained from the public market (raw meat and milk, dairy products, meat products, eggs, fish, shellfish). Classes are held in groups of up to 10 students per teacher.

E-learning, LMS system and internet

E-learning is supported by the VEF-LMS system. VEF-LMS is a database protected by a password (AAI identity) in which all subjects are located, and provides students and teachers with basic information about the subject, information for students and various teaching materials (pdf files, videos, PowerPoint files, formative self-assessments, colloquia, etc.). Publication of information and teaching content within the VEF-LMS is the responsibility of teachers and course leaders. Each student should participate in e-learning in a manner determined by the syllabus of each individual subject. All students have equal access to IT equipment. Students are assigned a user account (AAI identity) which is part of the *Croatian academic and research network* CARNet. This account gives students access to LMS, ISVU, email, literature databases, intranet, etc. Wireless internet connection is available on campus. In order to provide students with full access to computer resources and the Internet, the FVMUZ has four computer classrooms with a total of 62 computers and additional computers in the central library. In addition, each lecture room, practice room, as well as the library, have additional computers.

In the circumstances of the pandemic, due to the introduction of anti-epidemic measures at the state level, classes were repeatedly stopped and switched to online lectures, exercises and exams, to which teachers, students and administrative staff quickly adapted. Thus, for example, teachers in the subjects where practical laboratory and clinical exercises are held would record video materials in order to transfer to students in such conditions as much knowledge as possible, necessary for the preparation of the exam. It is important to point out that with the help of various applications (Zoom, MS Teams, Adobe) classes were conducted in real time with the possibility of interaction between students and teachers. Students also recognized the excellent skills in the new circumstances, so distance learning at the FVMUZ was rated very good and ranked among some other educational institutions and faculties, such as the *Faculty of Organization and Informatics* and the *Faculty of Electrical Engineering and Computing* who have been holding this form of teaching for years.

Clinical Skills Lab

Within the FVMUZ Clinics in the near future Clinical Skills Lab will be established. Procurement of models and renovation of existing premises was undertaken through two ongoing projects. These project activities represent a continuous process of improving learning resources. Students are provided with various learning resources (teaching materials, a sufficient number of copies of the necessary literature, the availability of library space, the necessary computer programs, etc.). The specifics of the FVMUZ departments/clinic are their small libraries, equipped with books, journals and other literature related to their specific area of interest, which is added value for students when preparing for a colloquium or exams or they need additional learning space.

FVMUZ Museum Collections of the Department of Veterinary Pathology, the Department of Anatomy, Histology and Embryology, the Department of Veterinary Biology, the Department

of Forensic and State Veterinary Medicine, the Department of Animal Breeding and Livestock Production and the Department of Biology and Pathology of Fish and Bees are special at the UNIZG level.

The application of modern and new interactive teaching methods is reflected in the development of the university manual *3D Atlas of Horse Limbs*. The manual uses 3D model technology to bring the student closer to the concepts of equine osteology in a simple and concrete way. This atlas is primarily intended for students of veterinary medicine to help them master the subject *Anatomy with Organogenesis of Domestic Animals*, which is taught in the first and second year of the integrated study program. A similar example is the *Anatomical Model of a Dog's Skull*, made as a diploma thesis, available at the link <http://wwwi.vef.hr/3datlas/index/> and serves as an important teaching material for subject Anatomy of Domestic Animals.

Also, one of the main activities planned in the CQF project is related to the improvement of learning resources at the FVMUZ. Specific activities include new software solutions for e-project of vertical and horizontal integration of methodological unit, virtual atlases and microscopic collections, transfer of museum collections into 3D models with descriptions available on the website, and construction of a Skills lab.

3.4. The higher education institution ensures adequate student support

The higher education institution provides guidance on studying and career opportunities to students (for example, tutors, supervisors and other advisers as a support in student learning and progress).

The higher education institution has established functional procedures for student career guidance, psychological and legal counselling, support to students with disabilities, support in outgoing and incoming mobility, and library and student administration services, at university or faculty level and students are informed about them.

Student support is tailored to a diverse student population (part-time students, mature students, students from abroad, students from under-represented and vulnerable groups, students with learning difficulties and disabilities, etc.).

The higher education institution employs an adequate number of qualified and committed professional, administrative and technical staff

Students Office and Office for Career Development, Academic and Psychological Counseling

The already mentioned Students Office and the Office for Career Development, Academic and Psychological Counseling are the two main places where students can get advice on career guidance, psychological and legal counseling. Support is also provided to students with disabilities. The employed professor of pedagogy with her professional knowledge and advice contributes to the effectiveness of the Office.

The mission and vision of the **Student Office** is to promote, monitor and protect the rights and interests of students and provide support and assistance to students and employees of the FVMUZ in order to achieve lifelong academic success (<https://www.vef.unizg.hr/en/studiranje/students-office/>)

The **Office for Career Development, Academic and Psychological Counseling** is a central place to help students during and up to two years after graduation, related to information, counseling, communication, additional forms of education, support for more effective study, networking students and employers, psychological counseling and other forms of assistance related to the career development and personal skills of students. The Office has an advisory role in all areas needed by students: help and support in learning, professional psychological help, planning and implementation of student practice, career counseling and employment assistance (<https://www.vef.unizg.hr/en/studiranje/students-office/office-for-career-development-counselling/>).

Students have a daily opportunity to convey their problems and concerns to the staff of the Student Office or the Office of Career Development, Academic and Psychological Counseling, either in person or by email. They can also use the same services at the UNIZG. Students with disabilities and learning difficulties are allowed alternative forms of examination, based on the decision of the vice-dean for integrated studies and students and based on medical history and other relevant documents. Teaching and assessment of knowledge and skills are adapted to students with disabilities and enable them to demonstrate in a fair way the achievement of defined LO. In coordination with the *Office for Students with Disabilities of the University of Zagreb*, based on the decision for each student, it is possible to organize the adaptation of teaching materials, production and adaptation of audio recordings of lectures, digitization of literature, launching e-courses, educational assistance, volunteer services, contacts with associations and relevant institutions.

Student rooms, health care and student nutrition

In the main building of the FVMUZ and in the building no. 6 student rooms are located, where students can spend the whole day (working hours 8 - 21) or use them for their own organizational needs. Student associations also use these facilities. Coffee, drink and snack vending machines are available in some of the FVMUZ buildings. Students participating in night shifts at the clinic premises can use rooms equipped with beds.

A medical examination in the first year of study is mandatory and is undertaken in order to check health, gain insight into habits, behavior, and determine health risks. Throughout their studies, students can contact their student doctor. The Ministry of Health has approved pre-exposure rabies vaccination for III years students and staff of the FVMUZ Clinic.

The student card of full-time students of the UNIZG (X-card) enables the exercise of student rights, serves to prove student status and use privileges such as subsidized food, preferential public transport prices and lower prices in some public institutions. By using this card, students can dine at the restaurant *Veterina* (part of the Student Center, located at FVMUZ), which greatly facilitates their stay on campus and allows for a hot meal during the day without having to leave campus.

Student associations and the journal *Veterinar*

FVMUZ and students have established various student associations that enable students to participate in extracurricular activities of a cultural and educational nature. There are 2 active student associations with their respective sections: U.S.V.M. "Equus" with its sections for exotic animals *ExoteamEquus*, equestrian section, and botanical section *ArborVEF*. Another active association is the Association of Veterinary Medicine Students (USVM) with its associated sections - SportVEF, IVSA, Debate Club, and Vet Society. The Hunting Section "Dr. OTO ROHR" is also established, in whose work students can also be involved. Like other components of the UNIZG, FVMUZ also has its own *Student Union* with 18 members from integrated undergraduate and graduate study program and 8 members of postgraduate studies, elected by the entire student electorate, as their representatives at the FVMUZ and UNIZG. Student associations provide exchange of study experiences, organize various events, excursions, congresses, workshops, exhibitions (Reptilomania +), etc.

(<https://www.vef.unizg.hr/en/studiranje/the-association-of-students-of-veterinary-medicine-usvm/sportvef/>, <https://www.vef.unizg.hr/en/studiranje/the-vet-society/>,

Since 1938, students have been publishing the journal *Veterinar*, which publishes original scientific and professional papers from various fields of veterinary medicine. Each published scientific-professional work was created in collaboration with students and their mentors (<https://www.vef.unizg.hr/en/studiranje/veterinar-journal/>)

Mentoring system

The *Ordinance on the mentoring system* defines the participation of teachers and assistants in the mentoring system that has been implemented at the FVMUZ since ac. yr. 2010/11. From the first year of study, freshmen are divided into smaller groups (of about 2 students). The mentor (academic staff) is obliged to give his/her students basic instructions for study, and during the year he/she is at their disposal for questions and advice. Introductory meetings are also organized for first-year students in order to make it easier for them to get acquainted with the academic life, teaching and other activities of the FVMUZ. Appropriate support for students is also described in the chapters related to teaching staff, the library, progress through studies, etc.

3.5. The higher education institution ensures support to students from vulnerable and under-represented groups

The higher education institution monitors various needs of students from vulnerable and under-represented groups.

Teaching process is adjusted to the individual needs of students from vulnerable and under-represented groups.

The higher education institution invests resources in the support to students from vulnerable and under-represented groups

Students of the FVMUZ have a daily opportunity to present their problems and questions to the staff of the Students Office or the Office for Career Development, Academic and Psychological Counseling, either in person or by e-mail. They can also use the same services

at the level of the UNIZG. Offices available at the UNIZG level help students solve the most important problems related to: adaptation, learning problems; reproductive health (sexually transmitted diseases, pregnancy and family planning); chronic health problems, drug abuse and other forms of addiction.

In order to ensure that all students with disabilities enjoy their constitutionally guaranteed right to equal education, it is necessary to provide all current and future students with disabilities with the conditions for successful study. Therefore, the UNIZG has established the *Office for Students with Disabilities* as a reference center where students can obtain information on the spot, as well as by phone, e-mail, leaflets and brochures. Through its activities, the Office offers students direct assistance in solving specific problems that may arise during their studies, and thus represents a mechanism for ensuring equal opportunities (<http://www.unizg.hr/studiji-i-studiranje/podrska-studentima/podrska-studentima-with-disability/>).

Faculty teachers, in cooperation with the Student Office and the vice-dean for integrated studies, monitor and respond to the needs of students from vulnerable groups. With the support of the Students Office, Office for Career Development, Academic and Psychological Counseling and the Office for Students with Disabilities of the UNIZG, students are enabled to adjust the teaching process and the manner of taking the exam.

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 adapted way of paying tuition fees (payment in installments) or to meet their needs by studying for free (all documentation on such procedures is kept in the Student Affairs Office).

Workshops for students and staff

The Office for Career Development, Academic and Psychological Counseling conducts personal and professional development workshops where students, among others, work on raising self-confidence, overcoming fears, organizing time, strengthening presentation skills, shaping successful communication skills and teamwork. The main goal is to empower students in finding their deepest motivation and necessary skills to realize their greatest potential, both in academic - professional and personal life. The main topics of the workshops are: communication and presentation skills; emotional intelligence; getting to know yourself through your values, desires and talents; creative process of setting goals and organizing time; mindfulness approach to coping with stress; releasing limiting beliefs and emotional blockages. The workshops are conducted in a cycle of six workshops, as a continuous support to more successful study and easier adjustment for professional practice and the labor market. During one academic year, a cycle of workshops is conducted with four comparative groups. The target groups in this academic year were the first and last year of study, as empowerment and preparation - some to start studying and face all the changes that study brings, and others

to support the transition to the labor market. An additional goal was to create a natural mentoring system among students, leading to true connection and empowerment.

The Office for Career Development, Academic and Psychological Counseling also conducts personal and professional development workshops for teaching and support staff, where participants have the opportunity to develop personal skills that can be applied to improve work with students. The application of personal development in teaching provides many opportunities for quality use of students' creative potential. The main topics of the workshops conducted in the cycle of six workshops are: leadership skills in working with students; application of coaching approach in working with students; creative process of teamwork in teaching; challenges in working with students in the field of communication, motivation; mastering the topics of the course and dealing with stress at the work. During one academic year, a cycle of workshops is conducted with one group of teaching and support staff.

3.6. The higher education institution allows students to gain international experience

Students are informed about the opportunities for completing part of their study abroad.

The higher education institution provides support to students in applying for and carrying out exchange programmes.

The higher education institution ensures the recognition of ECTS credits gained at another higher education institution.

The higher education institution collects information on student satisfaction with the quality of HEI's support regarding practical matters of student mobility.

Students gain competencies required for the employment in an international environment.

Students of the FVMUZ are able to gain international experience in various ways. FVMUZ encourages student mobility through bilateral agreements and participation in mobility programs (ERASMUS; CEEPUS) and welcomes foreign students during their stays of various lengths. Until the pandemic period, FVMUZ was one of the leading institutions of the UNIZG in terms of the number of hours of student mobility (incoming and outgoing).

The XII. the semester of integrated study is a mobility window, as student practice can also be done abroad, through ERASMUS +, CEEPUS, AUF or other programs. ECTS credits are recognized for a student doing practice abroad (during the XII. semester) (they replace the students practice that the student is obliged to do in Croatia). For students practice done before XII. semester (usually during the summer months) such mobility is marked in Diploma Supplement. For students who go on practice in the status of a recent graduate, a *Europass Mobility Document* is created, which serves as an additional argument and contribution to the CV, important when applying for an employment. Positive examples of student practice through ERASMUS +, CEEPUS, AUF and other mobility programs are regularly published in the student journal Veterinar.

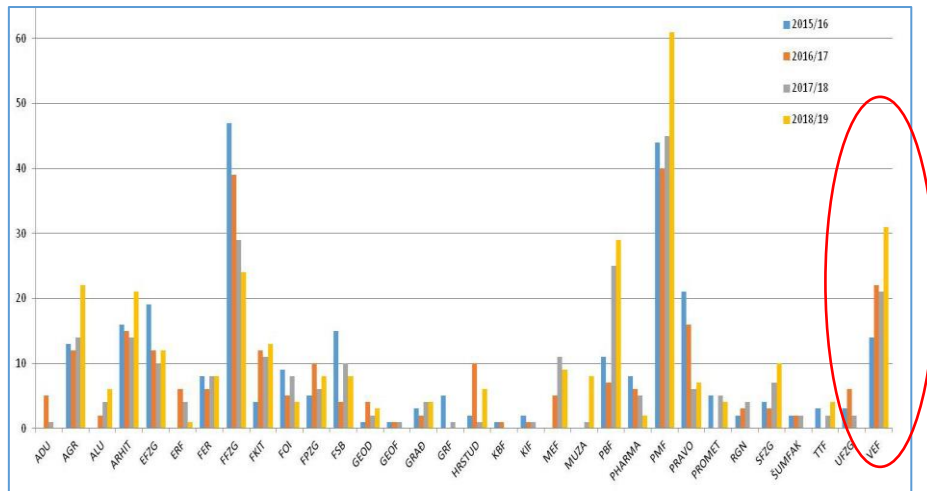


Figure 5. Outgoing student mobility for all constituents of UNIZG.

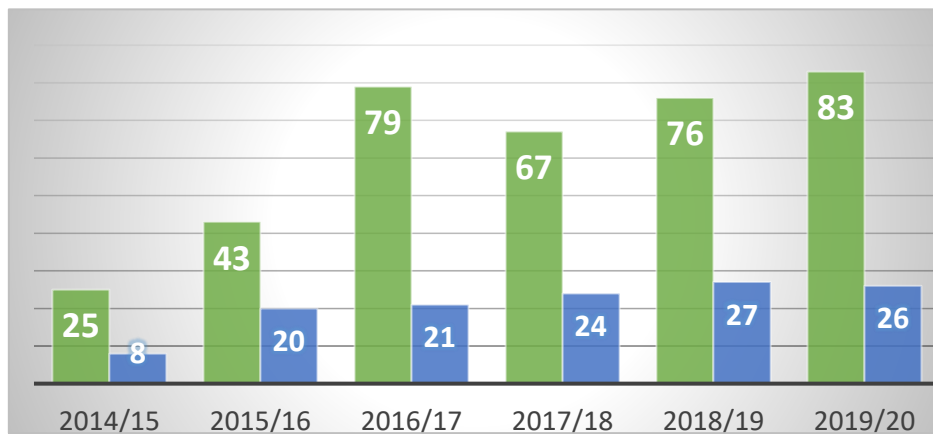


Figure 6. Incoming student mobility (months green; number of students blue)

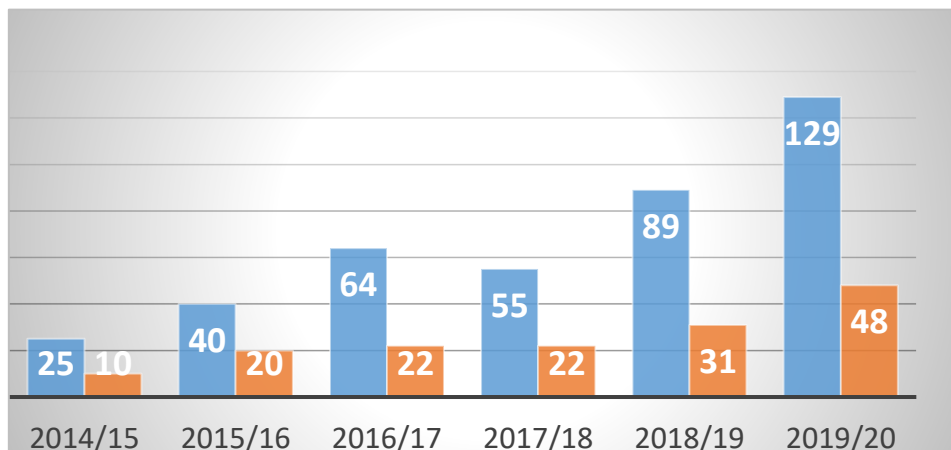


Figure 7. Outgoing students' mobilities (months in blue; number of students in orange)

3.7. The higher education institution ensures adequate study conditions for foreign students

Information on the opportunities for enrolment and study is available to foreign students in a foreign language. The higher education institution provides support to foreign students in enrolment and study at the Croatian higher education institution.

The higher education institution collects feedback on satisfaction and needs of foreign students.

Foreign students have the opportunity to attend classes delivered in a foreign language (English).

Croatian language courses are delivered for foreign students at the level of the university or university constituent.

The integrated undergraduate and graduate university study of Veterinary Medicine is conducted in English. The enrollment quota is 35 students and is fully filled every academic year through a public competition. In order to facilitate the application and enrollment process for foreign students, all procedures in English are available on the FVMUZ website (<https://www.vef.unizg.hr/en/studying/>, english.studies.info@vef.hr). Learning of the Croatian language free of charge for foreign students of integrated studies is provided by the FVMUZ during the first three academic years, and the courses are conducted by the partner institution *Polyglotte Institute*. In addition to full-time integrated study program, international students can study at the FVMUZ for a certain period of time (shorter or longer) through the ERASMUS KA103 (program countries) and ERASMUS KA107 (non-EU partner countries) programs.

With the completion of the project *Establishment of postgraduate specialist courses in veterinary medicine in English*, postgraduate specialist studies in English will be launched, and the first generation of students is expected next academic year. The doctoral study of Veterinary Science is also open to international students, and attending classes, writing and defending a doctoral thesis are possible in English. Issuing documents in a foreign language (transcript, diploma) and the existence of all documents in English (course description, syllabus, informational package, etc.) significantly facilitates everyday life at the FVMUZ and allows easier integration of foreign students. Support for foreign students is provided by a support staff in the Student Affairs Office in charge of English language studies, a support staff in the Office for International Cooperation and a vice dean for international cooperation and English language studies.

Feedback on the satisfaction and needs of foreign students is collected in the same way as from Croatian students, by conducting surveys, regular meetings of students, vice deans and teachers, and daily consultations (if necessary). All questionnaires at the level of the UNIZG are also available in English, and some surveys at the FVMUZ level are conducted remotely, using available online tools.

3.8. The higher education institution ensures an objective and consistent evaluation and assessment of student achievements

The criteria and methods for evaluation and grading are clear and published before the beginning of a course.

The criteria and methods for evaluation and grading are aligned with the teaching methods used.

The higher education institution provides support to the assessors in the development of skills related to the testing and assessment methods.

The higher education institution ensures objectivity and reliability of grading.

If possible, the higher education institution carries out the evaluation of grading.

The evaluation procedures take into account special circumstances of certain groups of students (modifying examination procedures to suit e.g. students with disabilities), while at the same time ensuring the achievement of intended learning outcomes.

The students receive feedback on the evaluation results, and if necessary, guidelines for the learning process based on these evaluations.

Criteria, rules and methods of assessment are defined by the Ordinance on integrated undergraduate and graduate study of the FVMUZ and presented to teachers and students in the Informational Package (available for each academic year). The procedures of continuous monitoring, evaluation of LO (through colloquia or final exams) are described in detail in the syllabus of each individual subject. In accordance with ESG standards and other regulations of the FVMUZ, since 2009 the assessment of students is performed by scoring all activities during classes, followed by the final exam (maximum number of points is 100). During the teaching process, a student can achieve up to 60% of his/her grade (attendance and activities in various forms of teaching (lectures, exercises and seminars; colloquium), and up to 40% of the grade can be achieved at the final exam).

There are two types of knowledge testing at the FVMUZ:

- Colloquia organized during classes to test students' knowledge of part of the subject
- Final exams assess the knowledge of the whole subject (LO determined by the study program).

The manner of taking the exam (oral, written, practical) and grading the final exam are listed in the syllabus of each subject, and the dates and schedule of the exam are determined at the beginning of each academic year (semester). Exams can be held in groups and / or individually, and depending on the way they are taken, only an oral exam, only a written exam and a combination of written, oral and / or practical exams can be conducted. The teacher keeps official records of the exam results and stores them in the archives of the department / clinic and in the ISVU system. The same exam can be taken up to four times. For the fourth time, the exam is conducted in front of a three-member examination committee. A student who does not pass the exam on the fourth attempt must re-enroll in the same subject in the following academic year. The Ordinance on integrated integrated undergraduate and graduate studies of the FVMUZ regulates in more detail the rights and obligations of students who re-enroll in the same subject.

Students are provided with timely feedback on the results they achieved in the exam. Feedback on grading is given orally, in writing or via ISVU, in accordance with general and

personal data protection regulations. If necessary, and in accordance with the available medical documentation, the examination procedure is adjusted for individual students according to the recommendations of the Office for Students with Disabilities of the UNIZG. Since this academic year, the Office for Career Development, Academic and Psychological Counseling and the Office for Students with Disabilities have been successfully cooperating not only in issuing recommendations for adjusting the teaching process and adjusting exams, but also continuously monitoring the progress of students with learning difficulties and overcoming student challenges. In practice, this means individual academic and psychological counseling and informing, organizing and conducting various workshops within the FVMUZ Office for Career Development, Academic and Psychological Counseling and the Office for Students with Disabilities at the UNIZG.

From the next academic year, the Office for Career Development, Academic and Psychological Counseling will conduct professional training for teaching staff entitled *Strengthening Basic Teacher Competences*. Trainees will go through a cycle of four workshops: Basic Didactic Competences, Student Characteristics, Communication Skills and Assessment Methods. After completing the cycle of workshops, participants will be able to select and implement appropriate teaching methods with regard to LO, provide feedback and encourage active student involvement during the teaching process and use recommendations for more effective communication with different stakeholders in the teaching process.

The student has the right to appeal the grade within 24 hours after the exam and the right to be examined by the committee (of at least three members) after the appeal. An examination committee must be formed within 48 hours of the appeal, and the student will retake the exam within three days. The committee keeps minutes of the exam, and makes the decision on the grade by a majority vote.

3.9. The higher education institution issues diplomas and Diploma Supplements in accordance with the relevant regulations

Upon the completion of their studies, students are issued appropriate documents (diploma and Diploma Supplement).

Diplomas and Diploma Supplements are issued in accordance with relevant regulations.

The higher education institution issues the Diploma Supplement in Croatian and English, free of charge.

The integrated undergraduate and graduate study program in Veterinary Medicine is based on the provisions of the Act on Regulated Professions and the EU Directive on the Recognition of Professional Qualifications. The supplementary document, which students receive after completing this study program, is a clear indicator of competencies, ie the level of knowledge, skills and abilities acquired by the student, so that further higher education institutions and employers receive unambiguous information about each student.

The content of the Diploma Supplement was defined at the proposal of the Committee for Integrated Study Program, and confirmed by the Decision of the FC of June 16, 2010. The DS was prepared in accordance with the *Instructions, rules and specimens of supplementary study*

documents issued by the Ministry of Science and Education. The DS contains the following information:

- Data on the FVMUZ
- Requirements and objectives of the study program
- List of competences that students acquire upon completion of the study program
- Grading system and description of the distribution of grades
- Access to further levels of study
- Professional status

The DS is prepared in Croatian and English and is available to students upon receipt of the diploma. The promotion procedure is solemnly carried out at the FVMUZ for students of integrated studies, during which students take the official oath and obtain diplomas and DS. Promotions at the FVMUZ are also performed for students of postgraduate specialist studies, while promotions of doctors of science are carried out at the level of the UNIZG.

3.10. The higher education institution is committed to the employability of graduates

The higher education institution analyses the employability of its graduates.

Admission quotas are aligned with social and labour market needs and available resources.

The higher education institution informs prospective students about the opportunities to continue education or find employment after graduation.

The higher education institution provides students with support regarding future career planning.

The higher education institution maintains contacts with alumni.

ASHE is the central body in the Republic of Croatia through which the employability of graduate students is monitored 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 recognized importance of these processes for improving higher education and its better integration with the labor 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.

In 2017, ASHE published document *What after graduation?* Including the data on graduates of the FVMUZ (https://www.azvo.hr/images/stories/publikacije/Publikacija_%C5%A0to_nakon_diplome.pdf).

Enrollment quotas for integrated study program in the Croatian language are agreed for each academic year through the Committee for Integrated Studies and confirmed at the FC. When deciding on enrollment quota, the data submitted by the Croatian Veterinary Chamber and Croatian Employment Service are considered in order to harmonize the quotas with the labor market. FVMUZ informs its students and graduates about the possibilities of continuing their education through websites and publications on social networks. Information on postgraduate specialist and doctoral studies is publicly available on the official website

(<https://www.vef.unizg.hr/en/studiranje/postgraduate-master-studies/>,
<https://www.vef.unizg.hr/en/studiranje/doctoral-studies-in-veterinary-sciences/the-programme/>) where is also possible to find the full study programs and the necessary forms. Notices of enrollment in the mentioned programs are also published in several manners, and the deadlines for enrollment are long enough to facilitate the application. Further support for graduates is also provided by the organization of lifelong learning.

Since 2012, the AMAC Association of Graduate Students and Friends of the FVMUZ (AMAC-VEF) has been operating (<https://www.vef.unizg.hr/o-fakultetu/zivot-na-vef-u/alumni/>). The main goals of the Association are:

- connecting former students, graduates and friends and nurturing love, loyalty and gratitude towards the FVMUZ, the UNIZG and Croatian universities in general
- promoting the reputation of the FVMUZ in Croatia and in the world
- care for the development and progress of the FVMUZ
- nurturing and developing the veterinary profession and veterinary medicine in general
- influence on the creation of public, scientific and professional opinion and views on all important issues in veterinary medicine
- promoting the reputation of the profession
- strengthening cooperation and creating links between graduates and friends of FVMUZ: by connecting to the world academic network, by exchanging information and coordinated actions, gathering members at professional, scientific and social meetings, encouraging and supporting scientific, developmental, professional, publishing and other projects, assisting in the exchange of teachers and students, connecting with expatriate DVM around the world and establishing and developing cooperation with similar associations in Croatia and in the world.

IV. Teaching and institutional capacities (ESG 1.5, ESG 1.6)

4.1. The higher education institution ensures adequate teaching capacities

The number and qualifications of teachers are appropriate for the delivery of study programme and achievement of the intended learning outcomes and performing scientific activity.
The ratio of students and full-time teachers at the higher education institution ensures a high quality of study.
Teacher workload is in line with relevant legislation and policies, regulations of competent bodies, collective agreements, etc.*

Teacher workload ensures appropriate distribution of teaching, scientific/artistic activities, professional and personal development and administrative duties.

Teachers are qualified for the course/courses they deliver.

**Teachers – employees of a higher education institution appointed into scientific-teaching grades (or teaching grades at professional study programmes)*

The structure of the currently employed scientific-educational, educational and associate staff, both in number and by profession, fully complies with the prescribed rules and satisfies the study programs (Table 5).

Table 5. The structure of the employed scientific-educational, educational and associate staff in ac. yr. 2020/2021

a) Scientific-educational titles

Full professor	Associate professor	Assistant professor
DVM: 65	DVM: 32	DVM: 20
other: 3	other: -	other: 3

b) Assistants (associate staff)

Assistant	Postdoc
DVM: 31	DVM: 6
Other: 2	-

c) Educational titles

Senior Lecturer, Ph.D., Professor, Humanities	1
Senior Lecturer, Prof., Social Sciences	1

In total, FVMUZ currently has 164 employees in scientific and teaching positions and 114 in non-teaching (support) positions. It follows from the above number that the ratio of teachers to students in integrated study program in Croatian and integrated study program in English is 5,9 students to one teacher.

If postgraduate students (a total of 150) are taken into account, this ratio is 6.82. These ratios are harmonized with the *Ordinance on the content of the permission and the conditions for issuing a permission for performing higher education activities, conducting a study program and re-accrediting higher education institutions*. All the above-mentioned teachers participate in teaching and in scientific research and professional work in which they are joined by 8 scientists employed on scientific research projects of the FVMUZ as well as 17 employees in professional titles.

In 2005, FVMUZ introduced a standardized method of recording all forms of teaching (*Records of teaching*). Teachers are obliged to record the hours of teaching activities and the number of students participated. Records of performed teaching activities 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 analyzed annually by the Vice-Dean for Human Resources, Organization and Management and the Vice-Dean for Integrated Studies and Students. FVMUZ ensures the quality and expertise of its teachers, associates, administrative and support staff in order to provide students with quality education and achieve appropriate LO. In addition to teaching, university teachers are engaged in scientific and professional work whose quality contributes to the national and international recognition of the FVMUZ. Academic staff is 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 organized by the FVMUZ or possible participation in other institutions. Ongoing opportunities for administrative and support staff are also available, to build additional competencies (eg ERASMUS residences).

4.2. Teacher recruitment, advancement and re- appointment is based on objective and transparent procedures which include the evaluation of excellence

Teacher appointment (recruitment) procedures arise from the development goals of the higher education institution and they are aligned with the legislation and internal regulations in effect.

In selecting, appointing and evaluating teachers, the HEI takes into account their previous activities (teaching activity, research activity, feedback from students, etc).

The higher education institution has adequate methods for the selection of the best candidates for each position and, in addition to the prescribed national minimum conditions for each position, it has prescribed competitive criteria ensuring the selection of excellent candidates.

Promotion of teachers into higher grades is based on the evaluation and rewarding of excellence and the HEI takes into account important achievements (such as international contribution to the scientific discipline, high-impact publications, significant scientific discoveries, successful projects, success in securing additional funds, supervision of final and graduation theses, authorship of textbooks / study materials, popular lectures, etc.).

Indicators of excellence include scientific/artistic, teaching and professional work and contribution to the development of the higher education institution.

Additional criteria for the promotion of teachers into higher grades reflect the strategic goals of the higher education institution.

In accordance with its strategic development, FVMUZ, based on the Annual Employment Plan, plans the required number of teachers, associates, administrative and support staff,

considering the available resources, study programs and the number of students. The decision on employment is made on several levels of consent: The Committee for Elections to Scientific, Scientific-Educational, Educational and Associate Titles at its session decides on initiating the employment procedure, which is confirmed at the FC session and sent to the UNIZG and the Ministry. The UNIZG checks compliance with the existing plan and total university quotas for all employments, and then approves the employment and gives consent to start hiring through a public competition. Competitions for vacancies are prescribed by national regulations, regulations of the UNIZG and the FVMUZ, and are published in official and public newspapers, on the Euraxess website and portal.

The Committee for Election to Scientific-Educational, Educational and Associate Titles proposes to the FC the appointment of professional committee to elect the best candidate, and proposes to the FC acceptance of reports of professional committee. During the first employment as an assistant, clearly defined criteria of excellence are considered, which include success in studies as well as additional achievements in scientific work, involvement in teaching and continuous work in department / clinics, as well as other achievements of candidates.

After employment in the associate title, the development of candidates scientific, teaching and professional competencies is carried out systematically through the procedure defined by the general act of the FVMUZ, the *Ordinance on evaluating the work of assistants, postdoctoral students and assistant's supervisor*.

In addition to teaching, scientific and professional work of teachers is evaluated according to national legislation every five years. The procedure is in accordance with national regulations, and is carried out by the The Committee for Election to Scientific-Educational, Educational and Associate Titles, FC and the UNIZG. One of the criteria necessary for promotion is certainly the assessment of student, which is carried out by mandatory survey on the official form available from the UNIZG (paper-pencil or online). Administrative staff, especially those working in the Student Office, the Student Affairs Office or the Central Library, are evaluated annually through a survey form (assessment of the study program in general). The UNIZG processes these surveys and sends the results back to the FVMUZ. The results are confidential and can only be shown to the teacher in question. The general analysis of the surveys at the FC session is provided by the Vice Dean for Quality Control.

4.3. The higher education institution provides support to teachers in their professional development

The higher education institution provides opportunities for the improvement of teaching competencies at the level of the university or university constituent.

The higher education institution encourages the assessment and improvement of teaching competencies based on the peer-review recommendations and the results of student satisfaction surveys.

Teachers participate in international mobility programmes, projects, network, etc.

In order for teachers to be up to date with the latest professional and scientific knowledge, they are enabled to attend professional workshops, and/or attend and actively participate in congresses in the field of their work. Such activities are also positively counted when being elected to higher titles. After the completion of workshops or congresses, employees are required to submit a brief report on the activities carried out and register their stay abroad in the application *Records of International Cooperation*. Also, the staff informs the public about all these activities in the Yearbook of the FVMUZ.

Raising teaching competencies for FVMUZ teachers was encouraged by attending *Active Learning and Critical Thinking* courses (funded by the CQF project), so that next academic year a total of 30 teachers will acquire new knowledge and skills in the field of teaching competencies. The establishment of the Office for Career Development, Academic and Psychological Counseling and the employment of professional and qualified staff will initiate training for other FVMUZ teachers on topics such as *Fundamentals of Didactics and Methodology, Monitoring and Assessment of Learning Outcomes, Teaching Process and Methods, Teaching Unit Preparation and Collaborative learning*.

The mobility of teachers, associates and administrative staff is an integral part of the higher education process, with clearly defined rules and procedures that ensure equal conditions for all employees, according to their place of employment. Mobility and international cooperation at the FVMUZ are achieved through participation in international mobility projects and programs and multilateral and bilateral agreements with domestic and foreign institutions. Integrated study program in English contributes to the improvement of teachers' professional and language competencies, and also encourages understanding, critical thinking and work in an international environment. The internship program at the FVMUZ (internal mobility of associates - assistants, as part of the internship program) enables the adoption of interdisciplinary professional content and encourages the development of general and specific competencies and skills.

Table 6. Mobility of teaching and support staff in the past 5 academic years.

Year	ERASMUS				CEEPUS			
	Teaching staff		Support staff		Teaching staff		Support staff	
	outgoing	incoming	outgoing	incoming	outgoing	incoming	outgoing	incoming
16/17	1	7	2	2	6	8	-	-
17/18	4	12	3	2	7	7	-	-
18/19	7	11	3	-	5	6	-	-
19/20	4	2	1	-	-	3	-	-
20/21	1 virtual	5	-	-	1	-	-	-

4.4. The space, equipment and the entire infrastructure (laboratories, IT services, work facilities etc.) are appropriate for the delivery of study programmes, ensuring the achievement of the intended learning outcomes and the implementation of scientific/artistic activity.

The higher education institution plans and improves the infrastructure development, in line with the strategic goals.

The space, equipment and the entire infrastructure (laboratories, IT services, work facilities etc.) are appropriate for the delivery of study programmes and ensuring the achievement of the intended learning outcomes.

The space, equipment and the entire infrastructure (laboratories, IT services, work facilities etc.) are appropriate for the implementation of scientific/artistic and professional activities

As an integrated campus, FVMUZ owns 58,783 m² of its own land, while the total area of its facilities is 26,915 m² (including all floors: ground floor, first floor, second floor). The campus consists of 12 different buildings that house the departments, clinics, the Dean's Office, the Central Library and the restaurant. It can be rightly said that the described space, available equipment and the entire infrastructure (laboratories, IT service, clinics, etc.) are fully appropriate for the implementation of study programs and ensure the achievement of predicted LO, research and professional activities. As most buildings are between 60 and 80 years old, it is extremely important to maintain them well. For this reason, the maintenance service of the FVMUZ carries out constant supervision over the facilities. It is important to note that the buildings of the FVMUZ are protected architectural heritage, therefore special permits are required for all construction works. For most of the costs of maintaining and upgrading the campus, the FVMUZ depends on its own revenues or special calls for investments (projects) through state bodies. The maintenance of the FVMUZ infrastructure is carried out in accordance with the annual Procurement Plan prepared by Accounting Office, based on the proposal of the head of the department / clinic, and approved by the FC.

Every year, regular maintenance is carried out at departments and clinics, along with repairs of windows, walls and corridors, water supply and drainage systems, and electrical installation, according to the available budget.

During the SWOT analysis, it was realized that one of the weaknesses of the FVMUZ is the outdated IT infrastructure. Therefore, in the Strategic Objective 2, point 6.4. of the Strategy, the need for continuous allocation of funds, in accordance with the possibilities, for the renewal of infrastructure and equipment is stated, as:

1. Improving of the IT infrastructure and the IT support to employees.
2. Continuation of full implementation of digitalization.
3. Digitization of archival material.

In ac. yr. 2016/2017, the conceptual design of the technical transformation of the FVMUZ was developed, and the implementation of the digital *e-office* was carried out as the first phase. In this regard, education of employees on working with the mentioned online platform was done. The documentation distributed through the *Admissions Office* of the FVMUZ is made in

digital form, which facilitates the monitoring of issued and received documents. Following this activity, a new website was created (in Croatian and English), and the server infrastructure was updated to ensure better security and availability. Also, the digitization of archival material is underway, as well as the installation of equipment that will enable digital recording of students' presence in the lecture halls of the FVMUZ (via student ID card readers).

Conditions for teaching also improve every year. Through the CQF project some specific activities will be carried out: new software solutions for student self-analysis; e-project for vertical and horizontal integration of methodological unit; development of an online system for conducting student surveys; virtual atlas and a microscopic collection of histological specimens; transfer of museum collections into 3D models, with descriptions available on the website; capacity building of the Clinical Skills Lab (completion of these activities is expected in mid-2022).

Observing the equipment available for teaching activities, scientific research and professional work, it can be emphasized that it is appropriate and sufficient for the implementation of mentioned processes. Over the last five years, more than EUR 600.000,00 has been invested in capital equipment, and new imaging (X-ray and CT) devices, modern devices for molecular and ultrasound diagnostics, protective cabinets of biosecurity levels 2 and 3, etc. have been procured.

It is interesting to note that at the end of 2021, the so-called *Green Island* was built within the FVMUZ campus that will serve as a unique collection point for waste generated at the FVMUZ. Such a space is easily accessible to all employees and enables the separation and recycling of plastic, paper, metal and glass.

Although much has been done so far in the renewal and modernization of the infrastructure of the FVMUZ, it is necessary to mention that in the ac. yr. 2015/2016 FVMUZ applied for a project entitled *Modernization of Scientific Research Capacities at the Faculty of Veterinary Medicine*, estimated at EUR 10.600.000,00, based on the Ministry of Health's Public Call for projects. The project was included in the indicative list, but unfortunately it was abolished in the meantime and there was no further call for application of this project. The plan for the future is definitely to try to apply the same project to some other suitable call.

4.5. The library and library equipment, including the access to additional resources, ensure the availability of literature and other resources necessary for a high-quality study, research and teaching

The library and library equipment, including the additional resources, meet the conditions for a high quality of study.

The library and library equipment, including the additional resources, ensure a high quality of scientific-teaching / artistic-teaching activities.

The FVMUZ Central Library is located on campus, on the ground floor of building no. 1, and is officially entered in the Register of Libraries of the City of Zagreb. The library is open every day

from 8 am to 4 pm (during the exam period from 8 am to 9 pm). Students become users of the Library by enrolling at the beginning of their studies. Books can be borrowed on the Library's premises upon presentation of a student ID card. Book lending is recorded electronically. Library staff use a specially adapted electronic system ALEF to process all library materials. Most of the books are veterinary publications available to the general scientific community, especially students, teachers and other scientists. Also, the Library archives all publications of the FVMUZ, and student graduate, master's and doctoral theses, thus creating a fund that reflects the intellectual potential of staff and students. New literature is procured according to the requirements of students or staff and in accordance with financial resources. All requests for literature are considered by the Library Council, which compiles a list that is ultimately approved by the Dean.

There are currently 40,140 volumes of books, 10,327 volumes of textbooks of compulsory literature, 34,697 printed foreign and 7039 printed domestic journals in the premises of the Central Library. In addition to printed material, electronic journals with full texts are available through the bibliographic database.

In the Library, there is a room for 40 students, and 12 computers are available. All students of the FVMUZ can use the premises and services of the National and University Library Zagreb (<http://www.nsk.hr/hr/user-registration/>) on a daily basis.

A special feature of the FVMUZ are libraries at departments/clinics, equipped with books, journals and other literature related to their specific area of interest, which is added value for students when preparing for a colloquium or exams or need additional space for learning and living.

4.6. The higher education institution rationally manages its financial resources

Financial sustainability and efficiency is evident in all aspects of the higher education institution's activity.

HEI manages its financial resources transparently, efficiently and appropriately.

Additional sources of funding are used for institutional development and improvement.

Additional sources of funding are secured through national and international projects, cooperation with the industry, local community, etc.

The FVMUZ is a state budget beneficiary, financed from the State Budget (through the Ministry of Science and Education) as part of the UNIZG, on the basis of the financial plan for a three-year period. The budget plan includes the Faculty's own revenue, thus it plans with 67% funds from the state budget, 22.5% from its own revenue and 10.5% from other revenue. Budgetary funds are allocated for employees' salaries, covering of overhead expenses (electricity, water, heating, utilities, and maintenance), as well as basic support for scientific activities: FVMUZ own revenues are allocated according to the Regulations on standards and usage of income earned on the market. Decisions on allocation of FVMUZ own income are rendered by the

responsible person, i.e. the Dean, following proposals by the heads of departments/clinics, and in accordance with the financial plan. FVMUZ only has autonomy and flexibility in the use of its own financial resources.

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 FVMUZ, and forwards it to a wider range of stakeholders. The Office staff perform formal verification of documents, and final verification of documents is performed by the Dean and/or vice-dean for finances and investment.

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.

In the current financing system, the income from own revenues is extremely important, so the FVMUZ strives to generate as much revenue as possible on the market, especially in the field of intellectual and professional services, clinical work and organization of specialized courses and workshops / conferences. Since the budget for science and research in Croatia is extremely low, it is extremely important to apply for as many EU and national projects as possible. For this reason, the Office for EU Projects was established in 2017, the results of which are obvious (revenues of around 1.5 million euros have been withdrawn from the ESF and ERASMUS + in the last three years).

V. Scientific/artistic activity

5.1. Teachers and associates employed at the higher education institution are committed to the achievement of high quality and quantity of scientific research

Teachers and associates publish an appropriate number of high-quality scientific publications.

The higher education institution has efficient procedures for encouraging high-quality scientific publication.

The higher education institution keeps records of publications (publication index, citation impact, h-index, if applicable).

HEI's scientific/artistic activity is evident in PhD theses.

Teachers and associates of the higher education institution actively promote scientific/artistic achievements at national and international conferences

Employees of the FVMUZ in scientific-educational, associate and other titles are encouraged to regularly publish scientific and professional publications in domestic and foreign journals. The FVMUZ collects data on scientific and publishing activities of teachers and researchers on an annual basis, and a list of publications for each academic year is available in the Faculty's Yearbook (<https://www.vef.unizg.hr/wp-content/uploads/2020/11/yearbook-small-size.pdf>). Through the Croatian Scientific Bibliography (CROSBİ) it is possible to gain insight into the publishing activities of the FVMUZ employees. Thus, it is evident that in the last five academic years the FMUZ has published a total of 167 scientific and review papers in cooperation with other universities and scientific organizations in the Republic of Croatia, or 105 papers in cooperation with international institutions (345 in total) and published them in journals indexed in the *WoS Core Collection* and *SCI Expanded*.

In order to encourage the quality of scientific publishing, FVMUZ introduced the awarding of the most successful scientists or scientific teams on the occasion of the FVMUZ anniversary. Thus, at the solemn session of the FC, the award for the best scientific team and the award for the first authorship of a paper published in a journal with the highest impact factor in the current year are presented. Although the establishment of the Office for EU Projects has increased the number of projects received, there is still room for improvement by introducing financial support for publishing publications in high-impact journals.

The Doctoral Study of the FVMUZ is the only program at the national level that enables the acquisition of the academic degree of Doctor of Science in the field of veterinary medicine. The doctoral dissertations resulting from scientific research undoubtedly correspond in quality to those at the European level. Research cooperation has been established through international projects or through institutional cooperation based on bilateral agreements signed between the FVMUZ and veterinary establishments in Vienna, Budapest, Brno, Košice, Ljubljana, Sarajevo and Wrocław. It is interesting to note that on April 24, 2019, a public defense of the 1000th doctoral thesis was held at the FVMUZ. It is known from history that, since the founding of the FVMUZ in 1919, on September 1, 1922, an order was issued regulating the rules for obtaining the title of Doctor of Science. At that time, it was necessary, in addition to the dissertation discussion, which was very strict, to pass a rigorous examination, and on that basis, on October 27, 1923, the first doctors of science were proclaimed. Perhaps this long history has also contributed to the positive evaluations of the

accreditation of the doctoral study, because since 2017 the doctoral study has been marked as High Quality (<https://www.vef.unizg.hr/en/znanstveni/doctoral-studies/>) .

With the aim of promoting the scientific activity of doctoral candidates and the doctoral study itself, FVMUZ also organizes a Doctoral Day with relevant lectures by doctoral students (<http://www.unizg.hr/nc/vijest/article/dan-doktorata-na-veterinarskom-fakultetu-sveucilista-in-Zagreb/>). Also, FVMUZ regularly participates in the organization of various domestic and international conferences and summer schools and encourages employees to play an active role in this type of scientific and professional activities. Thus, the International Congress of Veterinary Science and Profession (<https://www.vef.unizg.hr/publikacije/book-of-abstract-of-7th-international-congress-veterinary-science-and-profession/>) has been held at the FVMUZ for many years, Following of new trends in veterinary medicine is also visible through the organization of the REPTILIA congress (<https://wwwi.vef.hr/other/reptilia2021/>). Close cooperation with the veterinary profession as a whole is reflected in the organization of the traditional international scientific-professional conference Veterinary Days, in cooperation with the Croatian Veterinary Chamber and the Croatian Veterinary Institute (<https://hvk.hr/veterinarski-dani-2021-prva-obavijest/>).

Active participation in scientific and professional events in the Croatia and abroad is monitored in the process of election to higher titles, and each employee is obliged to submit a short report after returning from such activities. The Yearbook contains data on the participation of employees in congresses, workshops and other scientific and professional events. If necessary, FVMUZ, in accordance with its capabilities, co-finances participation to the congresses and workshops of young researchers and assistants. AMAC-VEF also play an active role in promoting FVMUZ and the veterinary profession around the world, but also organize lectures and presentations for various stakeholders.

5.2. The higher education institution provides evidence for the social relevance of its scientific / artistic / professional research and transfer of knowledge

The higher education institution monitors and takes into consideration the needs of society and labour market in planning its research activities.

The higher education institution has an efficient support system for research and transfer of knowledge and technologies.

Teachers and associates participate in the activities of scientific, arts and professional organisations.

From the previous chapters of this Self-Evaluation report, it is clear that the FVMUZ listen to the needs of society and the labor market and participates in the activities of numerous scientific and professional associations. Since the beginning of the COVID-19 pandemic, FVMUZ has been extremely active in numerous scientific activities, and in accordance with the FVMUZ permanent goal of objective and timely information to colleagues and the general public, it has regularly published recent information about this disease, and the connection between animals and humans. Thus, on April 20, 2020, a statement on the possibility of

infection of pets with the SARS-CoV-2 virus (<https://www.vef.unizg.hr/novosti/mogucnost-infekcije-kucnih-ljubimaca-sars>) was published on the Faculty's website. In addition to numerous guest appearances in various TV and radio shows, on November 26, 2021 under the auspices of the Croatian Academy of Sciences and Arts, FVMUZ staff actively participated in the organization and work of the symposium *Zoonotic Features of the Sars-COV-2 pandemic* (<https://www.vef.unizg.hr/novosti/simpozij-zoonotska-obiljezja-pandemije-sars-cov-2/>).

More importantly, research on the incidence of SARS-CoV-2 coronavirus in dogs and cats began at the FVMUZ immediately after the pandemic, and is considered one of the first in the world, searching more than 800 samples of pets (<https://veterina.com.hr/?p=82895>).

The active role of scientists from the FVMUZ is exceptional in the study of large carnivores, especially wolves, bears and lynxes (<https://www.vef.unizg.hr/en/news-release/the-research-group-for-large-wild-animals/>), marine mammals (<https://www.vef.unizg.hr/en/news-release/the-research-group-for-sea-mammals/>), and insects as food for animals and humans (<https://www.vef.unizg.hr/znanstveni-rad/istrazivacke-skupine/istrazivacka-skupina-za-insekte-kao-hrane-za-zivotinje-i-ljude/>). All of these research groups demonstrate an effective research support system, and knowledge and technology transfer.

FVMUZ employees also participate in numerous scientific and professional associations. The research are conducted in the cooperation with the Faculty of Forestry, the Croatian Hunting Association, the Hunting Association of the City of Zagreb and the Medvednica Nature Park is important

([https://www.zagreb.hr/userdocsimages/Poljoprivreda_lovstvo/PZD%20PP%20Medvednica%202020_2029%20\(1\).pdf](https://www.zagreb.hr/userdocsimages/Poljoprivreda_lovstvo/PZD%20PP%20Medvednica%202020_2029%20(1).pdf)); the City of Zagreb and other beekeeping associations in the field of beekeeping (http://web.zagreb.hr/Sjednice/2013/Sjednice_2013.nsf/Dokument_opci_sjednica_noatt_web?OpenForm&ParentUNID=D388976EEB22CB00357127); Faculty of Agriculture and Ruđer Bošković Institute in the field of food production technology (<http://sirjein.agr.hr/index.php?page=11>).

The cooperation between Croatian Mountain Rescue Service (CMRS) and the FVMUZ, which is conducted at the level of scientific and professional research on search/rescue dogs (<https://veterina.com.hr/?p=80411>) is even more successful. CMRS members also participate in student education, held a presentation on the development and history of the Commission for searches and avalanches, and on work with dogs within the CMRSS (<https://www.vef.unizg.hr/novosti/studenti-veterine-imali-priliku-uciti-od-predstavnika-hgss-a/>).

5.3. Scientific/artistic and professional achievements of the higher education, institution are recognized in the regional, national and international context

Teachers, associates and professional staff have received university, national and international awards for their scientific / artistic / professional achievements.

The higher education institution is a holder of an adequate number of scientific / artistic / professional projects (university, national and international projects).

Teachers, associates and professional staff participate as invited lecturers in an adequate number of national and international conferences.

Teachers and associates are members of the scientific / artistic / professional boards of conferences, and editorial boards of scientific journals

Numerous employees of the FVMUZ have won national and international awards for their scientific, professional, teaching and social achievements. Rewarding students and staff is also active at the FVMUZ level. The Awards Committee monitors public competitions for awards and recognitions published by state institutions, associations and other entities in the field of biomedical, natural, biotechnical and other sciences, and encourages proposals for their award to deserving employees of the FVMUZ. The Committee proposes to FC awards and recognitions that are awarded on the occasion of anniversaries, and other occasions. The *Ordinance on Awards and Recognitions* prescribes which awards and public recognitions the FVMUZ may award to employees, students, individuals and legal entities outside the Faculty (http://www.vef.unizg.hr/wp-content/uploads/2018/11/a18_20130128-pravilnik_o_nagradama_i_priznanjima.pdf).

Information on the awarding of recognition or prizes to some of the staff and students is publicly presented via the website and published in the Yearbook.

Some of the important awards received by the FVMUZ staff are:

- State Award for Science 2018, prof. dr. Marko Samardžija (<https://veterina.com.hr/?p=73259>)
- Muniment of the Republic of Croatia to the FVMUZ 2019 (<https://veterina.com.hr/?p=78812>)
- Recognitions to the FVMUZ for the establishment of veterinary faculties in the area (Skopje, Sarajevo, Belgrade)
- Andrija Štampar Award 2020, prof. dr. Željko Grabarević, in 2021 prof. dr. Vladimir Mrljak (<http://www.unizg.hr/istrazivanje/istrazivanje-i-inovacije/nagrade-za-posebna-postignuca/nagrada-andrija-stampar/>)
- Award of the Croatian Kinesiology Association 2020, Saša Čuić, prof.
- City of Zagreb Award 2021., Academician Josip Madić (<https://skupstina.zagreb.hr/svecana-dodjela-javnih-priznanja-grada-zagreba-2021-3090/3090>)
- Silver medal Agro ARCA, prof. dr. Lidija Kozačinski, prof. dr. Željko Cvrtila, Tomislav Mikuš Ph.D.
- Muniment of the Croatian Hunting Association to the FVMUZ

The Faculty regularly awards deserving individuals, collaborating institutions and other legal entities, especially on the occasion of the jubilee. Thus, on the occasion of the 100th anniversary of its founding, awards were given:

- Meritorious employees of the FVMUZ (academics, vice-rectors, former deans)
- for the exceptional scientific achievement of the alumni of the FVMUZ, prof. dr. Kristijan Ramadan, the first Croat to be elected full professor at the University of Oxford
- recognition for contribution to international cooperation and promotion of the Faculty, Atila Kos PhD, Honorary Consul of the Republic of Croatia in Hungary
- for cooperation on many projects, as well as continuous support in teaching, the City of Zagreb, Genera, Agroproteinka, Medical Intertrade, Koka, veterinary organizations Jastrebarsko and Vrbovec
- for previous cooperation, University of Veterinary Medicine and Pharmacy in Košice, College of Medical Sciences, Western University in Pomona (USA), Faculty of Veterinary Medicine, Ludwig Maximilian University in Munich, National Agricultural University Bila Tserkva from Ukraine, Faculty of Veterinary Medicine, University of Tirana and Faculty of Veterinary Medicine Pristina

One of the conditions for election to higher scientific-educational titles is active participation in domestic and international conferences in the form of invited lectures, membership in organizational and scientific committees, and editorial boards of journals. These activities are encouraged at the FVMUZ level, both at the national and international level, are recorded in the reports of the expert committees for the elections to the titles, and the general public is informed through the Yearbook. An overview of activities during the past academic years shows that employees in scientific-teaching and associate positions have held:

- ac.y.2018/2019 - 36 invited lectures in the country and abroad
- ac.y. 2019/2020 - 25 invited lectures in the country and abroad
- ac.y. 2020/2021 - 23 invited lectures in the country and abroad

It is important to mention that the employees of the FVMUZ hold high positions in various organizations in the country and abroad (Table 7.).

Table 7. Positions of FVMUZ employees in country and abroad.

Ac. Y.	Academic staff	Role/position
2018./2019.	prof. dr. Estella Prukner-Radovčić	President of the European Federation of World Poultry Science Association (EF WPSA) and President of the Croatian Poultry Science Association
	prof. dr. Nikica Prvanović Babić	President of the Breeding Council for the Protected and Endangered Breed Međimurje Horse and President of the Veterinary Committee of the Croatian Equestrian Federation
	Saša Čuić, prof.	member of the presidency of the Association of Teachers of Physical Education and Health of the University of Zagreb

	prof. dr. Lidija Kozačinski	President of the Section for Food Microbiology of the Croatian Microbiological Society and President of the Biological Risk Committee of the Croatian Food Agency
	Tomislav Mikuš, PhD	Chairman of the Board for Animal Health and Welfare of the Croatian Food Agency
	prof. dr. Nevenka Rudan	President of the Virology Section within the Croatian Microbiological Society
	prof. dr. Ljiljana Pinter	President of the Governing Board of the Croatian Veterinary Institute
	prof. dr. Petar Džaja	President of the High Court of Honor of the HVK
	prof. dr. Krešimir Severin	Chairman of the Expert Committee training of the Croatian Veterinary Chamber
	prof. dr. Željko Grabarević	chairman of the Scientific Board for area of veterinary medicine.
2019./2020.	prof. dr. Nenad Turk	EAEVE Treasurer and Representative of Region 7
	academician Dražen Matićić	second vice-president of the Croatian Academy of Medical Sciences
	prof. dr. Estella Prukner-Radovčić	President of the College of Veterinary Medicine AMZH
	Dubravka Vilke-Pinter, PhD, prof.	member of the presidency of the Association of Language Teachers at Higher Education Institutions in the Republic Croatia
2020./2021.	prof. dr. Lidija Kozačinski	Member of the Management Board of the European Food Safety Authority (EFSA)
	prof. dr. Sven Menčik	Coordinator of activities in the Reference Expert Network for the Conservation of Animal Genetic Resources (REM AnGR) of the Ministry of Agriculture
	Prof. dr. Tomislav Dobranić	President of the Governing Board of the Croatian Veterinary Institute
	Prof. dr. Marko Samardžija	President of the Scientific Board for Veterinary Medicine at ASHE
	Prof. dr. Jasna Aladrović	President of the International Society of Education in Animal Science

FVMUZ staff, as editors-in-chief or members of editorial boards, participate in the work of 40 different domestic and international journals. It is important to point out that the FVMUZ staff are members of the Croatian Academy of Sciences and Arts (three members and one associate) and Academy of medical sciences (11 members, 2 associates).

The project activity of the employees is extremely productive, which is reflected in the list of current and completed projects, domestic and international, available at <https://www.vef.unizg.hr/en/status/ongoing-projects/> and <https://www.vef.unizg.hr/en/status/finished-projects/>

5.4. The scientific / artistic activity of the higher education institution is both sustainable and developmental

The research / arts development strategy is aligned with the vision of development of the higher education institution.

Scientific / artistic activities are established by the strategic programme of the higher education institution.

The higher education institution has appropriate resources for its scientific / artistic activities.

HEI recognizes and rewards scientific / artistic achievements of its employees.

HEI continuously improves its scientific / artistic activities by appropriate financing, human resource management, investing in spatial resources, equipment and appropriate literature, supporting dissemination of results and development of doctoral theses.

The *Strategic program of scientific research of the FVMUZ* is directly harmonized with the vision of the development of the FVMUZ and elaborates in detail the basic goals of improving scientific activity stated in the Strategy of the FVMUZ: Improving the quality of scientific research activities; Human resources development and transfer of knowledge; Increasing interdisciplinary scientific research activities; Improving cooperation with the economy; Strengthening national and international recognition.

The improvement of quality can be seen in a larger share of papers published in journals of the first and second quartile, ie in journals with a higher impact factor. At the same time, a relatively high number of papers per year was retained, which puts the FVMUZ at the top of the biomedical field, especially in terms of the number of employees.

In the field of human resources, the FVMUZ has introduced scholarships for one postdoctoral student's project per year, which directly enables postdoctoral student education in the field of project writing and preparation of the necessary documentation. In addition, scholarships for one doctoral student per year have been introduced, based on excellence during their studies, which ensures that a larger number of excellent candidates enter science.

Interdisciplinarity is an integral part of research, which is evident from the large number of institutions with which employees of the FVMUZ participate in research and publication. It should be noted that the FVMUZ has signed a Strategic Plan for Cooperation with the University of Veterinary Medicine in Budapest, which will enable even more intensive cooperation in the scientific and professional field of our two institutions.

Despite less favorable economic conditions during the pandemic, the FVMUZ is a collaborator on several projects directly related to the enterprises, such as the *CEKOM 3LJ project*, *Development of a rapid innovative test to detect mastitis*, *Molecular animal nutrition (MANNA)* and others.

A satisfactory number of international and European projects ensures regular upgrades and procurement of research equipment. A recent example is equipping the Laboratory for Proteomics, as well as the Laboratory within the Department of Microbiology and Infectious Diseases with a clinic (donation of IAEA - real-time PCR devices and biosecurity levels 2 and 3 laminar, worth EUR 110.000,00).

The FVMUZ, directly or in cooperation with other institutions, publishes three scientific journals, including the Veterinary Archives (IF - 0.42; SCIE, WoS-JCR), which facilitates the dissemination of results and international recognition. The FVMUZ regularly, if possible, during the solemn session on the occasion of the Faculty anniversary awards for the best scientific team, as well as the the first authorship of a paper published in the journal with the highest impact factor in the current year.

The development of assistants and doctoral students is regularly monitored through the Report on the Implementation of the Work Plan and Development Plans.

5.5. Scientific/artistic and professional activities and achievements of the higher education institution improve the teaching process.

Space and equipment for scientific / artistic research and professional activities is used in teaching at undergraduate, graduate and postgraduate level.

Undergraduate, graduate and postgraduate students are involved in scientific / artistic / professional projects of the HEI.

Both teaching at the undergraduate and graduate levels, and doctoral theses reflect the scientific / artistic research and professional activities and achievements of the higher education institution.

The premises of the FVMUZ are satisfactorily equipped with equipment that enables all types of research, but also the transfer of scientific knowledge to students at all levels of study, from integrated undergraduate and graduate to doctoral studies. Training (laboratory exercises) is held in laboratories, and research related to diploma, master and doctoral theses are conducted.

Currently at the FVMUZ there is 52 laboratory and places for scientific research.

Students of the FVMUZ are regularly and successfully involved in scientific research, which is confirmed by receiving the Rector's Award. The Rector's Award is given by the UNIZG for the best student work of scientific content, in order to encourage scientific research and promote student creativity.

Dodatak 2. Popis studenata koji su ak. god. 2018./2019. dobili Rektorovu nagradu		
Ime i prezime studenta	Naziv znanstvenog rada	Mentor
Valentina Margić, Patrik Meglić	Provjera učinkovitosti bioloških i kemijskih pripravaka na inhibiciju rasta gljive <i>Macrorhabdus ornithogaster</i> in vitro	doc. dr. sc. Željko Gottstein
Nikolina Škvorec	Patohistološke osobitosti lezija uzrokovanih metiljem <i>Fascioloides magna</i> u jelena običnoga	Miljenko Bujanić, dr. med. vet., poslijedoktorand, izv. prof. dr. sc. Ivan-Conrado Šošarić-Zuckermann
Toni Maleš	Postnatalno sraštavanje kostiju glave dobrog dupina (<i>Tursiops truncatus</i>) iz Jadranskog mora	izv. prof. dr. sc. Martina Đuras
Ingo Ralph Albin Lobpreis	Morfometrijske osobitosti eritrocita ovaca pasmine lička pramenka	doc. dr. sc. Ivona Žura Žaja, doc. dr. sc. Branimira Špoljarić

Dodatak 2. Dobitnici Rektorove nagrade za akademsku godinu 2019./2020.

Ime i prezime studenta	Naziv znanstvenog rada	Mentor
	Kategorija a)	
Sunčana Vuković, Valentina Perković	<i>Ekspresija imunohistokemijskih biljega Ki67 i CD31 u melanocitnim tumorima pasa</i>	izv. prof. dr. sc. Marko Hohšteter, dr. sc. Lidija Medven Zagradišnik
Josip Miljković	<i>Spolni dimorfizam u proteinskom sastavu otrova poskoka (Vipera ammodytes ammodytes)</i>	doc. dr. sc. Ana Shek Vugrovecić, doc. dr. sc. Mirela Pavić
Iva Raić	<i>Kinematički pokazatelji pokretljivosti spermija pasa različitih pasmina</i>	izv. prof. dr. sc. Martina Lojkić, izv. prof. dr. sc. Nino Mačević
Ana Javor	<i>Razlike morfoloških značajki eritrocita s inkluzijama Babesia canis</i>	prof. dr. sc. Nina Poljičak Milas, izv. prof. dr. sc. Silvijo Vince
Lana Zovko	<i>Morfološka karakterizacija plućnih parazita iz dobrih dupina (Tursiops truncatus) Jadranskog mora</i>	doc. dr. sc. Franjo Martinković, izv. prof. dr. sc. Martina Đuras
Luka Ećimović	<i>Pretlost u mačaka – metabološki pristup</i>	prof. dr. sc. Renata Barić-Rafaj
Lucija Hucika	<i>Uspješnost identifikacije risa s obzirom na postavke fotozamke</i>	izv. prof. dr. sc. Tomislav Gomerčić, doc. dr. sc. Magda Sindičić
Tihana Vugrinec i Lucija Klarić	<i>Karakterizacija markera u proteomu seruma purića nakon zaraze astrovirusima</i>	doc. dr. sc. Željko Gottstein, dr. sc. Anita Horvatić
Helena Židak	<i>Patološke karakteristike neoplastičnih promjena hrvatskih autohtonih pasmina pasa</i>	izv. prof. dr. sc. Marko Hohšteter, dr. sc. Lidija Medven Zagradišnik

Marija Fajdetic	<i>Kvantifikacija sojeva Escherichia coli uzgojenih simultano in vitro ili in vivo postupkom qPCR-a s ciljem dokaza klonalne selekcije</i>	doc. dr. sc. Željko Gottstein
	Kategorija f)	
Magdalena Bogović, Petra Bratić, Robert Dumančić, Damjan Džakula, Mihajlo Jaković, Renata Matić, Lana Mićković, Elizabeta Pongrac, Anja Raić, Morana Šćuric, Tanja Strišćević i Sunčana Vuković		68. IVSA kongres u Zagrebu
Ante Vidošević, Iva Raić, Josip Miljković, Luka Špelić, Martina Vuk i Valentina Perković		Edukativna manifestacija: <i>Upoznajmo pasmine (Meet the breeds)</i>

Dodatak 3. Dobitnici Rektorove nagrade za ak. god. 2020./2021.

Ime i prezime studenta	Naziv znanstvenog rada	Mentor/ica
Nikola Čudina	<i>Učestalost i uzroci klanja gravidnih goveda u Republici Hrvatskoj</i>	dr. sc. Tomislav Mikuš
Valentina Huzjak i Mirna Mandić	<i>Arheozoološka i osteometrijska analiza ostataka kostiju konja kasnoavarskog groblja s lokaliteta Šaregrad-Klopare</i>	prof. dr. sc. Tajana Trbojević Vukičević
Petra Ribarić	<i>Gastrointestinalni paraziti divokoze (Rupicapra rupicapra) i grivastog skakača (Ammotragus lervia)</i>	doc. dr. sc. Magda Sindičić, doc. dr. sc. Franjo Martinković
Meri Blažević i Iva Ciprić	<i>Osobitosti kompletne krvne slike Uta iguana (Ctenosaura bakeri)</i>	izv. prof. dr. sc. Maja Belić, doc. dr. sc. Maja Lukač
Emanuel Budicin	<i>Hematološki parametri u kokoši nesilica nakon terapije tekući pripravkom fluralaner</i>	doc. dr. sc. Željko Gottstein, prof. dr. sc. Jasna Aladrović
Iva Macan	<i>Procjena općeg mišljenja i informiranosti ribara u Hrvatskoj o dupinima i morskim kornjačama</i>	izv. prof. dr. sc. Martina Đuras

Figure 8. Lists of Rector's Award winners in the last three academic years.

In order to recognize students' scientific and research work, on November 5, 2021, the 1st Student Science Day was organized. The aim of this event is to bring science closer to students

and enable greater involvement of students in project activities at the FVMUZ. For this purpose, this year's 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 as well as opportunities to involve students in project activities (<https://www.vef.unizg.hr/wp-content/uploads/2021/10/Program-Dana-studentske-znanosti.pdf>).

As part of the CQF project, students were able to attend special workshops, so in 2020 the *School of Entrepreneurship* was held, with topics that are important to students in everyday life such as digital and mathematical competencies, "learning how to learn", cultural awareness and expression, initiative and entrepreneurship, social and civic competencies and very important- communication competencies (<https://www.vef.unizg.hr/novosti/dogadanja/u-sklopu-hko-projekta-odrzana-skola-poduzetnosti-za-studente-veterine/>).

Among the student projects at the FVMUZ, it is worth mentioning the project called *Digicyte*, presented at this year's AI2FUTURE conference, dedicated to artificial intelligence in Croatia, participating in the program of ZICER's Startup Factory. In short, *Digicyte* wants to change the way tissue, cell and tissue fluid analysis is currently done using a newly developed scanner called Marvin. The founders and leaders of this project are students of the integrated study of veterinary medicine Dora Mahaček and Krunoslav Vinicki (<https://www.netokracija.com/digicyte-marvin-mikroskop-185405>).