



SELF-EVALUATION REPORT
FOR EAEVE VISIT



BURSA ULUDAG UNIVERSITY
FACULTY OF VETERINARY MEDICINE

BURSA, TURKEY 24-28 February 2020





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This report was prepared by the Accreditation Committee of the Faculty of Veterinary Medicine, Bursa.

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This Self-Evaluation Report was approved by Faculty Council (20.12.2019).

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Introduction

INTRODUCTION

Brief History of the Establishment and of Previous EAEVE Visitations

The Faculty of Veterinary Medicine (FVMB), Bursa Uludag University (BUU) was founded as the 4th veterinary faculty of the country in April 1978 at BUU (named as Bursa University until 1982). The FVMB was established in two separate settlements: The preliminary main buildings of the Faculty were constructed in Karapınar at a location next to the Bursa Meat & Fish Organization Slaughterhouse and were active until moving to the current Görükle campus in 1994. The clinics of the Faculty were originally established in the city center (Merinos campus) in 1981 and were transferred to the current Animal Hospital building in 2008. Building A comprising departments, laboratories and seminar rooms was built in 2007. Main Building including administrative offices, lecture halls, teaching laboratories, conference hall, computer room, and reading room was constructed in 2009. Anatomy building serves as a separate building. The Veterinary Teaching and Research Farm (VTF) with its frequently used name “the Faculty Farm”, was founded at campus in 1987 to support the practical training of the students and research projects of the academic staff (see Appendix 1).

The present organisation of the Faculty was established at 2007 as five main divisions namely: 1. Basic Sciences, 2. Preclinical Sciences, 3. Clinical Sciences, 4. Food Hygiene and Technology, 5. Zootechnics and Animal Nutrition.

FVMB was first evaluated in November 2004 by a team of experts appointed by the European Association of Establishments for Veterinary Education (EAEVE). The team pointed out several major and minor deficiencies proposed suggestions. A follow-up visitation was carried out in 2008 and the FVMB gained Conditional Approval Status after this visit. EAEVE Approved Status was obtained after the last EAEVE visit in 2010. Since then, several amendments affecting the study programme and facilities have been introduced.

Main Features of the Establishment

The faculty is attractive for the students due to its geographical location, quality of education, and vastness of teaching staff and facilities both for clinical and research activities. According to the Higher Education Council (HEC) database the faculty is one of the most

preferred veterinary schools in Turkey (URL: <https://yokatlas.yok.gov.tr/tercih-sihirbazi-t4-tablo.php?p=say>).

FVMB is located at a geographical region with high potential for livestock, poultry and pet animals. There are numerous dairy/poultry farms and food production premises in the close vicinity of the faculty.

Faculty has its own VTF located very closely to the main buildings which is easily accessible for the students (a shuttle service is also provided). In terms of quality of teaching, research and public services, FVMB is one of the leading veterinary schools in Turkey.

Main Organisational Changes

As planned before, Department of Aquatic Animal Diseases was established in 2011. FVMB was accredited in 2015 by the national Association for Evaluation and Accreditation of Educational Institutions and Programs of Veterinary Medicine (VEDEK) for a period of seven years.

Licences of the VTH and Food Processing Unit were updated in 2013 as requested by the legislation of the Ministry of Agriculture and Forestry (see Appendix 2 & 3).

The FVMB also established a Diagnostic Laboratories Coordination Committee and licences of nine related laboratories were obtained from the Ministry of Agriculture and Forestry (see Appendix 4).

Main Changes in Finances

Narrowing of the national economy had direct consequences on higher education institutions. Expenditures have increased on the basis of the consumer price index and revenues reduced significantly. Government's cutbacks from the public bodies had a negative impact on FVMB's efforts to increase human resources and to improve the infrastructures needed to adapt the ideal requirements of the European Higher Education Area.

Main Changes at Curriculum

Education system has been adapted to Bologna Process since the last EAEVE visit. This process requires students to complete 300 ECTS for graduation.

Thirteen new selective courses were added to the curriculum (See Chapter 3).

Each student in Farm Animal Medicine and Husbandry intern group spends one month extramurally practicing at a large commercial dairy farm in last semester (for details see Chapter 3). Each student in Poultry Medicine and Husbandry, and Food Hygiene and Technology intern groups performs at least two weeks of extramural practice in the last semester.

Certain obligatory and selective lectures are given in English (Obstetrics and Gynecology, Histology II, Food Microbiology and Special Pathology I etc.).

Main changes in Facilities and Equipment

Several major and minor renovations and improvements were made at FVMB after the last EAEVE visit:

- Large animal and horse clinics and their hospitalisation units were renovated.
- Necropsy hall was renovated.
- Large animal section of the radiology unit was renovated.
- Oxygen supply of the VTH was renewed.
- Physical capacity of the VTH pharmacy was enlarged. Drug Dosing Unit and Chemotherapy Administration Unit were added.
- Sample Acceptance Unit was separated from the Central Diagnostic Laboratory in the VTH.
- Quarantine Building for farm animals was established in VTF.
- New Food Production Unit was established and transfer of technical equipments was started gradually.
- Capacity of the cattle barns were increased.

Laboratory for Department of Genetics and Department of Disease of Aquatic Animals has been established. Additionally, Virology (Molecular Virology Lab), Histology (Cell Biology Lab), Food Hygiene and Technology (Food Microbiology Research) and Molecular Pharmacology Laboratories were established.

Main equipments (Hemocell counter, biochemical analysers, blood shaking machine, hormone analyser, hematocrite centrifuge, video microscope, handheld biochemical analyser etc) were refurbished in Central Laboratory.

Purchased and utilized main equipments in VTH are as follow:

- Closed Loop Drug Management System (PharMed Station)

- Mobile Doppler Ultrasound (2)
- Intensive Care Units (4)
- Image Transfer System for Small Animal Radiology
- Automated Fluorescence Imaging System
- Microdecompressive Spinal Surgery Set
- DNA Imaging Systems
- GPS Pulse Monitor
- Anesthesia Machine

Major Problems Encountered by the Establishment

The higher education system in Turkey is organized and monitored by the HEC in Ankara. HEC tends to increase the number of students annually without consulting the FVMB.

Frequent changes in the Administration of University and Faculty during last four years resulted with deceleration of all the functions of commissions.

Decreased total budget due to financial crisis in recent years has hindered new investments associated with education and renovation plans. This has also led to inadequate number of support staff.

Version and date of the ESEVT SOP which is valid for the Visitation

Standard Operating Procedure (SOP) as approved at the Uppsala General Assembly 12 May 2016.

Chapter 1

Objectives and Organisation



1. OBJECTIVES AND ORGANISATION

1.1. Factual information

1.1.1. Details of the Establishment, i.e. official name, address, phone number, Email and website addresses, Establishment's Head, name and degrees of the person(s) responsible for the professional, ethical, and academic affairs of the VTH, official authority overseeing the Establishment.

| | |
|---|--|
| Official name | Bursa Uludag University Faculty of Veterinary Medicine |
| Adress | Bursa Uludag University Faculty of Veterinary Medicine Gorukle Campus 16100 Bursa/ TURKEY |
| Telephone | +90 224 2941207 |
| Fax | +90 224 2941202 |
| Web Adress | http://uludag.edu.tr/veteriner |
| E-mail | vetdek@uludag.edu.tr |
| Establishment's Head | Dean: Prof.Dr. Hüseyin Yıldız |
| The person who is responsible for the professional, ethical, and academic affairs of the Veterinary Teaching Hospital | Head of the VTH: Assoc. Prof. Dr. Göksen Ayalp |
| The official authority overseeing the Establishment | Rector: Prof. Dr. A.Saim Kılavuz |

1.1.2. Summary of the Establishment Strategic Plan with an updated SWOT analysis (Strengths, Weaknesses, Opportunities and Threats), the mission and the objectives

Strategic Plan

The Strategic Plan described for 2017-2021 is available on the university web site. This plan is updated every four years. (http://www.uludag.edu.tr/dosyalar/strateji/raporlar/Stratejik_Plan/2017_2021/uludag%20univ%20stratejik%20plan%20web%2027.12.2016.pdf).

Mission Statement

Objectives of the FVMB are defined as follows:

- To be a role model at national and international level for the quality of teaching, knowledge production and public services it provides
- To execute international student and staff exchanges at high rates
- To run undergraduate and postgraduate programs in English besides the Turkish program
- To publish articles in highly prestigious international journals and to receive high citation rates
- To increase the number of academic staff managing extramurally funded national and international research projects
- To be a reference center for the solution of veterinary related problems
- To become a continuing education center in Turkey
- To follow-up, regulate, and continuously improve processes according to BUU QA policy

The vision of the FVMB is to become an institution;

- which educates qualified veterinarians with a perspective to see and solve all veterinary-related problems
- in which state-of-art research is performed
- which produces knowledge
- which is considered as a pioneering institution at national and international levels, and where people are proud of working at.

The mission of the FVMB is to;

- give high level education for self-motivated and patriot veterinarians with rich cultural background, up-to-date knowledge and skills for investigation, problem-solving and communication; have a general understanding and acceptance of Atatürk's revolutions and his principles as his/her guide
- perform research and give service to community at international standards; to reach, produce, apply and disseminate knowledge for animal existence, health, rights, and productivity and for the quality and safety of their products; for the improvement of the relationship between animal and human health, and also for environmental protection.

Basic principles of the FVMB are as follows:

- Providing education at international level
- Performing qualified research activities and producing knowledge at international level
- Giving priority to academic merit and success
- Being respectful to universal values and human rights
- Having an ethical approach
- Thinking national and international together
- Meeting social expectations and solving the public problems
- Protecting animal health and increasing their productivity
- Being respectful to animal rights and welfare as well as being sensible to environment
- Being able to solve problems regarding animals and animal husbandry
- Being helpful to solve public health problems from the aspect of "healthy animal-safe food-healthy people"

| STRENGTHS | WEAKNESSES |
|--|---|
| <ul style="list-style-type: none"> • Long historical tradition with national reputation and prestige • Excellent geographic location and transport infrastructure • High demand for our graduates compared to other universities • Sufficient interaction between clinical and basic science departments • High degree of motivation and involvement of our teaching staff, support staff and students, with high level of synergy between students and staff that allows integral development of students • Satisfactory student: teacher ratio • High percentage of teaching staff with veterinary qualifications (> 95% of the total teaching staff) who are qualified and experts in their fields of knowledge • High quality intra-mural small animal practical training • High quality extra-mural practical training related to large animal and food-producing animal clinics (highly valued by the students) • Presence of a unique farm that houses different species of food producing animals • Availability of the farm for hands-on training and applications • Presence of Food Processing Unit available for hands-on training and applications • Availability of a clinic for exotic animals • Availability of a clinic for behavioural problems of small animals • Availability of an intensive care unit for wild animals • Presence of laboratory services for intra- and extra -institutional demands • Presence of national (e.g. FARABI) and international (e.g. ERASMUS) exchange programs for students and teachers • 7/24 availability of University Library with an extensive bibliographical collection and specialized scientific information • Excellent relationships with related institutions, administrations, livestock companies and professionals in all clinical and health areas • Being fully accredited by VEDEK and being periodically evaluated • Availability of an on-line system (Bursa Uludag University Institutional Education and Research Activities Governance System-UKEY) for teaching staff to give courses, to share teaching material and to make exams on-line • High level of student engagement in extracurricular activities: student congresses, student clubs, cultural activities, mentoring and exchange programs • Availability of HEC scholarships for PhD students • Presence of a one-year English preparatory class and also selective courses in English in following years • Presence of large and sufficient physical capacity • Employment of young and dynamic academic staff • Academic staff's high attendance rates to regular national and international scientific meetings • Having self-investment autonomy for educational and laboratory services • Having faculty alumni associations | <ul style="list-style-type: none"> • Insufficient number of intra-mural equine examinations • Insufficient number of swine at faculty farm • Insufficient budget to manage infrastructure • Bureaucracy which results in delay of utilising the money allocated for the Faculty • Insufficiency of technical and support staff |

OPPORTUNITIES AND THREATS

| OPPORTUNITIES | THREATS |
|--|---|
| <ul style="list-style-type: none"> • Agreements with TJK and Mennan Pasinli Vocational School to increase equine number for extramural training • Continuous improvement of educational programs and their adaptation to European regulations • Increased numbers of pets referred to animal hospital • Potential to attract talented students for teaching and research • Autonomy in the spending of revolving funds • Potential to accept students from foreign countries. • Potential to increase life-long education and social communication activities by using alumni portal • Opportunity of faculty members to join Techno-Park (ULUTEK) to promote collaborations with related companies and establishments • Availability to enhance mobility for students and academic staff • Having enough campus space for new establishments • Possibility to create on-line and blended (on-line + face to face) education by UKEY platform | <ul style="list-style-type: none"> • Over-populated classes because of government policy • Reduction of economic resources • Dependency on the distribution of funds from the University • Increased centralization for decision-making about managerial and staff positions • Increase in the cost of veterinary education • Increase in the maintenance needs of the infrastructures: Teaching and research activities, laboratories, etc. • Increased number of veterinary schools in the country • Shortage of specialized support staff in teaching tasks • Low number of young academics |

1.1.3. Summary of the Establishment Operating Plan with timeframe and indicators of achievement of its objectives

Teaching

| Objectives | Activities | Time Frame |
|---|---|---|
| 1. Continuous improvement of the curriculum | 1.1. Annual review of course plans 1.2. Obtaining recommendation from stake holders 1.3. Adaptation to EAEVE criteria 1.4. Student evaluation survey 1.5. Evaluation of the curriculum by Faculty Education Committee | 1.1. Continuously 1.2. Twice a year 1.3. As needed 1.4. Once a year 1.5. Every semester |
| 2. Increasing the number of extra-mural training | 2. Improving connections with stakeholders | 2. Continuously |
| 3. Increasing the number of life-long education training activities | 3. Organising continuous education Courses | 3. Four times a year |
| 4. Improving the qualifications of faculty members | 4.1. Encouragement of academic staff to attend international congresses 4.2. Using Erasmus exchange programmes | 4.1. Continuously 4.2. Twice a year (3-5 faculty members annually) |
| 5. Improving quality of educational programmes | 5. Increasing the number and the range of selective courses (disciplinary and interdisciplinary) | 5. Once a year |
| 6. Improving the quality of teaching and learning facilities | 6.1. Renovation of anatomy dissection hall 6.2. Improving laboratory facilities | 6.1. By the end of 2020 6.2. Continuously |
| 7. Increasing the qualification of students | 7.1. Scholarship for five students in each class with top-grades 7.2. Having one year of English preparatory class | 7.1. Regularly 7.2. Continuously |
| 8. Improving material resources | 8.1. Increasing extramural activities 8.2. Increasing connection with stakeholders 8.3. Slaughterhouse visits for related practical courses | 8.1. Continuously 8.2. Continuously 8.3. Weekly in spring semester |

Research

| Objectives | Activities | Time Frame/Frequency |
|--|---|---|
| 1. Increasing research activities and improving research infrastructures | 1.1. Scholarship for PhD students 1.2. Financial support to undergraduate students for their graduating theses 1.3. Financial support for published research 1.4. Availability of research facilities at faculty farm 1.5. Financial support from BUU Research Funds for PhD projects | 1.1. Monthly 1.2. Continuously 1.3. Once a year 1.4. Continuously 1.5. Continuously |

Management and Support Services

| Objectives | Activities | Time Frame/Frequency |
|--|---|-----------------------|
| 1. Promoting the communication of staff and students | 1. Organization of get-togethers for teaching and administrative staff and students on occasions such as celebration of the Establishment Anniversary, New Year's eve, etc. | 1. Once a year (each) |

Social Impact

| Objectives | Activities | Time Frame/Frequency |
|---|---|--|
| 1. Developing social contributions and relations with stakeholders | 1. Involvement in educational TV programmes, meetings and workshops | 1. Continuously |
| 2. Emergency care of stray animals | 2. VTH accepts all stray animal emergencies (no fee) | 2. Continuously |
| 3. To increase awareness for animal welfare and rights among children | 3.1. Presentations to primary and high school students about our profession 3.2. Visits of primary and high school students to VTH | 3.1. Continuously (on demand) 3.2. Continuously (on demand) |

1.1.4. Organizational chart (diagram) of the Establishment

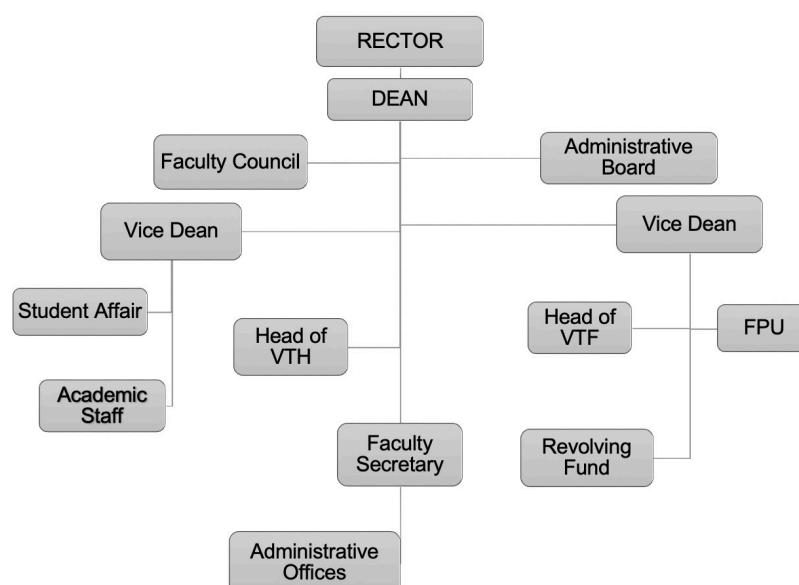


Figure 1. Organization chart of FVMB

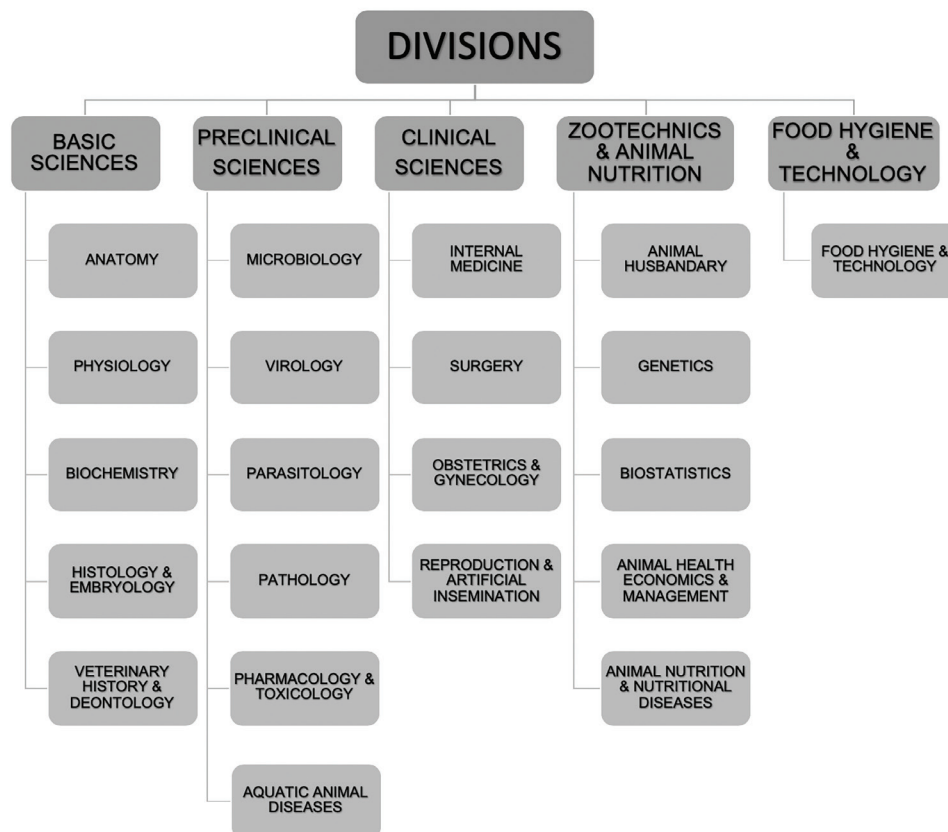


Figure 2. The departments in each division at FVMB

1.1.5. List of departments/units/clinics and councils/boards/committees with a very brief description of their composition/function/responsibilities

Rector: The rector is elected by president of Turkey. The six members are reported to President by the HEC. The President is the final decision maker. The rector is appointed for four years and can only serve for a maximum of two terms.

Dean: The rector has the power to propose three candidates to HEC for the appointment of the Dean. The Dean is appointed for three years and can serve more than one term.

Vice Dean: The vice dean is appointed by the dean for three years.

Head of Division: The Head of Division is appointed by the Dean from the candidates proposed by the Head of Departments. However, in our Faculty traditionally all the academic staff of that division contributes to the election of the candidate to be proposed to the Dean. The Head of Division is appointed for three years and can serve for more than one term.

Head of Department: The candidate elected by the academic staff of the Department is appointed by the Dean for three years. However, if there is only one professor in the department, that professor automatically serves as the Department Head. According to the Higher Education Legislations, if there are only two professors in the same department, the Dean has the authority for this appointment.

| Description of Boards | |
|---|---|
| Structure | Assignments |
| Faculty Council | |
| Dean Head of the Division (5) Professor representative (3) Associate professor representative (2) Assistant professor representative (1) Research assistant representative (1) Student representative (1) | <ul style="list-style-type: none"> • Making decisions on teaching, scientific research and publishing activities, and on the essentials, plans, programs and education • Proposing academic calendar relevant to teaching activities • Choosing members for the Faculty Administrative Board • Choosing members for the University Senate |
| Faculty Administrative Board | |
| Dean Professor (3) Associate professor (2) Assistant professor (1) | <ul style="list-style-type: none"> • Executing the decisions of the Faculty Council • Ensuring that education plans and programs, and academic calendar are applied • Preparing the investment program and budget proposals of the FVMB • Making decisions on all the works about the faculty that the Dean proposes • Making decisions on the orientation courses, inclusion and exclusion of courses, processes about education&teaching and exams |

Management of FVMB

Commissions and Committees of FVMB:

There are several commissions (<http://uludag.edu.tr/veteriner/default/konu/4112>) advising the Faculty Council in related subjects. These commissions, constituted mainly by the academic staff, serve under the chairmanship of the Dean or one of the Vice-Deans. The number of the members of each commission or committee is variable depending on the work load.

Currently, there are a total of 19 commissions and committees as follows:

Education and Teaching Committee:

This commission works with the dean's office to organize courses, to add or remove new courses according to the needs of students, to organize exam programs.

Accreditation Committee:

This commission performs the necessary work together with the dean's office for an educational model close to the European Union standards.

Research and Development (R&D) Strategic Working Committee:

This committee helps to determine the research priorities and put forward the strategic plans within the needs of the faculty.

Academic Promotion and Evaluation Committee:

This committee assists the dean in setting and evaluating criteria for the promotion of faculty members. This committee assists the dean's office in determining and evaluating the criteria for the promotion of faculty members by considering justice and priorities.

Quality Assurance Committee:

This commission works with the dean's office to improve the quality of education offered to faculty students and to determine action plans for global competition. Another important task of this commission is to set goals and help implement quality standards in all services provided.

Graduation Committee:

This commission assists the administrative staff in checking the total credit that students have to take for their graduation.

Alumni and Employer Advisory Committee:

Faculty graduates and employers take part in this committee. They submit their opinions and suggestions to improve the quality of education to the dean's office. According to the needs and expectations of the stakeholders, committee members share their thoughts about the special issues.

Erasmus - Mevlana - Farabi Coordinatorship:

This unit organizes domestic and international student and faculty exchange programs.

Horizontal Transition and Internship Committee:

This commission is responsible for the preparation and follow-up of student internship programs and acceptance of students from other veterinary faculties by examining minimum qualifications.

Scholarships Commission:

This commission takes part in the provision of scholarships to faculty students in need, either internally or externally.

Faculty Journal Publication Commission:

This committee decides the selection of the articles to be published in the journal of the faculty. It tries to carry the journal to national and international targets by establishing connections with local and international authorities.

Commission on Social, Sports and Cultural activities:

This commission is responsible for all kinds of social organizations for academic and administrative faculty employees and students.

Farm Production and Health Committee:

By paying attention to the animal welfare, this commission examines the scientific research projects to be carried out at the faculty farm and decides their suitability. The commission also works on biosafety and biohazard issues including dairy and meat production on all aspects.

Animal Hospital Research Commission:

By primarily paying attention to the animal welfare, this commission examines the scientific research projects to be carried out at the veterinary teaching hospital and decides their suitability.

Diagnostic Laboratories Coordination Commission:

This commission is responsible for the cooperation of nine diagnostic laboratories (e.g. virology, pathology, and microbiology) in all issues (sample acceptance,

preparation of final report etc.) and informs The Ministry of Agriculture and Forestry about notifiable diseases diagnosed in these laboratories.

Inspection and Admission Commission for Purchase:

This commission works on inspection and admission of all purchased items required for the faculty.

Value Assessment Commission:

This commission determines the prices of animals in purchases and sales for Faculty farm.

Inventory Evaluation Commission:

This commission is responsible for the deletion and control of the records of movable and sold animals.

Biosecurity Commission:

This commission defines and enforces biosecurity requirements for students, academic staff and administrative personnel in all faculty facilities (VTH, Faculty Farm, Diagnostic Lab, and Practice Halls etc.).

Veterinary Teaching Hospital (VTH)

Main roles of the VTH are defined as student education and research as well as examination and treatment of incoming patients. VTH operates 7/24 as regulated by the current Legislation of Animal Hospitals based on Act 5996 (see Appendix 5). The basement floor is composed of small animal, large animal and horse clinics besides the diagnostic support units such as central laboratory, radiology unit, and necropsy hall. First floor accommodates offices of staff of the clinical departments and the second floor holds the preclinical departments pathology, microbiology and parasitology and their laboratories. In this structure, all laboratories belonging to related departments are located in a single building.

Dean of FVMB is *ex officio* director of VTH. Head of VTH, who is appointed by the Dean, is the *de facto* director of VTH and ensures that the hospital operates smoothly. Head of VTH selects two deputies who are then appointed by the Dean. The Chief of Internal Services is responsible for the maintenance, repairs and sanitation of the hospital.

1.1.6. Description of how (procedures) and by who (description of the committee structure) the strategic plan and the organisation of the Establishment are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

Strategic Plan of the University is commanded by the national legislation (5018 numbered law) and FVMB is an innate part of this plan. R&D and Strategic Plan Commission of FVMB organizes face-to-face meetings with internal and external stakeholders to determine priority objectives and strategic goals are established. These goals are approved by the Faculty Council and become part of the university strategic plan after approval by the University Strategic Plan Commission. University Strategic Plan objectives are followed annually by the related commission and the QA Commission.

(http://www.uludag.edu.tr/dosyalar/strateji/raporlar/Stratejik_Plan/2017_2021/uludag%20univ%20stratejik%20plan%20web%2027.12.2016.pdf).

1.2. Comments

In 1981, the administration of higher education in Turkey was comprehensively restructured by the new

Higher Education Law. The system thereby became centralized with all higher education institutions tied to the HEC. The academic organization at the faculty has to be in accordance with these laws.

Due to frequent changes in the administration of the University and Faculty, commissions contributing to high quality education and management have worked slower than it should have by the time. This is an important factor causing undesired situations.

In the last years, increase in the number of newly established universities and faculties nationwide causes older institutions to get lower rates from the national central budget for high education.

1.3. Suggestions for improvement

The organization and governance of FVMB is directly dependent on the Higher Education Law covering the entire higher education system. Except of implementations dictated by the current laws, to prompt effective working for the faculty commissions would enable to reach the goals defined in the mission declaration.



Chapter 2

Finances



2. FINANCES

2.1. Factual Information

2.1.1. Description of the global financial process of the Establishment

BUU is a state university and the big proportion of its budget comes from Republic of Turkey Ministry of Treasury and Finance (RTMTF). Every year the budget proposal is estimated by the Strategy Development Unit of the university in June-July and is sent to RTMTF for approval. The budget transferred to the university is allocated to the faculties according to the needs. Salaries and social insurances, various expenses (cleaning, communication, advertising, maintenance-repair, training supplies, travel costs, internet, heating, water and electricity) of FVMB are covered by the Rectorate.

In addition to the general budget, revolving fund of FVMB from hospital, faculty farm, consultancy service fees, workshops and other diagnostic laboratory services, is the second cardinal funds of the faculty.

One of the important incomes of the faculty is from extramural research funds (e.g. The Scientific and Technological Research Council of Turkey, TUBITAK).

2.1.2. Degree of autonomy of the Establishment on the financial process

FVMB administration has autonomy for the use of the budget as regulated by related laws and regulations. Priorities are decided by the Dean in line with the needs and demands of the academic units.

2.1.3. % of overhead to be paid to the official authority overseeing the Establishment on revenues from services and research grants

All revenues are free of taxes. FVMB transfers 1% of the revenue to the state budget. Additionally, 5% of the revenue provided from the services is transferred to Scientific Research Funds (SRF) of the University for funding of future research projects.

2.1.4. Annual tuition fee for national and international students

There is no tuition fee for national students for five years of education. However, students who cannot graduate from FVMB within 5 years pay 386 TL (approximately 61 Euros) per year as a tuition fee. The tuition fee is 1.158 TL (approximately 183 Euros) per year for international students. The tuition fee is determined by the Council of Ministers for each academic year. Tuition fees are transferred to the University budget.

2.1.5. Estimation of the utilities and other expenditures directly paid by the official authority and not included in the expenditure tables

The costs of internet, heating, water and electricity of FVMB are covered by the university budget. Faculty does not pay for these utilities.

2.1.6. List of the on-going and planned major investments for developing, improving and/or refurbishing facilities and equipment, and origin of the funding

Small budget investments and renovations are organized by University Administrative Offices upon demand by Dean's Office. High budget investments and renovations are applied by a master finance plan accepted by the university management. The planned activities for the short-term are as follows:

1. New facility for Food Processing will be completed by the end of 2020.
2. Construction of new Anatomy Building will be started within 2020.

2.1.7. Prospected expenditures and revenues for the next 3 academic years

According to strategic plan of BUU, 2017-2021, central budget provided by government will increase by 10% in 2020 and we expect similar increases in 2021 and 2022 (<http://www.sp.gov.tr/tr/stratejik-plan/s/1391/Bursa+Uludag+Universitesi+2017-2021>). Additional revenue is expected from central budget by the rectorate and revolving fund upon completion of new facility of food processing.

2.1.8. Description of how and by who expenditures, investments and revenues are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

- The budget expenditure (under the authority of the Faculty) is determined by the Dean's Office in accordance with the needs of the departments and the units.
- The revolving fund budget expenditure (under the authority of the Faculty) is determined by the Dean's Office, prioritizing the needs of the units having revolving fund income.
- Machinery and equipment purchases and building repairs' expenditures (under the authority of the University) are determined by the Rectorate in accordance with the demands of the units in consultation with the Dean's Office.
- The research budget from SRF is allocated to the principal investigator of the accepted projects.

2.2. Comments

The faculty budget is mainly constituted by University central budget, revolving fund and, to a small extent, research grants. Budget of 2018 was lower than 2016 and 2017 financial years due to rising foreign currency values in recent years.

2.3. Suggestions for improvement

Due to financial reasons, University central budget is decreasing by each year and we expect to compensate reductions in central budget allocations by increasing our revenues from revolving fund and research grants.

Tablo 2.1.1. Annual expenditures during the last 3 academic years (in €*)

| Area of expenditure | 2018 | 2017 | 2016 | Mean |
|---------------------------|---------------------|---------------------|---------------------|---------------------|
| Personnel | 3,077,749.37 | 3,443,711.32 | 3,599,071.08 | 3,373,510.59 |
| Operating costs | 583,704.56 | 1,008,466.08 | 1,184,290.00 | 925,486.88 |
| Maintenance costs | 15,006.50 | 28,295.60 | 39,205.65 | 27,502.58 |
| Equipment | 44,748.87 | 8,861.69 | 33,395.32 | 29,001.96 |
| Total expenditures | 3,721,209.30 | 4,489,334.69 | 4,855,962.05 | 4,355,502.01 |

*Euro/TL rate is 3.70 in 2016; 4.50 in 2017; 6,00 in 2018.

Tablo 2.1.2. Annual revenues during the last 3 academic years (in €*)

| Revenues source | 2018 | 2017 | 2016 | Mean |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|
| Public authorities | 3,080,886.67 | 3,445,000.00 | 3,599,189.00 | 3,375,025.00 |
| Clinical and diagnostic services | 275.453,54 | 327.223,52 | 295.152,16 | 299.276,41 |
| Revolving fund | 614,785.06 | 1,069,955.00 | 1,140,904.00 | 941,881.50 |
| Research grants | 323,365.00 | 178,224.40 | 208,468.90 | 236,686.10 |
| Total revenues | 4,294,490.27 | 5,020,402.92 | 5,243,714.06 | 4,852,869.01 |

*Euro/TL rate is 3.70 in 2016; 4.50 in 2017; 6,00 in 2018.

Tablo 2.1.3 Annual balance between expenditures and revenues (in €*)

| Academic year | Total expenditures | Total revenues | Balance |
|---------------|--------------------|----------------|------------|
| 2016 | 4,855,962.06 | 5,243,714.43 | 387,752.37 |
| 2017 | 4,489,334.69 | 5,020,403.29 | 531,068.60 |
| 2018 | 3,721,209.29 | 4,294,490.27 | 573,280.98 |

*Euro/TL rate is 3.70 in 2016; 4.50 in 2017; 6,00 in 2018.



Chapter 3

Curriculum



3. CURRICULUM

3.1. Factual Information

3.1.1. Description of the educational aims and strategy in order to propose a cohesive framework and to achieve the learning outcome

Programmes of all the higher education institutes in Turkey (duration of education, examination system, diploma work, etc) are prepared by the Faculties and later approved by the University Rectorates and by the HEC.

Education at the FVMB aims to train students who are more specialized on certain topics as dictated by the World Veterinary Association and who can use information technologies effectively. During the first four years, students are trained for common obligatory subjects in veterinary medicine, and in the fall semester of the fifth year, they choose one of the modules on;

- Farm Animal Medicine and Husbandry (FAMH)
- Small Animal Medicine (SAM)
- Poultry Medicine and Husbandry (PMH)
- Food Hygiene and Technology (FHT)

The students get theoretical and practical training in their selected modules during the 9th semester. Tenth semester is composed of practices only and the student also has to prepare a graduation thesis and present it.

Competency criteria of veterinary profession are determined by the HEC within the framework of the European Union criteria (European Directive 2005/36/EC as amended by directive 2013/55/EU and its Annex V.4.1.) and national regulations (VEDEK) established for veterinary profession. Each Faculty is responsible to implement the educational programme to meet these criteria.

The FVMB curriculum programme and professional competency requirements are formed in the Education Committee of FVMB. The basic skills expected from a graduate are as follows:

1. He/she has basic and sufficient knowledge in every aspect of veterinary medicine and can use this knowledge efficiently.
2. He/she performs his/her profession considering professional and ethical issues as well as animal rights.
3. He/she has sufficient knowledge and skills in clinical and laboratory level for proper diagnosis and he/she can evaluate data.

4. He/she, with his/her knowledge and skills, can create solutions and practices proper treatment methods.
5. He/she knows and practices the basics of preventive medicine for individual and herd health.
6. He/she has sufficient knowledge and skills about the principles of animal breeding, husbandry and nutrition.
7. He/she has sufficient knowledge and skills about public health and farm-to-fork food safety and technology.
8. He/she knows the laws and legislations about veterinary medicine and can analyze professional problems from various aspects.
9. He/she can communicate successfully with his/her peers, members of other professions, animal owners, and employers.
10. He/she can express himself/herself both orally and in written and is good in foreign languages.
11. He/she has the ability to investigate, learn and practice individually and accepts life-long learning as a principle.

The strategy of FVMB educational system can be outlined as below:

The first 4 semesters of the curriculum are designed to equip the student with basic knowledge and issues by the following obligatory courses: Medical Biology, Medical Chemistry, Biophysics, Molecular Biology, Deontology, Anatomy, Histology, Embryology, Biochemistry, Physiology, General Microbiology, General Virology, Immunology and Serology, Epidemiology, General Pharmacology, General Parasitology and Helminthology, General Pathology, Zootechnics, Feed Knowledge, Livestock Economics and Management, Genetics, Animal Welfare, and Supervised Self Learning. Students are also trained about biosafety issues in practical parts of the courses.

The preclinical courses to teach students basic diagnostic methods, pathological examinations, and clinical training-learning are as follows: Special Microbiology, Special Virology, Special Pathology, Protozoology, Arthropodology, Special Pharmacology, Aquatic Animals Diseases, Infectious Diseases of Poultry, Food Hygiene and Technology, Introduction to Clinical Sciences, General Surgery, Radiology, Animal Breeding, Topographic Anatomy are given at 5-6 semesters.

Clinical courses are mainly introduced to students during the 7 and 8 semesters (Internal Diseases of Large Animals, Clinical Practice, Large Animal Surgery, Anesthesiology, Reproductive Endocrinology, Obstetrics and Gynecology, Internal Diseases of Small Animals, Small

Animal Surgery, Andrology and Artificial Insemination, Toxicology). In addition to these courses, Milk Hygiene and Technology, Meat Inspection and Technology, Livestock Economics are given to the students.

The students have to choose one of the modules mentioned above and get relevant theoretical and practical training during the 9th semester.

Tenth semester is composed of practices only relevant with previously selected modules and the student also has to prepare a graduation thesis and present it.

During the first 8 semesters, in addition to the obligatory courses, students have to choose at least one elective course (3 ECTS). Ninth semester students have to obtain a total of 17 ECTS from the relevant elective courses.

At the end of the 6th semester, students are required to have a mandatory summer training at VTH (in a rotation at Surgery, Internal Medicine, and Obstetrics and Gynecology clinics; 2 weeks at each clinic).

At the end of the 8th semester, students perform their 4-weeks external training at a location (veterinary clinic, farm, laboratory, etc) they choose. Final decision about the suitability of the training location selected by the student is made by the Internships Committee. The students have to fill-in a form about their daily/weekly training activities which is confirmed and signed by the on-site mentor of their training. Acquired skills from the summer training are assessed by the Summer Training Evaluation Committees that include relevant academicians.

At 10th semester, students in FAMH module have to attend 4 weeks of extramural activities in private dairy farms to increase their practical skills. Suitability of the dairy farms to be visited is decided by the responsible academic staff. Therefore, students obtain more chance to cattle practice. Extramural activities are also arranged for the students in SAM, PMH and FHT modules.

Course plans and rotation programs can be seen in Appendix 5.

3.1.2. Description of the legal constraints imposed on curriculum by national/regional legislations and the degree of autonomy that the Establishment has to change the curriculum

In the academic procedures, universities abide by the law no. 2547 regulating Higher Education. Subjects taught at veterinary degrees in Turkey are regulated

by this law which is fully compliant with EU Directive 2005/36/EC as amended by Directive 2013/55/EU and its Annex V.4.1.

Certain courses (Foreign Language, Turkish Language, Atatürk's Principles and Reforms) are compulsory and taught at higher education institutions for at least two semesters. Otherwise, FVMB is free to change the curriculum parallel to 2005/36/EC-numbered direction of the European Union and EAEVE Directives.

Taking into account the suggestions of the faculty members, student questionnaires conducted twice a year, and the contributions of internal and external stakeholders, changes and improvements that can be made in the education curriculum are determined. Education and Teaching Committee evaluates these changes and suggestions and submits them to the Faculty Council and the necessary changes and arrangements are carried out within the framework of PDCA cycle. In compliance with the QA process of the BUU, all changes and improvements made are included in Education and Teaching Guide of the FVMB prepared every year (See Chapter 11.1.1. and Annex 3.1.2.).

3.1.3. Description of how curricular overlaps, redundancies, omissions and lack of consistency, transversality and/or integration of the curriculum are identified and corrected.

Opening a new course or alterations such as increasing or decreasing hours of an existing course is proposed by the teaching academician and discussed first at department and division level. After the approval of the division, the accepted alteration is presented to the Education and Teaching Committee, and later to the Faculty Council. Approved amendments are proposed to the University Senate for final endorsement. Ideas stemming from the meetings with the Alumni and Employer Advisory Committee and Education and Teaching Committee help opening new courses and modifying course contents.

Moreover, feedbacks from the students and academicians as well as stake holders are taken in account for improvement of the course contents by using PDCA cycle. Student feedbacks are collected by questionnaire and suggestion boxes or by meetings with student representatives. Five students, representatives for each class, are selected by their classmates voting. Then, 5 representatives choose Faculty Student Representative who attends to official committees of the FVMB as requirements of internal QA process.

3.1.4. Description of the core clinical exercises/practical classes/seminars prior to the start of the clinical rotations

Clinical rotations start at 7th semester. Before that time, students undertake clinical work in line with Professional Practice Course and Introduction to Clinical Sciences. Professional Practice course and Introduction to Clinical Sciences target on animal handling, restraint and safe practice of major animal species and are taken by the students on the 3rd and 5th semesters, respectively. Professional Practice course is given by departments of Internal Medicine, Surgery, Obstetrics and Gynecology, Reproduction and Artificial Insemination, Animal Nutrition and Nutritional Diseases, and Zootechnics. Introduction to Clinical Sciences course is given by departments of Internal Medicine, Surgery, and Obstetrics and Gynecology.

3.1.5. Description of the core clinical rotations and emergency services and the direct involvement of undergraduate students in it

Clinical Practice courses in various semesters are compulsory to all students and are applied rotationally among the departments of Internal Medicine, Surgery, Reproduction and Artificial Insemination, and Obstetrics and Gynecology at 7th-9th semesters. Pathology is included in the rotation at the 7th and 8th semesters.

4th year (7th and 8th semesters):

In the fall semester of the 4th year, to perform their practical trainings, students rotate among the Departments of Surgery, Internal Medicine, Obstetrics and Gynecology, and Reproduction and Artificial Insemination two days a week for four hours in the mornings (8 hours/week). In these practices, students are divided to groups. In addition to clinical departments, students rotate to Department of Pathology to join necropsies for 4 hours as scheduled below.

In the spring semester of the 4th year, students practice rotationally among the Departments of Surgery, Internal Medicine, Obstetrics and Gynecology, Reproduction and Artificial Insemination and Pathology for two days a week for four hours in mornings (8 hours/week).

Clinical departments organize farm visits to VTF twice a week in order to increase hands on trainings for the students.

9th semester

To perform their practical training, students rotate among the Departments of Surgery, Internal Medicine,

Obstetrics and Gynecology, Reproduction and Artificial Insemination two days a week for four hours in the morning (8 hours/week). Those departments organize two times a week farm visits to VTF in order to increase hands on trainings for the students.

Students also participate to practices in various organizations such as animal shelters of local municipalities (Osmangazi and Yıldırım), Jockey Club of Turkey (TJK), Cattle Breeders Association and Sheep&Goat Breeders Association. Addition to the practices in the departments, the strategy of the FVMB is based on providing sufficient number of cadavers and materials of animal origin for on-site clinical training. On-site necropsies for cattle and horses are conducted by faculty members with students at TJK and local farms.

| Clinical Practice Course | 7 th Semester | 8 th Semester | 9 th Semester |
|--|--------------------------|--------------------------|--------------------------|
| Surgery | 8 h/week | 8 h/week | 8 h/week |
| Internal Medicine | 8 h/week | 8 h/week | 8 h/week |
| Obstetrics and Gynecology | 8 h/week | 8 h/week | 8 h/week |
| Reproduction and Artificial Insemination | 8 h/week | 8 h/week | 8 h/week |
| Pathology | 4 h/ semester | 4 h/ semester | - |

10th semester

Tenth semester (16 weeks) is only composed of practices relevant with selected modules at the beginning of the 9th semester. Students choose one of the modules on Farm Animal Medicine and Husbandry (FAMH), Small Animal Medicine (SAM), Poultry Medicine and Husbandry (PMH), and Food Hygiene and Technology (FHT).

In the 10th semester, students who have selected FAMH, spend 12 weeks period in clinics (VTH) and 4 weeks as extramural practice in private dairy farms to increase their skills. Faculty members decide training-suitable farms and prepare the visit program.

In the 10th semester, students electing SAM undertake clinical practice by rotating in all four clinical departments 30 hours a week. These students also rotationally join the clinical laboratory practice 4 hours a week to make a total of 10 hours in each Department (Biochemistry, Physiology, Microbiology, Virology, Parasitology, Pathology, and Pharmacology&Toxicology).

In the 10th semester, students electing PMH undertake practice by rotating in Departments of Animal Nutrition and Nutritional Diseases, Zootechnics, Pharmacology and Toxicology, Microbiology, Pathology, and Parasitology.

In the 10th semester, students electing FHT undertake practice by rotating in Departments of Food Hygiene and Technology, Aquatic Animal Diseases, Pharmacology and Toxicology, Anatomy, and Histology and Embryology.

The modules rotation programme in 10th semester is presented in the table below.

3.1.6. Description of the teaching in slaughterhouses and in premises for the production, processing, distribution/sale or consumption of food of animal origin

In Meat Inspection and Technology taught in the 8th semester, students undertake meat examination practice as 2 hours/week in Akçalar Slaughterhouse, Bursa

(15 km away) under the supervision of one academician and two assistants. Transportation to and from the practice locations is provided by the vehicles of the Rectorate. In these practices, each student has to make systematic meat inspection.

In 10th semester, student rotate among departments in FHT module as following; 29 h in Food Hygiene and Technology, 3 h in Aquatic Animal Diseases, 3 h in Pharmacology and Toxicology, 3 h in Anatomy/Histology and Embryology for one week. Students also participate external practices as following: 48 h meat inspection in slaughterhouse (Akçalar), 48 h in meat technology (FPU), 48 h in milk and dairy technology (FPU), 32 h in sale market (Migros) for one semester.

3.1.7. Description of the selection procedures of the Electives by the students and the degree of freedom in their choice

Students have to complete 30 ECTS in each semester and graduate with a total of 300 ECTS in 10 semesters.

| X th Semester | MODULES | | | |
|---|-------------|-------------|-------------|--------------|
| Departments | FAMH | SAM | PMH | FHT |
| Anatomy | | | | 3hx6w: 18 |
| Histology and Embryology | | | | 3hx6w: 18 |
| Biochemistry | | 12h | | |
| Pathology | | 14h | 16hx6w: 96 | |
| Microbiology | | 14h | 12hx6w: 72 | |
| Physiology | | 12h | | |
| Virology | | 12h | | |
| Zootechnics | 12hx4w: 48 | | 16hx6w: 96 | |
| Diseases of Aquaproducs | | | | 3hx12w: 36 |
| Pharmacology and Toxicology | | 4h | 2hx6w: 12 | 3hx12w: 36 |
| Reproduction and Artificial Insemination | 12hx4w: 48 | 2hx16w: 32 | | |
| Animal Nutrition and Nutritional Diseases | 12hx4w: 48 | | 16hx6w: 96 | |
| Bee Husbandry and Diseases | | | 2hx12w: 24 | |
| Parasitology | | 4h | 2hx6w: 12 | |
| Internal Medicine | 22hx4w: 88 | 28hx6w: 168 | | |
| Surgery | 22hx4w: 88 | 28hx5w: 140 | | |
| Obstetrics and Gynaecology | 22hx4w: 88 | 28hx5w: 140 | | |
| Food Hygiene and Technology | | | | 29hx12w: 348 |
| Extramural practice | 40hx4w: 160 | | 40hx4w: 160 | 40hx4w: 160 |
| Seminar | 1hx12w: 12 | 1hx16w: 16 | 1hx12w: 12 | 1hx12w: 12 |
| Diploma Work | 1hx12w: 12 | 1hx16w: 16 | 1hx12w: 12 | 1hx12w: 12 |

In the first 8 semesters, 30 ECTSs constitute from 27 from professional compulsory and 3 from professional elective courses in first 8 semesters (see Table 3.1.3.1). At the 9th semester, students have to take 13 ECTS of obligatory and 17 ECTS of elective courses (see Table 3.1.3.2) which are freely determined by the students according to their interests.

There are 4 modules which students select at the beginning of the 9th semester and follow in the 9th and the 10th semesters. These modules are: FAMH, SAM, PMH and FHT. Students make their choices within these 4 main groups according to their interests. Besides following their own modules, students can also select elective courses from other modules.

3.1.8. Description of the organisation, selection procedures and supervision of the EPT

There are two obligatory EPTs in our faculty; first one is referred as "Summer Internship" for four weeks at the end of the 8th semester, and the second one is "Spring-Semester Internship" for four weeks during the 10th semester. All the process is regulated by the Dean's Office according to predefined and announced rules (<http://www.uludag.edu.tr/veteriner/default/konu/3281>). For the Summer Internship, students have to deliver an acceptance letter from the private clinics, veterinary hospitals, farms, slaughterhouses, pharmaceutical companies, state-owned or private diagnostic laboratories, feed production plants, food analysis laboratories and state veterinary offices. The acceptance letter is to be approved by the Internship Commission of the FVMB considering the suitability of the training location. For the spring internship, internship places are organised by the faculty members responsible for each module.

Each EPT period is 20 workdays comprising a total of 160 hours. FVMB is responsible for organising health insurance of students during the internships. Students have to note all cases and practices daily to their logbooks provided by FVMB during their internship. Logbooks have to be signed by the supervising practitioner. At the end of each internship, the students submit their logbooks to the Horizontal Transition and Internship Committee to be evaluated for their involvement in clinical and practical works. A student evaluation form prepared by the supervising practitioner is directly sent

to Student Affairs Office. This form is also evaluated for the final approval of the internship.

3.1.9. Description of the procedures used to ascertain the achievement of each core practical/clinical activity by each student

In order to monitor preclinical and clinical practices that have to be implemented by each student, a logbook is available (Annex 3.1.9). For assessment of student's accomplishments the logbook is signed by responsible academic staff. The minimum number of applications to be done every student has been determined by each department. This process guarantees that every graduate has achieved the minimum level of competence, as described in the ESEVT Day One Competences. All applications must have been completed by the end of the 10th semester.

At the end of the semester, every student takes oral and practical exams. If the student does not pass one of the courses in the clinical practice lecture, student fails the course. The average of the total score should be 55. In these courses, 30% of the final exam score comes from the logbook and the remaining 70% comes from the oral exam.

3.1.10. Description of how and by who the core curriculum is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The core curriculum is regulated according to EU required subjects defined in EAEVE ESEVT SOP May 2016 Annex 2 and complies with European Directive 2005/36. For that purpose the main responsible committee is the Faculty Council. Education Committee prepares the draft of the curriculum and Faculty Council evaluates and finalizes the last version. The final step before the implementation is the approval by the University Senate.

Based on requirements of QA process, at the beginning of every academic year, recommendations are obtained from the stakeholders, students, departments, and necessary revisions are made by PDCA process. All these processes are managed by Dean's office.

Table 3.1.1. Curriculum hours in each academic year taken by each student*

| YEAR | A | B | C | D | E | F | G | H |
|------------|-----|----|----|-----|-----|-----|---|-----|
| First | 434 | | 28 | 84 | 112 | | | 658 |
| Second | 448 | | 56 | 70 | 84 | 28 | | 686 |
| Third | 448 | | 56 | 98 | 28 | 310 | | 940 |
| Fourth | 434 | | 56 | | 28 | 412 | | 930 |
| Fifth-FAMH | 84 | 24 | 28 | | 110 | 584 | | 830 |
| Fifth-SAM | 84 | 32 | 28 | 72 | 14 | 592 | | 822 |
| Fifth-PMH | 84 | 24 | 28 | 96 | 486 | 112 | | 830 |
| Fifth-FHT | 84 | 24 | 28 | 388 | 188 | 148 | | 860 |

A: lectures; B: seminars; C: supervised self-learning; D: laboratory and desk-based work, E: non-clinical animal work; F: clinical animal work; G: others (specify); H: total

* As a part of the seminar program given in the X. semester, communication skills are discussed within the framework of presentation techniques.

** In 1st-9th semesters students have to choose one of the courses as a supervised work (14 hours per week in the first and second semesters, 28 hours in the other semesters, a total of 224 hours is divided into C, D, E).

Note: All of the courses above are obligatory courses

Table 3.1.2. Curriculum hours in EU-listed subjects taken by each student

| SUBJECT | A | B | C | D | E | F | G | H |
|--|-----|----|---|-----|-----|---|---|-----|
| 1 Basic Subjects | | | | | | | | |
| Medical Physics | 28 | | | | | | | 28 |
| Chemistry | 28 | | | | | | | 28 |
| Animal Biology | 28 | | | | | | | 28 |
| Feed Plant Biology and Toxic Plants | 10 | | | | | | | 10 |
| Biomedical Statistics | 28 | | | | | | | 28 |
| 2 Basic Sciences | | | | | | | | |
| Anatomy, Histology and Embryology | 182 | | | 56 | 112 | | | 350 |
| Physiology | 84 | | | 56 | | | | 140 |
| Biochemistry | 98 | | | 56 | | | | 154 |
| General and Molecular Genetics | 28 | | | | | | | 28 |
| Pharmacology, Pharmacy and Pharmacotherapy | 70 | | | 28 | | | | 98 |
| Pathology | 112 | | | 56 | | | | 168 |
| Toxicology | 24 | | | | | | | 24 |
| Parasitology | 84 | | | 84 | | | | 168 |
| Microbiology | 140 | | | 126 | | | | 266 |
| Immunology | 28 | | | 28 | | | | 56 |
| Epidemiology | 14 | | | | | | | 14 |
| Professional Communication* | | 16 | | | | | | 16 |
| Professional Ethics | 14 | | | | | | | 14 |
| Animal Ethology | 14 | | | | | | | 14 |
| Animal Welfare | 14 | | | | | | | 14 |
| Animal Nutrition | 50 | | | | 28 | | | 78 |

| 3 Clinical Sciences | | | | |
|---|-----|----|-----|-----|
| Obstetrics, Reproduction and Reproductive Disorders | 112 | | 56 | 168 |
| Diagnostic Pathology | 14 | 28 | | 42 |
| Medicine and Surgery Including Anaesthesiology | 280 | | 112 | 392 |
| Clinical Practical Training in Common Animal Species | | | 380 | 380 |
| Preventive Medicine | 14 | | | 14 |
| Diagnostic Imaging | 14 | | | 14 |
| State Veterinary Services and Public Health | 28 | | | 28 |
| Veterinary Legislation, Forensic Medicine and Certification | 10 | | | 10 |
| Therapy in All Common Domestic Animal Species | 28 | | 60 | 88 |
| Propaedeutics of Common Animal Species | 28 | | 28 | 56 |
| 4 Animal Production | | | | |
| Animal Production and Breeding | 28 | | | 28 |
| Economics | 28 | | | 28 |
| Animal Husbandry | 56 | | 50 | 106 |
| Herd Health Management | 14 | | 6 | 20 |
| 5 Food Safety and Quality | | | | |
| Inspection and Control of Food and Feed | 28 | | | 28 |
| Food Hygiene and Food Microbiology | 56 | | 56 | 112 |
| Practical Work in Places for Slaughtering and Processing Plants | | | 28 | 28 |
| 6 Professional Knowledge | | | | |
| Professional Ethics and Behaviour | 14 | | | 14 |
| Veterinary Legislation | 14 | | | 14 |
| Veterinary Certification and Report Writing | 4 | | | 4 |
| Communication Skills* | | 16 | | 16 |
| Practice Management and Business | 14 | | | 14 |
| Information Literacy and Data Management | 14 | | | 14 |
| Supervised Work** | | 75 | 75 | 74 |
| | | | | 224 |

A: lectures; B: seminars; C: supervised self-learning; D: laboratory and desk-based work, E: non-clinical animal work; F: clinical animal work; G: others (specify); H: total

* As a part of the seminar program given in the X. semester, communication skills are discussed within the framework of presentation techniques.

** In 1st-9th semesters students have to choose one of the courses as a supervised work (14 hours per week in the first and second semesters, 28 hours in the other semesters, a total of 224 hours is divided into C, D, E).

Note: All of the courses above are obligatory courses

Table 3.1.3 (1) Elective courses for the first 8 semesters (1-8).

| 1st Year | |
|--|--|
| 1st Semester | 2nd Semester |
| Occupational Topics in Foreign Language I | Occupational Topics in Foreign Language II |
| Stem Cell | Exercise Physiology |
| Physiology of Laboratory Animals | Pathologic Demonstration |
| Veterinary Medicine and Community Relations | Anatomy of Avian Animals |
| Preparation Techniques for Anatomy Specimens | |
| 2nd Year | |
| 3rd Semester | 4th Semester |
| Occupational Topics in Foreign Language III | Occupational Topics in Foreign Language IV |
| Laboratory Animal Husbandry | Animal Housing and Hygiene |
| Exotic Pet Animal Husbandry | Molecular Biology II |
| Small Animal Breeding and Husbandry | Ichthyology |
| Histological Techniques | Advanced Histology Techniques |
| | Statistical Data Analysis with Package Programs |
| 3rd Year | |
| 5th Semester | 6th Semester |
| Occupational Topics in Foreign Language V | Occupational Topics in Foreign Language VI |
| Basic Principles of Scientific Research and Publication | Feasibility of Animal Husbandry |
| Professional German | Organic Animal Husbandry |
| Human-Animal Interaction and Animal-Assisted Therapies | Aquaculture Management and Biotechnology |
| Anatomy of Laboratory Animals and Exotic Animals | Water Buffalo Breeding and Management |
| Social Responsibility and Entrepreneurship for Veterinary Medicine | Antimicrobial Therapy |
| | Summer Clinical Practice I/II/III |
| 4th Year | |
| 7th Semester | 8th Semester |
| Reproductive Biotechnology | Clinical Pharmacology |
| Diagnostic Imaging Techniques | Pathology of Exotic Animal Diseases |
| Food Microbiology | Obstetrics and Gynecology in Small Animals |
| Occupational Topics in Foreign Language VII | Internal Diseases of Exotic Animals |
| Viral Vaccines | Occupational Topics in Foreign Language VIII |
| Clinical Pathology | Andrology and Artificial Insemination in Small Animals |
| Pathology of Zoonotic Diseases | Farm Management |
| | Control of Lameness and Hoof Health in Herd |

The students choose 3 ECTS of the elective courses indicated in Table 3.1.3 (1) for each semester.

Table 3.1.3 (2). Elective courses for the 9th semester.

| Elective Courses | Modules | | | |
|--|----------------|------------|------------|------------|
| | FAMH | SAM | PMH | FHT |
| Animal Nutrition and Nutritional Diseases II | X | | | |
| Animal Nutrition and Nutritional Diseases III | | X | | |
| Diagnosis and Control of Infections in Poultry | | | X | |
| Pathology of Poultry | | | X | |
| Animal Nutrition and Nutritional Diseases IV | | | X | |
| Clinical Laboratory Diagnosis I | X | | | |
| Clinical Laboratory Diagnosis II | | X | | |
| Andrology and Artificial Insemination II | X | | | |
| Andrology and Artificial Insemination in poultry | | | X | |
| Obstetrics and Gynecology in Ruminants | X | | | |
| Sustainable Poultry Production | | | X | |
| Obstetrics and Gynecology in Horses | X | | | |
| Surgery of Ruminants | X | | | |
| Surgery of Sports Horses | X | | | |
| Internal Diseases of Horses | X | | | |
| Internal Diseases of Ruminants | X | | | |
| Udder Health and Mastitis Control Program | X | | | |
| Anesthesiology II | X | X | | |
| Small Animal Surgery II | | X | | |
| Orthopedics and Traumatology | | X | | |
| Eye Diseases | | X | | |
| Mouth and Teeth Surgery | | X | | |
| Internal Diseases of Small Animals II | | X | | |
| Behavioural Disorders of Small Animals | | X | | |
| Emergency Medicine | | X | | |
| Farm Animal Breeding and Husbandry | X | | | |
| Herd Health and Management | X | | | |
| Poultry Breeding and Husbandry | | | X | |
| Poultry Products Hygiene and Technology | | | X | X |
| Meat Hygiene and Technology | | | | X |
| Milk Hygiene and Technology II | | | | X |
| Food Safety, Control and HACCP | | | | X |
| Poultry Housing and Equipment | | | X | |
| Aquaproducts Hygiene | | | | X |
| Clinical Management | X | X | | |

Depending on the module selected at the beginning of 9th semester, students choose 17 ECTS of the elective courses indicated in Table 3.1.3 (2).

Table 3.1.4. Curriculum days of External Practical Training (EPT) for each student

| Subjects | Minimum duration (weeks) | Year of programme |
|--------------------------------------|--------------------------|-------------------|
| Production animals (pre-clinical) | No preclinical EPT | |
| Companion animals (pre-clinical) | No preclinical EPT | |
| Production animals (clinical) | 4 | 4 and 5 |
| Companion animals (clinical) | 4 | 4 and 5 |
| FSQ & VPH | 4 | 5 |
| Necropsies | When available | 4 |
| Others (diseases of aquatic animals) | 2 | 3 |

Table 3.1.5. Clinical rotations under academic staff supervision (excluding EPT)

| Types | List of clinical rotations (Disciplines) | Duration (weeks) | Year of programme |
|---------------------------|---|----------------------------|-------------------|
| Intra-mural (VTH) | Surgery | 14 weeks | 2 |
| | Internal Medicine | 42 weeks clinical practice | 4 and 5 |
| | Obstetrics and Gynecology | 6 weeks summer practice | 3 |
| | Reproduction and Artificial Insemination Pathology | 14 weeks night-shift | 4 and 5 |
| | Zootechnics Animal Nutrition and Nutritional Diseases | 16 weeks VTF weekend-shift | 5 |
| Ambulatory clinics | Surgery | 14 weeks | 5 |
| | Internal Medicine Obstetrics and Gynecology | on-call* | |
| FSQ & VPH | VTF Meat and Dairy Plants | 14+16 weeks | 4 and 5 |

*On demand of patient owners, unscheduled on-call ambulatory services for large animal farms are provided by faculty.

Table 3.1.6. Optional courses proposed to students (not compulsory)

| Subjects | A | B | C | D | E | F | G | H |
|-------------------------|---|---|---|---|---|---|---|---|
| Basic science | | | | | | | | |
| Clinical Sciences | The students take 3 ECTS elective courses (such as Tennis, Marketing, Medical Plants, European Union Legislation, Human Resource Management, First Aid, etc.) during the education programme according to their interests. It is not possible to classify elective courses according to their subjects. There are a total of 38 elective courses between 1 st and 5 th semesters. | | | | | | | |
| Animal Production | | | | | | | | |
| Food Safety and Quality | | | | | | | | |
| Professional Knowledge | | | | | | | | |

A: lectures; B: seminars; C: supervised self learning; D: laboratory and desk based work, E: non-clinical animal work; F: clinical animal work; G: others (specify); H: total

3.2. Comments

A Summer Term Clinical Practice of 6 weeks (a total of 240 practice hours) has been transferred from end of the 8th semester to end of the 6th semester which was a positive contribution to the students' clinical experience before the extramural internship.

New elective courses (each 3 ECTS) are offered at all semesters since the first evaluation visit in the light of the suggested changes. For this purpose, 35 elective courses have been added to the curriculum. Thus all students can choose from elective courses for their interest.

Some courses have been moved to different semesters in order to provide course orientation. In this context, Aquatic Animal Diseases course has been moved from 9th semester to 5th semester and Livestock Economics course has been transferred from the 3rd semester to the 8th. The curriculum has been revised in relation to the Bologna Program.

The FVMB has a close relationship with cattle, sheep, goats and fish breeders associations. This relationship

is formalized with protocols. Within the scope of the protocol, intern students (10th semester) gain extramural experience in compliance with their modules FAMH (9 different contracted private farms), SAM (Osmangazi Municipality), PMH (Hastavuk and Banvit), FHT (Migros and Food Research Institute).

A new revised logbook has been prepared for the monitoring of minimum number of practices that each student should perform during the semester. Teaching staff sign the logbook after each practice and the logbook is checked at the end of semester.

3.3. Suggestions of improvement

The high number of students in the practical courses has a negative effect on course achievements. In order to mitigate the negative effect of high number of students in evaluation of learning outcomes and student success, BUU is continually making attempts to reduce the number of students allocated to FVMB by HEC.

In order to improve students' field applications, we aim to increase extramural practice and formal protocols between FVMB and private stake holders.



Chapter 4

Facilities and Equipment



4. FACILITIES AND EQUIPMENT

4.1. Factual information

4.1.1. Description of the location and organisation of the facilities used for the veterinary curriculum

Bursa is 4th largest city of Turkey with about 3 million inhabitants, located in the South Marmara Region close to Istanbul. Transportation to/from national and international airports is quite easy and there are frequent ferry and bus services between Istanbul and Bursa. The FVMB is located in the Gorukle Campus of BUU, at the west side of Bursa, close to the city center. The area is

well-served by public transportation (metro, bus (www.burulas.com.tr) and minibuses) and last stations of the public transportations are in the campus area. Gorukle district center, which is about 3 km from the campus, is a common location for student accommodation. The Gorukle campus is closely located between two main highways (D-200 and D-5 Highways) and easily accessible. The FVMB occupies a total area of 37,920 m² (25,920 m² closed and 12,000 m² open area) in five main buildings and VTF. The central library of the university is close to the main buildings (3 minutes by foot). The VTF is conveniently close to (2 km) main buildings of FVMB (For detailed map see Appendix 6).

Table 4.1.1. Description of the FVMB buildings and facilities

| Building | Surface/Floors | Facilities |
|------------------|-------------------------|--|
| Main Building | 5,400 m ² /3 | <ul style="list-style-type: none"> Dean's Office, Student Affairs Office, offices for student clubs, auditorium (for 230 people), computer room, reading room, student meeting room, 10 lecture halls [5 lecture halls for 132 students (139 m²); 2 lecture halls for 64 students (68m²); 1 hall for 40 students (45m²), 2 halls for 88 students (91m²)], laboratories for student practices (5 laboratories for 80 students, 106 m²), seminar room (20 students, 45m²) |
| Building A | 5,000 m ² /4 | <ul style="list-style-type: none"> Departments of Anatomy, Physiology, Histology and Embryology, Biochemistry, Diseases of Aquatic Animals, Reproduction and Artificial Insemination, Food Hygiene and Technology, Zootechnics, Animal Nutrition and Nutritional Diseases, Genetics, Pharmacology and Toxicology, Veterinary History and Deontology, Virology, meeting room (39 m²), lecture rooms /seminar rooms (2 rooms for 40 students, 39 m²), secretary room (19 m²), security officer's room Laboratories for each department (11 labs, each one is 120 m² and one lab is 35 m²) and 6 specialized research labs (Molecular Virology Lab-39 m², Cell Biology Lab-19 m², Food Microbiology Research Lab-56 m², Molecular Pharmacology Lab-18 m², Diseases of Aquatic Animals Laboratory- 38 m² and Artificial Insemination Laboratory-19 m²) |
| Anatomy Building | 450 m ² /1 | <ul style="list-style-type: none"> Anatomy dissection unit, skeleton depot room, skeleton and organ preparation unit, cooling room, cadaver pools, student practice hall (300 m²) and technician's offices (2) |
| VTH building | 7,500 m ² /3 | <ul style="list-style-type: none"> 3 lecture halls (K001, 91 m² for 88 students; K002, 55 m² for 66 students; K003, 40 m² for 32 students) Clinics (Farm Animal, Equine, Small Animal Clinics); Vaccination Room, Behavioral Disorders Clinic, Exotic Animal Clinic, Main Examination Halls for clinical departments, Cardiology Clinic, Ophthalmology Clinic, Orthopedics Clinic, Dentistry Clinic, Gynecology Observation Clinic, Operation Rooms for Surgery (2) and Obstetrics and Gynecology (1), room for electromyelography and arthroscopy Large animal: operation room for surgery department, sheep and goats operation room for obstetrics and gynecology department, examination rooms for each clinical department, hoof trimming room, sheep-goat and calf examination rooms of internal medicine department, large animal practice room for general purposes Equine: examination rooms for each clinical department, endoscopy room for internal medicine department, operation and post-op reanimation room for surgery department, monitorization room Molecular Endocrinology Laboratory, Obstetrics and Gynecology Practice Laboratory Radiology and Ultrasonography Rooms Sterilization room |

(continued)

Table 4.1.1. Description of the FVMB buildings and facilities (continuation)

| | | |
|---|---|---|
| VTH building | 7,500 m ² /3 | <ul style="list-style-type: none"> Secretary and cashier's office of the VTH, pharmacy Necropsy Hall (55 m²), cooling room Emergency Service (2 rooms for examination, veterinary room and student room). Bedrooms for veterinarians (2 rooms) and students (2 rooms). Central Laboratory, Internal Medicine Practice Laboratory, Sample Acceptance Unit, Coagulation Laboratory Hospitalization units for small animals (dogs and cats), large animals (cattle, sheep and goats) and equine. Infectious diseases isolation units for dogs, cats, horses and cattle. Student resting and study rooms Departments of Microbiology, Pathology, Parasitology, Surgery, Internal Medicine, Obstetrics and Gynecology Department labs of Pathology, Microbiology and Parasitology |
| Teaching and Research Center for Animal Health and Production (VTF) | 7,400 m ² closed 12,000 m ² open field 500 decares (500,000 m ²) cultivation land | <ul style="list-style-type: none"> Dairy goat and sheep production unit, Dairy cattle production unit, Beef production unit, Bee production unit, Poultry production units (two layer units, broiler unit, quail unit), horse unit, swine unit |
| Food Production Unit | 729 m ² / 2 | <ul style="list-style-type: none"> Meat processing unit consists of meat grinding room (30 m²), meat product processing room (30 m²), spice storage room (20 m²), changing room for staff (20 m²), meat products cold storage room (18 m²), carcass cold storage room (18 m²), soujouk fermentation room (18 m²), steam oven room (22 m²), boiler room (48 m²), kitchen (10 m²), changing room for students (10 m²), lounge (10 m²), and hall (20 m²). Milk and dairy products unit consists of milk pasteurization, milk packaging and butter milk drink processing area (100 m²), kashar cheese production room (16 m²), white cheese production room (20 m²), cooling rooms (x3, 18 m² each), yoghurt incubation room (18 m²), cheese ripening room (18 m²), kashar drying room (10 m²), 2 storage rooms (18 m² and 8 m²), hall (42 m²), rest room (8 m²), 2 storage rooms (30 m² and 65 m²), lounge (10 m²), kitchen (10 m²), administration office (10 m²), and hall (30 m²) |
| Quarantine Building | 225 m ² | <ul style="list-style-type: none"> Two boxes for horses, twelve tie stalls for dairy animals |
| Marketing Units | 55 m ² | <ul style="list-style-type: none"> Two marketing units for sale of food products of animal origin |
| Cafeteria | 120 m ² | |

4.1.2. Description of the premises for:**-) lecturing****Table 4.1.2.1. Premises for lecturing**

| Halls | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|--------------|
| Name | D001 | D002 | D003 | D004 | D101 | D102 | D103 | D104 | D105 | D205 | K001 | K002 | K003 | Computer Room | Reading Room |
| Capacity (students) | 132 | 88 | 88 | 132 | 64 | 40 | 132 | 132 | 64 | 132 | 88 | 66 | 32 | 20 | 28 |
| Area (m ²) | 139 | 91 | 91 | 139 | 68 | 45 | 139 | 139 | 68 | 139 | 91 | 55 | 40 | 106 | 142 |
| Equipment | * | * | * | * | * | * | * | * | * | * | * | * | * | ** | ** |

*Air conditioning, wheelchair accessible, media, Wi-Fi coverage (Eduroaming), Board

**Air conditioning, wheelchair accessible, Wi-Fi coverage (Eduroaming)

Total number of seats in lecture halls: 1,238 seats/ 1,492 m²

-) group work

| Table 4.1.2.2. Premises for group work | | | | |
|--|------------|------|------|--------------|
| Halls | 1 | 2 | 3 | 4 |
| Name | Auditorium | A001 | A002 | Seminar Room |
| Capacity (students) | 230 | 28 | 46 | 20 |
| Area (m ²) | 138 | 39 | 39 | 45 |
| Equipment | * | * | * | * |

* Air conditioning WA: Wheelchair accessible, Media, Wi-Fi coverage (Eduroaming)

Total number of seats in rooms for group work: 324

-) practical work

| Halls | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------------------------|---------|---------|---------|---------|---------|-----------------------|----------------------------|
| Name | Lab 001 | Lab 002 | Lab 003 | Lab 004 | Lab 005 | Anatomy Practice Hall | Large Animal practice room |
| Capacity (students) | 80 | 80 | 80 | 80 | 80 | 90 | 20 |
| Area (m ²) | 106 | 106 | 106 | 106 | 106 | 300 | 45 |
| Equipment | * | * | * | * | * | ** | *** |

* Air conditioning, wheelchair accessible, Media, Wi-Fi coverage

** Air conditioning, ventilation system, Wi-Fi coverage

***Examination tables for hoof trimming

Total number of seats in rooms for practical work: 510 seats/ 875 m²

4.1.3. Description of the premises for housing:

-) healthy animals

| Table 4.1.3.1. Premises for animal housing | | | |
|--|-----|-----|--------------------------|
| Species | VTH | VTF | Total Number of Premises |
| Rabbits | X | | 1 |
| Dogs | X | | 1 |
| Cats | X | | 1 |
| Small Ruminants | X | X | 2 |
| Cattle | X | X | 2 |
| Equines | X | X | 2 |
| Swine | | X | 1 |
| Exotic pets and Wildlife | X | | 1 |
| Poultry | | X | 1 |
| Facilities | | | |
| Quarantine | X | X | 2 |
| Laboratory | X | X | 2 |
| Surgery room | X | | 1 |
| Necropsy room | X | | 1 |
| Storage room | X | X | 2 |
| Cleaning room | X | X | 2 |
| Locker room | X | X | 2 |

Table 4.1.3.2. Potential use of various premises: maximum capacity/number of allocated animals used for teaching, and subjects taught in the premises

| Species | VTH | VTF |
|-----------------|---|-------------|
| Horses | 4/2 | 8/5-8 |
| | Reproduction and obstetrics, diagnostic imaging, clinical rotation, general examination, lameness examination | |
| Cattle | 6/2-6 | 220/150-180 |
| | Reproduction and obstetrics, diagnostic imaging, clinical rotation, animal husbandry, animal nutritional practices, general examination, lameness examination | |
| Small ruminants | 4/2 | 500/100 |
| | Reproduction and obstetrics, diagnostic imaging, clinical rotation, animal husbandry, animal nutritional practices, general examination | |
| Dogs | 6/2 | - |
| | Diagnostic imaging, general examination, non-invasive examinations | |
| Cats | 4/2 | - |
| | Diagnostic imaging, general examination, non-invasive examinations | |
| Poultry | 5,500/4,500 laying hens 1,200/600 free-range laying hens 15,000/5,000 broilers 2,000 /500 quails | |
| | Animal nutrition and husbandry | |
| Swine | - | 12/4 |
| | Reproduction and Obstetrics, general examination | |
| Exotic animals | 2/0-2 | - |
| | General examinations | |

-) Hospitalized animals**Table 4.1.3.3. Facilities for hospitalized animals**

| | Species | Number of places |
|-------------------------|-----------------|------------------|
| Regular hospitalization | Cattle | 7 |
| | Equine | 6 |
| | Small ruminants | 4 |
| | Dogs | 40 |
| | Cats | 26 |
| | Exotic/Others | 2 |

-) Isolated animals**Table 4.1.3.4. Facilities for isolation**

| | Species | Number of places |
|----------------------|--------------|------------------|
| Isolation facilities | Horses | 1 |
| | Farm animals | 1 |
| | Dogs | 5 |
| | Cats | 5 |

4.1.4. Description of the premises for:**-) clinical activities**

The hospital building is designed as three parallel buildings connected to each other with the main hall. The ground floor of the three-story facade of the building is reserved for laboratory, emergency and service areas and the ground floor of the single-floor hospital part is used for mainly clinical activities

Premises used for clinical activities are as follows:

Central service area: Registration desk and waiting hall, Secretary room, Cashier's Office, Pharmacy Service/Store, Student practice laboratory, room of head of VTH

Emergency unit: Examination room, examination room for infectious patients, hospitalization room for emergency patients

Small animal clinic: Vaccination room, Exotic animal room, Behavioral consultation room, Ophthalmology and dentistry room, Orthopedics room, Examination

rooms (6 total, 2 for internal medicine, surgery and gynecology and obstetrics departments each), Sterilization room

Farm animal clinic: Examination Rooms (6), Operation room, room general student practice, hoof trimming room

Equine clinic: Examination rooms (3) Pre-anesthetic medication room, Operation room, Room for colic patients

Observation room, Recovery room

Diagnostic imaging: Radiology rooms for large and small animals (2), Ultrasonography room (2), Electromyography and arthroscopy room, Endoscopic examination room and Cardiology examination room

Small animal operation unit: Pre-anesthetic medication room, Surgery rooms (3), Post-operative reanimation room

-) Premises for animal housing

VTH has hospitalization units for the following species: Dogs, cats, small ruminants, cattle, equines, swine, exotic pets and wildlife, poultry, rabbits. Along with these VTH has isolation units for dogs, cats, cattle and equine patients. The capacity of each unit is given in Table 4.1.3.2

-) diagnostic services including necropsy

- 1. The Pathology Service:** A large necropsy room for all services that includes material depot and student practice room, a large cooling room for all species.
- 2. Central Laboratory:** Serves to all the departments for daily diagnostic procedures.
- 3. Coagulation Laboratory:** Serves to all the departments for daily diagnostic procedures.
- 4. Microbiology Laboratory:** Serves to all the departments
- 5. Parasitology Laboratory:** Serves to all the departments

Table 4.1.4. Diagnostic service equipment

| Service | Main Equipment |
|---|--|
| Pathology Service | Binocular microscope, microtome, tissue processors, deep freezers, cell culture microscopes (inverted microscope), cryomicrotome, electrophoresis device, ELISA reader, ELISA washer, various types of incubators, homogenisator, magnetic stirrer, carbon dioxide tube, centrifuge, microtome, PCR thermocycler, pH-meter, sample staining device, roentgen film wash device and equipments, distilled water system, trimming station, trinocular microscope, autoclave, ultrasonic water bath, vacuum devices, high pressure portative washing device, biological safety cabinet, tissue float, centrifuge with cooling, oscillating autopsy saw, gel electrophoresis system-horizontal and vertical, hypoxia incubator. |
| Central Laboratory | Hemocell counter, 3 serum biochemistry analysers, video microscope, blood gas analyser, CRP analyser, cTnI analyser, ELISA reader, spectrophotometer, microscope refractometers, -80 °C ultra deep freezer. |
| Coagulation Laboratory | Thromboelastography, PTT and aPTT analyser, -80 °C ultra deep freezer. |
| Microbiology Laboratory | Autoclave, centrifuge, incubator, water bath, pH-meter, magnetic stirrer, vacuum/CO ₂ incubator, light microscope, trinocular microscope, water distillation unit, electronic balance, laminar flow cabinet, deep freezer, shaker, ELISA reader, PCR, bacterial identification unit. |
| Parasitology Laboratory | Magnetic mixer, centrifuge, cooling centrifuge, pH-meter, incubator, electrophoresis, inverted and trinocular microscope. |
| Necropsy Hall | Hydraulic necropsy table for large animals, Mobile necropsy table for small animals, Fixed necropsy table (2) for small animals, Chain hoist, oscillating saw (2), clamp table, trimming station |
| Virology Laboratory | Ultra low deep freezer (-80 °C), ELISA reader, filtration system, laminar flow (x2), De-ionised Water Machine, Autoclave, UV sterilization cabinet, PCR systems, gel imaging system, refrigerated centrifuge |
| Pharmacology and Toxicology Department | High Performance Liquid Chromatography (HPLC), spectrophotometer, incubator, autoclave, ultrapure water system, filtration system, vacuum manifold, sterilizator, water bath |

(continued)

Table 4.1.4. Diagnostic service equipment (continuation)

| | |
|--|--|
| Diseases of Aquatic Animals | Autoclave, centrifuge, incubator, water bath, pH-meter, magnetic stirrer, light microscope, water distillation unit, electronic balance, laminar flow cabinet, deep freezer, shaker, nanodrop spectrophotometer and ELISA reader, PCR, bacterial identification unit, vortex, sensitive balance, thermal cycler, automatic pipettes, microwave, electrophoresis tank, inverted microscope, thermal block heating, real-time PCR, UV transilluminator |
| Histology Laboratory | Laminar flow, microtome, tissue processor, immunoblot machine, cryotome, inverted microscope, fluorescence microscope, incubator |
| Reproduction and Artificial Insemination Laboratory | Laparoscopy machine, distilled water machine, sterilizator, ultrasound, water bath, ultrasonic cleaner, spermatozoon freezing machine, phase contrast microscope, electro ejaculator, straw filling and closing machine, straw labelling machine |
| Genetics | CO incubator, laminar air flow hood, inverted microscope, microplate reader, lightcycler, ² spectrophotometer, horizontal gel system, spectrophotometer, milk analyser |

-) FSQ & VPH

The Food Processing Unit (FPU) of the FVMB is equipped with a complete line for pasteurized milk production (milk cooling tank, steam heated pasteurizer tank, plate cooler, packaging machine), yoghurt and ayran-butter milk drink (milk brewing tank, incubation chamber, filling and sealing machine and cooling room), kashar cheese production (cheese vat, curd cutting and cooking machine, moulds, ripening chamber, vacuum packaging equipment), white cheese production (2 cheese vats, steel curd knives, brine vat and cooling room) and also storage rooms in Milk and Dairy Products Unit.

Complete line for soujouk/salami production (2 meat grinders, hydraulic soujouk/ salami stuffer, ice crusher, meat mixer, bowl cutter, steam oven and vacuum packaging equipment). The FPU is also equipped with a burger moulding, tray wrapping machine with stretch film, freezers, spice storage room, cold storage room and steel working tables.

4.1.5. Description of the premises for:**-) study and self-learning**

BUU has a central library, in addition FVMB have two study rooms (one in main building, one in VTH).

-) catering

FVMB has a student cafeteria with 100 seats between

VTH and main building (serves cold and hot beverages, fast food and ready-to-eat consumables). Another large cafeteria is located at a close proximity to FVMB-A block. Central dining hall for university students is at a central location in the campus, and serves lunch and dinner. Free lunch and dinner are provided for students coming from families with a low income. At the same time, the rector's subsidies on the meal prices make the food very affordable for the students.

-) locker rooms

Locker rooms with shower (2 locker rooms in VTH and 2 locker rooms in VTF).

-) accommodation for on call students

Emergency clinic has one dining room (microwave, 3 sofas and dining table) and a separate room for student accommodation.

-) leisure

The sport facilities of BUU include indoor and outdoor tennis courts, football fields, gym, Pilates halls, sport hall and tracking roads. Student can also join common clubs (riding club, diving club, climbing club, music club, etc.), which are coordinated by Students Office of the university (<http://www.uludag.edu.tr/saglikkultur>)

4.1.6. Description of the vehicles used for:**Table 4.1.6. FVM vehicles and use**

| Activity | Number of Vehicles | Aim of use |
|----------------------------|--------------------|--|
| Student Transportation | 1 bus* | For extramural activities |
| | 1 shuttle bus | In-campus transfer |
| Food Transportation | 1 frigorific truck | Transfer of food products from the facility to the Sale Unit |
| Ambulatory Clinics | 2 vans (minibuses) | 1 van with 15 seats, 1 with 12 seats |
| Live Animal Transportation | 1 truck | Transportation of live animals |
| Farm Activities | 3 tractors | All the activities in VTF |

* Having service from private holders upon necessity.

4.1.7. Description of the equipment used for:

-) teaching purposes

All classrooms and seminar rooms have computer system and appropriate visual equipment with Internet connection. There are also classrooms equipped with a digital whiteboard, and the necessary software is available in classrooms.

-) clinical services

4.1.8. Description of the strategy and programme for maintaining and upgrading the current facilities and equipment and/or acquiring new ones.

Acquisition of new equipment for research is mainly supported by project budgets. The requirements are defined and supplied by project leaders. Equipment used in education and for clinical services are purchased from the faculty budget. Requests are created by departments and conveyed to dean's office. If there is sufficient fund of the faculty, purchasing procedure is initiated. If funds in the faculty are not sufficient, then official request for purchasing is made to rectorate.

Additional funds from central budget of the university as well as revolving budget of the faculty are also available for facilities. Construction and upgrade of the facilities are supported by central budget upon request from Dean's office and/or related departments. Maintenance of the equipment is requested from the departments and official procedures are followed by Dean's Office. Maintenance and upgrading of the facilities are conducted by Construction Department of BUU upon request from faculty.

The way to ensure the supply of new equipment needed in VTH and the development and maintenance of existing equipment is carried out in accordance with

Table 4.1.7. Equipment for clinical services

| Area | Service | Basic Equipment | Specialized Equipment |
|--------------------|--|-----------------|--|
| Small Animals Area | Internal Medicine | Available | Electrocardiography, echocardiography, thromboelastography, PT- aPTT analyser, CRP analyser, intensive care unit |
| | Surgery Service | Available | Arthroscope, rhinoscope, electromyography, computed X-ray equipment, ultrasound, autoscope, ophthalmoscope, anesthetic work stations with ventilator and ventilatory and anesthetic gases monitoring, intensive care unit, cavitron, defibrillator |
| | Gynecology and Obstetrics | Available | Ultrasound, intensive care unit, anesthetic work stations with ventilator and ventilatory and anesthetic gases monitoring |
| | Reproduction and Artificial Insemination | Available | Ultrasound, laparoscopy set, electro-ejaculator set, sperm freezing machine |
| | Hospitalization | Available | |
| Large Animals Area | Internal Medicine | Available | Endoscopy, electrocardiography |
| | Surgery Service | Available | Mobile X-ray equipment, arthroscopy, laparoscopy |
| | Gynecology and Obstetrics | Available | Mobile ultrasounds (x3) |
| | Reproduction and Artificial Insemination | Available | Ultrasound, laparoscopy set, electro-ejaculator set, sperm freezing machine |
| | Hospitalization | Available | |
| Pharmacy | VTH | Available | Drug dosing unit and chemotherapy administration unit |
| Sterilization unit | VTH | Available | Ultrasonic (intersonic) washing machine, block autoclave, packing machine, steam autoclave |
| Pharmacy | VTH | Available | Drug Dosing Unit and Chemotherapy Administration Unit |
| Sterilization unit | VTH | Available | Ultrasonic (intersonic) washing machine, block autoclave, Packing machine, steam autoclave |
| Emergency Unit | VTH | Available | Automated Dispenser Cabinet for Enterprise Medication Management (AGENA) |

the procedures as required by QA, and it is aimed to benefit from PDCA cycle automation as much as possible especially in the upgrades.

There is continuous improvement in VTH. In this context, Automated Dispenser Cabinet for Enterprise Medication Management (AGENA) is purchased and it is aimed to ensure drug losses and stock controls. At the same time, the Drug Dosing Unit and Chemotherapy Administration Unit was established and started to serve the VTH in order to prevent current drug consumption and prevent contamination during the manipulation of chemical toxic drugs.

4.1.9. Description of how and by whom changes in facilities, equipment and biosecurity procedures are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The processes for improvements in facilities and equipment are described above. Change requirements are regularly offered by the departments and finalized by the Dean's Office according to the necessities and priorities.

Biosecurity Committee of the FVMB is responsible for the elaboration of the specific protocols, including a document of teaching-related risk prevention (https://uludag.edu.tr/dosyalar/veteriner/dokuman/Ogrencilerin_Yapmasi_Gereken_Uygulamalar/ogrenci_labor-

[atuvar_guvenlik_kilavuzu.pdf](#)). Besides, students are trained on biosecurity procedures prior to any practical activity in laboratories if there is a risk of exposure.

Biosecurity procedures are hanged in clinics, hospitalization units and labs. Biological waste and hazardous chemicals are separately collected and then removed by a private company. Related documents and committee members can be seen at faculty web-site (<http://www.uludag.edu.tr/veteriner/default/konu/3273>).

4.2. Comments

Major changes in facilities and equipment have been made since the last EAEVE visitation, including establishments of laboratories for Genetics, Molecular Virology, Histology Tissue Culture, Aquatic Animal Diseases, Molecular Pharmacology, Coagulation and also new building of Meat and Dairy Unit, which have significantly improved the research potential of the institution. Additionally, renovation of the Equine, Farm Animal Clinics and sterilization unit has been completed.

4.3. Suggestions of improvement

Despite the new additions and changes made, there are still some open areas for further improvement. Condition in the Anatomy Dissection Hall is to be upgraded. The budget for construction of new Anatomy Dissection Hall has been approved by the Rectorate and the new facility will be in service at the end of 2020.

Chapter 5

Animal Resources and Teaching Material of Animal Origin



5. ANIMAL RESOURCES AND TEACHING MATERIAL OF ANIMAL ORIGIN

5.1. Factual information

5.1.1. Description of the global strategy of the Establishment about the use of animals and material of animal origin for the acquisition by each student of Day One Competences

Competency criteria for veterinary profession are determined by the HEC within the framework of the European Union criteria (European Directive 2005/36/EC as amended by directive 2013/55/EU and its Annex V.4.1.) and national regulations (VEDEK) established for veterinary profession. With regard to the training with animals and material of animal origin, the general strategy of the FVMB is to increase the use of these materials in order to provide a sufficient hands-on preclinical and clinical training. The basic structure of the FVMB is created on the following subjects: basic science, pre-clinical and clinical training, food safety & quality and animal production.

Our general strategy in basic science training is to teach students the normal morphology and physiology of animals by including cadavers, animal dummies and materials of animal origin from various species at highest numbers available. We make sure to provide sufficient number of cadavers and tissue slides in Anatomy and Histology Courses for each student to have hands-on training.

For preclinical training, we aim to provide sufficient numbers of necropsy material (cadavers)(for pathology courses) and material of animal origin (for other courses). Students perform necropsies on a regular basis at the VTH as well as occasional on-site necropsies for cattle and horses at extramural premises such as TJK and dairy local farms. Current protocols with various entities are renewed each year to ensure constant supply of cadavers and materials of animal origin. Poultry cadavers are received from our VTF for student practices. Practical parts of the courses (such as sampling of blood or other material) are conducted at VTF and VTH. For practical training on aquatic animals, regular on-site trainings are scheduled in different locations with intense fish population.

Clinical training in VTH is basically organized to incorporate students to the daily routine clinical services between 08:00-17:00 in three different clinics (Surgery, Internal Medicine, and Obstetrics and Gynecology) as well as emergency service during night (17:00-08:00) and weekends. Students can attend to these activities as part of the practical part of the courses and perform clinical applications under the supervision of the attending clinician. Emergency service markedly increases the animal sources of the VTH and thus each student is planned to attend a certain number of nightshifts during the last

two years of the education to supplement their exposure to more patients. Emergency service is also open to students who want to join voluntarily.

Our hospital is regarded as a reference veterinary hospital in South Marmara Region of Turkey. The quality of service and affordable fee strategy applied by VTH compared to other establishments in the region has a positive impact on both the number and variety of patients referred to VTH. Close relations of academicians with veterinary field and media increase popularity of the FVMB, resulting in larger number of animals coming to VTH and more opportunities for extramural collaborations, which have a positive effect on students to see more clinical material. Animals in VTF are available for practice in clinical courses.

Existence of specialized Exotic Animal, Behavioral Disorder, Cardiology, Electromyography, Arthroscopy, and Dental Diseases services has markedly increased the number of referral cases.

To increase the number of patients, FVMB also created agreements with various organisations such as animal shelters of local municipalities (Osmangazi and Yıldırım), The Jockey Club of Turkey (TJK), Cattle Breeders Association and Sheep-Goat Breeders Association (see Annex 5.1.1.).

In order to increase on-site training work for food safety and quality, student visits to slaughterhouses, meat production and dairy plants and state reference laboratories are organized by FVMB. Another strategy of the FVMB is to keep Food Production Unit at VTF active and available for student practices during the year.

5.1.2. Description of the specific strategy of the Establishment in order to ensure that each student receives the relevant core clinical training before graduation, e.g. numbers of patients examined/treated by each student, balance between species, balance between clinical disciplines, balance between first opinion and referral cases, balance between acute and chronic cases, balance between consultations (one-day clinic) and hospitalisations, balance between individual medicine and population medicine

Obligatory practical works (day-one skills) of the students are followed by checking a logbook including the practices that each student has to be involved. These forms are checked by lecturers before final exams of clinical courses.

The head of the VTH monthly inform Dean's Office about the number and the distribution of referred animals. The imbalances in number of animal species and insufficient numbers are recorded. According to ESEVT indicators, in case of low numbers received from VTH, the precautions are immediately taken by Dean's Office. This may include increasing the number of extramural visits to compensate the drop in the number of intramural patients.

Approximately 90% of companion animal patients brought to VTH are first opinion cases whereas 10% are referral cases. However, majority of ruminant patients, especially large ruminants, consist of referral cases.

The number of horses examined intramurally is at an unsatisfying level due to insufficient numbers of horses in the area. Horses are usually not considered as a companion animal in Turkey. As indicated previously in ESEVT report-2015 of FVMB, the number of horses in Turkey is much lower than in most European countries and almost all the horses are bred for race purposes and not for companionship. Most of the horse-holding premises have their own specialized veterinarians. Therefore, the number of horses referred to our clinics remains very low. To balance this deficit, several horses are kept in the VTH for student practices. Moreover, protocols with TJK and Mennan Pasinli Vocational School (a unit of BUU with the aim of training specialists on horse-breeding and horse-training) were established to increase the number of extramural practice for students.

5.1.3. Description of the organisation and management of the teaching farm(s) and the involvement of students in its running

The VTF is managed by a faculty member (farm manager) appointed by the Dean. Research and production activities conducted in the VTF are permitted, scheduled and monitored by Farm Production and Health Committee. Teaching activities conducted at the farm are planned by course coordinators under the supervision of vice dean. Students participate in the farm activities under supervision of academic staff. Workflow in the farm is arranged according to the clinical practice course programmes in the last 4 semesters for at least 2 days per week.

Departments which use VTF for routine student practices are given in table below:

| Lectures | Semesters | | | | | | | |
|--|-----------|-----|-----|-----|-----|-----|-----|------|
| | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| Zootechnics | x | x | | | | | x | x |
| Animal Nutrition | | x | x | x | | | | |
| Internal Medicine | | | | | x | x | x | x |
| Surgery | | | | | x | x | x | x |
| Gynecology and Obstetrics | | | | | x | x | x | x |
| Reproduction and Artificial Insemination | | | | | x | x | x | x |

The involvement of the students in the VTF is as follows:

Students have the opportunity to work part-time and voluntarily in all units of the VTF.

Beef and Dairy Cattle Unit. During their practical training, students learn about the behavior, handling techniques, feeding and welfare, calving, perinatal care, lactation, evaluation of growth and assessment of body condition, hoof trimming. They also perform reproductive control in the herd, apply estrus synchronization techniques and directed natural mating, and pregnancy diagnosis by ultrasound. Additionally, students apply reproductive techniques (artificial insemination, semen examination, in vitro fertilization).

Sheep and Goat Unit. Similar clinical and research activities as in Beef and Dairy Cattle Unit are carried out in this unit.

Poultry Unit. Students work on the management of layer hens and broilers, and on the effect of diet on egg and meat quality and production. Students are also involved in the evaluation of growth performance (live weight gain, feed intake, death percentage, feed conversion ratio, etc) and environmental factors (air and water quality, litter condition, etc.).

Food Production Unit. Students participate in all processes of meat and dairy production (white cheese, yoghurt, kashar, soudjouk, etc.).

5.1.4. Description of the organization and management of the VTH and ambulatory clinics

The following Table shows the timetable of the different VTH Services where the students practice intra-murally.

| Area | Service | Days/week* | Opening hours |
|---------------------------------|----------------------------|------------|---------------|
| Small Animal and Exotic Animals | Internal Medicine | M-F | 08:30-17:00 |
| | Surgery | | |
| | Obstetrics & Gynecology | | |
| | Reproduction and Andrology | M-F | As needed |
| | Hospitalisation and IC | M-Sun | 24 hours |
| Large Animal | Internal Medicine | M-F | 08:30-17:00 |
| | Surgery | | |
| | Obstetrics & Gynecology | | |
| | Reproduction and Andrology | M-F | As needed |
| | Hospitalisation and IC | M-Sun | 24 hours |

| | | | |
|--------------------|---|----------------|--|
| General Services | Anaesthesia | M-F | As needed |
| | Diagnostic Imaging | M-Sun | 24 hours |
| | Pathology (necropsy) | M-F Sat-Sun | 08:30-16:00 As needed |
| | Pathology Lab | M-F | 08:30-16:00 |
| | Microbiology, Virology and Parasitology | M-F | 08:30-16:00 |
| Emergency Services | Emergency Clinic | M-Sun | 08:30-17:00 (weekends) 17:00-08:30 (nightshift) |

*M-F: Monday to Friday

M-Sun: Monday to Sunday

Sat-Sun: Saturday and Sunday

Ambulatory Clinics

| | Large Animal* | Small Animal |
|--------------------------|--|--|
| Monday | Cattle/Sheep Breeders Association 09:00-16:00 | - |
| Tuesday | Faculty Farm 09:00-13:00 | Shelter (Osmangazi Municipality) 09:00- 16:00 |
| Wednesday | TJK 09:00- 16:00 | - |
| Thursday | Ambulatory Clinic for Large Animal 09:00- 16:00 | - |
| Friday | Faculty Farm 09:00- 13:00 | Shelter (Yıldırım Municipality) 09:00- 13:00 |
| Weekends and nightshifts | Faculty Farm (According to needs) | - |

*The lecturers responsible for the Mobile Clinic (on-call) visit farms (08:30-17:00 as needed)

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

Cadavers of dogs and cats for training in pathology are obtained from VTH, private veterinary clinics and clients. As for large animals (ruminant and horses), cadavers are mainly provided by owners. Tissues and biopsies (including tumor-suspected masses) or organ samples are also referred from VTH, local slaughterhouses (cattle-sheep) and private veterinarians. Ani-

mals which died at our university farms (farms of Veterinary and Agriculture Faculties) are also submitted for necropsy. Broiler and layer type chickens are primarily collected from faculty farm; commercial companies also send necropsy materials as both whole carcass and/or as organ samples. Dead bodies of exotic pet birds are provided by the clients. Cadavers of exotic pet and wild large animals from various species are mostly submitted from Bursa Zoo.

There is a cold-room (+4°C) with chain hoist at the necropsy unit. Animals for diagnosis are processed as soon as they arrive during office hours or they are kept in cold room until the following day if they arrive out of office hours. There is a vacuum machine at necropsy hall; organs displaying prominent lesions are packaged in special nylon bags for further student demonstrations.

Tissues of animal origin, and cadavers of pets and other small animals are placed in biological waste bins and disposed as regulated by the law. A private firm is responsible for providing the bins and regularly collecting them for disposal. A special area far away from the faculty farm is used as cemetery for large animals. Large cadavers are buried in pits generally 2 meters depth. After burial, a 30 cm of soil in height is mounded above the ground level.

For practical training in Anatomy Hall, alive animals are used and prepared according to standard procedures. Animals are obtained from either VTF or local animal suppliers. Once animal cadavers are fixed, they are kept in formalin solution pools until practical lectures. After training, cadavers are stored in cold room. Used cadavers are disposed off following the biosecurity guidelines of the establishment.

5.1.6. Description of the group size for the different types of clinical training (both intra-murally and extra-murally)

Intern students must choose one of the four modules: small animals, large animals, poultry, food hygiene and technology. Student numbers may change year by year depending on the students' choices. In the following Table, the distribution of students in modules in last 3 academic years is shown.

| | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|------|-----------|-----------|-----------|------|
| SAM | 40 | 47 | 36 | 41 |
| FAMH | 46 | 36 | 60 | 47 |
| PMH | 16 | 15 | 8 | 13 |
| FHT | 28 | 16 | 14 | 19 |

Small and large animals modules are divided into 4 subgroups. Also each group in each department is divided into smaller groups as shown in table below.

5.1.7. Description of the hands-on involvement of students in clinical procedures in the different species, i.e. clinical examination, diagnostic tests, blood sampling, treatment, nursing and critical care, anaesthesia, routine surgery, euthanasia, necropsy, report writing, client communication, biosecurity procedures, .. (both intra-murally and extra-murally)

The students are directly involved in all the clinical procedures conducted both intra-murally in the VTH and VTF and extra-murally. Students also attend night-shifts along with PhD students and are free to perform the clinical procedures mentioned below under their supervision. Clinical procedures that students are required to perform are same for all the students till the end of the 9th semester. In the 10th semester, mandatory clinical procedures differ upon the field selected by the student. The names of the procedures and the minimum number of applications that are required to be performed are listed in the logbook in order to acknowledge the students and to monitor the partic-

ipation of students to procedures on individual basis. For this purpose, the relevant fields in the logbooks are signed by the academic staff after the applications. The applications made during the semester and recorded in the logbook have a 30% effect on the final exam score. This encourages students to fulfill the requirements indicated in the logbook. The compulsory practices in the Logbook and the applications that students are allowed to perform under the supervision of academic staff are given below.

General procedures:

The procedures that students must perform and which are common to all clinical departments are as follows:

Students;

- Take patient history (Anamnesis)
- Learn and perform animal handling and safety
- Perform general clinical examination (body temperature, heart and respiratory rates, examination of external lymph nodes, conjunctivae, etc), collecting blood samples, intravenous catheterization, injections (IV, SC and IM), oral drug administrations,

| Modules and Number of students (2019-2020) | Subdivided Groups | Student allocations (2019-2020) |
|--|--|--|
| SAM (n=44) | Surgery | Students are subdivided into 3 groups. |
| | Internal Medicine | |
| | Gynecology and Obstetrics | |
| | Reproduction and Artificial Insemination | All students in the module. |
| | Clinical Laboratory Diagnostics (Biochemistry, Physiology, Microbiology, Pathology, Parasitology, Pharmacology and Toxicology) | Students are subdivided into 6 groups. |
| FAMH (n=23) | Surgery | Students are subdivided into 4 groups. |
| | Internal Medicine | |
| | Gynecology and Obstetrics | |
| | Extramural farm visit for one month | |
| | Reproduction and Artificial Insemination | All students in the module. |
| | Zootechnics and Animal Nutrition | All students in the module. |
| PMH (n=19) | Parasitology, Toxicology, Bee Diseases, Microbiology, Pathology | Students are subdivided into 3 groups. |
| | Zootechnics and Animal Nutrition | |
| | Extramural poultry farm visit | |
| FHT (n=39) | Food Hygiene and Technology, Aquaculture and Fish Diseases, Pharmacology, Anatomy, Histology and Embryology | Students are subdivided into 2 groups. |

- Fill in patient files
- Follow the biosecurity procedures of VTH.
- Assist surgical operations and perform postoperative care of the patient.
- Follow up the hospitalized patients and administer medications prescribed in the treatment protocol of the patient under supervision of the academic staff.
- Perform other practices indicated in the logbook.

In addition, procedures that are obligatory for students in each department during their rotation are as follows:

Surgery

Students;

- Perform minor surgical manipulations (treatment of abscess, irrigation and drainage, surgical suture, etc)
- Bandage and dressing of wounds
- Treat wounds
- Perform lameness examination and chiropody in large animals
- Perform sedation and local anesthesia applications

Diagnostic Imaging

Students;

- Comply with the rules and security measures to be followed in the radiology unit
- Use the X-ray to take images of standard positions
- Interpret rontgens
- Perform abdominal US examination
- Perform pregnancy examination with US guidance
- Determine the litter size by using US
- Determine major pathologies with US guidance
- Observe echocardiographic examinations
- Observe endoscopic examinations performed in small and large animals (gastroscopy and bronchoscopy)

Internal Medicine

Students;

- Perform basic laboratory procedures such as measuring HCT, counting WBC and RBC, microscopic examination of blood films, feces, urine, skin scrapings and biological fluids.
- Learn how to write prescription (students are not allowed to write prescription to real patients, drugs are prescribed for fictional patients in simulation exercises)

- Attend blood transfusions.
- Perform and read ECG
- Administer nasogastric intubation of horses
- Examine the gastrointestinal system and kidney of cattle by rectal examination
- Intubate the rumen of small and large ruminants, collect samples of rumen fluid and examine (physical, chemical and microscopic examination) the collected samples

Obstetrics and Gynecology

Students;

- Perform rectal and vaginal examination
- Diagnose pregnancy by rectal examination
- Perform epidural anesthesia
- Examine udder of healthy and mastitic animals
- Collect sample, stain, and interpret vaginal smears
- Perform surgical suture
- Assist OHE operations in dogs and cats
- Administer sedatives and local anesthetics under supervision

Reproduction and Artificial Insemination

Students;

- Collect, preserve and examine semen samples
- Apply intrauterine catheterization
- Perform internal and external genital organ examinations of male animals.
- Perform artificial insemination

Necropsy

Students;

- Comply with biosecurity rules in the necropsy hall
- Participate in necropsy of large and small animals
- Participate in poultry necropsies
- Examine tissue samples
- Perform sampling and sample fixation
- Prepare cytological slides
- Prepare a gross examination report

5.1.8. Description of the procedures used to allow the students to spend extended periods in discussion, thinking and reading to deepen their understanding of the case and its management

In VTH, every department has a rotation schedule in which at least one academic staff is assigned in charge of the patients hospitalized by the department. Academic staff on duty and the students visit the hospitalization unit in order to inspect hospitalized patients of

the department and evaluate the treatment outcomes. Students are encouraged to discuss with academic staff about the selected treatment protocols and options. Usually a student group is appointed for the care and monitorization of a patient and this group is also expected to make a brief theoretical research about the disease and to present their acquisitions to their classmates and academic staff in the morning visits.

In Surgery clinics, students are divided into small subgroups as anesthesia, inpatient care, operation teams, radiology, large animal and small animal groups. In subgroups, students carry out practices together with the relevant academic staff. During the day, students conduct research about the patients that they are responsible for and present the patient and the findings of their research to the relevant academic staff and other students the following day.

In Internal Medicine clinics, students are also divided into small subgroups as large animal, small animal and inpatient care groups. Students carry out the clinical procedures together with the academic staff in charge. The students conduct research about the diseases of the animals they examined or were involved in the examination the day before and present the findings to their classmates and the relevant academic staff the next day. In the large animal clinic, in case of absence of patients, previous patients are discussed based on patient records and visuals. Disease simulations are performed in which academic staff gives the history and some clinical findings, and students discuss the differential diagnosis, other findings and prevention strategies of the given disease and finally each student prepares a prescription.

In the Obstetrics and Gynecology Clinics, the students perform the practices in the presence of the relevant academic staff. Inpatient care is carried out in the presence of academic staff in charge.

At necropsy practice, students participate in necropsies of large and small animals and poultry with the responsible academic staff. During the necropsy, changes in tissues and organs are discussed and differential diagnoses are considered. Students learn tissue sampling, preparation and examination of cytological slides. Students write gross examination report of the necropsy they participate.

Students at the 10th semester prepare and present a seminar topic under the supervision of a senior academic staff from the modules they choose. Students also write a graduation thesis about the topic they choose after an extensive literature search, so they learn detailed information about the subject.

5.1.9. Description of the patient record system and how it is used to efficiently support the teaching, research, and service programmes of the Establishment

Two independent patient recording softwares are used simultaneously in VTH,. Patient data are also recorded in the hardcopy registry book due to legal obligation.

Softwares used are;

1. E-VET® is the main patient recording software and database for all VTH patients. Students can access the patient files 7/24 from the computers in the student study room via this system, but they are not permitted to make any changes in the data. The majority of the hospital management information is administered by this software. It is available for staff and students in the VTH.
2. Automated Dispenser Cabinet for Enterprise Medication Management (AGENA) and patient recording software associated with the cabinet is used in emergency clinic in nightshifts. Patient reports, drug stocks and billing procedures in nightshift are recorded via this software and the data obtained are transferred to E-VET® the following day.

In addition, data of patients are also recorded to hardcopy examination record book available in each department's main examination rooms, hospitalizations and emergency clinics due to state regulations.

Any medication can only be prescribed using the online e-prescription system (developed by Ministry of Agriculture and Forestry for veterinary and human drugs and vaccines) due to state legislation. Students are also trained about the usage of the system for their future professional life.

5.1.10. Description of the procedures developed to ensure the welfare of animals used for educational and research activities

Academic staff guarantee animal welfare in all clinical procedures applied to patients and supervise the students in all steps of clinical examinations. Consent forms are obtained from patient owners before clinical procedures.

The use of animals for experimental and educational purposes is defined by national laws regulating the ethical applications for experimental studies. There is a national committee for animal experiments (HADMEK) and local committees (HADYEK) work under control of this central committee. All permissions for animal experimentations are taken from local committees. Moreover, an additional procedure including permission from the Ministry of Agriculture and Forestry is applied for farm animals. Regulations of the Ministry are officially twinned with EU regulations.

5.1.11. Description of how and by who the number and variety of animals and material of animal origin for pre-clinical and clinical training, and the clinical services provided by the Establishment are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The approximate numbers and variety of animals and an-

imal materials for student practice are defined by individual departments and shortcomings are compensated by the Dean's Office either by purchasing from local suppliers or VTF. After obtaining the written consent of the clients, clinical cases in VTH are also used for student practices. Cadavers and materials of animal origin are obtained from VTH, VTF, client submissions and Bursa Zoo.

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

| Species | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|-----------------------|-----------|-----------|-----------|------|
| Cattle | 1 | 1 | 1 | 1 |
| Small ruminants | 12 | 18 | 13 | 14 |
| Pigs | 1 | 1 | 1 | 1 |
| Companion animals | 3 | 4 | 3 | 3 |
| Equine | 1 | 1 | 1 | 1 |
| Poultry & rabbits | 11 | 10 | 12 | 11 |
| Exotic pets | 4 | 2 | 2 | 3 |
| Other (Mouse and Rat) | 6 | 8 | 6 | 7 |

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

| Species | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|-------------------|-----------|-----------|-----------|------|
| Cattle | 8 | 8 | 8 | 8 |
| Small ruminants | 32 | 32 | 32 | 32 |
| Pigs | - | - | - | - |
| Companion animals | 20 | 20 | 20 | 20 |
| Equine | 1 | 1 | 1 | 1 |
| Poultry & rabbits | 38 | 29 | 29 | 32 |
| Exotic pets | 8 | 6 | 10 | 8 |
| Other | | | | |
| Honeybee hives | 20 | 20 | 30 | 23 |
| Mice | 12 | 12 | 12 | 12 |

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

| Species | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|-----------------------|-----------|-----------|-----------|------|
| Cattle | 760 | 815 | 276 | 617 |
| Small ruminants | 380 | 269 | 223 | 291 |
| Pigs | - | - | - | - |
| Companion animals | 5168 | 5188 | 4772 | 5043 |
| Equine | 35 | 25 | 59 | 40 |
| Poultry | 5 | 4 | 6 | 5 |
| Exotic pets & rabbits | 492 | 465 | 574 | 510 |
| Other (specify) | - | - | - | - |

** Each patient has to be officially recorded in the electronic patient record system of the Establishment and has to be individually examined/treated by at least one student under the supervision of at least one staff. Each live animal affected by one specific clinical episode is counted as a single patient, even if it has been examined/treated by several departments/units/clinics.

Table 5.1.4. Number of patients seen extra-murally (in the ambulatory clinics).**

| Species | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|---------------------|-----------|-----------|-----------|------|
| Cattle | 897 | 881 | 862 | 880 |
| Small ruminants | 185 | 129 | 112 | 142 |
| Pigs | - | - | - | - |
| Companion animals | 68 | 55 | 62 | 62 |
| Equine | 7 | 5 | 2 | 5 |
| Poultry & rabbits | - | - | - | - |
| Exotic pets | - | - | - | - |
| Other (Aquaculture) | 13 | 10 | 12 | 13 |

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

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

| Species | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|-------------------|-----------|-----------|-----------|------|
| Cattle | 10 | 10 | 10 | 10 |
| Small ruminants | 10 | 10 | 10 | 10 |
| Pigs | | | | |
| Companion animals | 90 | 90 | 90 | 90 |
| Equine | 100 | 100 | 100 | 100 |
| Poultry & rabbits | 100 | 100 | 100 | 100 |
| Exotic pets | 100 | 100 | 100 | 100 |
| Other (specify) | | | | |

*See Section 5.1.2 for description.

Table 5.1.6. Cadavers used for necropsy.

| Species | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|-------------------|-----------|-----------|-----------|------|
| Cattle | 25 | 55 | 31 | 37 |
| Small ruminants | 82 | 106 | 106 | 98 |
| Pigs | - | 1 | - | 1 |
| Companion animals | 230 | 220 | 234 | 228 |
| Equine | 4 | 3 | - | 2 |
| Poultry & rabbits | 62 | 60 | 69 | 64 |
| Exotic pets | 31 | 7 | 12 | 16 |

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

| Species | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|-------------------|-----------|-----------|-----------|------|
| Cattle | 53 | 50 | 51 | 51 |
| Small ruminants | 36 | 34 | 34 | 31 |
| Pigs | - | - | - | - |
| Poultry & rabbits | 35 | 36 | 37 | 36 |
| Other (specify) | 1 | 1 | 1 | 1 |
| Fish farm | 13 | 10 | 12 | 13 |
| Cat & Dog | 1 | 1 | - | 1 |

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

| Species | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|----------------------------|-----------|-----------|-----------|------|
| Ruminant slaughterhouses | 30 | 24 | 26 | 27 |
| Pig slaughterhouses | - | - | - | - |
| Poultry slaughterhouses | 20 | 20 | 20 | 20 |
| Related premises ** | | | | |
| Meat Products Plant | 20 | 12 | 14 | 15 |
| Dairy Plant | - | 32 | - | 11 |
| Others (specify) | | | | |
| State Reference Laboratory | 20 | 20 | 20 | 20 |

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

5.2. Comments

Equine is not considered as a companion animal and as a consequence the number of equine patients and equine necropsies is under the targeted level. As the QA committee is newly established, measures will be taken within the framework of the PDCA cycle to eliminate potential deficiencies, and necessary improvements will be made in order to advance the process by gathering every 6 months in cooperation with the accreditation committee of the FVMB.

Based on religious beliefs, there is no pig farm in the region due to the lack of consumer demand for pork. We do not have pig patients; currently, there are only a few pigs at the VTF for students to perform basic clinical procedures.

5.3. Suggestions for improvement

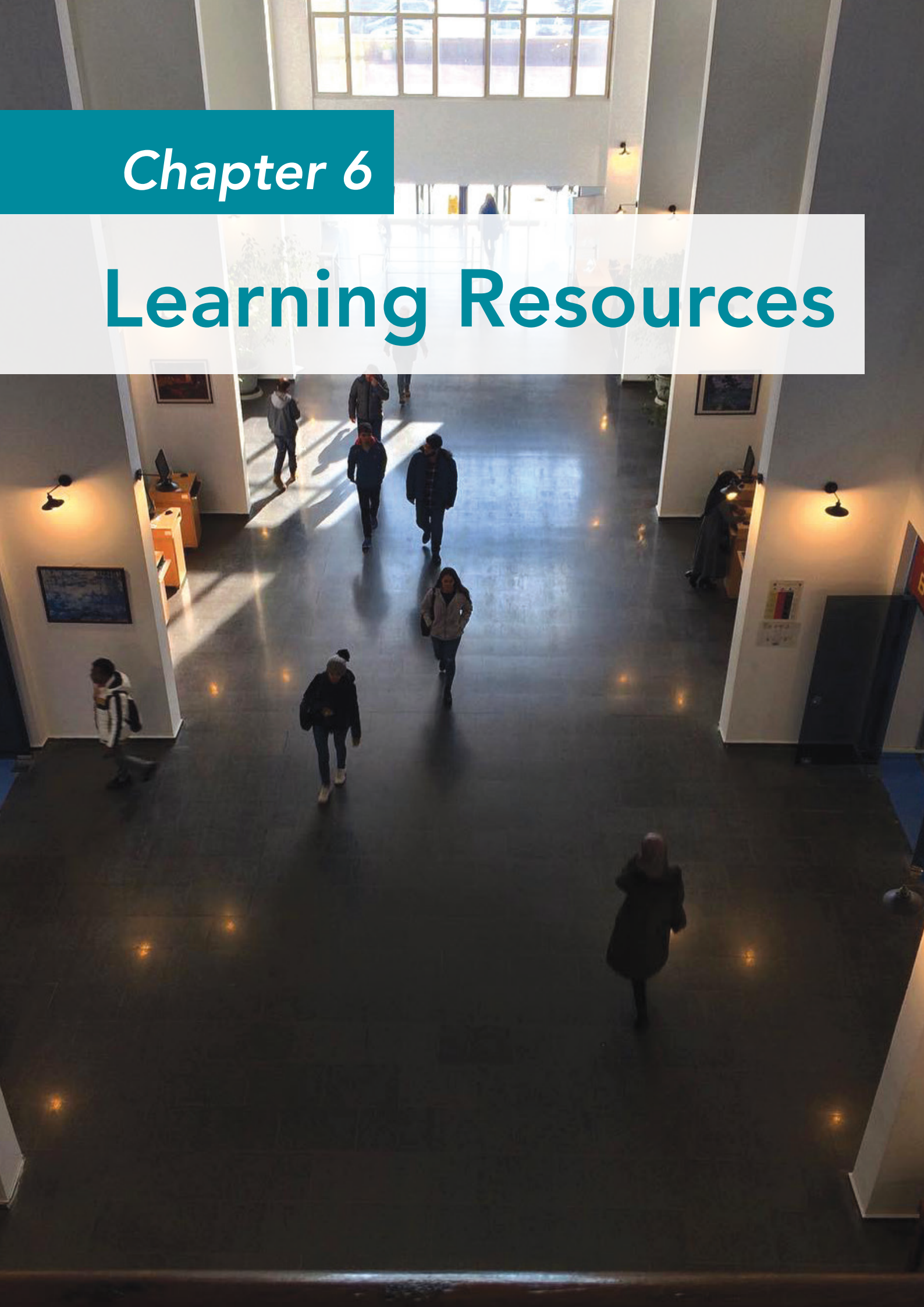
As a result of the protocols with TJK and Mennan Pasinli Vocational School, we expect an increase in the number of equines examined. The number of pigs we have examined is low both intra and extramurally, but considering the conditions of our country, we cannot expect a realistic strategy in order to increase this number. As the extramural number is not likely to increase, it will only be possible to increase the number of pigs in VTF with the aim of increasing intramural practice and treatment counts.

Within the framework of the protocols signed with the municipality (Osmangazi and Yıldırım Municipalities), we expect to increase the extramural number companion animals examined.



Chapter 6

Learning Resources



6. LEARNING RESOURCES

6.1 Factual Information

6.1.1 Description of the main library of the establishment

BUU has a central library facility serving to all faculties. Veterinary students can reach all of the services offered by the central library. The faculty has a reading room with a capacity of 20 chairs and a separate computer room with 21 desktop computers. Printed textbooks and periodicals are available to students in this reading room. The Central Library building of BUU consists of 4 floors and 6 halls with a seating capacity of 750 people. The faculty is very close to the central library and can be reached with a 3-minute walk. Academic staff and students can easily access to large number of databases such as ACSESS Digital Library-Journal Complete, American Chemical Society Journals (ACS), American Medical Association (AMA) Journals, American Society for Microbiology (ASM), BioOne, BMJ Journals Online, Britannica Online, CAB Direct, Cambridge Journals Online, Cambridge University Press (e-books), Cochrane Library, EBSCO (All Databases), EBSCO Academic Search Complete, EBSCO Open Dissertations, Elsevier (ScienceDirect) (e-books), Grammarly, JoVE (Journal of Visualized Experiments), JSTOR, Karger Online Journals, Mendeley (Reference Management Systems), Nature (All Journals)+Nature Methods+Nature Protocols, Nature (Springer/Palgrave Macmillan Journals), Nature Academic Journals, OECD iLibrary, Ovid LWW- Medline, ProQuest Agricultural & Environmental Science, ProQuest Dissertation and Thesis, Proquest Ebook Central (ebrary® eBook), PubMed, Rosetta Stone (for learning 30 different foreign languages), SAGE Journals, Science Direct, Scopus, Springer e-Book, SpringerLink, Taylor & Francis Journals, Thieme e-Journals, ULAKBİM (Turkish Scientific Database), Web of Science-WOS (Researcher ID), Wiley e-Book, Wiley Online Library.

The library also provides Inter Library Loan (ILL) service for the academic staff and students. Books and articles which are not available in the central library can be reached and borrowed from other universities and research library services in Turkey via ILL system.

-) staff (FTE) and qualifications

The university library has 57 full-time staff working in the university library. The information about the organizational structure subunits and staff can be found at <http://www.uludag.edu.tr/kutuphane/default/konu/2165>. The library regularly provides in-house training to keep its staff up-to-date.

-) opening hours and days

Throughout semesters, the central library is open between 08:00-24:00 on weekdays, and between 10:00-24:00 on weekends. During the summer break, the central library is open between 08:00-24:00 on weekdays, and between 10:00-19:00 on weekends. The central library is closed on national and religious feasts.

-) annual budget

The annual budget of the central library is about 550,000 Euros (3,500,000 Turkish Liras) for 2019, and this amount is solely for new purchases annually.

-) facilities: location in the campus, global space, number of rooms, number of seats

The central library is easily accessible in the campus center. The library is on all bus and minibus routes within the campus and there is a bus stop in front of it. The faculty is very close to the central library and can be reached with a 3-minute walk. The library has a total closed area of 8,000m² and this area will reach to 12,000 m² with the new annex building which is under construction. The library consists of 4 floors and has 4 study halls, 1 group study room and 1 audio-visual hall. Currently, the library has a total seating capacity for 844 people and will have a capacity of 1000 seats with the new annex building.

-Equipment: number of computers, number of electrical connections for portable PC, available software's for bibliographical search

There are 33 desktop computers in the library for bibliographical search; users can also search for bibliographic information via the library webpage (<https://tarama.uludag.edu.tr/libra.aspx?DS=TARA>). Students are allowed to study with their own computers as well. Power supply and wireless Internet connection are available for all users. The audio-visual hall is equipped with 11 televisions and 5 computer systems. The number of electrical connections for laptops and tablets in all four halls is 800.

-) number of veterinary books and periodicals

There are 2337 printed veterinary books and 48 periodicals (hard copy journals).

-) number of veterinary e-books and e-periodicals

There are 657 e-books and there are 6248 e-journals.

-) number of other (e)books and (e)periodicals

The total number of e-books and e-periodicals in the field of health sciences is 70,211 (61,863 e-books, 9348 e-journals).

6.1.2. Description of the subsidiary libraries

There are no subsidiary libraries in the faculty.

6.1.3. Description of the IT facilities and of the e-learning platform

There are two computer technicians at the faculty to support students and academic staff. We have one computer room with a total of 21 desktop computers. The students have free access to the facility whenever they need. University Internet Technology Department (<http://www.uludag.edu.tr/bilgiislem>) supports the academicians and students for their demands on software. Students are able to use their own computers and Internet via free Wi-Fi of the faculty and the main campus (Eduroam). An extremely user-friendly and convenient e-learning platform "UKEY" is in service for students and academic staff; detailed information is given in the following title.

6.1.4. Description of the available electronic information and e-learning courses, and their role in supporting student learning and teaching in the core curriculum

The university has an online e-learning system called UKEY. Students and course lecturers communicate through this system. The academic staff can organize live on-line and off-line lectures to the students who involve courses through this platform. Course files can be uploaded to the system in several formats (i.e. (Microsoft word, excel, power point files, pdf, etc.) by the lecturers and students can easily download all course content. Additionally, there are three virtual meeting rooms in UKEY system; specific topics can be discussed with other faculty members and students online. The system is also used for scientific research projects; academic staff working in the same project from different departments can organize virtual meetings among themselves, upload their own results to the system and present them to other researchers. The UKEY system can also be used efficiently to conduct quizzes to students.

6.1.5. Description of the accessibility for staff and students to electronic learning resources both on and off campus

Wireless Internet connection (Eduroam) is available in the whole campus. Students and academic staff easily access to Internet resources including electronic library materials and e-learning materials through a safe VPN connection. Students can also access UKEY system from off-campus locations.

6.1.6. Description of how the procedures for access to and use of learning resources are taught to students

The first week of semester is mainly allocated for orientation program for students. Among other issues such as welfare and accommodation, students are also informed about access and use of individual e-mail accounts for access to the library learning materials, UKEY, and student automation system. Library user trainings are organized by the Central Library for the newly registered undergraduate and graduate students at the beginning of each academic year. The Library Advisory Unit also provides user training if the user requests it individually.

6.1.7. Description of how and by who the learning resources provided by the Establishment are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The Central Library Collection Development Team monitors current publications. The central library has a close connection with the academic staff and students. Students are given the right (as given to academic staff) to apply for the purchase of printed books, electronic books and journals that are not in the library archive. Students can fill the request form available at the Library Advisory Unit. University publication request system (UYATS) is in service and academic staff, according to their own and student demands, may quickly request publication through the website by filling a form (<http://uyats.uludag.edu.tr/>). The relevant unit of the library informs the academic staff about the results of their requests through the e-mails.

6.2. Comments

The central library is in good condition in terms of the number of staff and the archive it has. Recently, the trial version of the EBSCO eBook Academic Collection, which provides access to more than 182,000 e-books with a purchase value of more than \$ 33.5 million, without user limitation, was launched. After the trial period, purchasing will be decided by academic staff and rectorate.

In the student surveys conducted by BUU, 57% satisfaction was determined as a result of the questionnaire about learning resource accessibility. According to the latest surveys (July 2019), approximately 60% satisfaction was reported in the assessment of education. In order to increase satisfaction, the BUU QA coordinator continues to work to achieve the necessary improvements within the PDCA cycle.

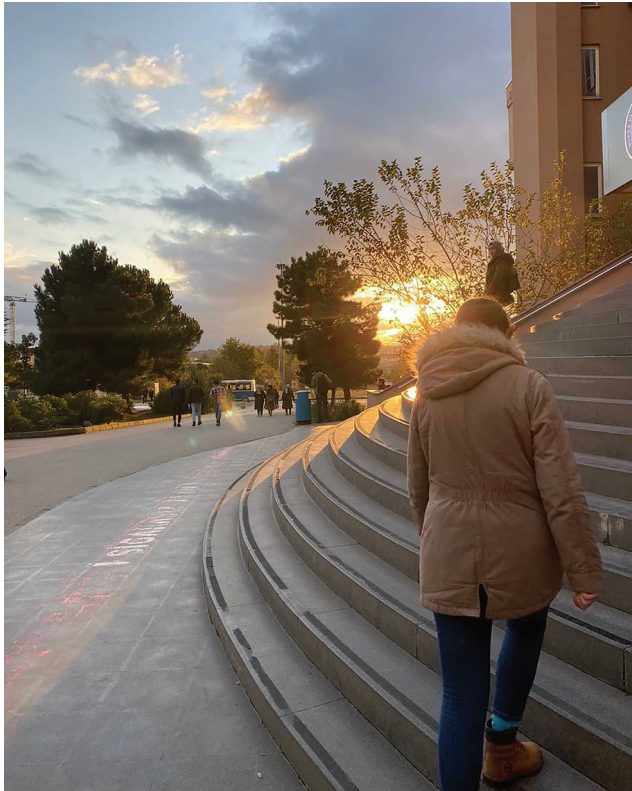
BUU's recently been audited by THEQC. In all units of the university, studies are carried out to reach the ISO9001: 2015 quality standards. In addition, our faculty is regularly inspected by VEDEK.

6.3. Suggestions for improvement

The physical capacity of the library and the number of seats should be increased. In this context, the construc-

tion of the annex building has been accelerated by the new university administration.

The BUU is constantly improving on updating educational materials. In this regard, as stated in the BUU Strategic Plan, the number of printed and electronic books as well as the number of licensed software for teaching is aimed to increase by 30%.



Chapter 7

Student Admission, Progression and Welfare



7. STUDENT ADMISSION, PROGRESSION AND WELFARE

7.1. Factual information

7.1.1. Description of how the educational programme proposed by the Establishment is advertised to prospective students

There are two types of activities for advertisement of the faculty and educational programme organized for prospective students.

BUU annually organizes common advertising days (3-5 days) for all the faculties covered. The aims of this activity are to introduce general concept of the education programmes and facilities available to the students and employment opportunities for the future graduates. For giving information on the academic and social infrastructure of the institution and accommodation possibilities FVMB is represented by faculty members, students and administrative staffs at the information desk. A major occasion of these advertising days is a presentation given by the dean followed by question-answer session for visitors.

Second activity involves two parts. In the first part, all kind of activities performed in advertising days repeated with more details. In the second part, social and academic activities are introduced onsite. Students may have more information on faculty website (<http://uludag.edu.tr/veteriner>). Additionally, The Rector gives information about the university in local and national press and TV channels. During the career days organized by local high schools, information about the faculty is given. The university also participates in the promotion of university fairs held in Turkey every year.

7.1.2. Description of the admission procedures for standard students:

-) selection criteria

It is essential to be a high school graduate to enroll at the Faculty. The admission of students who have completed high school is managed by the HEC. Students are required to take a nationwide exam conducted by Evaluation, Selection and Placement Center (OSYM) in order to be able to register for a degree program. The Higher Education Institutions Examination, which includes multiple-choice questions, is conducted at two sessions. The first session, namely Basic Qualification Exam, consists of Turkish Language, Social Sciences, Basic Mathematics and Science topics (135 minutes for answering 120 questions in total). The second session, Field Qualification Exam, is held on four fields (Turkish

Language and Literature, Social Sciences 1-2, Mathematics and Science). Scores from these exams are added with the average of the graduation scores. After the placement scores are announced, students prefer the undergraduate/graduate programs they want to register.

-) policy for disabled and ill students

"Disabled Students Office" is established for the students who has special needs and serves under the Health, Culture and Sport Directorate of the BUU. Students who want to receive help from the Office need to bring Medical Certificate of Disability to be eligible. The Office gives service depending on the students' needs and demands. (<http://bilgipaketi.uludag.edu.tr/Sayfalar/EngelliOgrenciHizmetleriENG>)

(Contact e-mail: engelsiz@uludag.edu.tr)

Priority is provided to disabled students for all kinds of activities at our faculty such as priority at scholarships given for part-time student work and priority at clinical and laboratory practices.

-) composition and training of the selection committee

Students are selected and placed by the nationwide OSYM's exams depending on the points they receive from the central examination system.

-) appeal process

Students may appeal the results of the exam within 10 days of the announcement date. Appeal processes are carried out by OSYM.

-) advertisement of the criteria and transparency of the procedures

All information regarding the examination process (applications, evaluation, placement, etc.) is announced on the OSYM website (<https://www.osym.gov.tr>) and at the national press.

7.1.3. Description of the admission procedures for full fee students

University education is free of payment to all Turkish citizens. Based on HEC directives, students who exceed the 5-year education period of the Faculty pay the tuition fee themselves.

Foreign Student Examination: Students apply to the faculty where a quota is announced. These students study with their own finances and pay annual fees

Those with dual nationality do not have to pay the annual fee.

Turkish Government Scholarship Exam: A scholarship examination is conducted by the Ministry of Education. Scholarship winners do not pay any annual fees or for accommodation costs if they stay at university dormitories during the education period. Undergraduate, MSc and PhD students are awarded scholarships at different rates.

-HEC Scholarship: Students with Turkish citizenships are awarded scholarship if they are among the top three students enrolled to the faculty.

Foreign students receive free Turkish language education for 1 year (ULUTOMER, <http://uludag.edu.tr/ulutomer>).

7.1.4. Description of how the Establishment adapts the number of admitted students to the available educational resources and the biosecurity and welfare requirements

Suggestions about student number based on the classroom and laboratory capacities of our faculty are sent to HEC annually. The final decision about the number of students admitted per year is determined by HEC. Biosafety education is given by the departments where students take courses at the beginning of each semester. (https://docs.google.com/gview?url=http://www.uludag.edu.tr/dosyalar/veteriner/is_sagligi_ve_guvenligi/dokuman/biyoguvencilik-formlari.pdf)

7.1.5. Description of:

-) the progression criteria and procedures for all students

Students have to pass English preparatory class to begin five years veterinary education programme. There is a "course passing system" at the faculty. Courses are evaluated with the relative evaluation system. However, since the 2014-2015 academic year, an ECTS system is applied to the students enrolled at the faculty. Students are required to take 30 ECTS each semester. Students graduate with 300 ECTS. One or two quizzes (affects the final grade 10%), one midterm (30%) and one final exam (60%) are applied for courses. Students who fail to pass the final exam at the end of each semester are given the right to take another exam (make-up examination). Any student who is at the graduation level, but has a maximum of two failed courses, is given an additional exam right.

-) the remediation and support for students who do not perform adequately

Laboratories are open at specific hours for certain courses for students to make up the deficiencies.

All kind of learning material is open access in related departments. Students have access to the lecture notes and additional teaching material in UKEY online (<https://ukey.uludag.edu.tr/Home?ReturnUrl=%2f>).

For students who need learning assistance, tutorial sessions are perhaps the best way to offer them direct personalized guidance. The teacher offers orientation and advice on all teaching aspects which may improve the teaching & learning process.

-) the rate and main causes of attrition

The official attrition rate has gradually decreased at our Faculty in the last three years (annual average: 31 students). Some students who drop out of Veterinary Degree do so because the Faculty did not meet their expectations. This attrition is mostly arisen from transition of students to other faculties such as Engineering, Science and Arts, etc. or failure to pass the English Preparatory Class for 2 consecutive years, in which case, students have an option to continue their education at another veterinary school with lower OSYM exam entrance scores.

7.1.6. Description of the services available for students (i.e. registration, teaching administration, mentoring and tutoring, careers advice, listening and counselling, assistance in case of illness, impairment and disability, clubs and organisations, ..)

A wide range of student services are available for veterinary students under coordination either of vice president of the university or vice dean of the faculty.

Central Registrar's Office of the university is responsible for registration of all the students at the university. The student records are transferred to student affairs office of the faculty by Student Automation System (ogrotomasyon.uludag.edu.tr). Enrollment for the courses are managed online directly by the students.

Students can apply to Student Affairs Office of the Faculty or directly to the vice dean in charge regarding all education-related issues.

For mentoring, every student is assigned to a lecturer during enrollment. All lecturers dedicate certain office hours for students under their mentorship.

University Career Office is established in 2013 and supports students in all aspects in related sectors (karmar.uludag.edu.tr).

Seminars on physical and mental health and various subjects such as culture, nutrition, accommodation, and sports are regularly organized by Health Culture and Sports Department of BUU (<http://www.uludag.edu.tr>).

edu.tr/saglikkultur). Students can benefit from health, dentistry, and counselling services of the university free of charge. Food (lunch and dinner) scholarship is provided to students with economic disadvantage and the costs are defrayed from the university budget. Lunch and dinner are served for students from all the faculties at the Central Dining Hall which has a central location in the campus.

Student clubs: Students can join any of the 189 student culture, sport, science and art clubs which are coordinated by the Health Culture and Sports Department of BUU. The Faculty also has 3 student clubs namely International Veterinary Students Association (IVSA), Association of Bursa Uludag University Veterinary Faculty (ULUVET) and Association of Young Veterinarians (GVH). Students are encouraged to establish new clubs (<http://www.uludag.edu.tr/saglikkultur>).

-International Affairs

International student exchange is organized by International Student Office and Center for Student Affairs. Information about exchange programmes (Erasmus and Mevlana) is given to faculty students by the Faculty Coordinator (<http://uludag.edu.tr/mevlana>, <http://infoffice.uludag.edu.tr/>) (see Annex 7.1.6.a.). The number of academicians and students attended to the ERASMUS program is given in Annex 7.1.6.b.

Students submit their comments, complaints and suggestions about education or other issues by two ways; faculty administrative office or presidential communication center (CIMER- <https://www.cimer.gov.tr/>).

After the student has applied to the faculty administrative office with a petition, the application is submitted to the dean's office. The Dean's Office forwards the application to the relevant commission. Following this, improvements are made through the PDCA cycle by working with the QA Committee. The Dean's Office

informs the student about the result of the assessment. This process is completed within 15 days.

In addition, the students submit their comments, complaints and suggestions online by applying to CIMER. Application is processed in accordance with the process mentioned above and the result of the assessment is reported to CIMER. CIMER informs the student about the outcome of the application. This process must be completed within 15 days.

7.1.7. Prospected number of new students admitted by the Establishment for the next 3 academic years

Number of new students is regulated by HEC directives, but the estimated number of admission places for new students for the next 3 academic years is expected to be similar and not higher than the current quota (approximately 129 students). Foreign student number is regulated by the University Rectorate.

7.1.8. Description of how and by who the admission procedures, the admission criteria, the number of admitted students and the services to students are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

As stated above (7.1.2.), admission procedures and criteria for students are managed by the HEC. Students are required to take a central exam conducted by OSYM in order to be able to enroll for a degree program.

The QA system, which has been adopted in accordance with ISO9000: 2005 Quality Management System since 2007, has been revised based on ISO9001: 2015 Quality Management System within the scope of risk-based HEC services. The documents related to the processes can be found at www.uludag.edu.tr/kalite. Procedures associated with student affairs are carried out in accordance with the flowchart defined in BUU QA system (see a list in Annex 7.1.8.).

Table 7.1.1. Number of new veterinary students admitted by the Establishment

| Type of Students | 2018/2019 | 2017/2018 | 2016/2017 | Mean |
|-------------------|-----------|-----------|-----------|------|
| Standard students | 212 | 201 | 173 | 195 |

Table 7.1.2 Number of veterinary undergraduate students registered at the Establishment

| | 2018/2019 | 2017/2018 | 2016/2017 | Mean |
|----------------------|-----------|-----------|-----------|------|
| 1 st year | 287 | 222 | 176 | 228 |
| 2 nd year | 185 | 178 | 167 | 177 |
| 3 rd year | 155 | 131 | 168 | 151 |
| 4 th year | 147 | 170 | 163 | 160 |
| 5 th year | 205 | 184 | 155 | 181 |
| Total | 979 | 885 | 829 | 878 |

Table 7.1.3 Number of veterinary students graduating annually

| Type of Students | 2018/2019 | 2017/2018 | 2016/2017 | Mean |
|-------------------|-----------|-----------|-----------|------|
| Standard students | 126 | 134 | 97 | 119 |

Table 7.1.4 Average duration of veterinary studies

| Duration of studies (years*) | % of the students who graduated on 2018-2019 |
|------------------------------|--|
| 5 + 0 | 89 (70.6%) |
| 5 + 1 year | 13 (10.3%) |
| 5 + 2 years | 11 (8.7%) |
| 5 + 3 years or more | 13 (10.3%) |

*One year of English Prep Class is not added to the chart.

Table 7.1.5. Number of postgraduate students registered at the Establishment

| Programmes | 2018/2019 | 2017/2018 | 2016/2017 | Mean |
|--------------|-----------|-----------|-----------|------|
| Interns | 130 | 114 | 120 | 121 |
| Residents* | - | - | - | - |
| PhD students | 164 | 145 | 126 | 145 |
| Others** | 1 | - | 1 | 1 |
| Total | 295 | 259 | 247 | 267 |

*There is currently no residency programme in Veterinary Education in Turkey

** Post-doc students

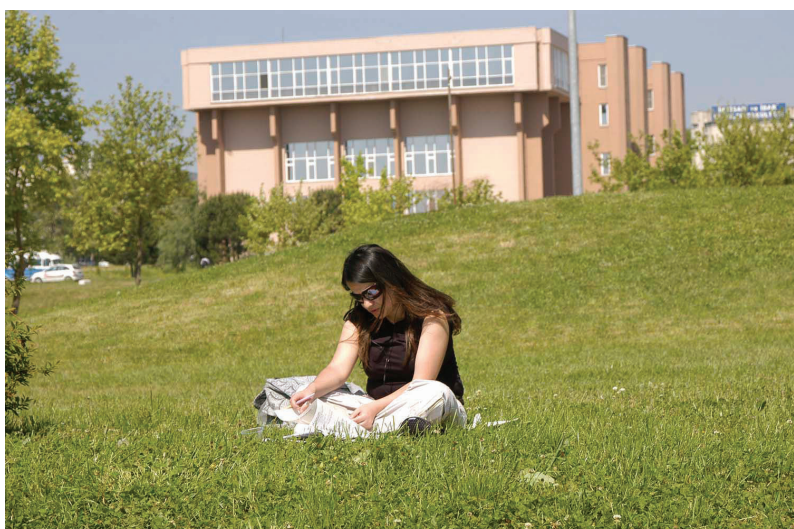
7.2. Comments

Number of students to be enrolled for the forthcoming academic year is determined by the Faculty Council and is advised to the HEC. The final decision is made centrally and unfortunately in certain years advice of the Faculty Council is not taken into consideration by the HEC. Lack of autonomy in determining the number of students remains a major problem. Number of students enrolled through the horizontal transfer (such as students from vocational schools training veterinary

technicians) and also number foreign students are determined by BUU Rectorate and this leads to an increase in the number of students.

7.3. Suggestion for improvement

Although student quota for Turkish students has been kept the same with previous years, the number of foreign students has dramatically risen in recent years. Therefore the physical capacity of the facility should be improved for the future.



Chapter 8

Student Assessment



8. STUDENT ASSESSMENT

8.1. Factual information

8.1.1. Description of the global student's assessment strategy of the Establishment

The global student assessment is the key component of our education programme. Most courses are assessed by relative evaluation system. If the number of students enrolled to the course is below 20 absolute evaluation system is used for the assessment. Minimum assessment standards are set by the University Senate according to the advices of Educational Committee of the faculty.

In determining the number of credits for each course, the ECTS system is applied as described in Chapter 7.1.5. All educational components of the study program (seminars, modules, courses, practical training, thesis study, etc.) have an ECTS value (<http://bilgipaketi.uludag.edu.tr/Sayfalar/AKTSKredilerinBelirlenmesiENG>)

All theoretical courses include one mid-semester and one final written and/or practical exam. The duration of these exams are included in calculation of ECTS and stated in the syllabus. Most subjects combine continuing assessment of the student's day-to-day activity with the evaluation of supervised works, written exams for the evaluation of theoretical knowledge, and specific exams for the evaluation of practical skills.

Each student participates in at least 70% of the theoretical and 80% of the practical courses. In courses with at least 2 credits, the student takes one (or two) quiz (zes), one mid-semester examination and one final examination. In 1-credit courses quizzes are optional. In calculation of the course grade, 40% of the mid-semester activities (mid-semester exam, homework, laboratory exams, quizzes can also be used in calculation) and 60% of the final exam grade are used. All exams are evaluated over a 100-grading system. The student must get a minimum of 55 (10th semester: 60) from the final exam. Students with AA, BA, BB, CB and CC grades are considered successful. DC and DD are conditional successful; the students' average grade must be a minimum of 2.0 for passing the DC and DD courses. If the student's grade is between 1.80-1.99, then the student must re-take the courses with DC and DD. Student with grade of <1.80 can not take new courses, only failed courses can be taken.

Exam notes and student attendance to the courses are monitored via an online system (Student Automation System, <https://ogrotomasyon.uludag.edu.tr/Default.aspx>).

8.1.2. Description of the specific methodologies for assessing:

-) theoretical knowledge

Assessment of theoretical courses is usually done with written exams. These exams can be in the form of multiple-choice tests, short- or long-answered questions. Practical exams are conducted to measure practical skills depending on the course content and practices.

The type of written exams can vary depending on the needs of each subject and may include essay, multiple choice test, case presentation and matching type questions. Theoretical knowledge is also evaluated through continuing assessment and evaluation of supervised works. The impact of the midterm exam on the course grade is 30%, the effect of the final exam is 60% and the effect of quiz is 10%. All theoretical courses have to include one final exam (60%), one mid-semester exam (30%) and at least one or two quizzes (for courses with at least two ECTS; 5-10%).

-) pre-clinical practical skills

Continuing assessment, written reports, supervised work evaluation, oral presentations and exams or combination of any of these are used to evaluate the pre-clinical practical skills. Depending on the requirement of each subject laboratory applications, inspections of cadavers, organs, and sometimes of healthy animals may be required to pass the subjects.

-) clinical practical skills

In order to monitor preclinical and clinical practices that have to be performed by each student, a logbook is available (https://uludag.edu.tr/dosyalar/veteriner/dokuman/Ogrencilerin_Yapmasi_Gereken_Uygulamalar/ogrencilerin_yapmasi_gereken_uygulamalar.pdf). For assessment of student's accomplishments the logbook is signed by responsible academic staff. The minimum number of applications required to be done by the students has been determined by each department. This process guarantees that every graduate has achieved the minimum level of competence, as described in the ESEVT Day One Competences. All applications must have been completed by the end of the 10th semester.

The logbook is reviewed by the Education Commission every year in accordance with the QA point of view. The logbook is sent to the departments for revision requirements. If revision is recommended by the Departments, this revision is evaluated by the Education and Teaching Committee. The logbook is revised based on recommendations. The new revised logbook is sent to all students and departments. It is also announced on the website of the faculty.

Each student attends clinical practices in VTH within the groups determined by the Student Affairs Office. In these practice hours, students are engaged in practical activities and get chances to perform applications. At the end of the semester, students take oral and/or practical exams. If the student does not pass one of the major courses in the course content, he/she will have failed the course. The average of the total score of the departments in the course should be 55%. In these courses, 30% of the final exam score is from the logbook and the remaining 70% is from the oral exam.

The Summer Internship program held after the 8th semester, which is defined in Chapter 3.1.8, is officially recorded on the internship evaluation form which is filled by the internship institution and later an interview is held between the Horizontal Transfer and Internship Commission and the student to evaluate the internship.

8.1.3. Description of the assessment methodology to ensure that every graduate has achieved the minimum level of competence, as prescribed in the ESEVT Day One Competences

The core curriculum adopted by FVMB ensures that all graduates are equipped with skills included in the ESEVT Day One Competences <http://bilgipaketi.uludag.edu.tr/Programlar/DetayENG/76?AyID=25>. The minimum number of applications required by the students has been determined by each department. To help better assess the acquirement of the skills, the FVMB has developed a Logbook as explained in Chapter 3 (3.1.9).

8.1.4. Description of the process for

-) ensuring the advertising and transparency of the assessment criteria/procedures

The academic calendar is published on the website of our university after the approval of the Senate before the start of the semester. A mid-term and final exam program is prepared by the Student Affairs Office on the dates specified by the Rectorate. The exam program is announced after being discussed at the Education Commission and the Faculty Board. In addition, one or two quiz(zes) are determined by the instructor in each course and the effect of this/these quiz(zes) is/are 10% of the total. The students can review their exam papers after announcement of the results. Students may appeal within three days from the announcement of the results for material error (miscalculation of points, clerical error).

-) awarding grades, including explicit requirements for barrier assessments

Grades must be expressed as the combination of numbers and letters, to which their corresponding qualita-

tive grading is added: (Failing Grade: 0-54.9, Passing Grade: 55-100; Grade AA: 85-100; Grade BA: 80-84, BB: 75-79, CB: 70-74, CC: 60-69, DC: 58-59, DD: 55-57, FF: ≤54).

If the number of students is lower than 20, absolute evaluation system is applied. If the number of students are higher than 20, bell curve evaluation system is applied.

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

In FVMB, Exams have an important role in monitoring student development. Students' competences and deficiencies can be monitored by the faculty management and the related faculty members through the Student Automation System of BUU, a special software. The deficiencies detected in any student are tried to be eliminated in cooperation with the student advisors.

-) appealing

Students may appeal within three days from the announcement of the results for material error (miscalculation of points, clerical error). After the appeal of the students' objection about result of the exam to the student affairs, the request is forwarded to the relevant department. If the department accepts, the examination is re-evaluated. The grade is corrected by the lecturer with the approval of the Faculty Administrative Board, if there is a material error.

8.1.5. Description of how and by who the student's assessment strategy is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The evaluation criteria of the students are stated in the regulations and exam application principles prepared by the Education and Teaching Commission and the Faculty Council. The student evaluation strategies are determined by the departments themselves according to these regulations and principles.

The Quality Assurance Commission is continuing its studies in order to evaluate the quality of learning in the faculty in terms of student surveys and objective evaluation of success levels in courses and the views of graduates and stakeholders.

8.2. Comments

Uploading the course contents to the UKEY system is beneficial for the student to review the course while studying.

The relevant institution report and the internship commission exam created after the extramural internship

of the students provides an objective evaluation of the students.

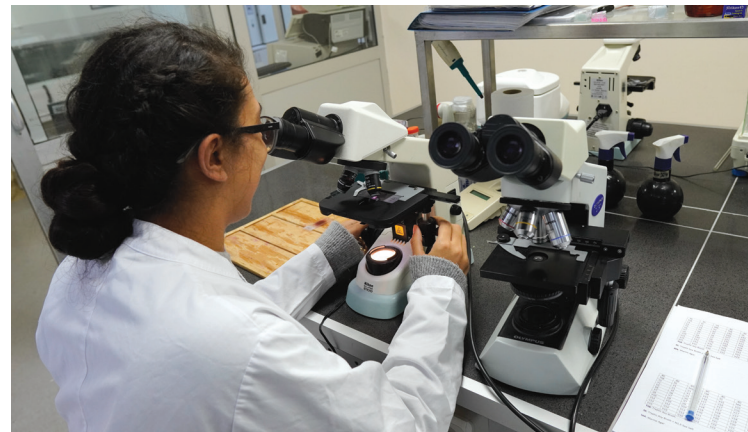
High number of students may limit the active participation and learning outcomes of students in lectures. Moreover, this situation makes the evaluation of learning outcomes difficult by lecturers.

8.3. Suggestions for improvement

Inclusion of some additional ways of students' success

evaluation (such as homeworks, seminars, etc.) may help students to participate in lectures more actively. Also this will contribute to more comprehensive evaluation of students' success and learning.

In order to mitigate the negative effect of high number of students in evaluation of learning outcomes and student success, BUU is continually making attempts to reduce the number of students allocated to FVMB by HEC.



Chapter 9

Academic and Support Staff



9. ACADEMIC AND SUPPORT STAFF

9.1. Factual information

9.1.1. Description of the global strategy in order to ensure that all requested competences for the veterinary programme are covered and that staff are properly qualified and prepared for their roles (e.g. good teaching and assessing practices, knowledge of up-to-date (e-learning resources, biosecurity and QA procedures)

All teaching staff in FVMB have to have competences defined in "Academic Promotion and Appointment Criteria" of BUU. These criteria mainly include published articles, congress participations, research projects, citations, book authorship, patents, etc. Appointment to a new position or a higher academic degree in FVMB is done according to the criteria approved by the University Senate. A new academician-rewarding system defined by HEC has been in practice in recent years. In this system, academicians get certain points for their annual academic achievements, which yield an additional increment to their salaries for the following year proportional to their points.

The lessons and each section in a lesson are assigned to the teachers depending on their research expertise. This gives an opportunity to the students to learn the latest knowledge, technic and practices in the veterinary disciplines. Collaboration of academic staff with international communities and departments in various countries enhances qualification of academic staff which results in higher quality education for the students. The list of academic staff given in appendix 7.

9.1.2. Description of the formal programme for the selection, recruitment and training to teach and assess students (including continuing education) of the academic staff

Depending on the departments' requirements, new academic positions are periodically demanded by FVMB and presented to the Rectorate. The criteria for the new academic positions are to increase the number of academic staff and to expand the variability of expertise in each department.

The process for appointment to the new position is as follows:

1. In the first step, all candidates apply to the FVMB with their academic files. The related committee basically examines the application and evaluate the files' relevance to the "Academic Promotion and Appointment Criteria".

2. After first evaluation, the files of selected candidates are sent to a jury of experts in the same field.
3. In accordance with the reports from juries, candidate/candidates, who has/have the best academic file, are appointed to the open position by the Administrative Board of the University.
4. As a potential faculty member, research assistants with PhD degree supervise the practical parts of the lectures under the control of the responsible lecturer and give theoretical lectures (up to 12 hrs for a week) during the semesters depending on the departments' demands.
5. Most of the current faculty members had previously taken 'Evaluation and Learning Course' and 'Planning and Assessment in Education Course' during their PhD period. These are obligatory courses for PhD students and are given by the academic staff of Faculty of Education.
6. For the Assistant Professor position at the faculty, candidates have to successfully give a 45-minutes Pre-Qualification Lecture on a topic they choose which is followed by a question-answer session and is evaluated by 3 senior academic jury members.

9.1.3. Description of the formal programme for the selection, recruitment and training to perform their specific duties (including continuing Education) of the support staff

The number and qualifications of the support staff required by the faculty are periodically reported to the Rectorate. The Rectorate rotates support staff from other institutions of the university or if this would not be possible the staff requests are sent to the Ministry of Treasury and Finance. If the Ministry approves, the staff is assigned. Approved positions are assigned by the Public Personnel Selection Examination or by the transition from other government offices. The support staff is employed by Rectorate in accordance with the Civil Personnel Law no.657. Support staff is assigned according to their titles to relevant departments. Work safety and biosecurity seminars are given annually. Also, seminars on various topics are conducted by the central administration.

9.1.4. Description of the formal programme for the appraisal, development, promotion criteria and procedures, supporting and mentoring of both academic and support staff

The title of the academic staff is regulated by the law no 2547 and the university academic promotion criteria. When the academic staff rises as title and position, there is an increase in salary. Performances of academic

staff are evaluated and scored within the scope of the 'Academic Promotion System' published by HEC. Academic personnel are paid additionally according to the scoring after the evaluation. Turkish Academic Network and Information Center also financially promotes international publications by the International Scientific Publication Promotion Program.

Project preparation trainings are organized by the BUU in order to support the development of academic staff in scientific fields. Research projects of academic staff in Turkey are supported by both National and International Postdoctoral Research Scholarship Programmes of TÜBİTAK. Academic staff is able to teach or get training at partner universities abroad under the ERASMUS programs.

Academic staff is also supported financially by the BUU and FVMB for contribution to national/ international research projects and other activities (congresses, symposiums, courses and workshops).

9.1.5. Description of the formal rules governing outside work, including consultation and private practice, by staff working at the Establishment

The working principles of the academic staff are arranged according to the law numbered 2547. The academic staff carries out full-time work at the university. However, faculty members can prepare scientific opinions, projects, research and similar activities to the private sector on the basis of the regulations and after the approval of the faculty and university administrative boards. The fees to be taken in this respect are recorded as revenue to the revolving fund of the related faculty and are paid to the faculty member after legal cuts.

Faculty academic staff can establish a company or carry out a project in different categories with the guidance of ULUTEK TEKNOPARK A.Ş. of BUU.

9.1.6. Description of the formal programme of the Establishment for the assessment of teachers by students and its outcome

Lecturers had been evaluated by the students based

on their teaching and evaluation performance at the faculty level until 2015. The current evaluation system (<https://www.uludag.edu.tr/duyuru/view/5188>) is carried out by the BUU and shared with related faculties to get new actions and to adapt themselves according to needs of the students and stakeholders.

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

HEC has imposed restrictions on the appointment of professors at universities with a regulation published in 2018. The current ratio of professors to total academic staff in our faculty is above the desired number according to this regulation. As a result of this situation, it is necessary to get extra permission in the appointments. It is therefore difficult to give an estimated number for the next three years.

9.1.8. Description of how and by who the strategy for allocating, recruiting, promoting, supporting and assessing academic and support staff is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

Personnel affairs related to academic and support staff is carried out by the Department of Personnel of BUU. Academic positions are structured according to HEC Law number 2547 and related regulations. Academic staff is promoted according to the "Academic Promotion and Appointment Criteria of BUU". Demands of the departments for appointment and promotion of academic staff are sent to the Rectorate by the Faculty and then sent to HEC for approval. Recruitment of academic personnel is announced on BUU web site after being published in official gazette and national newspapers. For the assignments of academic staff candidates, related articles of Law no. 2547 are followed.

9.1.1. Academic staff of the veterinary programme (FTE-Full time equivalent)

| Type of contract | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|--------------------------------------|-----------|-----------|-----------|------|
| Permanent | | | | |
| Full Professors | 69 | 69 | 65 | 68 |
| Associate Professors | 17 | 17 | 15 | 16 |
| Temporary | | | | |
| Associate Professors | 10 | 9 | 12 | 10 |
| Assistant Professors | 6 | 5 | 7 | 6 |
| Research Assistant Doctor (with PhD) | 8 | 11 | 0 | 6 |
| Total | 110 | 111 | 99 | 107 |

9.1.2. Percentage (%) of veterinarians in academic staff

| Type of contract | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|------------------|---------------|---------------|--------------|------|
| Permanent | 97% (83/86) | 97% (83/86) | 96% (77/80) | 97% |
| Temporary | 96% (23/24) | 96% (24/25) | 100% (19/19) | 97% |
| Total | 96% (106/110) | 96% (107/111) | 97% (96/99) | 96% |

9.1.3. Support staff of the veterinary programme (FTE)

| Type of contract | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|------------------|-----------|-----------|-----------|------|
| Permanent | | | | |
| Office Workers | 16 | 22 | 24 | 21 |
| Support Staff | 15 | 19 | 20 | 18 |
| Workers | 42 | - | - | 14 |
| Temporary | | | | |
| Office Workers | - | - | - | - |
| Support Staff | - | - | - | - |
| Workers | - | 44 | 54 | 33 |
| Total | 73 | 85 | 98 | 85 |

9.1.4. Research staff of the FVMB (total number)

| Type of contract | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|--|-----------|-----------|-----------|------|
| Permanent | | | | |
| - | - | - | - | - |
| Temporary | | | | |
| Predoctoral | 107 | 97 | 104 | 103 |
| 100/2000 Granted* Predoctoral | 46 | 44 | 15 | 35 |
| Staff Associated to Research Project/Group | 11 | 4 | 7 | 7 |
| Total | 164 | 145 | 126 | 145 |

*100/2000 Grant: Scholarships for 2000 students in 100 priority fields selected by the HEC.

9.2. Comments

The faculty is in good condition considering the ratio of academic staff and students, and the high ratio of veterinarians in total number of academic staff. However, the number of support staff is quite inadequate.

9.3. Suggestions for improvement

SRF has insufficient funding for research projects. SRF

resources are not at the expected level and this creates a negative impact on academic staff.

ISO9001: 2015 QMS Trainings at BUU has recently started in university units and two meetings have been held in FVMB. Formal training, including good teaching and evaluation practices, learning and e-learning resources, biosecurity and QA procedures, for all staff involved with teaching have been scheduled by BUU QA Coordinatorship in 2020.



Chapter 10

Research Programmes, Continuing and Postgraduate Education



10. RESEARCH PROGRAMMES, CONTINUING AND POSTGRADUATE EDUCATION

10.1. Factual information

10.1.1. Description of how the research activities of the Establishment and the implication of most academic staff in it contribute to research-based undergraduate veterinary education

Results from recent research activities are implemented to the practical and theoretical courses by the academic staff. This is mainly conducted during the laboratory and clinical practice. All research laboratories at the FVMB are open for contribution of undergraduate students. Some students voluntarily join the laboratory and field based research activities.

Involvement of veterinary students in research activities is possible via various routes:

- Each semester students enroll in supervised work course, which is 1-2 hours per week for the semesters 1st-9th. During these course hours, students are exposed to high level knowledge and participate in research activities in the departmental laboratories.
- Student may participate in research activities conducted by academicians particularly from clinical department at the VTH, faculty farm, or sometimes in the field including private farms.
- There are opportunities for undergraduate students to get scholarship from research projects funded by TÜBİTAK (<http://www.tubitak.gov.tr/tr/destekler/akademik/ulusal-destek-programlari/icerik-1001-bilim-sel-ve-teknolojik-arastirma-projelerini-destekleme-pr>) and University Research Fund (<http://bap.uludag.edu.tr/index.php?act=guest&act2=sayfa&id=45>).
- BUU management provides some part-time positions for undergraduate students, which allows participation of the students in laboratory and farm-based research activities.
- Students can choose research institutions and laboratories (e.g. state institutions and TÜBİTAK laboratories) to attend for their obligatory summer training.
- Students in their final years prepare and present a graduation thesis, which can be conducted either as an experimental research or a literal study (critical review), and is aimed at furthering students' knowledge on a selected issue. Furthermore, this approach helps students acquire skills needed to reach scientific knowledge.
- There is also an elective course (Basic Principles of Scientific Research and Publication) scheduled in 5th semester on how the students can have a web-based knowledge and how they can reach scientific papers.

10.1.2. Description of how the postgraduate clinical trainings of the Establishment contribute to undergraduate veterinary education and how potential conflicts in relation to case management between post- and undergraduate students are avoided

FVMB has 28 lecturers with a high level of scientific and educational experience in 4 clinical departments. All of the lecturers are responsible for clinical training both for under- and post-graduate students. Starting 7th semester undergraduate students take collaborative clinical practice course for 8 hours per week. The students are disseminated in groups and each group follows the clinical training in clinics of internal medicine, surgery and obstetrics & gynecology. Each group goes to all of the clinics, based on a pre-defined program. There are supervising lecturers (professors) responsible for clinical training of undergraduate students at each clinic. Academicians alternate regularly as supervising lecturers, which allows students to interact with and learn from different academicians. There are also research assistants and postgraduate students at the clinics for daily health and emergency services. Postgraduate students are supervised by their own PhD supervisor and their clinical service is coordinated by head of the VTH. Hence, under- and postgraduate students are trained in the same clinical environment. Additionally, postgraduate students engage in one-on-one classes with PhD supervisors to enhance their scientific qualification on clinical training.

10.1.3. Description of how undergraduate students:

A-) are made aware of the importance of evidence-based medicine, scientific research and lifelong learning

Our undergraduate students take evidence-based medicine concept during their group works directly in the clinics. All cases/patients are first examined by physicians at the related department by accompanying students. In complex cases, a collaborative approach is taken by engaging with specialists from the other departments to discuss various dimensions of cases at hand. Students are in the same environment with the academic staff and follow the case by switching the clinics. For example; in an internal medicine case of intestinal obstruction, responsible academician from internal medicine makes connection with colleague

from surgery department for radiography, evaluation of the film and possible prognosis. Academicians share together their scientific knowledge on recent developments. Students may attend all these steps and can follow all stages of diagnosis and treatments. This approach improves the evidence-based capability of the students. So, academicians have a direct impact on making students be aware of the importance of evidence-based medicine and scientific approach.

E-VET[®] is a patient recording software and database for all VTH patients. Students can access the patient files 24/7 from computers in the student study room via this system, but they are not permitted to make any changes in the data.

FVMB encourages the students to attend scientific meetings and events both on national and international scale. Student can attend student congresses as well as scientific congresses on various topics. Upon a request from students, Faculty Administrative Board makes a decision on the attendance and re-schedule his/her exams if necessary. A summary of scientific events attended by FVMB students in the last 3 academic years is given in the following table. All the post-graduate seminars in FVMB are also open for attendance of undergraduate students.

Summary of scientific events attended by FVMB students in the last three academic years.

| Academic Year | Number of FVMB Students attended | Scientific events (Title, dates) |
|---------------|----------------------------------|---|
| 2018-2019 | 9 | International Veterinary Students Information Society Meeting (IVSA), 29 April - 1 May 2019 |
| | 1 | Caucasian Scientific Research Society Meeting, 3 May 2019 |
| | 44 | Vet Anka'19 6. Career Days and Meeting with the Sector, 20-23 March 2019 |
| | 26 | Association of Young Veterinary Doctors Meeting, 25 March 2019 |
| | 6 | International Community of Veterinary Students Meeting, 29-31 March 2019 |
| | 2 | Community Social Projects Workshop, 05 March 2019 |
| | 8 | International Community of Veterinary Students Meeting, 11-18 February 2019 |
| | 6 | International Continuing Education Congress, 2-4 November 2018 |
| | 2 | Social and Social Projects Workshop, 2 November 2018 |
| | 1 | Herd Health and Management Congress, 15-17 October 2018 |
| | 13 | International Association of Veterinary Students (IVSA), 13-20 October 2018 |
| | 4 | Student Communities Meet, 16-18 October 2018 |
| | 158 | Giessen & Faculty of Veterinary Medicine Days 23 October 2018 |
| 2017-2018 | 1 | European Commission from the Project Workshop, 01 July - 08 September 2018 |
| | 172 | Young Look at Livestock, 17-25 April 2018 |
| | 138 | Purina Young Academy Meeting, 25 April 2018 |
| | 614 | 1 st Small Animal Medicine Seminar, 09-11 April 2018 |
| | 1 | Caucasian Scientific Research Society Meeting, 13 April 2018 |
| | 213 | Young Look at Livestock, 12 April 2018 |
| | 15 | International Student Community Meeting (IVSA), 02 April 2018 |
| | 220 | Purina Young Academy Meeting, 28 March 2018 |
| | 3 | Animal Rights Biodiversity and Natural Research Society Meeting, 03-05 April 2018 |
| | 12 | Association of Young Veterinary Doctors Meeting, 12 April 2018 |
| | 4 | VII. Information and R & D Days, 03-04 April 2018 |

| | | |
|-----------|-----|--|
| 2016-2017 | 198 | Association of Young Veterinary Doctors Meeting, 02 March 2018 |
| | 1 | Community Social Workshops Project (Tospa), 20 October 2018 |
| | 2 | 1 st International Congress of Veterinary Internal Medicine of Turkey, 10-13 October 2017 |
| | 21 | Sheep and Goats Health and Management Meeting, 27-29 April 2017, Bursa |
| | 26 | Stray Animal Welfare Congress, 10-13 May 2017, Bursa |
| | 7 | International Veterinary Students Congress, 17-25 July 2017, JLU Giessen |
| | 7 | Veterinary Student Society (IVSA) Meeting, 17-25 June 2017 |
| | 2 | Caucasian Scientific Research Society Meeting, 12 May 2017 |
| | 1 | Community Social Projects Workshop (Tospa) Meeting, 15 May 2017 |
| | 3 | Young Theme Community Meeting, 12 May 2017 |
| | 2 | Turkish Society Meeting, 08 May 2017 |
| | 1 | Orienteering Community Meeting, 08 May 2017 |
| | 26 | 2 nd Stray Animal Welfare Congress, 10-13 May 2017 |
| | 21 | Livestock Medicine Association Meeting, 27-29 April 2017 |
| | 3 | Wildlife Society Meeting, 21-23 April 2017 |

BUU annually organizes a science and technology summit called "Information and R&D days" (<http://arge.uludag.edu.tr/>), comprising of conferences, seminars, one-on-one meetings and poster sessions. Students and academicians from FVMB actively participate in this organisation. Students also assume roles in the organisation of this event.

As described in Chapter 3, all students at FVMB prepare a graduation thesis (8 ECTS) and present it as a seminar open for students and academicians. Scope of this thesis can be either of a research-based study or review of recent literature. Academic staff assess the success of the thesis/seminars and failed students re-prepare his/her graduation thesis. Graduation in Veterinary Medicine is recognized as level 3 (Master) education in Turkey.

B-) are initiated to bibliographic search, scientific methods and research techniques, and writing of scientific papers

As a basic approach in scientific research, all the students are offered the elective course "Basic Principles of Scientific Research and Publication" (3 ECTS) at 5th semester. In this course, basic literature search on databases is taught theoretically and then practiced. Type of scientific papers and sections of an article are described, and preparation and publication process of scientific articles are covered in a basic level. As practice, students prepare a self-motivated homework, which includes web-search and literature procurement by e-mail contact to corresponding authors. Additionally, all students are supported by their supervisor lecturer during their graduation thesis.

C-) are offered to participate to research programmes on a non-compulsory basis

As mentioned above, the FVMB allows veterinary students to join academicians in research activities conducted at VTH, faculty farm or sometimes in the field including private farms. Students can also participate in laboratory works for research activities.

Students also have the opportunity to apply to the national funding programmes offered by TUBITAK. Awarded students prepare a basic research project under supervision of an academician. In addition, TUBITAK funding programmes allow students to be paid scholarships for their participation in projects awarded to academicians. By these programs, undergraduate students are encouraged to be involved in research environment.

10.1.4. Description of how the continuing education programmes provided by the Establishment are matched to the needs of the profession and the community

Continuing education (life-long education) is one of the major priorities of the establishment and FVMB principally has good connections with public organizations (i.e. veterinary chambers, Union for animal producers, food hygienists, scientific communities etc.) related to veterinary community. Expectations from the community and the sector are fulfilled via different approaches as courses, extension activities and service. Type, frequency and content of these activities are mainly oriented by the target community.

There are various courses organized for the participation of post-graduates. These courses include both the-

oretical and practical hours. Field activities of academicians at FVMB is at a satisfied level; in the last 3 years, 18 academicians on average have provided extension services, including consultancy for the companies, conferences/seminars for field veterinarians, writing on national newspapers and producing TV programs on animal health and husbandry (reported in table below).

List of extension services provided by FVMB academicians

| Academic year | Type of activity | Number of activity |
|---------------|---------------------|--------------------|
| 2018-2019 | Consultancy: | 21 |
| | Conference/Seminar: | 46 |
| | Media programs: | 4 |
| 2017-2018 | Consultancy: | 16 |
| | Conference/Seminar: | 25 |
| | Media programs: | - |
| 2016-2017 | Consultancy: | 17 |
| | Conference/Seminar: | 28 |
| | Media programs: | 1 |

10.1.5. Prospected number of students registered at postgraduate programmes for the next 3 academic years

FVMB is comprised of 21 departments. Postgraduate programs are conducted in these departments under organization of Institute for Health Sciences, one of the institutes operating under the Postgraduate School of the University. Currently, there are 17 PhD programs and 9 Master of Science programs enrolling students for postgraduate studies. These programs accept students twice a year (fall and spring semesters); announcements are made according to common rules defined by Turkish Higher Education Council and the University Senate. FVMB promotes opening new postgraduate programs especially on emerging issues, and will join National Education Program for Veterinary Specialization, which is at official preparation step in Ministry of Agriculture and Forestry (<https://www.resmigazete.gov.tr/eskiler/2018/05/20180502-2.htm>). Therefore, the prospected number of postgraduate students is expected to increase (~20%) in following years.

10.1.6. Description of how and by who research, continuing and postgraduate education programmes organised by the Establishment are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

- Research

All the departments and academicians are free for determining their research interest. The research groups are determined by project leaders. Researchers can directly

apply to local (SRF), national (TUBİTAK, TAGEM etc.) or international (EU, NATO, FAO, British council, DAD etc.) sources for funds without any kind of pre-evaluation step by the faculty. Scientific evaluation process for funding, either by referees or panelists, is performed by the funding bodies. For projects planned to be conducted at VTF, a permission from Farm Production and Health Committee is required, to ensure compliance with animal welfare and biosecurity guidelines, as well as availability of conditions at the farm unit. For research involving animal experiments must have obtained a pre-confirmation from Local Ethical Committee for Animal Experimentation (HADYEK) of the University. FVMB is one of the most successful faculties of BUU for obtaining research budget from external funds (see Table 10.1.5).

- Continuing education

According to necessity analysis, continuing education programs can be organized by faculty management and departments. Principally, the main lecturers are from the FVMB, but some specialists from other institutions can also be involved. Examples of continuing education activities organized by FVMB include Project management for researchers (national course), Cytopathology Course, Lamb and Kid Health Management Course (see Table 10.1.4).

- Postgraduate education programs

Postgraduate educations are conducted according to regulations directed by Higher Education Council (HEC). To open an MSc and PhD program, departments submit their applications directly to BUU Institute for Health Sciences (IHS). Institute Academic Council, which consists of department chair persons, decides on whether to move forward the application to the University Senate after discussion. After approval by the University Senate, in the next step, the application file is submitted to HEC for final decision. The number of students to be accepted to program is offered by departments and publicly announced by IHS via official newspaper and University webpage. Student's syllabus for postgraduate education is prepared by departments and submitted to IHS Academic Council and University senate for approval.

10.2. Comments

FVMB provides suitable environments for undergraduates to join research programs and scientific events. Faculty Administrative Board approves applications by the students about participation in academic and non-academic activities. All the facilities including faculty farm and VTH are open for students' utilization for practice. Students accompany academicians in field investigations. These activities are considered as one of the strengths of education in the faculty. Students

Table 10.1.1. Number of students registered at postgraduate clinical training

| Clinical discipline | | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|---------------------|------------------------------------|-----------|-----------|-----------|------|
| Interns: | Small Animal Medicine | 40 | 47 | 36 | 41 |
| | Farm Animal Medicine and Husbandry | 46 | 36 | 59 | 47 |
| | Poultry Medicine and Husbandry | 16 | 15 | 8 | 13 |
| | Food Hygiene and Technology | 28 | 16 | 17 | 20 |
| Resident* | | - | - | - | - |
| Total | | 130 | 114 | 120 | 121 |

*There is currently no residency programme in Veterinary Education in Turkey

Table 10.1.2. Number of students registered at postgraduate research training.

| Discipline | 2018-2019 | | 2017-2018 | | 2016-2017 | | Mean | |
|----------------------------------|-----------|-----|-----------|-----|-----------|-----|------|-----|
| | MSc | PhD | MSc | PhD | MSc | PhD | MSc | PhD |
| Basic sciences | 13 | 17 | 20 | 12 | 22 | 11 | 18 | 14 |
| Pre-clinical Sciences | 5 | 25 | 8 | 19 | 8 | 21 | 7 | 22 |
| Clinical Sciences | - | 60 | - | 63 | - | 54 | - | 57 |
| Zootechnics and Animal Nutrition | 17 | 46 | 6 | 39 | - | 31 | 12 | 34 |
| Food Hygiene and Technology | 21 | 16 | 20 | 12 | 10 | 9 | 17 | 12 |
| Total | 56 | 164 | 54 | 145 | 40 | 126 | 50 | 139 |

Table 10.1.3. Number of students registered at other postgraduate programmes (including any external/distance learning courses)

| Programmes* | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|-------------|-----------|-----------|-----------|------|
| | - | - | - | - |

*No other postgraduate programmes are offered.

Table 10.1.4. Number of attendees to continuing education courses provided by the establishment.

| Courses | 2018-2019 | 2017-2018 | 2016-2017 | Mean |
|---|-----------|-----------|-----------|------|
| Research Project Preparation and Writing | 20 | 20 | 20 | 20 |
| Planning for Scientific Research Project in Health Science and Biostatistics Analysis | 20 | - | - | 20 |
| Cytopathology Course | 30 | 0 | - | 30 |
| Course for Laboratory Animal Studies | 20 | 20 | 20 | 20 |
| Artificial Insemination Course | 20 | 20 | 20 | 20 |
| Herd Health and Management Congress | 752 | - | 632 | 692 |
| Sheep and Goat Health and Management Congress | 152 | - | 218 | 185 |
| Farm Animal Medicine Congress | - | 271 | - | 271 |
| Veterinary Pharmacology and Toxicology Congress | - | - | 147 | 147 |
| Veterinary Biochemistry and Clinical Biochemistry Congress | - | - | 93 | 93 |
| Calf Health Management Course | 97 | 80 | 67 | 81 |
| Lamb and Kid Health Management Course | - | 78 | - | 78 |

Table 10.1.5. List of the major funded research programmes in the Establishment that were on-going during the last full academic year prior the Visitation (2018-2019).

| Funding Program | Type of funding | Topic | Number of projects | Total budget (Euro) | Duration |
|--------------------------------|------------------------|----------------------------------|--------------------|---------------------|-------------------|
| TUBİTAK | National | Pre-clinical sciences | 4 | 264027,8 | Average 2-3 years |
| | | Clinical sciences | 2 | 104473,8 | Average 1-3 years |
| | | Basic sciences | 6 | 214147,6 | Average 1-3 years |
| | | Zootechnics and Animal Nutrition | 1 | 70905,08 | 3 years |
| Scientific research fund (SRF) | National-Institutional | Pre-clinical sciences | 6 | 28314,29 | Average 1-3 years |
| | | Clinical sciences | 13 | 50230,95 | Average 1-3 years |
| | | Basic sciences | 6 | 27142,86 | Average 1-3 years |
| | | Zootechnics and Animal Nutrition | 9 | 22223,81 | Average 1-3 years |
| TOTAL | | | 47 | 781466,2 | |

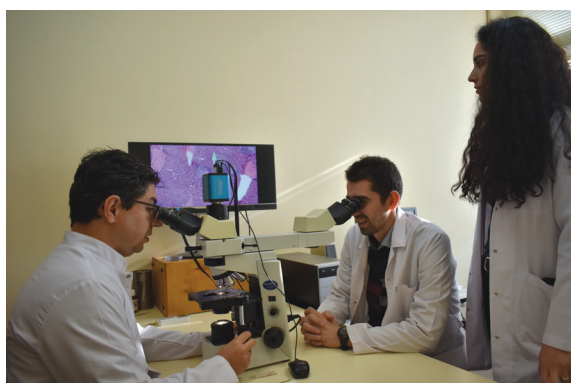
are encouraged to be involved in research activities in whole training period. Despite the quality of education at both undergraduate and postgraduate level at FVMB is relatively high compared to other faculties in the country, as feedback from the stakeholders indicate, student's demand for postgraduate education is not at desired level. Limited number of research assistant positions and relatively lower income at universities compared to field practice are among the contributing factors to this situation.

Academicians at FVMB increasingly participate in scientific studies. There are 47 research projects (13 external, 34 internal) initiated in last 3 years and 283 publications in journals in the same period (see a list in Appendix 8 and 9).

Having good connections with stakeholders and contributions allow FVMB to obtain feedback from various categories of the sector that leads to improvements in practical approaches of the lecturers. This also improves the capacity of practical training by faculty members.

10.3. Suggestions for improvement

1. Continuing education both for faculty members and graduates is one of the areas to be improved. Implementation of the residency program in Turkey will be a big step forward in improving post graduate education in veterinary medicine.
2. Up to date infrastructure is essential for research activities; thus new technologies and adoptive infrastructure should be completed in time.
3. To advance the quality of postgraduate education, imbalanced distribution in the number of lecturers between departments should be resolved as possible. Collaborative (multidisciplinary) postgraduate programs may open a new perspective of veterinary community and business.
4. For the undergraduates, some basic level educations and encouragement will help their participation in student projects.



Chapter 11

Outcome Assessment and Quality Assurance



11. OUTCOME ASSESSMENT AND QUALITY ASSURANCE

11.1. Factual information

11.1.1. Description of the global strategy of the Establishment for outcome assessment and Quality Assurance (QA), in order to demonstrate that the Establishment:

-) **has a culture of QA and continued enhancement of quality;**
-) **operates *ad hoc*, cyclical, sustainable and transparent outcome assessment, QA and quality enhancement mechanisms;**
-) **collect, analyse and use relevant information from internal and external sources for the effective management of their programmes and activities;**
-) **informs regularly staff, students and stakeholders and involves them in the QA processes;**
-) **closes the loop of the QA Plan-Do-Check-Act (PDCA) cycle;**
-) **is compliant with ESG Standards.**

The Higher Education Quality Council of Turkey (THEQC) was founded as part of the 'Higher Education Quality Assurance Regulation' that entered into force upon its publication in the Official Gazette No. 29423 dated 23 July 2015. The Council was reorganized according to the Additional Article No. 35 added to the Law No. 2547 on Higher Education following the enactment of the Law No. 7033 on Amendment of Certain Laws and Executive Orders for the Development of Industrial Zones and Subsidization of Production on 1 July 2017. THEQC is also affiliated to ENQA (European Association for Quality Assurance in Higher Education) (<https://yokak.gov.tr/>).

The THEQC is a public legal entity with administrative and financial autonomy and special budget founded with the aim of evaluating the quality levels of higher education institutions' education and research activities and administrative services in accordance with the national and international quality standards, and coordinating the processes of accreditation, internal and external quality assurance, and authorization of independent external evaluation organizations.

QA Coordination Office of BUU was established on 24 August 2017 and quality process studies were started at units according to ISO9001: 2015 standard. In this context, FVMB continues to work to ensure that the requirements of quality standards are adopted and imple-

mented within the organization. Necessary processes regarding this issue are continued. For this purpose, a FVMB QA Manual has recently been prepared (see Annex 11.1.1). In addition, the necessary studies are carried out by the Education and Teaching Committee, Farm Production and Health Committee, Biosecurity Commission and Laboratory Coordination Commission which work in coordination with the management of FVMB.

The Quality Assurance Committee of the FVMB are composed of representatives of academic staff, administrative staff, students and BUU QA coordinator (as an advisor), with the aim of achieving an integral quality culture in our Establishment. Faculty Quality Committee of our faculty has adopted the philosophy of continuous improvement. Within this scope, new projects and activities are carried out.

The PDCA cycle is used for continuous improvement. In this regard, improvement plans and follow-up are carried out on the online system established and monitored by the University QA Coordination Office. According to the procedure for corrective and preventive actions in the FVMB Quality Manual, necessary measures and actions by PDCA (on UKEY platform) are taken to solve the problems that may occur.

The evaluation of academic and student achievement in education is done at meetings at the end of semesters where the student success rate of each and every course is evaluated in depth. As a result, the Education and Teaching Committee take necessary remedial measures. Furthermore, in order to improve the quality of education, the Education and Teaching Committee meet at the end of each semester to review and improve the curriculum in line with the suggestions of students and faculty members.

Student logbook is revised every year to improve the quality of education according to internal and external stakeholder suggestions.

FVMB Education Manual containing the course contents is annually revised. This manual contains all necessary information about the organization scheme, mission and vision of FVMB, academic staff, commissions and committees, student examination and evaluation principles, content of the lectures, academic calendar and course syllabus, etc.

Alumni and Employer Advisory Committee meetings provide valuable feedback on the qualification of our graduated students in the field. These returns allow for necessary arrangements regarding education and training. The BUU has an alumni portal aimed at communicating with graduates (<http://kalite.uludag.edu.tr/mezun/>).

The questionnaires completed by the animal owners provide feedback on the VTH service quality and the

inputs allow the necessary measures to be taken quickly. At the same time, patient owners may report their complaints and suggestions to the dean's office and head of the VTH via e-mail or complaint box in writing and the VTH management takes the necessary measures for the improvements.

At the end of each semester, the University QA Coordination Office conducts general questionnaires (<https://www.uludag.edu.tr/duyuru/view/5188>) to evaluate the satisfaction level and opinions for further development of the employees.

In addition to these efforts, FVMB applied for national educational accreditation (VEDEK) and a visit to the Establishment was made in 2015 which resulted in procurement of an accreditation certificate for 2 years. A revisit followed in 2017 (see a list in Appendix 10).

Information is shared by dean's office/student affairs via UDOS/ e-mail for academic staff, through UKEY systems for students and via web, e-mail, post-mail and fax for external stakeholders. Announcements to the students are posted on the boards and digital board of the Student Affairs Office. In addition, announcements that need to be delivered quickly are shared via Instagram, Facebook, Twitter, and whatsapp groups.

The Bologna process was completed in FVMB. Main aim of FVMB is to make our education and service activities in accordance with ISO 9001: 2015 standard and carry out ESG 2015 based process.

11.1.2. Description of the form by which the strategy, policy and procedures are made formal and are publicly available (website, paper documents, ..).

Strategy, policy and protocols of the FVMB are discussed in the related commission/committee and submitted to the approval of the faculty board. At the top level, the university senate finalizes the process and it is announced to the student, faculty and public via bulletin boards, web site or e-mail. All these processes are carried out on the basis of BUU Associate Degree and Undergraduate Teaching Regulations (<https://kms.kaysis.gov.tr/Home/Goster/43762?AspxAutoDetectCookieSupport=1>).

The FVMB has regularly issued a Veterinary Bulletin, namely Objektif, reporting the most relevant news and activities underway in our Establishment (<http://www.uludag.edu.tr/veteriner/default/konu/3282>).

11.1.3 Description of the regular publication of up to date, impartial and objective information, both quantitative and qualitative, about the educational programmes and awards the Establishment is offering.

The number of faculty members and students, the program description and the scholarships given by FVMB are regularly published in HEC database each year

(<https://yokatlas.yok.gov.tr/lisans.php?y=109710375>). Students can see this database before and after enrollment to the faculty. In addition, all the detailed information about the program is available on the web page of the faculty (<http://uludag.edu.tr/veteriner>; <http://www.uludag.edu.tr/veteriner/default/one/3280>).

11.1.4. Description of the QA processes not yet described in the other 10 Standards (with information on how (procedures), when (periodicity) and by who (committee structure) they are completed)

FVMB have already described all the QA processes in the corresponding standards.

11.1.5. Description of how and by who the QA strategy of the Establishment is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The QA strategy of the FVMB is decided by the BUU QA Coordination Office. FVMB QA committee and BUU QA Coordination Office work in unison. The quality process in education is followed by the Quality Manual, the Education and Teaching Guide and the Student Logbooks, and the improvement process is implemented within the PDCA cycle. The concept and management of biosafety is under the responsibility of the Biosecurity Committee and the processes related to the diagnostic services are regulated by the Diagnostic Laboratories Coordination Commission. VTF and food production activities, as well as diagnostic laboratories in FVMB are regularly inspected by the Ministry of Agriculture. In addition, the Farm Production and Health Committee conduct meetings every month to organize and monitor all training and research activities.

11.2. Comments

HEC started quality assessments in 2015 (<https://yokak.gov.tr/>), and the BUU QA Coordination Office was established in 2017. The HEC audit was conducted at BUU in 2017 and regular visits will be made every 5 years. For that, quality evaluations are quite new. In FVMB, studies continue under the Faculty QA Committee and BUU QA Coordination Office. In September 2015, the faculty was approved by the National Accreditation Institution (VEDEK) for 7 years. Therefore, FVMB underwent external quality assessment by the National Accreditation Institution (VEDEK) in 2015 and was approved for seven years.

11.3. Suggestions for improvement

FVMB has been one of the first units involved in ISO 9001: 2015 studies which have started in BUU in 2019. The development and completion of these studies will be positive for the faculty and will strengthen the applicability of ESG 2015 principles.

Chapter 12

ESEVT Indicators



12. ESEVT INDICATORS

12.1. Factual information

RAW DATA FROM THE LAST 3 FULL ACADEMIC YEARS

| RAW DATA | | Year -1 | Year -2 | Year -3 | Mean |
|----------|---|---------|---------|---------|--------|
| 1 | n° of FTE academic staff involved in veterinary training | 142 | 143 | 131 | 138,7 |
| 2 | n° of undergraduate students | 979 | 885 | 829 | 897,7 |
| 3 | n° of FTE veterinarians involved in veterinary training | 106 | 107 | 96 | 103,0 |
| 4 | n° of students graduating annually | 126 | 134 | 97 | 119,0 |
| 5 | n° of FTE support staff involved in veterinary training | 73 | 85 | 98 | 85,3 |
| 6 | n° of hours of practical (non-clinical) training | 990 | 990 | 990 | 990,0 |
| 7 | n° of hours of clinical training | 1342 | 1342 | 1342 | 1342,0 |
| 8 | n° of hours of FSQ & VPH training | 640 | 640 | 640 | 640,0 |
| 9 | n° of hours of extra-mural practical training in FSQ & VPH | 188 | 188 | 188 | 188,0 |
| 10 | n° of companion animal patients seen intra-murally | 5168 | 5188 | 4772 | 5042,7 |
| 11 | n° of ruminant and pig patients seen intra-murally | 1140 | 1084 | 499 | 907,7 |
| 12 | n° of equine patients seen intra-murally | 35 | 25 | 59 | 39,7 |
| 13 | n° of rabbit, rodent, bird and exotic patients seen intra-murally | 497 | 469 | 580 | 515,3 |
| 14 | n° of companion animal patients seen extra-murally | 68 | 55 | 62 | 61,7 |
| 15 | n° of individual ruminants and pig patients seen extra-murally | 1082 | 1010 | 974 | 1022,0 |
| 16 | n° of equine patients seen extra-murally | 7 | 5 | 2 | 4,7 |
| 17 | n° of visits to ruminant and pig herds | 89 | 84 | 85 | 86,0 |
| 18 | n° of visits of poultry and farmed rabbit units | 21 | 20 | 22 | 21,0 |
| 19 | n° of companion animal necropsies | 230 | 220 | 234 | 228,0 |
| 20 | n° of ruminant and pig necropsies | 107 | 161 | 137 | 135,0 |
| 21 | n° of equine necropsies | 4 | 3 | | 3,5 |
| 22 | n° of rabbit, rodent, bird and exotic pet necropsies | 93 | 77 | 81 | 83,7 |
| 23 | n° of FTE specialised veterinarians involved in veterinary training | 46 | 44 | 15 | 35,0 |
| 24 | n° of PhD graduating annually | 14 | 8 | 11 | 11,0 |

CALCULATED INDICATORS FROM RAW DATA

| INDICATORS | | Establishment values | Median values ¹ | Minimal values ² | Balance ³ |
|------------|--|----------------------|----------------------------|-----------------------------|----------------------|
| I1 | n° of FTE academic staff involved in veterinary training / n° of undergraduate students | 0,154 | 0,16 | 0,13 | 0,028 |
| I2 | n° of FTE veterinarians involved in veterinary training / n° of students graduating annually | 0,866 | 0,87 | 0,59 | 0,276 |
| I3 | n° of FTE support staff involved in veterinary training / n° of students graduating annually | 0,717 | 0,94 | 0,57 | 0,151 |
| I4 | n° of hours of practical (non-clinical) training | 990,000 | 905,67 | 595,00 | 395,000 |
| I5 | n° of hours of clinical training | 1342,000 | 932,92 | 670,00 | 672,000 |
| I6 | n° of hours of FSQ & VPH training | 640,000 | 287,00 | 174,40 | 465,600 |
| I7 | n° of hours of extra-mural practical training in FSQ & VPH | 188,000 | 68,00 | 28,80 | 159,200 |
| I8 | n° of companion animal patients seen intra-murally / n° of students graduating annually | 42,375 | 70,48 | 42,01 | 0,366 |
| I9 | n° of ruminant and pig patients seen intra-murally / n° of students graduating annually | 7,627 | 2,69 | 0,46 | 7,164 |
| I10 | n° of equine patients seen intra-murally / n° of students graduating annually | 0,333 | 5,05 | 1,30 | -0,965 |
| I11 | n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually | 4,331 | 3,35 | 1,55 | 2,785 |
| I12 | n° of companion animal patients seen extra-murally / n° of students graduating annually | 0,518 | 6,80 | 0,22 | 0,295 |
| I13 | n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually | 8,588 | 15,95 | 6,29 | 2,293 |
| I14 | n° of equine patients seen extra-murally / n° of students graduating annually | 0,039 | 2,11 | 0,60 | -0,556 |
| I15 | n° of visits to ruminant and pig herds / n° of students graduating annually | 0,723 | 1,33 | 0,55 | 0,175 |
| I16 | n° of visits of poultry and farmed rabbit units / n° of students graduating annually | 0,176 | 0,12 | 0,04 | 0,132 |
| I17 | n° of companion animal necropsies / n° of students graduating annually | 1,916 | 2,07 | 1,40 | 0,516 |
| I18 | n° of ruminant and pig necropsies / n° of students graduating annually | 1,134 | 2,32 | 0,97 | 0,164 |
| I19 | n° of equine necropsies / n° of students graduating annually | 0,029 | 0,30 | 0,09 | -0,063 |
| I20 | n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually | 0,703 | 2,05 | 0,69 | 0,010 |
| I21* | n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually | 0,294 | 0,20 | 0,06 | 0,231 |
| I22* | n° of PhD graduating annually / n° of students graduating annually | 0,092 | 0,15 | 0,09 | 0,004 |

12.2. Comments

As seen from the table, most of our indicators are at a desired level. However, due to the reasons regarding number of students admitted each year and number of equine patients seen intramurally & extramurally and equine necropsies mentioned in Chapter 5 and 7 has fallen below the minimal values required by ESEVT.

12.3. Suggestions for improvement

As mentioned in Chapter 5, the protocols established with TJK and Mennan Pasinli Vocational School will help increase the number of equine patients. Attempts will be made in order to reduce or keep stable the total number of student quota determined by HEC.



Abbreviations and List of Appendices



Abbreviations

BUU: Bursa Uludag University

EAEVE: European Association of Establishments for Veterinary Education

ECTS: European Credit Transfer and Accumulation System

ENQA: European Association for Quality Assurance in Higher Education

EPT: External Practical Training

ESEVT: European System of Evaluation of Veterinary Training

FAMH: Farm Animal Medicine and Husbandry

FHT: Food Hygiene and Technology

FPU: Food Processing Unit

FSQ : Food Safety and Quality

FVMB: Faculty of Veterinary Medicine, Bursa Uludag University

HEC: Higher Education Council

HIS: BUU Institute for Health Sciences

OSYM: Student Evaluation, Selection and Placement Center

PMH: Poultry Medicine and Husbandry

QA: Quality assurance

RTMTF: Republic of Turkey Ministry of Treasury and Finance

SAM: Small Animal Medicine

SOP: Standard Operating Procedure

SRF: Scientific Research Funds

SWOT: Strengths, Weaknesses, Opportunities, Threats

THEQC: The Higher Education Quality Council of Turkey

TIGEM: General Directorate of Agricultural Enterprises

TJK: Turkey Jockey Club

TUBITAK: The Scientific and Technological Research Council of Turkey

UDOS: Document Automation System of Bursa Uludag University

UKEY: Bursa Uludag University Institutional Education and Research Activities Governance System

ULUTEK: Techno-Park of Bursa Uludag University

VEDEK: Association for Evaluation and Accreditation of Educational Institutions and Programs of Veterinary Medicine

VPH: Veterinary Public Health.

VTF: Veterinary Teaching and Research Farm

VTH: Veterinary Teaching Hospital

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Appendix 2. VTH License

Appendix 3. FPU License

Appendix 4. Laboratory License

Appendix 5. Course plans and rotation programs

Appendix 6. Detailed map of Campus

Appendix 7. List of Academic Staff

Appendix 8. List of projects

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Appendix 10. VEDEK Certification

Other Relevant Documents Annexes:

Annex 3.1.2. Education and Teaching Guide

Annex 3.1.9. Student logbook

Annex 5.1.1. Protocols with stakeholders

Annex 7.1.6.a. ERASMUS bilateral agreements

Annex 7.1.6.b. The number of student and academic staff utilized ERASMUS Exchange programme

Annex 7.1.8. Student affairs procedures flowchart

Annex 11.1.1. QA Manual of FVMB

